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COMMUNICATION STRATEGIES TO BOOST THE B2B PRODUCT EVENT: THE CASE OF PIGU.LT MARKETPLACE

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Keywords: B2B communication, social networks, target audience, B2B events, B2B marketing

Abstract
E-commerce is a highly dynamic and fast-growing area, where the competition has increased a lot in recent years. To attract a buyer or consumer, the companies need to stand out from their competitors. In order to attract new customers, it is often important to partner with other brands or e-commerce platforms which have already established in the market and have larger audiences. Business-to-business (B2B) events are one of the best places for companies to share their knowledge and experience and find common touch points, but the success of such events often depends on the proper communication. Effective communication of a B2B event about a B2B product, focusing on highlighting the benefits, the importance of collaboration, and examples of success, can significantly contribute not only to the success of the event, but also to the long-term benefit of all parties. The article highlights the importance of collaboration in e-commerce, the significance of B2B events for business development, and then analyses the ways and means that can help attract companies and organisations to participate in a business event organised by one of the largest e-commerce platforms in the Baltic States - *Pigu.lt Marketplace.* The aim of the paper is to identify and propose tools to attract businesses to participate in an event organised by *Pigu.lt* to present the opportunities offered by the *Pigu.lt Marketplace* platform.

Introduction

Relevance. In recent years, e-commerce has experienced major growth. More and more organisations are looking to sell online, and competition is increasing. One of the most important aspects for companies and organisations is to stand out from their competitors and impress their target audience. However, for a brand to succeed, it is not only necessary to meet the expectations of existing customers, but also to attract new consumers through close communication with them. For smaller businesses, this is often difficult to achieve, as the number of visitors to their online shops is small and attracting more visitors requires greater human, material and financial resources. For e-commerce to be successful, cooperation between e-commerce businesses is also necessary to enable all parties to reach additional target audiences or expand existing ones. Often, businesses do not take advantage of the opportunities and benefits offered by the major e-commerce platforms, or are simply unaware of advantages they offer, it means, that the communication of such opportunities does not reach them. All of this implies the need to improve the communication of the major e-commerce platforms in order to make the process of cooperation between businesses in the field of e-commerce more effective, to organise events dedicated to them, and to try to attract as many participants as possible to such events.

Research problem question. How to use social media to attract the target audience to participate in a *Pigu.lt* event for businesses, aimed at generating interest and incentives to use the *Pigu.lt Marketplace* platform?

Research object. The communication of the *Pigu.lt* event aimed at introducing and encouraging the Lithuanian business community to use the *Pigu.lt* Marketplace platform, using social networks.

Objective. To identify and propose tools to attract businesses to participate in an event organised by *Pigu.lt* to showcase the opportunities offered by the *Pigu.lt* Marketplace platform.

Objectives of the work:

1. To analyse the characteristics of B2B communication and the importance of cooperation between businesses in e-commerce platforms from the theoretical point of view.
2. Using empirical research, find out which communication channels and strategies are most effective in developing a communication plan for a B2B event.
3. Develop a communication plan to help *Pigu.lt* reach its target audience and attract businesses to attend the event.

Work methods. Systematic analysis of literature sources, quantitative content analysis, semi-structured interviews.

Importance of communication and collaboration in the B2B sector

In today's B2B sector, collaboration with local and international businesses is a key element of success. This is particularly important for SMEs seeking to extend their market reach and strengthen their competitiveness, especially in the international market (Arslanagic et al., 2021). Collaboration with other businesses allows smooth sharing of resources, expertise and technology, which helps businesses adapt more

effectively to new markets, including consumer behaviour, legal requirements and cultural nuances (Johnson & Lee, 2023). This collaboration with local partners not only enables faster entry into new markets, but also helps to understand the specific needs of the market, which is crucial for reducing risks and costs.

Collaboration with businesses is a key element for success, especially in today's global economy (Schmidt et al., 2022). By building strong partnerships, businesses can not only increase operational efficiency but also expand their market reach, including to neighbouring countries. This strategy becomes particularly relevant for SMEs seeking to expand their operations and strengthen their competitiveness in the international arena (Arslanagic et al., 2021). Collaboration with local and international businesses allows companies to share resources, expertise and technology. Partners can often help to better understand local market characteristics, including consumer behaviour, legal requirements and cultural nuances. This process of knowledge exchange gives the company an advantage, helps to reduce and understand the process of entering new markets, and helps to manage costs and risks.

Digital technologies and e-commerce platforms play an important role in the B2B sector nowadays. While traditional B2B business and B2B business communication is often based on face-to-face meetings and face-to-face communication, modern digital tools allow companies to establish new business relationships and communicate with partners through digital solutions. This not only ensures faster and more efficient communication, but also allows companies to optimise ordering processes by personalising offers according to customer needs (Grant, 2024). Digital solutions in general help companies to reach a wider audience and to reduce the costs associated with physical meeting venues and logistics.

Despite the important role of digital technologies in the B2B sector, traditional B2B events such as exhibitions, conferences and business forums remain one of the most effective means of strengthening business relationships and building new partnerships. These events provide a unique opportunity to interact directly with potential partners and customers, establish new contacts and build brand awareness (Rijal et al., 2023). However, virtual B2B events can also be a great alternative to traditional meetings, as they allow participants to attend events from anywhere in the world, providing greater accessibility and efficiency (Povolna, 2017). A well-designed B2B communication strategy and the effective organisation of B2B events allow companies not only to build and strengthen partnerships, but also to adapt their products and services more quickly to changing market needs. Both face-to-face and digital (remote) B2B events enable the establishment of long-lasting and strong relationships, which are the basis for companies' growth in the global business world. Effective communication and collaboration contribute to successful integration into new markets, reducing risks and enhancing competitive advantage (Arslanagic et al., 2021).

To reach buyers in neighbouring countries, it is important to build regional partnerships with local retailers, distributors or other businesses. Local partners not only help to integrate faster into the market, but also provide access to existing customer networks. In addition, joint marketing initiatives such as exhibitions, advertising campaigns or social media projects help to strengthen the brand's visibility in foreign markets (Rijal et al. 2023). Perhaps the most important benefit of collaboration is the ability to adapt to different consumer needs. As buyers expectations can differ significantly from one country to another, partnerships with local businesses allow for faster and more accurate adaptation of products or services. For example, neighbouring countries often have similar cultural traditions, but subtle differences can determine how consumers perceive a product or the vision of a collaboration. A local partner helps to identify these differences and adapt business strategy accordingly. It is important to note that cooperation contributes to building stronger regional economic ties. Businesses operating in closely interconnected markets contribute to overall economic growth, job creation and innovation (Arslanagic et al., 2021).

In addition to direct business operations, cooperation with local partners contributes to improving intercultural communication and strengthening regional economic ties. Businesses that operate in closely linked markets often encourage economic growth, innovation and job creation. This is particularly relevant for small and medium-sized enterprises seeking to establish themselves in the market. Cooperation with businesses in neighbouring countries not only allows risk sharing but also creates the preconditions for long-term growth, which is crucial in a world of ever-increasing competition (Arslanagic et al. 2021).

Another important aspect is digital technology and its role in strengthening cooperation. Today, many companies are turning to digital solutions such as e-commerce platforms or social networks to reach a wider audience. Collaborating with local partners on these platforms can lead to the creation of joint campaigns, increase brand visibility and improve customer experience (Regional Educational Laboratory (REL) Southwest, 2022). For example, a company that wants to reach buyers in a neighbouring country can partner with a local influencer network or use local e-commerce platforms. This approach not only saves time but also increases the likelihood of success. It is also important to mention joint marketing projects such as exhibitions,

conferences or events (Guffey et al., 2019). Such projects provide an opportunity to interact directly with customers, establish new contacts and improve brand awareness. Working with partners from neighbouring countries makes these events even more effective, as local partners help to ensure that the information is properly presented and reaches the target audience.

Cooperation with businesses is a powerful tool to reach buyers in neighbouring countries. Strong partnerships not only help to overcome market entry barriers, but also promote mutual benefits, strengthen the brand and increase the scale of operations. Long-term cooperation not only ensures financial growth but also the strategic development of the company in a global world.

Analysis of the communication potential for *Pigu.lt* event

Research methodology. In order to find out which tools would encourage businesses to participate in the *Pigu.lt Marketplace* representation event, the company's communication on social networks was first analysed to determine to what extent *Pigu.lt* communication is targeted towards B2B communication. It was chosen to monitor *Pigu.lt* posts on „LinkedIn“, „Facebook“ and „Instagram“ platforms. The period chosen for the monitoring was 3 months. It is considered that this period is sufficient to identify general trends in social media communication. A quantitative analysis of the posts was carried out, counting the number of posts, the type of posts, the audience engagement (number of likes, shares).

To complement the quantitative analysis of social media content, semi-structured expert interviews were conducted to gather insights from B2B marketing and communication experts on effective communication channels and strategies and on the needs of entrepreneurs when choosing an e-commerce platform, as well as to assess *Pigu.lt* communication to attract businesses to the Marketplace. The qualitative semi-structured interview method was chosen in order to obtain the broadest, most detailed and open answers possible, formulated and provided by the participants themselves and reflecting their own perspective. A semi-structured questionnaire, also known as an interview guide, was chosen. Such an interview prepares the main topics to be covered and the key questions for each topic. However, the structure of the questionnaire is flexible and responsive to the actual interview process. The order of the questions, their wording, additional questions, etc. may change (Gaižauskienė, Valavičienė, 2016).

A total of four experts were interviewed. The number of experts was sufficient to answer the questions of the inquiry and to enable logical and reasonable conclusions to be drawn. Table 1 provides information on the professional experience of the experts interviewed. The qualitative research (semi-structured interviews) was chosen to interview experts in the B2B sector with experience in e-commerce, marketing and business. The participants were selected on the basis of a criteria selection. The main criteria for selecting experts were:

- **Professional experience**. Participants in the empirical study had at least 2 years of experience in the B2B sector.
- **Expertise**. Participants in the empirical study should have contributed to business projects related to e-commerce platforms.
- **Duties represented**. The empirical study participants were required to be in leadership positions in their companies in order to be able to strategically assess the value and benefits of *Pigu.lt Marketplace*.

As the experts refused to be identified, they were coded, e.g. Expert A, Expert B, etc.

Table 1

Expert profiles for semi-structured interviews

Expert	Business sector	Professional experience
A	Logistics	6 years of experience in optimising sourcing and sales through electronic platforms.
B	Wholesale	15 years of experience in managing company operations.
C	Financial technology services	4 years' experience as a Business Development Manager in the B2B market.
D	Marketing and communication	4 years' experience of leading a strategic marketing department.

The interviews were conducted by telephone and lasted between 30 and 60 minutes each. The interviews took place on weekdays, between 9.00 and 16.00. The interviews focused on effective communication strategies, the needs of B2B audience, and the use of social media to publicise the event. The interview questions consisted of eleven key questions, which were designed according to the research objective, but additional questions were asked and refined during the interviews, depending on the information provided. The questions were divided into five blocks and the purpose of each block is explained in Table 2.

Table 2

Semi-structured interview question blocks

Block of questions	**Questions**	**Purpose of the questions**
1st block	1.What do you think are the needs of entrepreneurs when choosing an e-commerce platform?	Questions designed to understand the main criteria for choosing of an e-commerce platform.
2nd block	2. What do you think are the main competitors of *Pigu.lt* in the B2B sector? 3. How could *Pigu.lt* differentiate itself in the market to be more attractive to business partners?	The questions are designed to find out about *Pigu.lt* competitive environment and differentiation.
3rd block	4. Which communication channels would you recommend for promoting a B2B event in general? Why? 5. How to use social networks effectively to engage business audiences?	The questions are designed to find out the characteristics of effective B2B communication and what respondents consider to be the most effective forms of B2B communication.
4th block	6. How do you think *Pigu.lt* should communicate in order to attract businesses from different sectors to the *Pigu.lt Marketplace* launch event? 7. What messages would be most attractive to businesses to get them interested in a *Pigu.lt* event to promote use of the platform? 8. How should the invitation to the event look to stand out and reach the right audience? 9. Which parts of the event (e.g. presentations, discussions, workshops) would be most useful for businesses?	Questions designed to assess the communication of *Pigu.lt* Marketplace platform and to find out how to attract B2B customers to a *Pigu.lt Marketplace* presentaiton event.
5th block	10. How important is it to emphasise the international aspects (*Pigu.lt* activities in the Baltic and Finnish markets)? 11. How can *Pigu.lt* ensure and what can be offered during the event to make businesses interested in the possibility of long-term cooperation?	The questions are designed to understand the importance of international aspects for business and the importance of long-term communication for business.

Quantitative results of *Pigu.lt* accounts in social networks. Firstly, it was observed how often *Pigu.lt* communicated on „LinkedIn“, „Facebook“ and „Instagram“ in general during the selected 3-month period. The results are presented in Table 3.

Table 3

Frequency of *Pigu.lt* posts on social networks

„Facebook“	„Instagram“	„LinkedIn“
4,34 post per week.	2,1 post per week.	1,2 post per week.

As can be seen, during the 3-month period, *Pigu.lt* communicated very differently on its social network accounts on *LinkedIn*, *Facebook* and *Instagram*. The highest number of posts was uploaded on *Facebook*, half as many on *Instagram*, and on *LinkedIn* the communication was approximately once a week. Next, the type of *Pigu.lt* posts on each social network was analysed.

During the observation period, 16 posts were made to the social network *LinkedIn*, of which: 11 were of a promotional type (links to articles from news portals such as *lrytas.lt* and *alfa.lt*, where the reader is encouraged to buy goods through *Pigu.lt* platform. 2 posts inviting the reader to join the *Pigu.lt* Marketplace, 1 post about the partnership with „Citadele Bank“ and the possibility for the banks customers paying with C

cards to buy *Pigu.lt* vouchers, as well as 1 entry about the birthday of the Marketplace, only one post was a greeting to the customers (for a summary, see Table 4).

Table 4

Pigu.lt communication on the social network LinkedIn

Number of posts during the observation period	Advertising	Invitation to sell on Pigu.lt Marketplace	Partnership	General post
16	11	2	1	2

During the observation period, 56 posts were published on the social network Facebook: 8 of them were video posts (reels) promoting products available in the Pigu.lt online store, 18 were photo galleries showcasing a single product from different angles, 28 posts featured promotional layouts with discounts on specific products or advertisements, 1 post was a carousel-type paid advertisement, and 1 post was a statement in which Pigu.lt expressed its position regarding the appearance of products with Soviet symbols in their store.

Table 5

***Pigu.lt* communication on the social network Facebook**

Number of posts during the observation period	Reels	Photo galeries	Ad creatives	Advertising	Statements from the company
56	8	18	28	1	1

During the observation period, 33 posts were uploaded on the Instagram platform. The majority of the posts consisted of promotional visuals, mainly advertisements announcing products available for purchase in the store. A giveaway and a video post were each published only once.

Table 6

***Pigu.lt* communication on the social network Instagram**

Number of posts during the observation period	Reels	Ad creatives	Giveaways
33	1	31	1

After conducting a quantitative content analysis of Pigu.lt's social media accounts, it can be stated that the platform is most active on Meta-owned social networks. During the observation period from October 13 to January 13, 56 posts were published on Facebook and 33 on Instagram. Meanwhile, LinkedIn — which is predominantly used by the business community — featured 16 posts.

Interestingly, although the company's social media accounts have hundreds of thousands of followers, their organic posts receive very little engagement. On Facebook, Pigu.lt has as many as 233,000 followers, but the number of likes on organic posts ranges from only 1 to 15. On Instagram, the brand has nearly 20,000 followers, yet posts similarly receive minimal attention — likes range from 1 to 10.

The most popular post on Facebook was a giveaway published on November 29, in which participants had the chance to win two €50 gift vouchers. This post received just over 700 likes, was shared over 280 times, and received 711 comments. On *Instagram*, the most popular post was a reel uploaded on December 18 featuring comedian Nedas Zimantas, which received nearly 700 likes.

To sum up, it can be said that the company focuses significantly more on Meta-owned social networks, but it would be worth considering greater engagement on *LinkedIn*, a platform favored and prefered by the business community.

Analysis of semi-structured interviews. After structuring the responses of the B2B experts who participated in the empirical study, when asked about the needs of entrepreneurs when choosing an e-commerce platform, experts A and C stated that when choosing an e-commerce platform, ease of use of such a platform is the first priority. Experts B and D highlighted the need for a clear advertising sales promotion

strategy. When asked how *Pigu.lt* should communicate to attract businesses from different sectors, experts A and D focused on the flexibility and adaptability of the *Pigu.lt* platform to different business sectors. Experts B and C stated that the *Pigu.lt* platform should communicate their advantages and strong market position. According to all the experts involved in the study, the most effective communication channels for B2B advertising are newsletters, email, *LinkedIn* social network integration and opportunities, as well as media articles, as these channels allow to precisely reach the B2B audience. To engage business audiences, social networks should be used to share success stories, practical tips and Q&A sessions on *LinkedIn*. Messages such as highlighting the advantages of the platform compared to its competitors and the minimal fees, according to experts, would be the most attractive for businesses to engage with the *Pigu.lt* platform. When asked how the *Pigu.lt* invitation to the event should look like to stand out and reach the right audience, and which parts of the invitation would be most useful for businesses, experts A, C and D said that the invitation should clearly communicate the benefits of the event. Expert B added that it would be useful to invite businesses to an additional free seminar that only presents the benefits of the event before it takes place. All experts revealed that the most useful parts of the event for businesses were the workshops and discussions with successful partners. When asked about the importance of *Pigu.lt* international relations (*Pigu.lt* activities in the Baltic and Finnish markets), all the experts answered that it is important to emphasise *Pigu.lt* international relations, but that priority should be given to local businesses. When asked how *Pigu.lt* should ensure long-term communication with the businesses that participated in the event, experts A, C and D recommended the organisation to organize ongoing training, while expert B stressed the importance of lively communication and the importance of finding compromises. When the experts were asked what they thought *Pigu.lt* competitors in the B2B sector were and how to differentiate from them, all experts pointed to one main competitor - *Varle.lt*. To differentiate themselves from their competitors, all experts recommended an emphasis on innovation and competitive pricing, while expert B suggested minimum fees for sales of goods.

According to the empirical research, *Pigu.lt* has a strong potential to attract B2B businesses if it focuses on the simplicity and flexibility of the *Marketplace* platform, clear advertising and sales promotion strategy. Experts recommend that the key should be to emphasise the platform's strengths, innovation and competitive pricing, as well as to ensure effective communication via email, *LinkedIn* and media. Organising events with workshops and discussions with successful partners would help to strengthen links with businesses, while ongoing training and face-to-face interaction would ensure long-term business engagement.

Communication Plan for the Pigu.lt Marketplace Presentation Event

Based on the results of the quantitative content analysis of *Pigu.lt's* social media and the semi-structured expert interviews, it was identified that the main issue related to the *Pigu.lt Marketplace* platform is that companies are unaware of its clear benefits and advantages. Therefore, based on the research findings, a communication plan was developed with the goal of engaging the Lithuanian business community to participate in a free *Pigu.lt*-hosted event introducing the *Marketplace* platform.

The research results indicated that the most effective communication method with the Lithuanian business community would be sending newsletters via e-mail to current or previously interested businesses in the *Pigu.lt Marketplace* platform. Paid social media advertising was also selected as a communication channel. The results of the empirical research show that B2B experts recommend using newsletters, email, and the social network *LinkedIn* specifically for communicating the event. In addition, it is important not to forget about paid advertising on social networks.

Businesses that have already benefited from using the *Pigu.lt Marketplace* platform will be invited to the event to share their success stories. The communication campaign will also include the publication of short video clips (reels) featuring business clients success stories using the *Pigu.lt Marketplace*, primarily on *LinkedIn*. These short videos will also be integrated into newsletters sent to current and potential business clients. The campaign will also include lead form paid advertisements on social networks.

The communication campaign will run for a period of three months (from December 6 to March 6). A preliminary plan and content of the campaign are presented in Table 7.

Table 7

Communication Plan for the Pigu.lt Marketplace Launch Event

Day	**Time**	**Social network / channel**	**Post category**
December 6 d.	09.00	*LinkedIn*	The event's goal is introduced, partners are presented, and free registration is announced.
December 9 d.	11.00	*Facebook* / *Instagram*, + ads *LinkedIn*	A layout presenting the event
December 12 d.	09.00	Newsletter	Newsletter for subscribers about the free event
December 17d.	11.00	*Facebook* / *Instagram LinkedIn*	A promotional visual presenting the success story of *Pigu.lt Marketplace* with a link to the *Pigu.lt* website post.
December 20 d.	11.00	*LinkedIn*	The success story of Pigu.lt Marketplace is announced, and a reminder is given about the registration for the free event.
January 6 d.	9.00	Newsletter	Newsletter for subscribers about upcoming event guests.
January 9 d.	11.00	*Facebook* / *Instagram* + ads	A layout informing about the free event, allowed as META ads.
January 15 d.	11.00	*Facebook* leads ads	Lead ads are allowed, data is collected, and potential event participants are contacted.
January 21 d.	11.00	*Facebook*	Design about the event participants
January 24 d.	9.00	*Facebook* / *Instagram*	Video (reels) about the upcoming event, during which the *Pigu.lt Marketplace* will be introduced.
January 29 d.	9.00	*Facebook* / *Instagram*	Layout about the requirements to sell products on the *Pigu.lt Marketplace* platform.
January 6 d.	9.00	Newsletter	Newsletter to subscribers about the upcoming event guests.
January 9 d.	11.00	*Facebook* / *Instagram* + ads	Layout informing about the free event, allowed META ads.
January 15 d.	11.00	*Facebook* leads ads	Leads ads allowed, data is collected, and contact is made with potential event participants.
January 21 d.	11.00	*Facebook*	Layout about the people participating in the event.
February 4 d.	9.00	*LinkedIn*	Post about the *Pigu.lt* marketing team focused on Marketplace platform sales, their work specifics + reminder about the free event.
February 7 d.	17.00	Newsletter	Reminder that the free event is exactly one month away, highlighting the benefits of the event, and inviting to register.
February 11 d.	9.00	*Facebook* / *Instagram*	Layout reminding about the event + directing to the *Pigu.lt* website, where the event is described in more detail.
February 17 d.	17.00	*LinkedIn*	The *Pigu.lt Marketplace* success story is shared, with a reminder to register for the event.
February 21 d.	11.00	*Facebook*	Short video (reels) presenting the main Pigu.lt marketing solutions for the Marketplace, which are free for users.
February 25 d.	11.00	*Facebook* / *Instagram*	Short video (reels) introducing the main tools of the *Pigu.lt Marketplace.*
February 28 d.	13.00	*LinkedIn*	A repeated invitation to register for the free event.
February 4 d.	9.00	*LinkedIn*	Post about the *Pigu.lt* marketing team focused on Marketplace platform sales, their work specifics, and a reminder about the free event.
March 3 d.	14.00	Newsletter	Reminder about the full event schedule and an invitation to register. (4 days before the event).
March 7 d.	17.00	*Facebook*	Photo gallery post about the completed event.
March 10 d.	13.00	*LinkedIn*	Sharing event photos, reflection.
March 3 d.	14.00	Newsletter	Reminder about the full event program and invitation to register. (4 days before the event).

Conclusions

Collaboration with other businesses is one of the most important strategies to increase sales in the B2B sector. Partnerships with other businesses not only allow for knowledge sharing, reduction of operational risks, cost optimisation, but also faster integration into new markets. The importance of cooperation is also undeniable in e-commerce and the digital solutions it requires. Collaboration with market players with a strong track record and experience enables the development of joint communication campaigns, increasing brand visibility and customer experience.

The results of the study show that in the B2B sector it is important to clearly highlight and communicate the advantages, benefits, innovativeness and prices of the product you are offering (in this case - an e-commerce platform), therefore the communication of the *Pigu.lt Marketplace* presentation event should be focused on highlighting the platform's capabilities and advantages. As potential businesses want easy-to-use, simple solutions and clear marketing, it is also important to show real-life examples of existing cooperation and success stories during a B2B event.

The most important communication channels for a B2B event are email newsletters, sharing success stories in video format on social networks, and in particular on *LinkedIn*, a social network where many executives and entrepreneurs gather. During the B2B event itself, workshops and discussions with successful partners will help to strengthen business relations, while ongoing training and face-to-face interaction will ensure long-term cooperation.

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MPROVEMENT OF THE MOTIVATION SYSTEM IN A PUBLIC INSTITUTION

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Keywords: motivation system, human resources, employee motivation, work efficiency, organization.

Abstract
The article formulates issues of the current motivation system, analyzes, and systematizes theoretical and practical research on human resource motivation systems in organizations conducted by various Lithuanian and foreign authors. The paper presents principles, models and methods of employee motivation and thoroughly examines solutions for improving work productivity and the effectiveness of the motivational system.
The study includes an analysis of the Republic of Lithuania's legal acts related to human resource management in the public sector. The hypothesis formulated by the author is confirmed, indicating that a properly designed motivation system directly impacts employee work efficiency and organizational performance.

Introduction

Relevance of the Topic: Effective employee motivation can directly influence organizational performance and work outcomes. According to A. Raipa et al. (2016), well-motivated employees are a key factor determining organizational efficiency, productivity and overall success.

Research Context: Significant contributions in this area have been made by management pioneers such as F. W. Taylor and theorists like D. C. McClelland, F. Herzberg and others (Ignotas, Matakaitė, 2016).

Research Problem: Employee motivation has a direct impact on work results. Its expression, depending on individual values, encourages knowledge acquisition and utilization for achieving both personal and professional goals. Insufficient attention to motivational measures and their misalignment with organizational objectives can reduce employee motivation, potentially decreasing productivity and underutilizing potential for organizational success.

Research Object: The motivation system in a public institution.

Research Aim: To investigate the improvement of the motivation system in a public institution.

Research Objectives:

1. To analyze motivation systems from a theoretical perspective.
2. To evaluate opportunities for improving the motivation system in a public institution.
3. To provide recommendations for improving the motivation system in a public institution.

Research Methods: The study employed methods such as scientific literature analysis, examination of online resources, quantitative research (survey), graphical representation and data processing using Excel.

Theoretical Aspects of Motivation Systems

It is important to clarify the meanings of the terms “motivation,” “motivating” and “motivation systems,” as well as their differences and the theories explaining them. Motivation is often described as an internal process that drives a person to act and achieve goals, while motivating is an external factor that encourages a person to act in a specific direction. Understanding these concepts allows for a deeper analysis of the theoretical aspects of motivation systems.

Definition of Motivation Systems: Table 1 below presents definitions of motivation systems as provided by various Lithuanian and foreign authors.

From these definitions, it can be concluded that a motivation system is a complex set of tools that not only fosters employee responsibility and delegation of authority but also adjusts incentives based on individual employee traits. A well-adapted system helps attract and retain talented employees, achieve organizational goals and enhance productivity.

Motivational Theories: Motivational theories aim to explain what drives people to act, the motives behind their behavior and what is important to them in the workplace. Authors Q. Miao, E. Nathan, A. Newman and G. Schwarz (2019) highlight that developing an effective motivational system is challenging because employees react differently to similar situations. They emphasize that motivated employees are a critical factor in achieving organizational goals and it is essential that both organizational values and the existing motivational system are acceptable to them.

Table 1

Definitions of Motivation Systems

AUTHOR	DEFINITION
R. Adamonienė (2015)	A motivation system is a set of tools that encourages delegation of authority and employees' willingness to take on greater responsibility.
I._Goswami, A. Mittal, V. Kumar et al. [2023]	A motivation system encompasses incentives tailored to individual employee characteristics, recognizing that different people respond differently to various rewards.
D. Savenko [2024]	A motivation system includes elements and stages—formation, validation, implementation, and improvement—that enhance employee and organizational productivity.
К. В., Павлов, О. М., Павлова, Т. П.Федашко, О. В., Шмаровоз, ir М. В., Коритко [2024].	A motivation system is a powerful tool for attracting and retaining talented employees.
D.Socha ir Ćwikowski [2024]	A motivation system is a structured set of tools and methods aimed at encouraging employee activity, achieving organizational goals, and increasing work efficiency.
I. Skačkauskienė, A. Kiselevskaja, [2014]	A motivation system must be adapted to individual employee characteristics, understanding that people expect different forms of reward from work.

**Source: Compiled by the Author Based on Management and Scientific Literature*

The study identifies several factors influencing employee motivation. First, the belief that efforts will lead to desired results, which is based on the employee's conviction that their work and efforts directly impact the final outcome. Second, the assurance that achieved results will be appropriately evaluated. This means that the employee trusts the organization to objectively assess and recognize their contribution, ensuring that positive achievements are not overlooked. Third, the perceived value of rewards from the employee's perspective. This factor relates to how the employee views the compensation they receive, which includes not only financial benefits but also psychological and emotional rewards, such as recognition or opportunities for personal growth.

Motivational methods such as formal evaluation involve a structured and official assessment system established and controlled by the organization's leader. In contrast, informal evaluation often includes unstructured and unofficial approaches, where employees are assessed in a casual environment, frequently through interactions with supervisors or colleagues. The leader's role in the motivation system is crucial, as they influence the team to achieve goals. A leader with authority and employee trust can inspire their team by fostering intrinsic motivation, competence and psychological resilience [Nwamae and Kayii, 2018].

Research on Improving the Motivation System in a Public Institution

Organization Overview: a public institution operates as a first-instance court, handling criminal, civil and administrative violation cases (within its competence as defined by law), cases under the jurisdiction of mortgage judges and cases related to the execution of decisions and judgments.

Research Objective: To investigate the improvement of the motivation system in a public institution.

Research Methodology: The study utilized a survey method, specifically a quantitative approach.

Research Location and Duration: The research was conducted at a public institution from November 26 to December 9, 2024.

Survey Type: Anonymous questionnaire.

Survey Structure: The questionnaire consisted of 20 closed-ended questions, including those with a wide range of answer options. The questions were divided into three main sections: introduction, demographic questions and primary topic-related questions.

Sample Size: The quantitative study was conducted at a public institution. Respondents completed the questionnaire via the online platform https://apklausa.lt/. A total of 67 correctly completed questionnaires were collected and analysed for the study results. Based on the sampling formula presented in the methodology section, a representative study with a 10% margin of error and 90% confidence level required a sample size of 66 respondents. Since 67 completed questionnaires were returned (a 100% response rate), the results can be considered sufficiently representative.

Demographic Insights: Respondents were analyzed based on gender, revealing that women participated more actively (73%) compared to men (27%). The most active age group was 36–45 years old (43%), followed

by the youngest group, 20–35 years old (34%), demonstrating significant engagement. Employees over 46 years old represented only 23% of participants, suggesting a need to address their specific motivational requirements in future programs.

Work Experience Insights: The study revealed that the largest group of respondents (45%) had 4–6 years of work experience, while 25% had 7–15 years or more, reflecting long-term experience and stability. Groups with shorter work experience (up to 1 year and 2–3 years) indicate organizational renewal and highlight the need to strengthen their adaptation and motivation.

The study aimed to identify how respondents evaluate the motivation system measures implemented in a public institution. The data are presented in Figure 1.

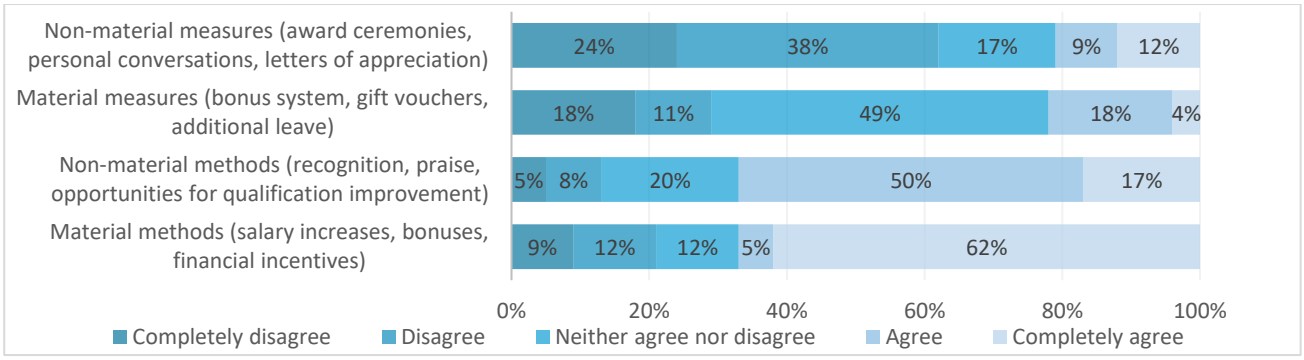


Fig. 1. Motivation Systems Applied in a public institution
**Source*: compiled by the author based on the survey results

As shown in Figure 1, more than two-thirds (67%) of respondents agree that non-material methods such as recognition, praise and opportunities for professional development are effective in a public institution. Additionally, nearly three-quarters (67%) of respondents acknowledge that material methods, such as salary increases, bonuses and financial incentives, are also applied as elements of the motivation system in the court.

It can be concluded that both material and non-material methods used in a public institution are effective. However, there is a need to improve the implementation and clarity of these measures to better meet employee expectations and enhance their motivation more effectively.

The study also sought to determine which motivational measures respondents considered the most effective in a public institution. The findings are illustrated in Figure 2.

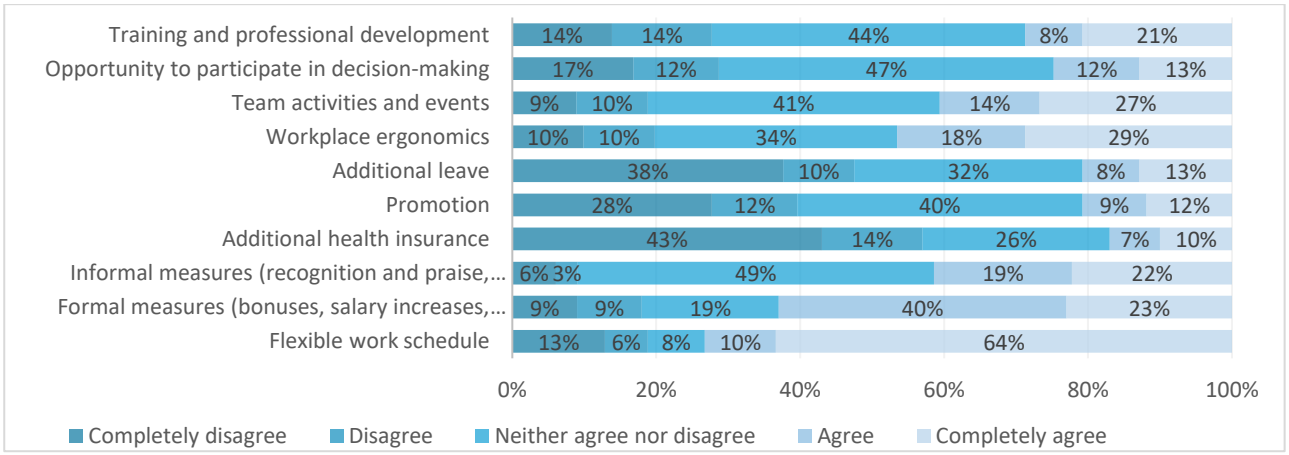


Fig. 2. Most Effective Motivation Measures in a public institution
**Source: compiled by the author based on the survey results*

Figure 2 shows that nearly three-quarters (73%) of respondents agree that a more flexible work schedule is one of the most effective motivational measures. Moreover, more than half (63%) of respondents agree that formal measures, such as bonuses, salary increases and tokens of appreciation (e.g., gifts), play an important role in motivating employees.

It can be concluded that financial incentives are significant for employee motivation, but the ability to adapt to personal needs is also crucial.

The study also explored respondents' opinions on the most suitable motivation measures. The results are presented in Figure 3.

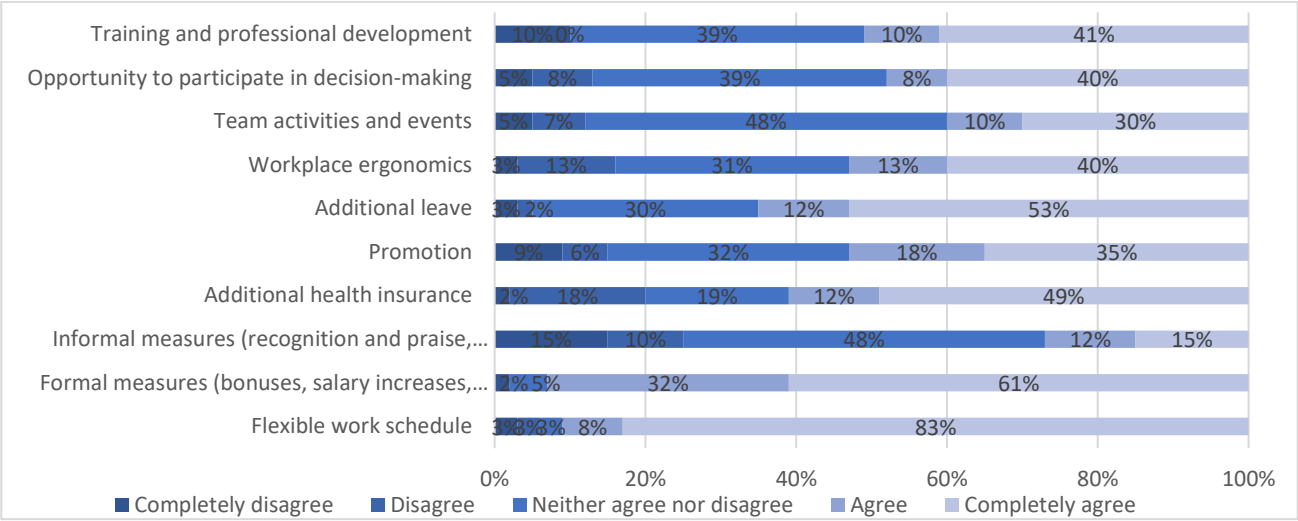


Fig. 3. Most Suitable Motivation Measures According to Respondents
**Source: compiled by the author based on the survey results*

As shown in Figure 3, the majority (93%) of respondents agree that formal measures, such as bonuses, salary increases, tokens of appreciation and gifts, are highly effective. This indicates that formal motivational measures are highly valued in the organization and are considered essential factors in motivating employees.

Nearly all respondents (91%) indicated that the most suitable motivational measure is a more flexible work schedule, one of the most effective methods for enabling employees to balance work and personal commitments.

Finally, the study sought to identify respondents' opinions on improving the motivation system within the organization. The data are presented in Figure 4.

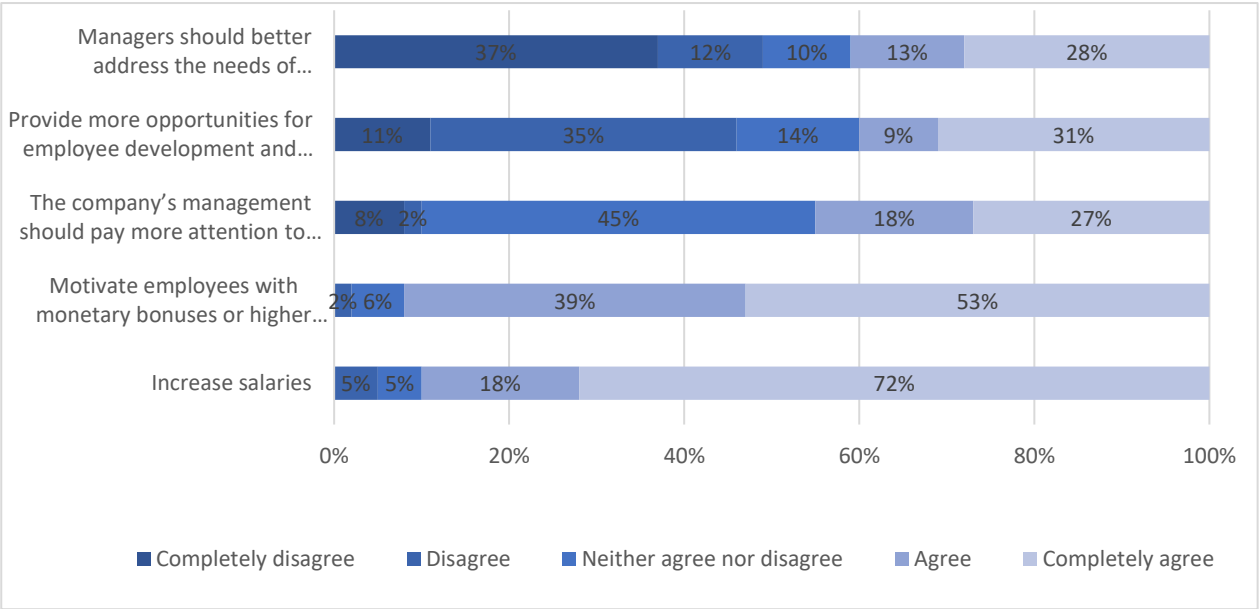


Fig. 4. Improvement of the motivation system in a public institution
**Source*: compiled by the author based on the survey results

As illustrated in Figure 4, almost all respondents (92%) agree that financial incentives, such as bonuses or higher salaries, are the most effective ways to improve the motivation system in the organization.

A significant majority (90%) of respondents agree that salary increases are a fundamental measure contributing to strengthening employee motivation.

It can be stated that financial motivation measures, such as salary increases and monetary bonuses, are the most effective tools for motivating employees in a public institution.

The hypothesis, "If appropriate motivational measures were applied to employees in a public institution, the motivation system would function productively," was partially confirmed, as it was found that some of the applied motivational measures are effective but do not fully address the needs of all employees.

The conducted study revealed that motivational measures in a public institution are partially effective; however, their implementation lacks sufficient clarity and certain measures, such as informal incentives or learning opportunities, do not fully meet employees' expectations.

Opportunities for Improving the Motivation System in a Public Institution

An analysis of the study results revealed that respondents from a public institution value both material and non-material motivational measures. However, their implementation in the organization is not sufficiently systematic. Therefore, it is essential to clearly define the available measures and improvement directions to ensure a more effective functioning of the motivation system. The main available measures and their improvement directions are presented in Figure 5.

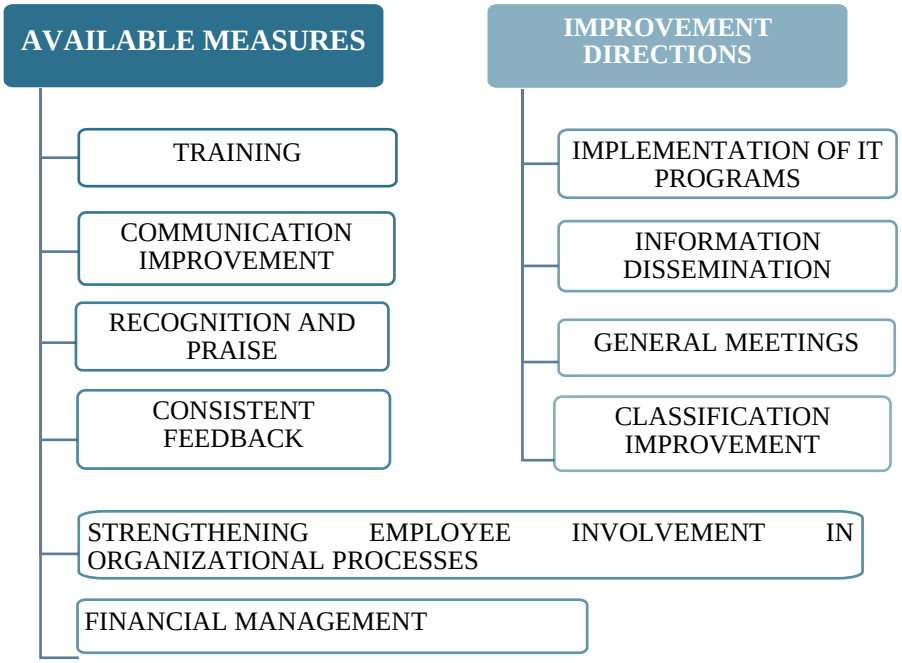


Fig. 5. Directions for improving the centralization of available measures
**Source*: prepared by the author based on research data

As shown in Figure 5, the directions for improving the centralization of available measures are presented, with the improvement of the motivation system in a public institution based on these measures and improvement directions. The key measures include training, communication improvement, recognition and consistent feedback, which enhance employee competencies and motivation. Additionally, employee involvement in organizational processes and effective financial management, ensuring a transparent remuneration system, are important.

The improvement directions focus on the implementation of IT programs, which automate processes and increase work productivity and information dissemination to ensure smooth communication. General meetings and career advancement (classification improvement) strengthen employee engagement and career opportunities. Integrating these measures would ensure systematic employee motivation and the achievement of organizational goals.

Conclusions

From a theoretical perspective, it can be argued that motivation systems are a significant element of organizational success, as they help to understand the mechanisms of motivation and develop effective measures. A balanced motivation system fosters employee growth, better work results and greater loyalty, thus ensuring higher productivity and the long-term success of the organization.

The research results indicated that financial measures, such as bonuses and salary increases, are important for 93% of respondents, yet their implementation is inconsistent. A flexible work schedule and work-life balance, valued by 91% of respondents, are also highly significant. Informal motivation measures (praise, recognition, feedback) are relevant to 49% of respondents but remain underdeveloped. Professional development and career opportunities, valued by 43% of employees, lack accessibility and clarity.

Communication by 41% of managers and the involvement of 46% of employees in decision-making remain areas for improvement. Enhancing these aspects could increase satisfaction, ensure feedback and promote more effective engagement. An ergonomic work environment, valued by 33% of respondents, contributes to productivity and well-being in the workplace.

If appropriate motivational measures were applied to employees in a public institution, the motivation system would function productively, was partially confirmed, as it was determined that some of the applied motivational measures are effective but do not fully address the needs of all employees.

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ANALYSIS OF TRANSPORT LOGISTICS ORGANIZATION AT SP/F „SAFARI TRANSPORT“

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Keywords: transport logistics, transportation, freight forwarding, green logistics.

Abstract
This article examines the fundamental aspects of transport logistics and the role of freight forwarding in enhancing supply chain efficiency. Key topics discussed include modes of transport, route optimization, and the importance of green logistics in reducing the environmental impact of transportation activities. Furthermore, the study highlights the essential role of freight forwarders in ensuring efficient and cost-effective delivery processes through precise documentation management and coordinated transportation activities. The subsequent section of the article provides an analysis of the logistics organization at Sp/F „Safari Transport“. Utilizing qualitative research methods, including expert interviews and direct observation, the study offers valuable insights into the company’s logistics operations and identifies potential areas for improvement.

Introduction

Transport logistics is a critical component of the supply chain, ensuring the efficient movement of goods and contributing to economic growth. It facilitates the integration of supply chain participants, creates employment opportunities, and fosters business expansion. In an increasingly dynamic market, modern transportation management systems, route optimization tools, and advanced transport planning software enable freight forwarding companies to maintain competitiveness. Efficient transport logistics organization plays a fundamental role in freight forwarding operations, allowing for route optimization, strategic selection of transport vehicles, and the integration of advanced technologies. These factors not only reduce operational costs but also enhance customer satisfaction and provide a competitive advantage. Effective management of goods flow ensures that shipments are delivered punctually, to the correct location, and in optimal condition. Consequently, freight forwarding companies continuously seek innovative strategies to enhance transport logistics processes, aiming to achieve greater operational efficiency and sustain a competitive position in the market.

Object of the article. The organization of transport logistics at Sp/F „Safari Transport“
The purpose of the article. To analyze the organization of transport logistics at Sp/F „Safari Transport“
Research tasks:

1. To analyze transport logistics from a theoretical perspective.
2. To examine the organization of transport logistics at Sp/F „Safari Transport“

Research methods: analysis of scientific literature, observation, expert interview.

Theoretical aspects of transport logistics

In the evolving logistics industry, transport logistics plays a crucial role in supply chain management by ensuring the efficient movement of goods, optimizing routes, and facilitating distribution. According to D. Topolšek, K. Čižiūnienė and T. Cvahte Ojsteršek (2018), transport logistics is an essential component of the supply chain, encompassing not only the movement of goods but also the financial, commercial, and organizational aspects that contribute to efficient operations. To better understand transport logistics processes, it is essential to analyze the concept of transportation, as it forms the foundation of these processes. The term transportation is interpreted in various ways in the scientific literature but is closely related to logistics, supply chain management, and the organization of goods movement. According to D. Bazaras and A. Jarašūnienė (2022), transport is one of the most important sectors of the economy, as it ensures the operation of other industries and contributes to economic growth. M. G. Burns (2015) notes that transport logistics includes everything from route planning to delivery, ensuring efficiency across the supply chain. Transport services also involve freight forwarding, insurance, and cargo handling (Speranza, 2018). Key stages of transport logistics include planning, maintenance, movement, and delivery (Sarder, 2021). The choice of transport mode depends on factors like cargo type, distance, delivery time, and cost. According to the Transport Activity Framework Act of the Republic of Lithuania [TAR, No. XIV-1141, article 6, valid version since November 1, 2022], five main types of transport are identified: road, air, rail, sea, and inland waterway transport.

Additionally, D. Bazaras and A. Jarašūnienė (2022) highlight pipeline transport, which plays a crucial role in the movement of oil and gas. Globally, transport modes are becoming more complementary than competitive, with multimodal transport playing an increasingly important role in logistics optimization (Stanton, 2018). According to M. Kramarz, E. Przybylska (2021), multimodal transport refers to the transportation of passengers or goods using two or more different modes of transport. Each transport mode has distinct advantages and limitations: road transport is highly flexible but slower than air transport, while rail and sea transport offer cost effective solutions for bulk shipments but lack flexibility. Selecting the optimal transport mode requires a balance between speed, cost, capacity, and service quality (Sarder, 2021). In response to growing environmental concerns, the logistics sector is increasingly adopting green logistics practices aimed at minimizing environmental impact. Green logistics is a branch of logistics that seeks to reduce the negative environmental impact of transportation, warehousing, and other logistics processes by integrating sustainable solutions into all activities across the supply chain. Green logistics aims to optimize transport operations by reducing emissions, waste, and energy consumption (Meidutė-Kavaliauskienė, 2024). In the context of sustainability and environmental protection, the implementation of green logistics in the transport sector is crucial. It helps reduce the negative environmental impacts of transport activities, such as air pollution, noise, and greenhouse gas emissions. Additionally, green logistics promotes efficient resource use, fosters innovation, reduces waste, and encourages recycling practices (Paužuolienė, J., Kaveckė, I., 2022). As a fundamental component of the supply chain, transport logistics ensures efficient movement, timely deliveries, and seamless integration with other logistical functions. The choice of transport mode significantly influences operational efficiency, cost effectiveness, and service quality. Moreover, sustainability is becoming a central concern in logistics management, driving the adoption of green logistics practices. By optimizing transport operations to minimize environmental impact, companies can enhance both economic efficiency and competitive advantage.

The role and organization of freight forwarding in transport logistics

International trade drives economic growth, and freight forwarders play a key role in logistics by ensuring efficient and compliant transportation of goods. Freight forwarding is defined differently in the literature - some authors view it as a business activity and logistics process management, while others emphasize its role in transportation organization. To understand its role in transport logistics, it is important to analyze various definitions of the term (Table 1)

Table 1

Definition of freight forwarding

Author	Definition
MD. Sarder (2021)	Freight forwarding is the coordination and transportation of goods from one location to another using one or more modes of transport.
P. Popovych, S. Shyriaieva, N. Selivanova (2016)	Freight forwarding is a business activity involving services related to organizing and executing the transportation of export, import, transit, and other goods.
A. McCarthy (2017)	Freight forwarding is a service used by companies working with international import and export processes.
I. Kubasakova, J. Kubanova, P. Kollarova (2021)	Freight forwarding is an activity that includes organizing the transportation of goods and managing logistics processes to ensure optimal, safe and economical transport from sender to receiver.

(compiled by the author based on the definitions provided by the cited authors)

The definitions of freight forwarding presented in the literature emphasize different aspects of the activity. They commonly agree that freight forwarding involves the coordination and transportation of goods, but they vary in their focus on specific elements, such as the business activity, service provision, and logistics management. The role of freight forwarders is crucial due to globalization, technological advancements, and international trade, which enable the optimization of supply chains and the achievement of higher efficiency levels. Therefore, their services are essential to ensure the fast and secure movement of goods (Sole, 2017). According to A. Baublys (2016), a freight forwarder is a transport architect who performs auxiliary operations related to shipments. Freight forwarding is not limited to transport coordination but includes interconnected processes requiring careful planning and decision making. These processes, as outlined by the International Federation of Freight Forwarders Associations (FIATA), involve tasks like transportation, consolidation,

storage, packaging, and distribution. The process begins with order receipt, where freight forwarders analyze cargo specifics and select the most suitable carrier and transport mode (Holm, Henningsson, 2021; Popa, Goia, 2022). According to the International Chamber of Commerce (ICC), INCOTERMS 2020 defines the responsibilities for transporting goods, customs procedures, and insurance. Freight forwarders ensure compliance with these terms in their operations. According to A. Baublys (2016), the order cycle in freight forwarding companies involves several interconnected stages that require careful planning. Initially, the client and forwarder agree on transportation, storage, and other related costs. After the order is entered into an accounting system, the forwarder plans routes, warehouses, and transport, considering cargo specifics. Based on the cargo, the forwarder selects the optimal transport type (air, sea, rail, or road). Necessary documents, such as customs declarations, insurance policies, and others, are prepared to ensure smooth handling of goods. Depending on the transport mode and cargo, this may include documents like a bill of lading, commercial invoice, or certificate of origin. In the case of dangerous goods, additional documentation is required to comply with regulations. Freight forwarders are responsible for managing physical tasks such as transportation, warehousing, shipment consolidation, and packaging to ensure timely delivery to the recipient. The order cycle concludes with payment processing and tracking of order information. This entire process is closely related to INCOTERMS rules, which determine logistics costs, transportation models, and the division of responsibilities between the buyer and seller. Freight forwarders also advise clients on the most efficient and cost effective transport options, offer guidance on packaging to ensure safe handling, and handle all customs procedures to ensure compliance with regulations. They manage essential documentation, select the best carriers, and organize shipment consolidation to optimize costs. Additionally, they oversee warehousing, distribution, and insurance, ensuring the safe and timely delivery of goods. Throughout the process, they monitor shipments and provide the necessary documents to ensure smooth and efficient transport (Baublys, 2016).

In conclusion, freight forwarding is essential in transport logistics, ensuring the efficient and compliant movement of goods across global supply chains. It involves various interconnected processes, including transportation coordination, documentation, and customs compliance, all requiring careful planning. Freight forwarders, acting as transport architects, optimize supply chains by selecting the best transport modes, advising on cost effective solutions, and ensuring the safe handling of goods. With globalization, their role has become more critical in managing transport, warehousing, and compliance with standards like INCOTERMS 2020, ensuring timely and secure deliveries in a dynamic global market.

Data and results

Sp/F „Safari Transport“ is an international freight forwarding company, founded on February 1, 1995, in the Faroe Islands. The company has steadily grown from a small operation to a competitive player in the logistics industry. Headquartered in Hoyvik, Faroe Islands, it specializes in international transport and offers comprehensive logistics solutions, including sea, air, and multimodal transportation, as well as specialized services for urgent, hazardous, and sensitive cargo. Sp/F „Safari Transport“ prioritizes adherence to international logistics standards and maintains a solid network of partnerships to optimize its service offerings.

The research methodology is based on a systematic and structured approach to gather and analyze data on the transport logistics services, organization of processes and potential challenges faced by Sp/f „Safari Transport“. The methodology was designed to ensure accurate results while maintaining objectivity.

The aim of research - to analyze the organization of transport logistics at Sp/F „Safari Transport“.

Research methods:

1. Company data analysis and observation – to evaluate transport logistics organization.
2. Qualitative research – internal expert interview.

Observation and company data analysis.

This study applies observation and company data analysis methods to assess the logistics organization at Sp/F „Safari Transport“ and identify potential areas for improvement. As K. Kardelis (2016) explains, scientific observation is a systematic method of perceiving and gathering information about the environment. This direct observation method allows the researcher to collect data firsthand, enabling the identification of operational issues and insights into cargo movement processes. Additionally, company data analysis helps evaluate accumulated information regarding transportation organization, cargo distribution, and logistics operations (Gaižauskaitė, I., Valavičienė, N., 2016). The integration of these methods ensures a comprehensive understanding of the company’s logistics operations.

Qualitative research – internal evaluation.

This study employs expert interviews to gain in depth insights into Sp/F „Safari Transport“ logistics. Observation captures real time processes, data analysis evaluates operations, and expert interviews reveal practical insights. Combining these methods ensures a comprehensive assessment and identifies improvement opportunities. 3 experts participated using a semi structured interview format for flexibility and depth (Table 2).

Table 2

Sp/F „Safari Transport“ expert interview participants

Code	Gender	Age	Position	Work experience in the company	Overall professional experience
E1	Male	44	Director	15 years	23 years
E2	Male	31	Freight forwarder	6 years	8 years
E3	Female	44	Freight forwarder	14 years	22 years

(compiled by the author)

Participant characteristics. The study involved 2 male and 1 female participants, aged between 31 and 44 years, with an average age of 39. The team at Sp/F „Safari Transport“ is distinguished by experienced professionals, led by the company’s director (E1) with 15 years of experience in strategic management and decision making. The logistics specialists, or freight forwarders (E2 and E3), have 6 and 14 years of professional experience at the company, respectively. The total work experience of the participants is 23, 8, and 22 years. The specialists continuously improve their qualifications through training and seminars, ensuring enhanced competence and smooth workflow organization.

Research process and ethics. The expert interviews took place between March 13-21, 2025. Verbal consent was obtained from participants prior to the interviews. Interview times were coordinated via phone and email, and the sessions were conducted in person at the participants' workplace, both during and after regular working hours. With the participants' consent, responses were recorded both in writing and via mobile phone voice recorder. The research purpose was explained to participants, and their confidentiality and anonymity were assured, with the understanding that their answers would only be used for the final project. The expert interviews followed a semi structured format, combining elements of both structured and unstructured interviews.

Observation and company data analysis results.

In analyzing the transport logistics organization at Sp/F „Safari Transport“ an observation was conducted to examine the company's logistics organization procedures and related documentation. An observation of Sp/F „Safari Transport“ revealed a well-developed, systematic process for efficient transport logistics management, from order receipt to delivery. All operations adhere to Nordic Freight Forwarders Association (NSAB) rules, ensuring high standards, traceability, and client communication. Clients often choose full service packages for operational efficiency. Figure 1 shows the core forwarding process, highlighting key stages while recognizing the potential for multimodal or specific transport stages.

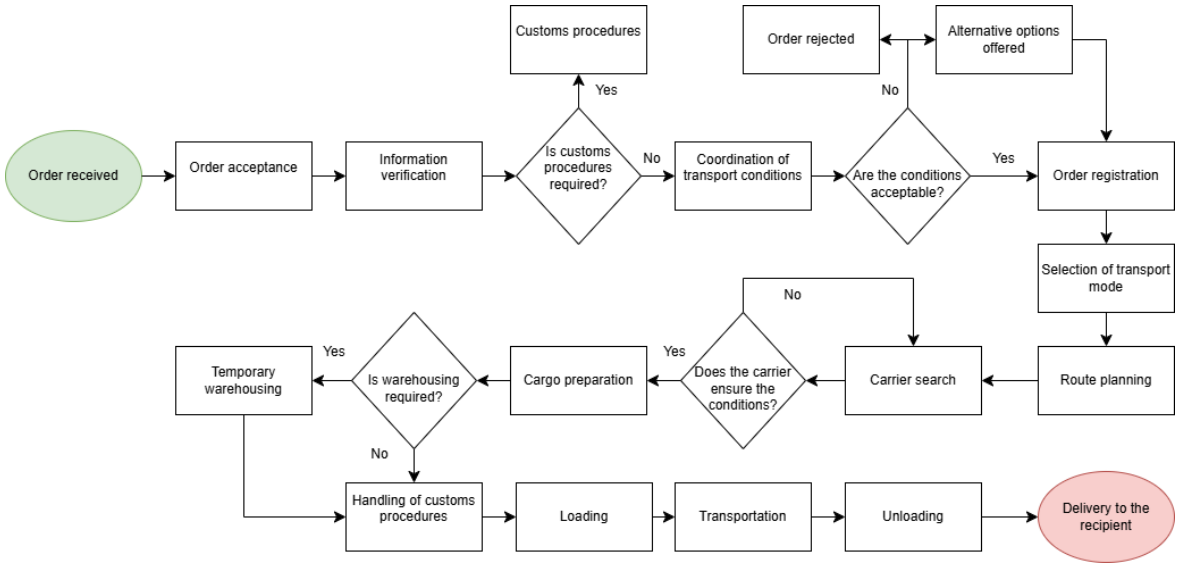


Fig. 1. The freight forwarding process diagram of Sp/F "Safari Transport"
**Source: made by author*

The process begins when a client submits an order, at which point „Safari Transport" reviews customs procedures, negotiates terms, and records agreements. If the terms are unsuitable, alternatives are offered or the order is declined. Once approved, the order is registered, and a plan is prepared. Following order registration „Safari Transport" selects the optimal transport mode—sea, air, or road—based on cargo type, delivery needs, and geography. Sea is ideal for large shipments, air is used for speed, and road is chosen for final delivery. Route planning considers origin, destination, constraints, deadlines, and cost, with real time adjustments made to handle delays, congestion, or weather disruptions. Once the optimal route is determined, „Safari Transport" selects carriers through strategic partnerships with companies like „Samskip" (maritime), „FarCargo" (air), „DSV" (multimodal logistics), and „Jetpak" (express deliveries). These collaborations, along with a global network of providers, enable customized freight solutions and door-to-door delivery. Domestically, „Safari Transport" uses its own fleet but relies on partners for high volume shipments. Upon selecting a carrier, contractual terms, including timelines, routes, liability, and costs, are negotiated, and if a provider fails to meet requirements, an alternative is secured to maintain service quality. After the transport contract is signed, the client is responsible for packing and labeling the cargo to ensure compliance and smooth customs procedures. „Safari Transport" offers temporary storage but lacks temperature controlled facilities. The company's warehouse management system optimizes tracking, organization, and space utilization. „Safari Transport" strictly follows customs regulations to ensure legal and efficient cargo movement, particularly for imports, applying a structured process to prevent delays and extra costs. Before transport, it verifies cargo status, determines applicable duties and VAT, and ensures that all required documents, including the freight invoice, certificate of origin, and customs form, are submitted on time, minimizing errors and ensuring timely deliveries. Finally, „Safari Transport" ensures timely and secure cargo delivery through structured processes and real time tracking. While the company does not provide packaging or labeling, it requires clients to comply with regulations before transport. Using GPS tracking, sensors, and transport management systems, cargo movement is monitored from pickup to final delivery, with clients able to access live updates on shipment status, including any delays or issues. The company adapts to changing conditions, such as weather or customs delays, to ensure efficient and on schedule deliveries.

The analysis and observations reveal that „Safari Transport" efficiently manages its logistics operations according to international standards. From order reception to final delivery, every step is carefully monitored. The company optimizes efficiency and cost effectiveness by integrating multimodal transport solutions, including sea, air, and road freight. Route planning is flexible, adapting to geographical conditions, deadlines, and disruptions. Customs procedures comply with regulations, and real time tracking ensures punctuality. Overall, „Safari Transport" demonstrates a well-structured logistics system that ensures high service quality and smooth operations.

Qualitative research – experts interview results.

To complement the insights gained through observation and document analysis, qualitative research was conducted using expert interviews. This approach provided a deeper understanding of the organization of transport logistics at Sp/F „Safari Transport“. Although the interview consisted of 14 questions, due to the limited scope of the article, not all tables are presented within the text. The most relevant tables were selected in order to focus on understanding how the company organizes its transport logistics. To ensure the accuracy of the research, the collected responses were reviewed and clarified together with the interviewees to confirm the correctness of the information provided. The results of the study are systematized and summarized in Tables 3–7, which present the main categories, subcategories, and selected quotations from the expert interviews.

The objective of this stage was to obtain a comprehensive understanding of the freight forwarding process by identifying its key stages and evaluating the overall coherence and operational efficiency of the process. The summarized results are presented in Table 3.

Table 3

Freight forwarding process at Sp/F „Safari Transport“

Category	Subcategory	Expert insight
Freight forwarding process	Order registration	„The client submits the order…we register it in our system. “ (E1) „We receive the order...“ (E2) „The client submits the order and we register it.“ (E3)
	Order analysis	„We analyze it – assess the cargo and the client‘s needs.“ (E1) „After analyzing it – we assess the cargo characteristics, origin county, specific requirements.“ (E2) „We review it...“ (E3)
	Selection of transport mode	„We select suitable transport...“ (E1) „We choose the appropriate mode of transport.“ (E2) „Then we select the most appropriate transport mode...“ (E3)
	Route planning	„We create the optimal route...“ (E1) „We create the route...“ (E2) „...and the route...“ (E3)
	Carrier selection	„We look for a carrier who can perform the task.“ (E1) „We search for a carrier who meets all conditions.“ (E2)
	Documentation and customs	„We handle the documents and customs formalities before transportation...“ (E1) „We prepare the documents and, if needed, the customs procedures.“ (E2)
	Warehousing	„If needed, we warehousing the cargo...“ (E2) „If necessary, we provide temporary storage.“ (E3)
	Transportation	„We organize the cargo transportation...“ (E1) „We ensure that the cargo is delivered to the recipient...“ (E2) „We ensure timely delivery.“ (E3)

(compiled by the author based on expert interviews)

The expert responses reveal a clearly structured freight forwarding process, encompassing key stages such as order registration, order analysis, selection of transport mode, route planning, carrier selection, and execution of transportation. Additionally, Experts E1 and E2 emphasized the significance of documentation preparation and customs formalities prior to dispatch, indicating the procedural depth required for international logistics. Experts E2 and E3 also identified warehousing as an integral stage, a factor not mentioned by Expert E1, suggesting that certain elements of the process may depend on client-specific service requirements. Overall, the consistency among expert accounts reflects an organized and efficient system, contributing to the reliability, timeliness, and security of cargo delivery.

The subsequent objective was to examine the criteria applied in selecting the mode of transport for cargo transportation and to assess how these decisions contribute to the optimization of the overall logistics process. The research findings are summarized in Table 4.

Table 4

Mode of transport selection criteria at Sp/F „Safari Transport“

Category	Subcategory	Expert insight
Criteria for selecting the mode of transport	Cargo type	„…depends on several factors: cargo type, delivery time, and location…the weight and volume of the cargo, packaging type and level of danger are also important.” (E1) „...selection is based on the characteristics of the cargo type...delivery location...and time...“ (E2) „...it is important to consider the delivery deadline...geographical location...cargo type and characteristics...“ (E3)
	Cargo characteristics	
	Delivery time	
	Geographical location	
	Price	„Price is also an important factor...“ (E1) „...price – it is also an important...“ (E3)

(compiled by the author based on expert interviews)

The experts insights suggest that the selection of the transport mode is influenced by a multifaceted set of factors. All respondents emphasized that the primary criteria guiding this decision are the type and characteristics of the cargo, delivery deadlines, and geographical considerations. This implies that logistics-related decision-making is closely tied to supply chain specifics and the intrinsic nature of the cargo. While Experts E1 and E3 acknowledged the importance of cost, Expert E2 did not consider it a decisive factor. This variation indicates that, although cost remains relevant, decisions are primarily driven by cargo-related requirements and operational efficiency, with cost functioning as a secondary consideration.

This stage of the analysis aimed to investigate how the company employs information technologies to support cargo tracking, route planning, client communication, and overall improvements in operational efficiency. The summarized findings are presented in Table 5.

Table 5

Application of information technologies at Sp/F „Safari Transport“

Category	Subcategory	Expert insight
Information technologies	Transport management system	„We use the transport management system, GPS tracking.“ (E1) „We use the transport management system and GPS tracking technologies...“ (E2) „We use various information technologies, such as the transport management system and GPS tracking system...“ (E3)
	GPS tracking	
	Electronic invoices and documents	„We use electronic invoices and documents…“ (E1) „...electronic document and invoice management.“ (E2) „All invoices are issued and processed electronically...“ (E3)
	Warehouse management system	„…warehouse management systems that help to ensure smooth and efficient process management.“ (E1) „...warehouse management system insures that all goods movements are accurately registered and tracked.“ (E3)

(compiled by the author based on expert interviews)

The experts responses indicate that Sp/F „Safari Transport“ integrates advanced information technologies into its freight transportation processes to enhance operational efficiency, transparency, and delivery speed. All respondents emphasized the use of transport management systems (TMS) and GPS tracking, which enable real-time monitoring of cargo movements and conditions. Furthermore, the implementation of electronic invoicing and documentation minimizes the reliance on paper-based processes, thereby increasing administrative efficiency and procedural transparency. While Experts E1 and E3 noted the use of a warehouse management system (WMS), Expert E2 did not specifically mention this, implying that its application may be

department-specific or less universally adopted. Taken together, these technological tools facilitate optimized cargo monitoring, route planning, and client interaction, ultimately contributing to improved service quality and overall logistics performance.

The next objective was to identify the primary challenges encountered by Sp/F „Safari Transport“ during the cargo transportation process and to assess the solutions implemented to address these challenges. The summarized research findings are presented in Table 6.

Table 6

Challenges in cargo transportation organization and solutions at Sp/F „Safari Transport“

Category	Subcategory	Expert insight
Challenges in cargo transportation organization and solutions	Weather conditions	„The biggest challenges we face are related to weather conditions…we usually choose sea transport as it is more stable…but if the deadline is tight, we look for alternative routes…“ (E1) „Weather conditions usually cause problems...we choose sea transport...if deadlines are tight, we shift to road or air transport...“ (E2) „...weather conditions, especially in air transport, pose significant challenges...we look alternative transportation methods or adjust the routes...“ (E3)
	Technological failures	„…technology failures…we constantly update equipment and have backup communication channels.“ (E1) „...communication disruptions occur...we have alternative methods to maintain contact with drivers.“ (E3)
	Customs procedures and document handling	„…customs procedures…we take care of the documents in advance.“ (E1)
	Driver shortage	„...we face a shortage of drivers...we have several alternative carriers and carefully plan the shifts.“ (E2)

(compiled by the author based on expert interviews)

According to the experts, the most significant challenge faced by Sp/F „Safari Transport“ in its cargo transportation operations is the impact of adverse weather conditions, particularly in the air transport sector. All respondents emphasized that weather-related disruptions can considerably affect transportation, especially when strict delivery deadlines must be met. To mitigate these disruptions, the company adapts by rerouting shipments or selecting alternative modes of transport. Expert E1 additionally noted the delays potentially caused by customs procedures and highlighted the company’s proactive strategy of preparing all required documentation in advance. Furthermore, Experts E1 and E3 pointed out that technological failures, especially communication breakdowns, pose significant risks. In response, the company continuously updates its equipment and maintains backup communication channels to ensure reliability. Expert E2 also addressed the ongoing shortage of qualified drivers, which is managed through partnerships with alternative carriers and effective shift planning. In conclusion, the company employs a variety of strategies to manage these challenges, ensuring the seamless operation of its transportation processes.

The next objective was to examine the environmentally friendly and sustainable logistics practices implemented by Sp/F „Safari Transport“ and to evaluate how these practices contribute to sustainable business development and environmental protection. The research findings are presented in Table 7.

The expert responses indicate that Sp/F „Safari Transport“ is firmly committed to implementing sustainable logistics practices that not only optimize its operational processes but also contribute to environmental conservation. All experts emphasized the importance of cargo layout optimization, a key practice for enhancing vehicle space utilization and subsequently reducing fuel consumption. Moreover, Experts E1 and E2 highlighted the significance of route optimization as another critical strategy. This practice reduces travel distances and times, thus lowering both fuel consumption and CO2 emissions. These efforts reflect the company’s commitment to minimizing its ecological footprint while simultaneously enhancing logistical efficiency. Consequently, the sustainable logistics strategies employed by Sp/F „Safari Transport“

not only improve operational performance but also align with broader environmental objectives, promoting sustainable business practices within the logistics industry.

Table 7

Sustainable logistics practices at Sp/F „Safari Transport“

Category	Subcategory	Expert insight
Sustainable logistics practices	Route optimization	„...we optimize routes to reduce CO2 emissions.“ (E1) „We use advanced route planning systems that help reduce travel distance and time, this lowering fuel consumption and CO2 emissions.“ (E2)
	Cargo layout optimization	„...we optimize cargo layout to minimize unused space and increase transport efficiency.“ (E2) „...cargo layout optimization, aiming to more efficiently utilize vehicle space, which reduces fuel consumption and CO2 emissions.“ (E3)

(compiled by the author based on expert interviews)

The qualitative expert interviews provided valuable insights into the logistics practices of Sp/F „Safari Transport“ highlighting the company’s commitment to operational excellence, technological advancement, and sustainable business practices. The findings reveal a well-structured logistics process that encompasses critical stages such as order registration, transport mode selection, route planning, and efficient documentation handling. The integration of advanced information technologies, including transport management systems, GPS tracking, and electronic invoicing, enhances the company’s operational efficiency, transparency, and customer communication. Despite facing common challenges in the logistics industry, such as weather-related disruptions, driver shortages, and technical failures, the company demonstrates resilience by implementing proactive risk management strategies. This includes adapting routes, using alternative transport modes, and ensuring continuous communication. Furthermore, Sp/F „Safari Transport“ has shown a strong commitment to sustainable logistics practices, including cargo layout and route optimization, which contribute to both environmental protection and logistical efficiency.

Conclusions

The organization of transport logistics is a fundamental component of the supply chain, ensuring the movement of goods, route optimization, and efficient distribution. The choice of transport modes is crucial for optimizing logistics processes, reducing costs, and enhancing service quality. Furthermore, with the growing environmental challenges, green logistics practices are becoming increasingly important from both an environmental and a competitive standpoint for companies. Simultaneously, freight forwarding and the coordination of transport logistics are becoming more significant in global supply chain processes, ensuring the safety, speed, and legality of goods transportation.

Both the observation and expert interviews provided complementary insights into the transport logistics organization at Sp/F „Safari Transport“. The observation highlighted key logistical processes such as transport mode selection and customs procedures, while the expert interviews revealed challenges like operational disruptions and route planning. Together, these methods gave a comprehensive view of the company's logistics organization, showing both strengths in multimodal transport management and areas for improvement, such as internal task distribution and contingency planning. This dual method approach effectively addressed the research aim of analyzing transport logistics organization at Sp/F „Safari Transport“.

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CONSTRUCTION PROJECT MANAGEMENT AT MERCEDES-BENZ AG

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Abstract
This article examines the construction project management practices of Mercedes-Benz AG, focusing on the planning, execution, and optimization of large-scale infrastructure projects. As a leading automotive manufacturer, Mercedes-Benz applies advanced methodologies such as Lean Construction and the HOAI framework to ensure efficiency, cost control, and high-quality outcomes. The analysis highlights key challenges such as regulatory complexity, coordination among stakeholders, and the integration of sustainable construction practices.

Introduction

In a rapidly evolving industrial landscape, construction project management is essential for growth, innovation, and operational efficiency — especially in multinational corporations like Mercedes-Benz AG. Beyond its core business of automotive production, the company invests heavily in the construction of advanced facilities such as production plants, research centers, and logistics hubs. These complex infrastructure projects require long-term planning, technical expertise, and close coordination across departments.

To manage these projects successfully, Mercedes-Benz AG relies on strategic planning, cross-functional teamwork, risk management, and compliance with regulatory standards. Key roles in this process are held by the Facility Management (FM) and Werkplanung (WPL) departments, responsible for operational functionality and technical planning, respectively.

The object of the article - Construction project management at Mercedes Benz AG.

The purpose of the article - to analyze the management of construction projects at Mercedes Benz AG.

Tasks of the article:

1. To examine the theoretical aspects of construction project management.
2. To conduct a study on the management of construction projects at Mercedes Benz AG.

Research methods: analysis of scientific literature, situation analysis, expert interview.

Theoretical aspects of construction project management

A project is a complex, coordinated, one-time effort with limited time, budget, resources and focused performance specifications, designed to meet user needs (Kaziliūnas, 2009). A construction project is a plan to achieve a set goal with the least possible resources and within a certain time (Zavadskas et al. 2001). Construction project management is a disciplined process that includes planning, organizing, coordinating and controlling a construction project in order to ensure its successful implementation

According to K. Olfert (2016), the concept of project management includes the following main elements:

- Goal setting – clear formulation of project goals and objectives.
- Planning – project stages, their implementation strategy and resource allocation.
- Implementation – work according to the planned plan and continuous monitoring of the process.
- Control – monitoring the progress of the project and making adjustments if necessary.
- Closing – evaluation of the final results and lessons learned.

Construction project management is not limited to technical aspects, but also includes financial, legal, social and environmental aspects that affect the success of the project. Since construction management includes many aspects, construction project management risks automatically arise, which can affect the progress and results of the project. According to H. Meyer and H.J. Reher (2016), risk management is one of the most important factors in construction project management, because unexpected events can have a significant impact on financial results and project deadlines.

Table 1

Top five projects risks

No.	Risk	Risk description
1	Financial risk	Budget overruns, inefficient financial management, late payments. Financial risks can arise from insufficient planning, market fluctuations, rising raw material prices or economic crises. Flexible budgets, pre-financing models and long-term contracts with suppliers are often used to avoid financial risks.
2	Legal Risk	Legal disputes, licensing issues, non-compliance with local regulations. Different countries have different legislation, so it is important to ensure that the project meets all requirements. Improper preparation of documents can lead to legal disputes and project suspension. Legal advice, detailed contractual agreements and regular legal reviews are used to reduce risks.
3	Environmental Risk	Negative impact on the environment, energy efficiency issues, non-compliance with sustainability standards. Increasingly stringent environmental protection requirements require more careful planning of project implementation to avoid negative impacts on nature. Environmental assessments, sustainable materials and energy consumption reduction strategies are used for this.
4	Technological Risk	The complexity of applying new technologies, design errors, insufficient number of qualified employees. Technological errors can cause additional costs and time, so it is important to ensure quality design, employee training and proper maintenance.
5	Supply Chain Risk	Supply chain issues can have a significant impact on the project schedule, so it is important to have alternative suppliers and plan inventory management effectively.

**Source: Compiled by the authors based on H. Meyer and H.J. Reher (2016).*

Most project stakeholders focus on internal risk parties, i.e. company management or project team employees, without assessing the impact of external factors.

Construction project management is strictly regulated by international (ISO: Global standards), European Union (EN) and various local norms, in order to ensure project quality, safety, environmental protection and efficient use of resources. These standards regulate construction processes, ensure clear conditions between the client and the contractor, help effectively evaluate proposals and resolve potential disputes. According to Schuppener, (2009) one of the most important advantages of norms is transparency and clarity in the preparation of construction contract conditions. The client does not need to define technical specifications for the work in detail every time or set quality requirements for materials - it is enough for the contract to clearly indicate the application of the relevant norms. This ensures that construction work will be carried out in accordance with strict quality requirements, and the final result will be safe, functional and durable.

Table 2

Key international construction project management standards

Standard	Description
ISO 9001	A quality management system that ensures that construction projects are carried out in accordance with established quality requirements at all stages of the process - from design to operation.
ISO 19650	An international standard related to construction information management and BIM processes, allowing for effective data management throughout the entire life cycle of a building.
ISO 21500	An international project management standard that defines the main project management terms, processes and methods. This standard helps organizations manage projects more effectively and improve their success rates.
ISO 41001	An international standard that sets requirements for a facility management (FM) system. Applicable to both the public and private sectors, regardless of the size and geographical location of the organization.
LEED (Leadership in Energy and Environmental Design)	An international sustainability and environmental standard that applies to new and renovated buildings in order to reduce their environmental impact and increase energy efficiency.
BREEAM (Building Research Establishment Environmental Assessment Method)	One of the main standards for assessing construction sustainability, helping to ensure lower carbon emissions and high energy efficiency rates.

**Source: Compiled by the authors according to ISO: Global standards*

The standards listed in the table show that construction project management is becoming increasingly global, applying uniform standards for quality, digitalization and sustainability. Modern construction projects must comply with both local legal requirements and international ISO, LEED and BREEAM guidelines, which ensure high quality, efficiency and reduced environmental impact. The regulation of construction project management and the assessment of sustainability in the building sector vary depending on the country.

Construction project management includes various methodologies and principles that allow organizing, controlling and optimizing construction processes. Choosing the right project methodology is often useful because the project manager, based on the characteristics of the method, can decide how to structure the project, how to define the project organization and what resources will be needed for this (Kuster et al., 2011). Effective management helps to reduce risks, optimize costs, ensure compliance with deadlines and maintain high quality of work. In global practice, there are several main project management methodologies that differ in their structure, management principles and areas of application

Table 3

Main construction project management methodologies

Methodology	Description	Advantages	Disadvantages
PMBOK (Project Management Body of Knowledge)	Global project management standard, consisting of 10 knowledge areas: integration, scope, time, resources, quality, risk, etc.	Versatility, structure, clear documentation.	Bureaucratic, requires detailed planning.
PRINCE2 (Projects IN Controlled Environments)	A process method with clear management stages, often used in the public sector.	Clear responsibilities, suitable for large projects.	Inflexible to change, lots of documentation.
Agile and Scrum	Flexible, interactive project management, often used in the IT field, but also gaining popularity in construction.	Quick response to changes, better communication.	Not suitable for large infrastructure projects.
Lean Construction	Increasing efficiency by reducing waste, based on the principles of Toyota Production.	Lower costs, higher productivity.	Requires cultural change in the organization.
Integrated Project Delivery (IPD)	A method in which all project participants (clients, contractors, architects) work collaboratively from start to finish.	Better communication, fewer delays.	Requires high trust between participants.
HOAI (Honorarordnung für Architekten und Ingenieure)	A methodology used in Germany that regulates the fees for the services of architects and engineers and the design process. Sets standardized prices and work stages.	Ensures fair compensation for architects and engineers, promotes adherence to quality standards.	Less flexible than other methodologies, focused only on engineering and architectural services.

**Source: Compiled by the author of the work, based on H. Timinger (2017)*

The most widely used method is PMBOK, a very versatile methodology that allows for structured management of construction projects from their initiation to implementation and maintenance. Another widely used system is PRINCE2, which is distinguished by its clearly defined project management stages and a strict control system.

The HOAI methodology is used in Germany. According to Kochendörfer et al. (2010) - this is a legally defined pricing system that allows for fair remuneration of specialists and maintaining high quality of services. This methodology also promotes transparency in public procurement and ensures that construction planning and execution meet the highest quality standards.

Project management includes several main stages, each of which is important for the successful implementation of the project. According to the PMBOK (Project Management Body of Knowledge), these stages usually consist of:

1. Project initiation;
2. Project planning;
3. Project execution;

4. Project monitoring and control;
5. Project closure.

Initiation of a construction project is one of the most important phases of project management, which determines the success of the future project. According to Banaitienė, Banaitis (2006) project organization is inseparable from planning and the main goal is to provide measures by which the project implementation plan will be achieved. According to L. P. Rusch (2014), the initiation of a construction project is a stage that determines the further course of the project, including the identification of all necessary actions, setting goals and making initial decisions. During the initiation of the project, an initial analysis is performed, the main objectives are determined, the most suitable contractors are selected and the first agreements are made (Kerzner, 2017).

The construction sector is one of the fastest-changing areas, constantly looking for ways to optimize processes, reduce costs and ensure the highest quality standards. When improving construction projects, it is necessary to take into account modern planning methods, innovative technologies, more effective management models and the training of qualified specialists.

One of the main directions for improving construction projects is the digitalization of construction planning and management processes. New technologies, such as BIM (Building Information Modeling), allow for more efficient project management, more accurate calculation of work quantities and avoidance of errors at the design stage.

According to Schabbach (2017), Lean Construction principles are becoming increasingly popular in the construction sector, which are designed to optimize construction work, eliminate unnecessary costs and improve project productivity. This method allows you to reduce the time required to complete construction work, allocate resources more efficiently and ensure better quality.

The success of the construction sector depends not only on technology, but also on the qualifications of specialists. Due to constantly changing construction standards, new technologies and more accurate design methods, employees need to constantly improve their skills. One of the challenges is that some construction companies invest little in training young specialists, expecting them to learn everything "on the job".

According to the directions for improving construction, it can be stated that in order to achieve successful project implementation, it is necessary to implement modern technologies and apply innovative management methods and ensure the growth of specialists' qualifications. One of the most important changes in construction management is the digitalization of projects and the implementation of BIM technologies, which allow for more efficient planning, modeling and control of all project stages. At the same time, Lean Construction principles, focused on waste reduction, resource optimization, and smoother work organization, are playing an increasingly important role.

Research method and results

The main data collection method in the study was expert interviews. Ten employees from the Building Management (FM) and Work Planning (WPL) departments participated in the interviews. The participants were selected based on their direct involvement in construction projects and experience in interdepartmental cooperation. This selection was also influenced by the professional work experience of the author of the article in these departments.

The history of Mercedes-Benz began in 1879, when Carl Benz developed the first gasoline engine and patented the first automobile in 1886. The Mercedes Benz AG plant in Düsseldorf specializes in the production of the Mercedes-Benz Sprinter and E-Sprinter. This plant employs 5,500 specialists in various fields, of which 26 employees are directly involved in the implementation of construction projects. Construction projects are divided into two main construction departments. Werkplanung - responsible for infrastructure development, large construction projects and technical construction solutions, (hereinafter referred to as WPL). And the Facility Management department, which ensures the maintenance and optimization of buildings, technical equipment and infrastructure (hereinafter referred to as FM)..

This study is based on a qualitative research approach aimed at gaining an in-depth understanding of construction project management practices at Mercedes-Benz AG.

The research employed expert interviews as its main method of data collection. Ten employees from the Facility Management (FM) and Werkplanung (WPL) departments were interviewed using a structured set of ten open and closed questions. Participants were selected based on their direct involvement in construction projects and their cross-departmental collaboration experience. This choice was also informed by the

researcher's own professional background in both departments, which enabled a more contextualized interpretation of the findings and facilitated rapport-building with the interviewees. The characteristics of the participants are presented in Table 1.

Table 1

Interviewee Characteristics

Int. No.	Department	Gender	Work experience
1	FM	Man	15 years
2	FM	Woman	8 years
3	FM	Man	22 years
4	WPL	Man	3 years
5	FM	Man	20 years
6	WPL	Man	27 years
7	FM	Woman	2 years
8	FM	Woman	11 years
9	FM	Man	19 years
10	WPL	Man	10 years

Ten structured questions were provided to analyze employees' attitudes towards project management practices, information dissemination and mutual cooperation between WPL and FM departments. They are based on project management theory and are applied to assess the practical situation within the company. Table 2 below presents the questions according to the categories created.

Table 2

Interview questions

Category	Subcategory	Question
The Essence of Construction Project management	Standards and Practices Applied	What project management standards or methodologies does the company use formally?
		What project management methods do you use in your daily activities?
Assessment Organizational Structure and Communication	Risk Management	What construction project risks do you most often encounter in your work?
	Effectiveness of Project Organization in Departments	How do you assess the organization of projects in your department?
		In your opinion, is the division of responsibilities within the department clear and effective?
		How often do you have to collaborate with employees from another department (FM or WPL)?
		How do you assess the dissemination of information and communication between the FM and WPL departments when implementing construction projects?
Opportunities for streamlining construction project management activities	Challenges and optimization directions in the implementation of construction projects	What digital construction project management tools do you use?
		What was the biggest challenge you faced while working on a specific project?
		What do you think could be improved in your department's work organization or in cross-departmental collaboration?

During the study, the interview questionnaire was designed to cover essential aspects of construction project management in FM and WPL departments.

Table 4

Standards and Practices Applied

Category	Question	Interviewees' Responses
The Essence of Construction Project Management	Standards and Practices Applied	*Summary: Most respondents indicated that they apply practical, adapted project management principles in their daily work; however, only a few specifically mentioned formal methodologies such as Agile or Lean Construction. PMBOK was the least frequently referenced, while some participants stated that they follow an internally developed company-specific method.*

		I_2 – <... I manage project progress based on internal agreements rather than strict methodology.> *I_6 – <... I use Lean Construction when projects are highly intensive.>* *I_7 – <... I mostly use digital tools for document sharing and scheduling.>*

Based on the interview data, it can be concluded that the management of construction projects at Mercedes Benz AG is based not so much on standardized methods as on principles developed within the company and applied in practice. The answers in Table 4 show that the company has an adapted, situation-based management model that focuses on flexibility and practical solutions, but this may limit the possibilities for consistent process standardization and pose challenges for ensuring the quality of project management.

The assessment of Mercedes-Benz AG's organizational structure and communication in implementing construction projects according to risk management is presented in Table 5.

Table 5

Assessment of Mercedes-Benz AG's organizational structure and communication in the implementation of construction projects according to risk management

Category	Question	Interviewees' Responses
Assessment Organizational Structure and Communication	What construction project risks do you most often encounter in your work?	*I_1 - <... Maintaining a balance between hierarchy/line managers and order fulfillment/cost control>.* *I_2 - <... Harmonizing the requirements of different departments. This is basically impossible, as employees often contradict each other >.* *I_3 - <... The complex document transfer process between WPL and FM departments leads to project delays and poses a risk of budget overruns due to an inefficient communication chain >.* *I_4 - <... Lack of communication and stagnant information dissemination >.* *I_5 - <... Lack of communication between different contractors, leading to avoidable delays in construction projects >.* *I_6 - <... Deadline tracking and cost control in critical projects >.* *I_7 - <... Unclear division of labor and poor quality of information presentation >.* *I_8 - <... Too many tasks, too few funds, constantly changing project requirements >.* *I_9 - <... Time pressure, shortage of staff and contractors in view of institutional inspections >.* *I_{10} - <... Poor communication with other departments >.*

From the information presented in Table 5, it can be seen that the organizational structure and communication between departments in the management of construction projects at Mercedes Benz AG face significant challenges. Complex project risks have emerged, related not only to external factors, but also to internal organizational processes. Aspects such as overlapping hierarchical structures, duplication of responsibilities or their uncertainty, inefficient data transfer mechanisms and a broken communication chain between the FM and WPL departments become obstacles to the smooth implementation of projects

The effectiveness of project organization in the FM and WPL departments is presented in Table 6.

Table 6

Efficiency of Project Organization within Departments

Category	Question	Interviewees' Responses
Evaluation of Organizational Structures and Communication	How do you assess the dissemination of information and communication between the FM and WPL departments during construction projects?	*I_1 – <... Information is often lacking.>* *I_2 – <... Information is often lacking.>* *I_3 – <... Clear and sufficient.>* *I_4 – <... Unclear.>* *I_5 – <... Information is often lacking. During the project process, there is often a lack of clear direction and consistent structure.>* *I_6 – <... Information is often lacking.>* *I_7 – <... Unclear. It seems that the departments are not willing to cooperate in improving construction project processes.>* *I_8 – <... Information is often lacking. Currently, the WPL department has absolutely no knowledge of the tasks and projects being carried out by the*

		FM department, and it also feels like they are not motivated to take interest.> *I_9 – <… Information is often lacking. The information exchange process has recently changed, and now a new task-oriented communication structure is being implemented between departments. It will take time for this to settle in.>* *I_{10} – <… Unclear. The situation should improve through COC meetings.>*

The majority of interviewees indicated that the communication and information exchange between the FM and WPL departments is insufficient or unclear. Several respondents mentioned frequent lack of information and poor visibility of tasks between departments, which leads to confusion and inefficiencies. Some noted that the departments show little initiative to collaborate or improve the communication process. A few responses pointed to structural changes in the information flow, suggesting that improvements may be underway but require more time to take effect. Only one participant described the current communication as clear and sufficient.

The biggest challenge remains information dissemination: interviewees often mention a lack of information, incompatibility of different sources, information fragmentation and unclear communication channels. Such communication shortcomings not only disrupt the progress of the project, but also cause tension between teams and increase the likelihood of making wrong decisions.

Information on the use of digital tools in construction project management is presented in Table 7.

Table 7

The use of digital tools in construction project management

Category	**Question**	**Interviewees' Responses**
Opportunities for Operational Efficiency	What digital construction project management tools do you use?	*I_1 – <… I don't use>.* *I_2 – <… MS-Office, MS-PowerBI>.* *I_3 – <… I don't use>.* *I_4 – <… MS-Office programs and various servers for data exchange>.* *I_5 – <… I don't use>.* *I_6 – <…MS-Project, MS-Teams, MS-PowerPoint, SAP>.* *I_7 – <…MS-Notes, MuralAPP, Whiteboard, Excel, MS-Office>.* *I_8 – <… I don't use>* *I_9 – <… I don't use>* *I_{10} – <… MS-PowerBI, MS-Teams, MS-Project, MS-Outlook-task list>.*

As can be seen from the data presented in Table 7, the fragmentation of the use of digital tools testifies to the untapped potential of digitalization. Although some employees use advanced project management solutions (e.g. SAP, MS-Project), the majority still work without digital tools or use basic tools. This shows that the introduction of technological innovations does not in itself guarantee their effective use if there is no sufficient readiness, openness and organizational support of employees.

The biggest challenge remains information dissemination: interviewees often mention a lack of information, incompatibility of different sources, information fragmentation and unclear communication channels. Such communication shortcomings not only disrupt the progress of the project, but also cause tension between teams and increase the likelihood of making wrong decisions. Although initiatives such as regular COC meetings or restructuring of the information exchange structure are currently being implemented, they are still in their early stages and do not provide a guaranteed long-term solution.

Taking into account the results of the study, it can be concluded that for more effective project management in the company it is necessary to strengthen the communication of the FM and WPL departments, review the responsibility allocation model, systematically improve the communication culture and implement clear, accessible information management standards for everyone. Without these actions, the organization risks continuing to face recurring problems that can negatively affect project results and overall employee motivation

Although project workflows appear to be formally defined, recurring issues such as excessive bureaucracy, duplicate tasks and fragmented data management often cause delays. One of the most prominent issues identified was the lack of centralized communication and data transfer between FM and WPL departments. Project tracking is often done using multiple Excel spreadsheets, leading to confusion, data duplication and

inefficiencies. As a result, despite project management platforms such as Microsoft Teams, a large part of the work is still done manually, increasing the risk of delays and errors.

The directions for improving construction project management at Mercedes-Benz are presented in Figure 1.

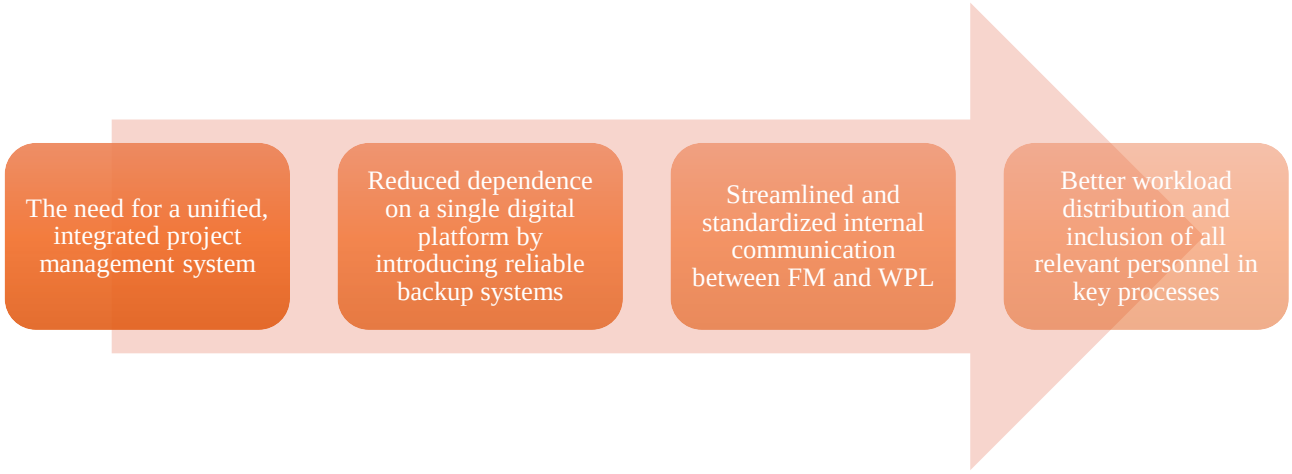


Fig. 1. Directions for improving construction project management at Mercedes-Benz AG

In summary, although the Mercedes-Benz AG construction project management system is formally structured and regulated, in practice it faces critical operational challenges. Technical and procedural solutions alone are not enough - a flexible, people-oriented approach is also required for the success of the organization. The current situation shows that excessive workload, unclear communication between departments and poor use of digital potential not only slow down the project progress, but also pose a risk to the well-being and long-term motivation of employees.

Conclusion

Construction project management is a disciplined process that includes planning, organizing, coordinating, and controlling construction projects. When implementing and managing projects, various risks are encountered, which are subject to international construction project standards and construction project management methodologies. In order to successfully implement projects, it is necessary to implement modern technologies and apply innovative management methods, as well as ensure the growth of specialist qualifications. Due to constantly changing construction standards, the emergence of new technologies, and more accurate design methods, it is necessary for employees to constantly improve their skills.

Based on the interview data, it can be concluded that the management of construction projects at Mercedes Benz AG is based not so much on standardized methods as on principles developed and applied in practice within the company. The company applies an adapted, situation-based management model, focused on flexibility and practical solutions, but this may limit the possibilities of consistent process standardization and pose challenges in ensuring the quality of project management.

The study revealed a complex information flow between FM and WPL departments. Respondents often mention a lack of information, incompatibility of different sources, information fragmentation and unclear communication channels. Such communication gaps not only disrupt the progress of the project, but also cause tension between teams and increase the likelihood of making wrong decisions. Taking into account the results of the study, it can be concluded that in order to achieve more effective project management in the company, it is necessary to strengthen communication between FM and WPL departments, review the responsibility allocation model, systematically improve the communication culture and introduce clear, accessible information management standards for all. Without these actions, the organization risks continuing to encounter recurring problems that can negatively affect project results and overall employee motivation.

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INCREASING BRAND VALUE THROUGH EMOTIONAL MARKETING

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Abstract

Brand value has become an essential pillar in strategic marketing, directly influencing customer loyalty, perception, and overall financial success. In recent years, emotional marketing has emerged as a powerful tool to connect with consumers on a deeper, psychological level. This article explores the relationship between brand value and emotional marketing by establishing a theoretical framework and analyzing successful real-world applications. Using case studies from Nike, Barbie, and Coca-Cola, the paper highlights how storytelling, nostalgia, and personalization contribute to emotional brand connections and long-term consumer loyalty. The analysis integrates contemporary academic literature to provide a research-based perspective on how emotional marketing enhances brand equity.

Introduction

Traditional advertising that focuses solely on product features is no longer sufficient to foster long-term loyalty. Instead, brands are increasingly turning to emotional marketing as a strategic approach to humanize their image, differentiate from competitors, and connect with consumer values and identity. Emotional marketing aims to elicit psychological responses — such as nostalgia, inspiration, or empathy — that go beyond the rational evaluation of products or services. By embedding emotional cues into branding strategies, companies can significantly enhance brand recognition, loyalty, and equity. This is especially relevant in the digital age, where social media and content-driven marketing have amplified the need for relatable, emotionally engaging storytelling.

Relevance of the topic. In the contemporary marketplace, brand value is not only determined by functionality or price, but increasingly by emotional and symbolic associations that influence consumer decision-making (Chepelenko et al., 2024). Emotional marketing, which seeks to connect brands with consumer feelings such as nostalgia, joy, and empowerment, has become a vital strategy for differentiation and engagement (Yuxin, 2024; Wu, 2022). This shift is especially relevant in a digital landscape where brand exposure is constant, and consumer expectations for authenticity and social alignment are growing. The academic literature underscores the impact of emotional stimuli on memory, attention, and consumer loyalty. As Wu (2022) notes, emotional marketing operates not just on conscious persuasion but also on subconscious affective processing, which has been shown to drive stronger brand recall and engagement. Similarly, author (Yuxin, 2024) emphasizes that emotional appeal helps brands transcend commoditization by addressing psychological needs, fostering loyalty, and elevating brand equity. Furthermore, the evolution of brands such as Barbie and Coca-Cola illustrates how emotional narratives, when aligned with cultural trends and consumer values, can revive or sustain brand relevance (Gao, 2024; Zhong, 2024). In light of these findings, studying the relationship between emotional marketing and brand value is not only timely but essential for understanding the mechanisms behind consumer loyalty and brand differentiation in today's market.

Problem. Despite widespread adoption of emotional marketing tactics, there remains a gap between perceived emotional engagement and actual impact on consumer behavior. This study addresses the disconnect between emotional messaging and consumer valuation, seeking to understand the conditions under which emotional marketing effectively contributes to brand value.

Research object. Relationship between emotional marketing and brand value.

The aim of the research. The aim is to evaluate how emotional marketing influences brand value, consumer loyalty, and perception, and to determine which emotional strategies resonate most effectively with modern consumers.

Objectives of the research:

1. To explore theoretical foundations of emotional marketing and brand value.
2. To analyze the real-world application of emotional branding strategies in case studies
3. To assess consumer perceptions of emotional marketing via survey data.
4. To identify emotional marketing techniques that most effectively enhance brand value.

Research method. Analysis of scientific literature, case studies and a quantitative survey.

Theoretical aspects of brand Value and Emotional Marketing

In today's competitive business environment, understanding and leveraging both brand value and emotional marketing are essential for enterprises aiming to build a lasting influence (Yuxin, 2024). As consumer perceptions continue to evolve, businesses must rethink traditional marketing strategies. Modern customers base their purchasing decisions on more than just product functionality—they are increasingly driven by emotional experiences, values, and the overall relationship with the brand.

Emotional marketing establishes deep, lasting connections with target audiences by appealing to their emotions. This approach can significantly enhance brand loyalty, increase conversion rates, and strengthen customer relationships. Meanwhile, a strong brand value ensures that emotional appeal is supported by tangible product or service benefits, leading to greater customer satisfaction and sustained loyalty.

Brand value is a multifaceted concept with financial, psychological, and strategic dimensions. In classical terms, it can be defined as the monetary premium a consumer is willing to pay for a product over a generic alternative due to the brand name alone (Chepelenko, 2024). However, this surface-level view fails to capture the full strategic potential of brand value in the contemporary landscape.

From a financial perspective, brand value is often quantified as "the present value of expected future monetary flows attributable to the brand," integrating forecasts of future cash flows, brand-driven sales premiums, and customer lifetime value. This form of valuation is critical for mergers, acquisitions, and investment decisions.

From the consumer behavior standpoint, brand value includes the total perceived benefit minus the cost and effort of acquisition. Desy Prastyani (2024) defines it as the balance between emotional, functional, and experiential benefits received and sacrifices made by the customer. This interpretation acknowledges not only the utility of a product but also its symbolic and emotional significance. Moreover, brand value is shaped by brand equity components such as:

- Perceived quality is a consumer's assessment of a product or service's overall excellence or superiority, based not only on objective characteristics but also on subjective impressions. Importantly, perceived quality can be enhanced through emotional cues. For instance, luxury brands often use high-aesthetic visuals, emotionally charged narratives, and celebrity endorsements to elevate the perception of exclusivity and craftsmanship—even if the objective difference in product quality is marginal. Emotional marketing helps in framing the brand as premium or trustworthy, which can affect consumer evaluations even before a product is tried.

- Brand awareness refers to the extent to which a brand is recognized by potential customers and correctly associated with a particular product or service. It includes two levels: brand recognition (identifying the brand when presented with it) and brand recall (retrieving the brand name from memory when thinking of a product category). High brand awareness is a prerequisite for market competitiveness, as it increases the probability that a consumer will consider a brand in their decision-making process. From a psychological standpoint, brand awareness contributes to what is known as the mere exposure effect—a phenomenon where people tend to develop preferences for things simply because they are familiar with them. When consumers are repeatedly exposed to a brand, even passively, it increases their trust and likelihood of selection. Emotional marketing campaigns that use consistent brand elements—such as colors, logos, sounds, and slogans—play a vital role in reinforcing this familiarity and embedding the brand in consumers' subconscious.

- Brand associations are the specific ideas, emotions, and mental images that consumers connect with a brand. These associations are formed through a combination of direct experience, advertising, word-of-mouth, and cultural context. They can be functional (e.g., durability, affordability), emotional (e.g., feeling empowered, nostalgic, or safe), or symbolic (e.g., status, identity, values). For example, a campaign that emphasizes family, togetherness, or social causes can foster a deeper emotional connection, linking the brand with meaningful human values.

- Customer loyalty reflects a consumer's deep psychological commitment to a brand, which drives repeat purchases and brand advocacy. Loyal customers are less sensitive to price changes, more forgiving of occasional lapses, and more likely to recommend the brand to others. Emotional marketing significantly amplifies loyalty by transforming transactional relationships into emotional ones. When consumers feel understood, respected, or inspired by a brand, they often develop an emotional bond that goes beyond rational assessment. Loyalty is not simply about repeated behavior—it is about attachment.

Emotional marketing refers to marketing efforts designed to elicit specific emotional responses from consumers in order to influence behavior. Rooted in psychology and neuroscience, this strategy taps into affective processing, leveraging human emotions such as joy, nostalgia, fear, pride, and empathy to create lasting impressions and strengthen the consumer-brand relationship.

According to Wu (2022), emotional marketing goes beyond rational persuasion by appealing to the subconscious mind, where the majority of purchasing decisions are made. Neuroimaging studies reveal that emotionally charged stimuli trigger greater attention, engagement, and memory retention, increasing the likelihood of brand recall and consumer action. Effective emotional marketing typically employs:

- Storytelling: narrative structures that present relatable characters, conflicts, and resolutions aligned with the brand's mission.
- Sensory stimuli: the use of color, music, imagery, and design to evoke feelings.
- Symbolism and archetypes: associating brands with universal themes like heroism, love, or rebellion.
- Social resonance: aligning campaigns with cultural or social issues to inspire emotional identification and loyalty.

Yuxin (2024) notes that emotional marketing also acts as a differentiation tool in commoditized markets, helping brands transcend product categories and connect with deeper human needs.

This dynamic can be observed in the concept of brand love, a psychological state where consumers form intense emotional attachments to a brand. Such attachment increases tolerance for pricing changes, reduces switching behavior, and promotes word-of-mouth advocacy—all key outcomes that elevate brand value (Drizz, 2025). Furthermore, emotional marketing contributes to brand equity by shaping favorable brand associations and fostering positive brand experiences. For example, campaigns that emphasize compassion, empowerment, or community can strengthen consumer perceptions and differentiate a brand in the marketplace.

Case studies

The Barbie brand experienced a significant revival through its 2023 film, which was more than a commercial product—it was an emotionally charged cultural commentary. For decades, Barbie had faced criticism for promoting unrealistic body standards and outdated gender roles. The movie reframed Barbie not merely as a doll but as a symbol of female empowerment, freedom, and individuality. Through clever storytelling, emotional depth, and humor, the film connected deeply with millennial and Gen Z audiences, many of whom grew up with Barbie and now viewed the character through a critical lens. The brand's repositioning embraced themes of feminism, self-discovery, and social justice, creating strong emotional resonance with modern consumers. In terms of marketing, Barbie leveraged integrated campaigns, including collaborations with Google and influencers, bold use of its iconic pink palette, and user-generated content. These strategies created a digital movement rather than a traditional product push, resulting in a surge in brand sentiment, increased sales, and elevated cultural relevance. Emotional marketing helped Barbie move from a nostalgic toy brand to a symbolic and cultural force.

Nike has consistently demonstrated mastery in emotional marketing by positioning itself as a brand that champions the underdog and celebrates perseverance. The core message of "Just Do It" transcends sport—it touches on themes of overcoming adversity, breaking boundaries, and pursuing personal greatness. One of the most powerful aspects of Nike's emotional marketing is its use of athlete stories. Whether it's highlighting Serena Williams' resilience, Colin Kaepernick's activism, or Paralympians defying physical limitations, Nike taps into deep societal narratives around struggle, justice, and triumph. These campaigns stimulate emotions such as inspiration, empathy, and pride—emotions that become attached to the brand itself. Nike's 2023 Super Bowl ad is a prime example. It featured a diverse cast of athletes, including women, disabled athletes, and people from underrepresented communities, narrating their personal challenges. The emotional storytelling evoked a sense of unity and empowerment, reinforcing Nike's position as a brand with soul and social conscience. Additionally, Nike's use of social media, immersive events, and AR/VR experiences bridges emotional messaging with direct consumer engagement. Emotional storytelling is not just part of Nike's marketing—it is the brand's strategic core.

Coca-Cola has long been a pioneer in emotional branding, focusing not on the physical product but on the feelings associated with it. The company consistently links its beverages to moments of happiness, togetherness, and celebration, creating a powerful emotional anchor in the minds of consumers. Campaigns such as "Open Happiness", "Share a Coke", and seasonal holiday ads featuring the Coca-Cola truck or Santa Claus have become emotional rituals for many consumers. These ads focus not on taste or price but on shared experiences, often using universally understood emotional cues like friendship, love, and nostalgia.

In more recent years, Coca-Cola has embraced personalization and digital storytelling. The "Share a Coke" campaign replaced the brand name on bottles with popular first names, allowing consumers to connect emotionally by sharing customized drinks. It turned the product into a social token—a gift, a gesture, a conversation starter. By consistently aligning its emotional marketing with brand values such as joy, unity, and optimism, Coca-Cola has built one of the most emotionally resonant and globally recognizable brands. The product may be simple, but the emotions surrounding it are profound.

Methodology

This study utilized a quantitative survey-based research design to investigate consumer perceptions of brand value and the strategic role of emotional marketing. It was conducted remotely from March 26 to April 6, 2025. The instrument consisted of a structured questionnaire composed of closed-ended and Likert-scale questions designed to measure various constructs. The survey was distributed online, ensuring anonymity and voluntary participation. A total of 90 valid responses were collected, providing a diverse data set across age, gender, and educational backgrounds. The data were analyzed using descriptive statistics and qualitative coding of open-ended responses to identify recurring emotional themes and consumer attitudes.

Research results and analysis

The survey drew a predominantly female audience, with 81.1% of respondents identifying as women, 16.7% as men, and a small minority (2.2%) selecting "other." The age distribution was heavily skewed toward younger consumers: 78.9% were aged 18–25, followed by 12.2% aged 26–35, and only 8.8% over the age of 36. In terms of education, the majority (67.8%) had completed secondary education, while 20% held higher education degrees and only 2.2% held a master's degree or higher. This demographic structure suggests a young, predominantly female, and moderately educated audience—an important context for interpreting emotional branding responses, as younger consumers are typically more digitally engaged and emotionally responsive to brand messaging.

One of the most revealing insights emerged from the responses concerning advertising types. (see Figure 1) Despite the theoretical strength of emotional marketing in literature, 68.9% of respondents indicated that rational advertising—characterized by clear presentation of benefits and utility—had the greatest impact on their purchasing decisions. In contrast, emotional advertising influenced only 18.9% of participants, and moral appeals trailed further at 12.2%. This suggests a strong consumer orientation toward practicality and value-based evaluation, reinforcing the centrality of functional benefits in brand positioning. However, the relatively modest preference for emotional advertising should not be misinterpreted as irrelevance; instead, it may reflect a saturation or superficiality in many emotional campaigns that fail to achieve authentic resonance.

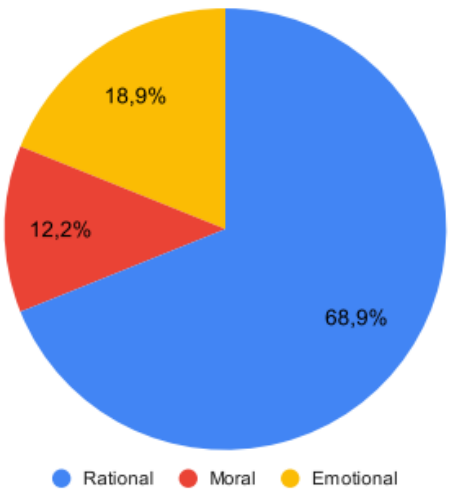


Fig. 1. Type of advertising that has the greatest impact according to respondents
**Source: made by author*

This preference for tangible value is echoed in how respondents perceive brand value itself. A significant 72.2% identified "quality and reliability" as the defining attributes of a valuable brand (see Figure 2). Emotional or symbolic components such as reputation (12.2%), innovation (5.6%), emotional connection (5.6%), and social responsibility (4.4%) were comparatively less influential. Such results highlight a critical challenge for emotional marketers: while emotional connections can differentiate and humanize a brand, they must be underpinned by consistent product or service performance to sustain credibility. Emotional marketing, then, cannot replace functional value but must complement and amplify it.

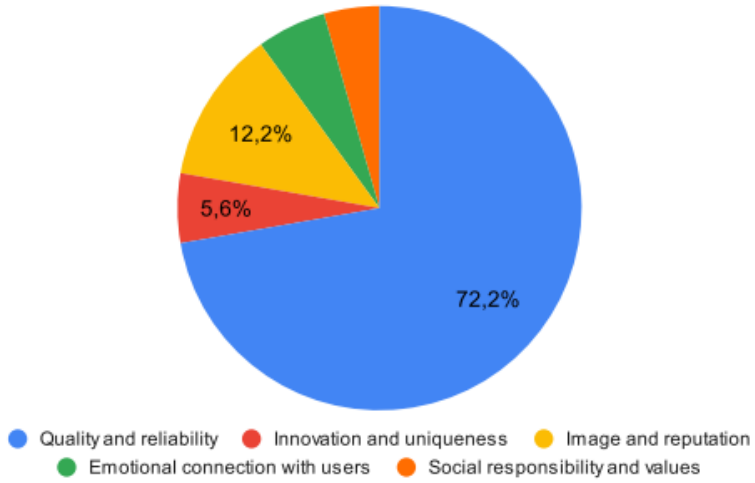


Fig. 2. Brand value according to respondents opinion
**Source: made by author*

When evaluating the significance of brand image, over half of the respondents (51.1%) considered it “important” in their purchasing behavior, with an additional 18.9% rating it as “very important.” Only 2.2% dismissed it as insignificant. These findings validate the theoretical premise that emotional and symbolic dimensions, while not always primary decision drivers, significantly color consumer perceptions and predispose them toward certain brands—especially in emotionally charged or identity-related product categories.

Another layer of insight was provided by perceptions of whether brands reflect societal values. A majority expressed cautious optimism: 43.3% stated that brands “sometimes” reflect societal values, and 38.9% believed they do so “accurately, but not always.” Only a minority believed that brands either “fully” (3.3%) or “never” (1.1%) represent these values. This ambivalence points to a trust gap between corporate messaging and perceived authenticity—a gap that emotional marketing must carefully navigate. Emotional campaigns that attempt to capitalize on social issues without meaningful commitment risk consumer skepticism or backlash.

Regarding the perceived effect of emotional marketing on brand value, the data revealed nuanced expectations (see Figure 3). While 66.7% of respondents acknowledged a “positive but short-term” impact, only 17.8% viewed the effect as strongly positive and enduring. This supports the argument in contemporary literature that emotional marketing can generate immediate engagement and awareness, but its longer-term influence depends on coherence with brand identity and sustained relational value. Interestingly, only a small fraction (3.3%) found emotional marketing to be negative or neutral—indicating that while effectiveness may vary, the strategy is rarely counterproductive if executed authentically.

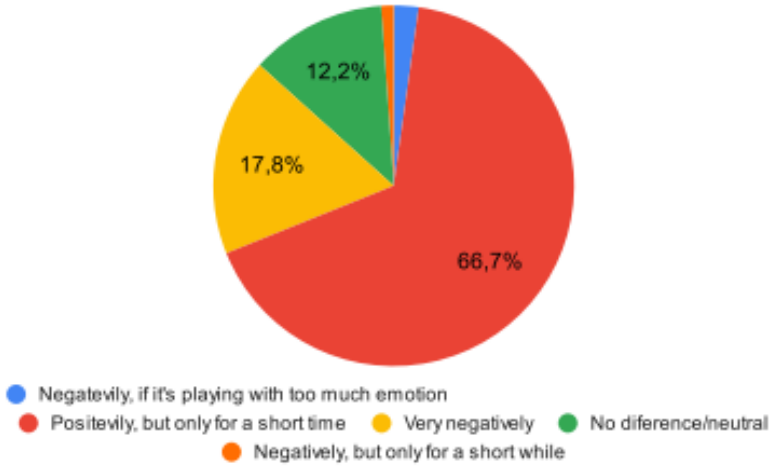


Fig. 3. The effect of emotional marketing on a brand
**Source: made by author*

The survey asked respondents to identify the emotions they associate with three globally recognized brands: Nike, Barbie, and Coca-Cola. The results reveal not just emotional impact but also how these brands are positioned in the collective imagination.

Nike was most often linked to inspiration, joy, and courage—a reflection of its persistent themes of empowerment and overcoming adversity (≈55,4%). However, a notable number of participants (17.3%) stated they felt no emotions at all toward the brand, suggesting that while Nike's messaging is impactful for some, it does not resonate universally. Other associations included individuality, community, and even stereotypicality, indicating the brand's layered identity and potential generational divides in perception.

Barbie elicited strong associations with nostalgia (by far the most dominant emotion at 39,4%) and childishness, consistent with its origin as a childhood icon. However, emotional complexity emerged with mentions of childhood (23.1%), and cultural critique (e.g., stereotypes, artificiality - 10,2%). These responses reflect Barbie's recent rebranding efforts, particularly through the 2023 film, which repositioned the brand as a symbol of female empowerment and social commentary. The combination of legacy associations with new, progressive narratives appears to have resonated, particularly with younger women.

Coca-Cola was strongly tied to joy and nostalgia (42,5%), reinforcing the brand's long-standing emotional messaging centered on happiness, celebration, and tradition. Although 23% respondents claimed they felt "nothing" about the brand, the overall pattern affirms Coca-Cola's strength in emotional consistency. Some mentioned community, individuality, and inspiration, often in the context of the "Share a Coke" campaign or holiday advertising. These results confirm that Coca-Cola continues to thrive as an emotional brand embedded in seasonal rituals and shared social moments.

Respondents identified a range of societal shifts that influence these brands (Barbie, Coca-Cola, and Nike). The most frequently mentioned factor was the impact of social media and digitalization on consumer culture (42,2%). This indicates heightened sensitivity to how brands behave and communicate in online environments, where visibility and authenticity are critical.

Other recurring themes included increased attention to diversity and gender equality (38,9%), technological innovation (27,8%), personal well-being and health consciousness (30%), and environmental sustainability (30%). These findings underline that modern consumers expect brands not only to deliver products but to take a stance on pressing societal issues. Importantly, respondents highlighted intersections between these trends—for example, linking diversity with sustainability or wellness with digital innovation. This supports the notion that effective emotional marketing must respond to layered, interrelated cultural expectations rather than isolated themes.

The survey also explored which emotional marketing strategies were perceived as most effective. Engaging video content (66,7%) especially when paired with social media influencer campaigns (48,9%), emerged as the leading combination. These methods leverage narrative storytelling and relatable human figures to build emotional resonance and trust.

Additionally, respondents cited brand-based storytelling (43,3%) (such as content about the brand's origins or customer experiences), event-based experiential marketing (24,4%), and provocative or socially engaging campaigns (27,8%) as influential. The effectiveness of these strategies aligns with current emotional marketing theory: authenticity, relatability, and sensory stimulation remain central to consumer engagement. The preference for dynamic, digital-first methods reinforces the digital nativity of the survey demographic and confirms the strategic necessity for brands to meet their audiences where they are—on visual, interactive platforms.

The survey results collectively paint a portrait of a pragmatic yet emotionally receptive consumer base. Functional value and brand consistency remain the cornerstones of brand equity, but emotional elements—when executed with sincerity and strategic alignment—act as powerful amplifiers of loyalty, differentiation, and memorability. The findings resonate with Desy Prastyani's (2024) assertion that brand value lies in the balance between emotional, functional, and experiential benefits. Emotional marketing, therefore, should not be seen as an isolated tactic but as an integrated element within a broader brand strategy that consistently delivers on its promises.

These insights also support the relevance of emotional marketing in enhancing core components of brand equity. Emotional storytelling, when aligned with consumer values and supported by reliable brand experiences, enhances brand associations and recall—key levers of customer loyalty. Emotional appeal must be rooted in authenticity, not opportunism. Emotional marketing that reflects genuine brand purpose and responds to real societal concerns is far more likely to deepen trust and foster enduring connections.

Altogether, these results paint a portrait of a consumer base that is pragmatic and value-oriented, favoring reliability and functionality over sentimentality. While emotional and social elements do play a role, they are often seen as complementary rather than foundational. Brands looking to build trust and loyalty must therefore prioritize quality and consistency, even while exploring emotional or moral storytelling to enrich their image and social relevance.

Conclusion

The study confirms that emotional marketing plays a key role in shaping brand perception and equity, particularly when it is authentic and paired with strong functional value. It helps create deeper psychological connections with consumers and reinforces elements like loyalty, perceived quality, and brand associations. Examples from Nike, Barbie, and Coca-Cola show how emotional storytelling, cultural relevance, and personalization can enhance a brand's meaning and consumer attachment. However, survey results indicate that most consumers still prioritize practical benefits such as quality and reliability. This suggests that emotional marketing should support—not replace—functional performance. The research also highlights that emotional responses differ across audiences, and insincere or opportunistic campaigns may lead to skepticism. For emotional marketing to build long-term brand value, it must be consistently aligned with the brand's identity and values. Ultimately, when applied strategically, emotional marketing turns brands into meaningful experiences that go beyond transactions and foster lasting consumer relationships.

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THE ROLE OF LEADERSHIP IN IMPROVING EMPLOYEES' EMOTIONAL WELL-BEING

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Abstract
In today's constantly changing work environment, increasing attention is being paid to employees' emotional well-being it is becoming one of the key factors influencing not only work productivity but also the overall success of organizations. This article explores the role of leadership in improving employee emotional well-being, with a particular focus on public sector administration in Kaunas. The theoretical part discusses the concept of leadership, different leadership styles, emotional intelligence of leaders, and their impact on the emotional climate. The empirical part of the study is based on a quantitative survey involving 67 administrative employees. The results revealed that while some leaders provide adequate emotional support, many employees still experience stress, emotional exhaustion, and low involvement in decision-making. The study confirmed that clear communication, support, and inclusive leadership significantly contribute to a more positive emotional atmosphere. The article concludes that empathy-based leadership can be the key to a healthier work environment. It is recommended to further explore this topic by involving more organizations and regions to develop more effective strategies for improving emotional well-being.

Introduction

In today's dynamic and constantly changing work environment, employee emotional well-being is becoming an increasingly relevant topic. According to J. Zmitrulevičienė and R. Motienė (2015), emotional well-being has a direct impact on work efficiency, motivation, and organizational performance. However, V. Vaitkevičius (2016) states that employees' emotional state can be significantly affected by leadership style – the way a leader organizes work, motivates, and supports the team.

Relevance of the Article. Recent studies reveal worrying trends – the Gallup report shows that in 2023, as many as 41% of employees experienced high levels of stress daily. Interestingly, employee stress levels are higher than those of the unemployed, and poor leadership can further worsen the situation – in organizations with ineffective management, employees experience 60% more stress than in those with a healthy work environment. Moreover, a survey conducted in Lithuania by "Spinter tyrimai" (2022) revealed that 53% of employees have faced emotional problems, and more than half fear that being open about these issues could harm their careers. As many as 60% of respondents felt pressure from employers to always act as if everything was fine. This shows that effective management is not only about achieving goals – leadership directly impacts employee emotional well-being, and poor leadership can have negative consequences both in personal life and within the organization.

Problem of the Article. According to A. Abolnasser, H. Bdou, H. Hassan, and Salem, E. (2023), and V. Šilingienė and D. Strukaitė (2020), one of the main issues is the lack of attention to employee emotional well-being in leadership processes. Although many organizations understand the importance of employee emotional health, they still encounter authoritarian leadership styles, lack of clear communication, and insufficient emotional support (Šimanskienė, Ramanauskas in Šilingienė & Strukaitė, 2020). Administrative employees often face heavy workloads, strict rules, bureaucracy, and high demands, which may make their emotional state even more sensitive than in other fields. Q. Miao, A. Newman, G. Schwarz, and B. Cooper (2017) strongly argue in their study that an unfavorable emotional climate at work can lead to burnout, lack of motivation, and high employee turnover. Therefore, it is essential to identify which leadership factors contribute to a positive work environment and improved employee emotional well-being.

Object of the Article: The Impact of Leadership on Employee Emotional Well-being.

Goal of the Article. To investigate the role of leadership in improving employee emotional well-being in the public administration sector.

Objectives of the Article:

1. To analyze the concept of leadership and its relation to employee emotional well-being from a theoretical perspective.
2. To conduct research on the role of leadership in enhancing employee emotional well-being in public administration.

Methods of research: Review and analysis of scientific literature and online sources, quantitative research (survey), and graphical representation of results.

Theoretical Foundations of Leadership and Employees' Emotional Well-Being

Leadership is a process in which one person influences others intending to motivate and inspire them to achieve common goals (Dirgienė, 2018). M. Wajdi (2017) explores the concept of leadership, describing it as both an art and a skill to shape the actions of others and direct them toward a desired path. Scholars such as M. Wajdi (2017), V. Vaitkevičius (2016), V. Šilingienė, and D. Strukaitė (2020) agree that both management and leadership are closely linked to the act of influencing groups of people; however, they differ significantly. Nonetheless, these authors emphasize that in order to become an effective manager, one must first become a team leader. According to V. Vaitkevičius (2016), although both roles are important, leadership is often considered a more crucial factor for organizational success, as it helps to create a motivated and productive work environment. A leader, on the other hand, exerts influence not only through formal authority but also through personal qualities such as charisma, visionary thinking, and the ability to inspire others (Wajdi, 2017).

Leaders with high emotional intelligence are better able to adapt to change, foster a positive work environment, and ensure that team members feel heard and valued (Costa, Padua, Moreira, 2023). This also enables them to manage conflicts effectively, as a true leader can assess situations objectively and finding solutions that satisfy all parties involved. J. Zmitrulevičienė and R. Motienė (2015) agree that such leadership contributes to the maintenance of employees' emotional well-being. Definitions of leadership are presented in Table 1.

Table 1

Definitions of Leadership

Authors	Definitions
Zmitrulevičienė, J., Motienė, R., (2015)	Leadership is the ability to motivate, inspire, and direct employees toward achieving common goals.
Vaitkevičius, V., (2016) 125 p.	"Leadership is the interactive and reciprocal interaction between the leader and their followers." "Leadership is the ability to influence subordinates, colleagues, or supervisors within the organizational context."
Khan, Z. A., Nawaz, A., Khan, I., (2016)	Leadership is a dynamic process in which the leader inspires, promotes innovation, and strengthens organizational culture.
Wajdi, M., (2017)	Leadership is seen as both an art and a skill to influence, inspire, and direct a team toward common goals.
Engelbrecht, S., Heine G., Mahembe B. (2017)	Leadership is an ethical and trust-based management process where the leader acts honestly, transparently, and fairly.
Digrienė (2018) 11 p.	"It is the peak of management when people gather around the leader, having believed in the vision and goals of the organization and wanting and being able to implement them."
Rahmadani, V., Schaufeli, B., (2019)	Leadership is considered one of the main factors that can enhance both job resources and demands. It can be a source of support for employees or a source of stress.
Šilingienė, V., Strukaitė, D., (2020)	Leadership is the ability to inspire and direct others to pursue common goals by demonstrating actions, ideas, and values. A true leader is characterized by self-confidence, even in the face of failure, responsibility, honesty, and reliability—qualities that help build trust, strengthen collaboration, and ensure employees' emotional well-being.

**Compiled by: the author, based on* J., Zmitrulevičienė, R., Motienė 2015, V., Vaitkevičius 2016, Z., A., Khan, A., Nawaz, I., Khan 2016, M., Wajdi 2017, A., S., Engelbrecht, G., Heine, B., Mahembe 2017, L., Dirgienė 2018, V., Rahmadani, B.,Schaufeli 2019, V., Šilingienė, D., Strukaitė 2020.

Summarizing the information presented in Table 1, it can be stated that the concept of leadership is not unambiguous and depends on the theoretical approach and analytical perspective of the authors. Some scholars, such as J. Zmitrulevičienė and R. Motienė (2015), as well as M. Wajdi (2017), associate leadership with the ability to motivate and inspire employees to achieve organizational goals, emphasizing the leader's role as an influential figure. In contrast, other researchers—S. Engelbrecht, G. Heine, and B. Mahembe (2017), as well as V. Šilingienė and D. Strukaitė (2020)—highlight ethical leadership based on trust, honesty, and the development of organizational values.

It is important to note that some researchers, such as V. Rahmadani and B. Schaufeli (2019), view leadership as a dual phenomenon—on the one hand, it can enhance employees' emotional well-being and promote their productivity; on the other hand, an inappropriate leadership model can cause stress, increase the risk of burnout, and reduce organizational members' job satisfaction. This is particularly significant in today's

business world, where leadership is often considered a key factor in employee motivation and organizational success.

According to A. Abolnasser et al. (2023) and J. Fu et al. (2020), leaders who practice inclusive and supportive leadership can help reduce workplace stress, encourage employee engagement, and foster loyalty to the organization. However, J. Fu et al. (2020), similarly to V. Rahmadani and B. Schaufeli (2019), also emphasize that excessively high expectations regarding a leader's ethical behavior can lead to Organizational Citizenship Anxiety (OCA), which negatively affects employees' emotional well-being. Such employees may feel constant pressure to perform flawlessly, fear making mistakes, or struggle to meet the organization's high moral standards—factors that may result in burnout, suppressed creativity, and psychological exhaustion.

Employee emotional well-being is not merely a personal matter—it is a crucial factor in an organization's success, influencing work efficiency, innovation, and the overall workplace climate (Asut, Shafiq, Wafik, & López, 2024). For this reason, organizations must pay particular attention to the role of leadership in enhancing employees' emotional well-being. In light of this, it is worth considering which leadership styles can contribute positively to employee well-being and what potential risks they may pose. Contemporary management literature most frequently examines two contrasting yet interrelated leadership styles: transformational and transactional leadership. According to a study by Miao, Q., Newman, A., Schwarz, G., and Cooper, B. (2017), transactional leadership in public administration often manifests through clearly defined rules, task delegation, and the distribution of responsibilities, whereas transformational leadership can be a key factor in successfully implementing administrative reforms, improving the quality of public services, and ensuring the enhancement of employee emotional well-being.

To better understand their essence and impact on employees' emotional well-being, Table 2 presents a comparison of these leadership styles.

Table 2

Comparison of Transformational and Transactional Leadership

	Transformational Leadership	Transactional Leadership
Main goal	Inspires, motivates, and promotes change within the organization.	Aims to achieve set goals, ensures effective work performance.
Leader-employee relationship	Based on trust, respect, and shared vision.	Based on exchange relationships: work for reward.
Motivation method	Inspires through vision, motivation, and individual employee development.	Motivates through a reward system. Uses punishments and incentives.
Impact on employees' emotional well-being	Encourages self-realization, creativity, and job satisfaction. Addresses emotional well-being issues.	Creates a sense of security but limits creativity and pays less attention to emotional health.
Decision-making	Encourages collaboration and involves employees in the decision-making process.	Decisions are made by the leader and follow established rules.
Key characteristics	Demonstrates charisma, inspiration, individual attention, promotes problem-solving and critical thinking.	Based on rules, structure, task execution, and reward for results.
Long-term impact	Promotes organizational growth and innovation.	Structured, controlled. Ensures short-term goals and stability.

**Compiled by: the author, based on* A., Ausat, A., Shafiq, D., Wafik, D., Angelica ir N., López 2024, J., Zmitrulevičienė, R., Motienė 2015, V., Vaitkevičius 2016, Z., A., Khan, A., Nawaz, I., Khan 2016, Q., Miao, A., Newman, G., Schwarz, B., Cooper 2017, N., Iqbal, S., Anwar, N., Haider 2016, J., Costa, M., Padua, A., C., Moreira 2023.

Summarizing Table 2, transformational leadership positively influences employees' emotional well-being by fostering creativity, self-realization, and job satisfaction. A leader of this type creates an atmosphere based on trust, where employees feel valued and motivated. According to the study by J. Costa, M. Padua, and A. C. Moreira (2023), transformational leadership is the strongest promoter of innovation, positively impacting all types of innovations such as marketing, products, services, processes, and organizational development. On the other hand, transactional leadership, as emphasized by one of the pioneers in leadership theory J. M. Burns (cited in Yahaya and Ebrahim, 2015), is essential for ensuring stability and organizational order, as it provides clear tasks and appropriate rewards—essentially, a mutual exchange. However, due to its strict rules and constant control, this style may limit employee initiative, cause stress, and reduce emotional well-being. J.

Costa et al. (2023) found that this leadership style has little impact on innovation development, suggesting that while it does not necessarily hinder innovation, it also fails to foster strong employee engagement.

Leadership styles vary widely and are often influenced by the leader's personality, the organizational culture, and the specific context in which leadership takes place. Each style has its own strengths and weaknesses, and effective leaders are those who can adapt their approach according to the situation and the needs of their team. According to N. Iqbal, S. Anwar, and N. Haider (2016), as well as J. Zmitrulevičienė and R. Motienė (2015), L. Šimanskienė and K. Ramanauskas (from V. Šilingienė and D. Strukaitė, 2020), and J. Costa et al. (2023), in addition to transformational and transactional leadership, other leadership styles can also be identified, including autocratic, democratic, laissez-faire, and charismatic leadership. These styles are presented in Table 3.

Table 3

Leadership Styles – Autocratic, Democratic, Laissez-faire, Charismatics

Leadership Style	Description	Characteristics
Autocratic Leadership	The leader makes decisions independently; employees have no involvement in the decision-making process.	Leader control – all decisions are made centrally. Focus on rules. Quick decision-making.
Democratic Leadership	Encourages teamwork and employee involvement in decision-making.	Collaboration. Creativity. Encouragement and support.
Laissez-faire Leadership	The leader gives employees full freedom to act, intervening only when necessary.	Minimal interference. Trust in employees. Encouragement of initiative.
Charismatic Leadership	The leader relies on their charisma and ability to inspire and build emotional connection with employees.	Personal influence. Vision creation. Emotional support.

**Compiled by: the author, based on* J., Zmitrulevičienė, V., Motienė, 2015, L., Šimanskienė, V., Ramanauskas from V., Šilingienės, D., Strukaitės 2020, D., Harms, D., Wood, K., Landay, P., B., Lester and G., V., Lester 2017, J., Costa, M., Padua and A., C., Moreira 2023, N., Iqbal, S., Anwar, N., Haider 2015.

For example, L. Šimanskienė and K. Ramanauskas argue that the autocratic leadership style allows for quick decision-making and ensures order, but it can suppress employee initiative, creativity, and cause significant tension due to strict control (Šimanskienė, Ramanauskas in Šilingienė & Strukaitė, 2020). According to P. D. Harms, D. Wood, K. Landay, P. B. Lester, and G. V. Lester (2017), individuals who support autocratic leaders may display tendencies toward submission and a preference for strong authority, which suggests that such a style can be potentially harmful to democratic environments. Other scholars, such as J. Costa et al. (2023), note that this style may completely hinder innovation, as it restricts creativity and initiative.

In contrast, democratic leadership is seen as its opposite. J. Costa and colleagues (2023) point out that this style has both advantages and disadvantages—it encourages collaboration among employees and greater freedom of expression, but prolonged discussions may delay decision-making, making it less suitable for large organizations

Laissez-faire leadership provides employees with complete freedom and, in doing so, may foster passivity. However, such liberalism in leadership can also result in a lack of clarity, reduced sense of responsibility, and weakened commitment. According to P. Harms et al. (2017), charismatic leadership, which relies on the leader's charisma and ability to inspire and emotionally connect with employees, has a major drawback—dependency on a single individual. Once the leader is replaced, employee motivation may decline unless they are given the opportunity to choose their leader themselves.

For this reason, it can be stated that organizations should carefully evaluate the leadership approaches they apply, as leadership styles may have both positive and negative effects not only on employees' emotional well-being but also on the broader organizational culture.

Emotional well-being at work is a state in which an individual feels good, is satisfied with their activities, can cope with daily challenges, maintains inner balance, and perceives their work as meaningful. According to A. Asut et al. (2024), employees with good emotional health tend to demonstrate higher productivity, communicate more effectively with colleagues, and are less likely to experience symptoms of burnout. J. Costa et al. (2023) also emphasize that emotional well-being is closely related to employee motivation, engagement,

and willingness to remain loyal to the organization. When emotional well-being is disrupted, individuals may experience anxiety, chronic fatigue, difficulty concentrating, and in some cases, even sleep disorders.

Table 4 presents relevant research data reflecting the state of employee emotional health both in Lithuania and globally. These findings provide a deeper understanding of the challenges related to emotional health and highlight the necessity to view it not merely as an individual concern, but as one of the key strategic priorities for organizations.

Table 4

Research data on emotional health challenges in the work environment

Indicator	Result (proc.)	Šaltinis
Employees experiencing emotional difficulties at work	53 percent	„Spinter tyrimai“, 2022
Employees avoiding to talk about their emotional well-being	60 percent	„Spinter tyrimai“, 2022
Employees experiencing daily stress (globally)	44 percent.	Gallup Global Report, 2023
Organizations with strategies for strengthening emotional well-being	less than 30 percent	Deloitte Insights, 2021

**Compiled by: the author, based on* „Spinter tyrimai“ 2022, Gallup Global Report 2023, Deloitte Insights 2021.

The data from Table 4 indicate that emotional imbalance at work affects not only psychological well-being but also physical health—it can weaken the immune system and lead to cardiovascular diseases (Gallup Global Report, 2023). For example, a global Gallup survey conducted in 2023 revealed that as many as 44 percent of employees worldwide experience stress on a daily basis. In Lithuania, according to „Spinter tyrimai“ (2022), 53 percent of employees have encountered emotional health difficulties. Even more concerning is the fact that approximately 60 percent of them are afraid to talk about their emotional state at work, fearing that such openness may negatively affect their careers. Nevertheless, only a small portion of organizations implement real measures to improve emotional well-being.

All of this demonstrates that it is no longer sufficient for organizations to focus solely on performance outcomes—they must also prioritize people. Effective, human-centered leadership, based on empathy, support, and open dialogue, can help reduce stress, enhance employee resilience, and foster a healthier work environment for everyone.

Study: The Role of Leadership in Improving Employee Emotional Well-Being in the Public Sector in Kaunas

The aim of this study is to examine how various aspects of leadership—such as communication, motivation, support, and leadership styles—can influence employees' emotional well-being in the public administration sector.

Research objective -To evaluate how different leadership roles affect employee satisfaction and overall emotional state in the workplace.

Research method. Quantitative research method – an anonymous questionnaire survey.

Purpose of the survey. To collect data on different leadership roles and their impact on employees' emotional well-being. The survey questions focus on evaluations and insights to explore the influence of leadership on emotional well-being and job satisfaction. In addition, demographic questions were included to better understand the respondents' basic characteristics.

Participant selection. A purposive probability sampling method was used. The respondents were selected based on the following criteria:

1. They work in state or public sector institutions in Kaunas.
2. They hold administrative positions.
3. They agreed to participate in the study.

Study preparation. The research is carried out within public sector administration to collect representative data on how different aspects of leadership influence employee emotional well-being.

Study organization. The study was conducted in public sector administrative institutions in Kaunas. A total of 100 questionnaires were distributed to employees from various administrative sectors. The surveys were sent out on March 22, with responses expected by April 2. The surveys were conducted anonymously, ensuring respondent confidentiality. The collected data were processed statistically and used solely for scientific research purposes. The questionnaires were completed by employees from different public administration institutions in Kaunas, and the results helped to identify how leadership practices contribute to

their emotional well-being and overall job satisfaction. In total, 67 completed responses were received, representing 67 percent of the sample.

Respondents. The survey data showed that 81 percent of respondents were women, 15 percent were men, and 4 percent preferred not to disclose their gender. In terms of age, the majority were between 35–44 years old, followed by the 45–54 age group, while the smallest group was aged 18–24. More than 46 percent of respondents had been working in the field of administration for eight years or more, while the smallest proportion had up to one year of experience. The highest number of responses came from state institutions, followed by municipal institutions, other public sector organizations, and finally educational institutions, which accounted for the smallest share.

The survey revealed that only 21 percent of employees consistently feel supported by their leader, while 42 percent indicated that they feel supported most of the time. However, as many as 37 percent of respondents stated that the support they receive is insufficient. This suggests that a significant portion of leaders fail to create a sense of emotional safety within their teams.

A similar trend was observed regarding communication (Figure 1): only 28 percent of employees stated that their leaders consistently provide clear and constructive instructions, while 40 percent reported that instructions are usually clear. The remaining respondents experience a lack of information or ambiguity, which may contribute to stress and a sense of uncertainty at work.

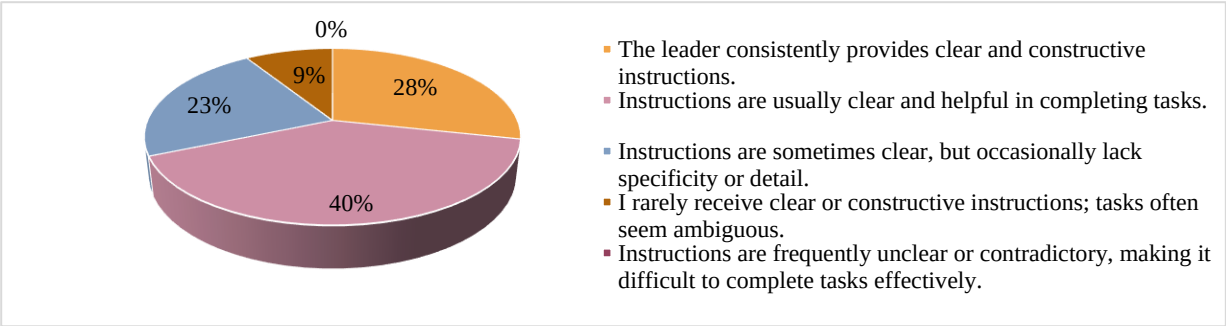


Fig. 1. Employees' Evaluation of the Clarity of Instructions Provided by Their Leaders
**Source: compiled by the author*

Figure 1 shows that although a significant portion of employees (68 percent) often or consistently receive clear instructions from their leaders, the remaining respondents experience a lack of information or ambiguity. This indicates that communication between leaders and employees is not entirely consistent and may have a negative impact on employees' emotional well-being.

In another question, 27 percent of employees stated that they do not feel stress when communicating with their leader, while 42 percent indicated that stress arises occasionally. Additionally, 22 percent reported frequent tension, uncertainty, or criticism during communication with their leader, and the remaining 9 percent experience constant stress. These indicators suggest that a leader's communication style has a direct impact on employees' emotional state.

The study revealed that 27 percent of employees indicated their leader consistently encourages them to express opinions and share ideas. However, as many as 36 percent stated that such encouragement is rarely provided or entirely absent. This indicates a lack of democratic leadership in some institutions..

Figure 2 illustrates that 21 percent of employees feel their opinions are very important when decisions are made. Meanwhile, 37 percent indicated that they are only occasionally heard, and decisions are often made without their involvement.

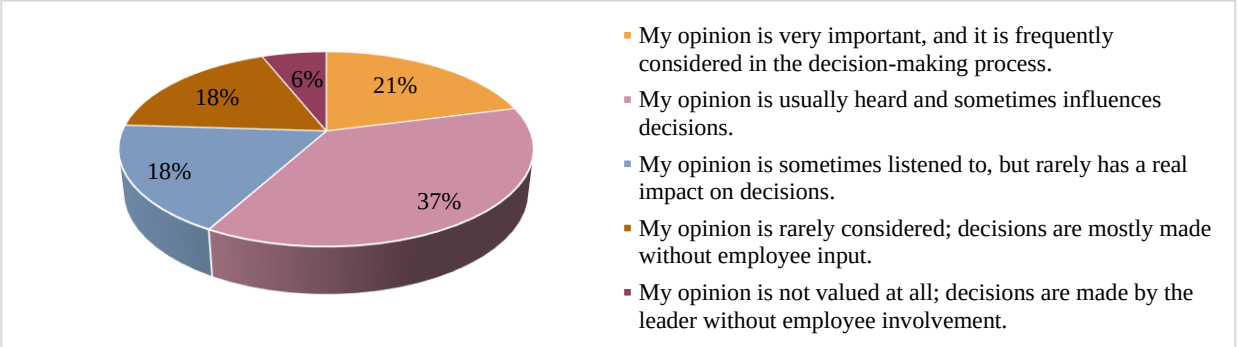


Fig. 2. Importance of Employee Participation in Decision-Making

**Source: compiled by the author*

Figure 2 illustrates that the majority of employees do not feel they have real influence in decision-making, which may reduce their engagement and overall job satisfaction.

Only 21 percent of employees consistently receive constructive feedback that helps them grow and work more effectively, while 45 percent usually receive clear and useful feedback that improves their work quality. However, 21 percent receive feedback only occasionally, and it is often superficial or insufficiently clear, and 13 percent do not receive any feedback from their manager at all. This indicates that feedback in organizations is neither systematic nor consistent.

In addition, 40 percent of employees stated that their manager actively participates in resolving conflicts and stressful situations. Nearly a quarter (24 percent) noted a lack of such involvement, while 21 percent reported that their manager sometimes helps resolve conflicts or stressful circumstances. The remaining respondents said that their manager rarely gets involved, except for isolated cases (12 percent), and only 3 percent stated that their manager does not help at all.

22 percent of employees believe that their manager consistently contributes to creating a positive emotional atmosphere, and 30 percent stated that their manager does so in most situations. However, 35 percent indicated that the manager rarely or never contributes to improving the emotional atmosphere, while 13 percent do not feel that the manager actively supports the enhancement of the emotional climate. These findings confirm that leadership has a direct impact on the workplace microclimate.

Only 16 percent of employees consider their work environment to be highly favorable, while more than half – 55 percent – report frequently experiencing stress, pressure, or tension (see Figure 3).

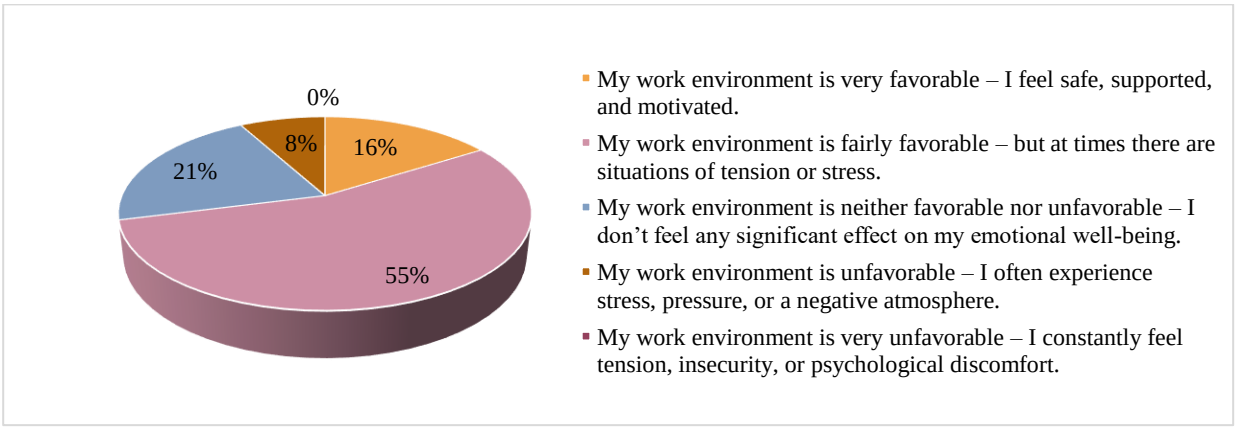


Fig. 3. Evaluation of the emotional atmosphere in the organization
** Source: compiled by the author*

Figure 3 highlights an important observation: none of the respondents selected the option indicating that their work environment is very unfavorable. This suggests that extreme psychological discomfort and constant tension are not widespread among employees. However, the overall results indicate that there is still room for improvement in the emotional climate of the workplace.

Despite the fact that emotional well-being in the workplace is one of the key factors influencing employee motivation and productivity, the results presented in Figure 4 show that only 22 percent of respondents believe their organization applies effective measures that help them feel better at work. These results reveal that only one-fifth of employees feel sufficiently supported in the area of emotional well-being. Thirty percent of respondents indicated that there are certain initiatives in place, but they are not sufficient. An equal proportion – 30 percent – stated that no measures to improve emotional well-being are applied at all. Together, these two indicators represent nearly 60 percent of all responses and clearly indicate the need to strengthen emotional support at the organizational level. Furthermore, 18 percent of respondents stated that they are unaware of such measures or have not encountered them, which may indicate a lack of communication within the organization – even if certain initiatives are implemented, they are not adequately communicated to employees.

As seen in Figure 4, more than half of the employees do not feel that their organization systematically applies measures to strengthen emotional well-being. This indicates not only a lack of initiatives but also highlights the need to transparently inform employees about available support options and, importantly, to strengthen the organization's emotional safety policy.

The research results revealed that 40 percent of employees frequently experience stress at work, while 39 percent reported symptoms of emotional burnout. Additionally, only 12 percent of employees indicated that

their job does not cause stress, whereas 18 percent feel stressed for most of the working day. This high level of psychological tension suggests that working conditions in the public sector do not always ensure a safe emotional environment.

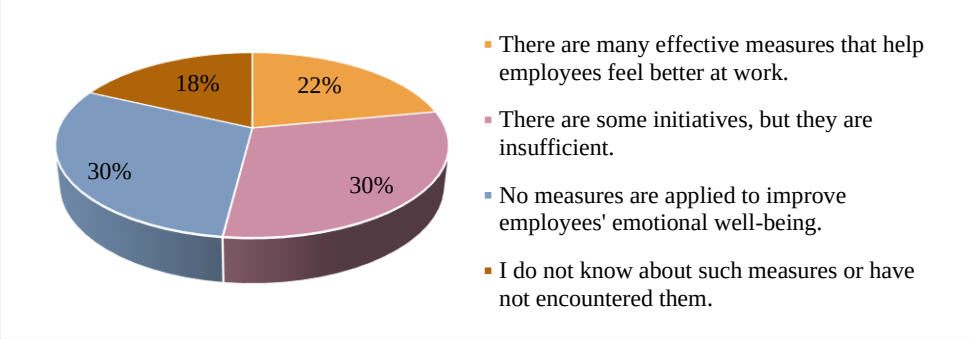


Fig. 4.-Employee evaluation of the measures applied to improve emotional well-being
**Source: compiled by the author*

Although 21 percent of employees stated that they feel a strong motivation to achieve results, 63 percent of respondents indicated that their motivation depends on circumstances or often fluctuates.

Moreover, 31 percent of employees revealed that they have to sacrifice their personal life for work, while only 39 percent reported being able to easily balance work and personal responsibilities. These findings indicate that a work-life imbalance still exists in the public sector, which may contribute to burnout and decreased motivation.

A multiple-choice grid was used to assess how much respondents agreed with the statements regarding measures that could help improve emotional well-being at work. The results are presented in Figure 5.

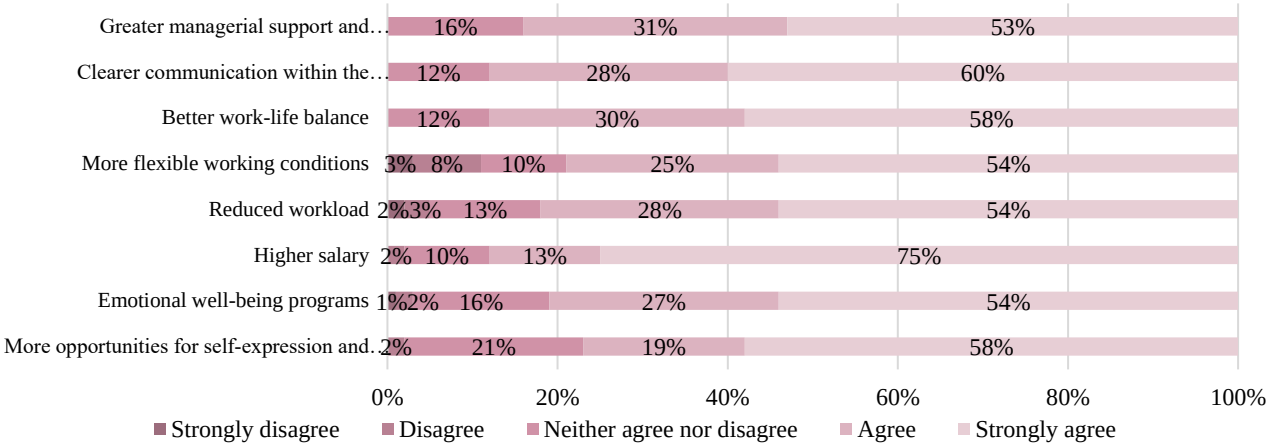


Fig. 5. Measures That Could Improve Emotional Well-Being at Work
** Source: compiled by the author*

The respondents' perspectives from Figure 4 reveal that the majority of respondents clearly agree that employee emotional well-being can be enhanced through specific measures. As many as 53 percent completely agree that greater support and understanding from the leader would significantly contribute to better emotional well-being. Moreover, 60 percent completely agree that clearer and more transparent communication within the organization is an important condition for emotional well-being. Other measures, such as a better work-life balance (58 percent completely agree), emotional well-being programs (54 percent), and more flexible working conditions (54 percent), are also positively evaluated. Similar support is found for reducing work load (54 percent) and higher salary – 75 percent of respondents completely agree with these points.

These data confirm the idea presented in the theoretical part that emotional well-being is closely linked not only to the psychological climate but also to the actions of leaders. Based on the responses from the respondents, it can be concluded that employers' attention to these areas could significantly improve the emotional climate for employees and reduce the risk of burnout. It is worth noting that the respondents' evaluations correlate with the characteristics of transformational leadership, which include inclusive leadership, concern for employees' well-being, and individual attention.

Conclusions

The theoretical analysis revealed that leadership is not just about formal management or task delegation. Primarily, it is the ability to inspire a team, build trust-based relationships, and support employees not only in professional but also in emotional matters. The leadership style chosen by a leader directly impacts the emotional well-being of employees – it determines whether employees feel safe, motivated, and engaged in organizational life. Transformational leadership, based on respect, empathy, and employee inclusion, helps create a positive emotional environment. On the other hand, transactional or autocratic leadership, while ensuring order and control, often leads to tension, burnout, and reduced employee involvement. Emotional well-being is not just the responsibility of employees but a collective task for the entire organization, in which the leader plays a crucial role. Their empathy, openness, and ability to listen to employees can determine whether employees feel valued and heard. Therefore, the relationship between leadership and emotional well-being is undoubtedly worthy of further research to create a healthier and more supportive work environment.

In today's working world, where constant changes, pressure, and rising expectations have become the norm, employee emotional well-being is increasingly recognized as one of the most important factors for organizational success. The conducted study confirmed the insights presented in the theoretical part, especially those emphasizing the leader's ability to support, engage, and create a safe emotional environment.

The empirical data revealed that while some employees feel supported by their leaders, the overall situation remains concerning—nearly a third of respondents do not feel that their emotional well-being is important to the organization, and more than half often experience stress at work. It also emerged that employees only occasionally feel involved in decision-making, which can reduce their motivation and trust in leadership. These results indicate that good management alone is not enough—organizations need to foster human-centered, empathy-driven leadership. It is precisely such leaders, who are capable of listening, inspiring, and showing care, that become not only the guides of their teams but also the leaders of emotional balance.

Considering the results of the study, it can be concluded that the role of leadership in the context of emotional well-being is important but still not fully explored. It would be beneficial to examine this topic more broadly, including more organizations, different regions, or even countries, to better understand various leadership models and their impact on employees' emotional states in different contexts. More such studies would help create more effective strategies for enhancing emotional health and contribute to the development of a healthier work environment at the societal level.

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THE DEVELOPMENT OF DOCUMENT PREPARATION AND APPEARANCE IN LITHUANIA UNTIL THE 20TH CENTURY

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Keywords: documents, document preparation, XII-XIX century.

Abstract
The article examines the development of document preparation and creation in Lithuania until the 20th century, analysing the most important historical stages and factors that influenced the development of document writing. It discusses the administrative and legal requirements of documents in different epochs and their influence on the documentation system. It also looks at the most significant stages in the development of record-keeping, from early written sources and manuscript documents to the spread of printed documentation. It examines the changes in written communication resulting from social, political and technological factors. The study is based on an analysis of historical sources and seeks to reveal how the traditions of document production have changed.

Introduction

Documents are an essential tool for reflecting the activities of the state and society, legal relations and cultural heritage. The development of the production and emergence of documents in Lithuania up to the 20th century reveals the formation of the country's administrative system, the evolution of legal norms and the development of the tradition of writing.

The relevance of the article is shown by the fact that there are several scientific works dealing with the aspects of the creation, use and evolution of documents in Lithuania before the 20th century. The following authors have made an important contribution to the research on this topic: Robertas Jurgaitis (2014) in his work *the practice of the preparation and approval of the documents of the Vilnius dietine (sejmik) in the Years 1717-1795*, analyses the peculiarities of the preparation and approval of the documents of Vilnius dietine during the 18th century. Daiva Lukšaitė (2005) in her dissertation *the expertise of the value of documents in archives* examines issues relating to the valuation and archiving of documents. Alfredas Bumblauskas (2005, 2009, 2012, 2013, 2018) is a prominent Lithuanian historian researching the period of the Grand Duchy of Lithuania, whose work contributes to the understanding of the broader historical context related to the development of document production. Mindaugas Klovas (2017), in his dissertation *the origin and development of private documents in the Grand Duchy of Lithuania in the late 14th - early 16th century (1529)*, conducted a detailed study analysing the origins, functions and development of private documents during the period of the Grand Duchy. The author examines various types of private documents, such as gifts, wills, sales, and their legal significance and means of ensuring authenticity. The collective monograph *the Lithuanian book. Historical outlines: from the beginning of writing in the GDL to the restoration of Lithuanian independence in 1990*, prepared by Audronė Glosienė, Domas Kaunas, Aušra Navickienė and Vanda Stonienė (1996), reviews the development of the Lithuanian book from the emergence of writing in the GDL to the end of the 20th century. This work analyses the history of manuscript and printed books, the organisation of publishing, and the technical basis and development of book production in various periods. Many other works have also been carried out on the development of documents.

The problem of the article - not enough literature on the full evolution of the documents from 12th to 19th centuries, depending on the geopolitical situations, linguistic aspects and technologies used at the time. Historians have studied the documents more as a secondary aspect of Lithuanian history rather than as a separate object of research. Documents are a source of information proving the facts and events of different periods of Lithuania.

The object of the article - the development and change of documents in Lithuania in the 12th-19th centuries.

The aim of the article - is to analyse the processes of preparation and emergence of documents in Lithuania up to the 20th century, to identify the main development stages, institutions and external influences.

Article tasks:

1. To examine the historical context of the emergence of documents in Lithuania.

2. To discuss the stages of document development and their specific features.
3. Identify the methods and forms of document production.

Research methods: targeted collection and compilation of information, archival documents analysis, analysis of scientific literature sources, comparative historical method, systematisation of information.

Analysis of received data

Document comes from the Latin word **documentum** - an instructive example, testimony, evidence. **A document** is defined as a *tangible object (paper, drawing, photograph, medium) that records information.* It documents various facts, events, management actions, decisions, performance, etc.

Document as defined in the Law on Documents and Archives of the Republic of Lithuania: *a document is information recorded in the process of activity of a legal person, other organisation or their subdivision (hereinafter referred to as a legal person) or a private person established in the Republic of Lithuania or in a foreign country, irrespective of the manner of its presentation, its form and its medium.*

Related to the concept of document are the terms: document management, documentation, document circulation. The main purpose of document management is to provide evidence of an institution's or company's activity, to systematise and quickly retrieve information, to preserve it, to shape the image of the organisation, to analyse and control its activities, and to plan it (Avižonienė, 2021). In computer science, a document is any information medium that can be stored for a certain period - a letter, a journal, a book, etc. In law science and law enforcement, a document is understood as a means of testifying, proving or confirming certain rights and obligations or other actions.

Since the emergence of writing, written documents have become the main form of reflecting the activities of the state and people (Strazdienė, Dobržinskienė, 2013). Written documents originated during the Roman Empire. At that time, both legal and private documents already existed. However, verbal agreements, witness testimony, and handshakes were of greater importance. The value of the document declined after year 476, with the overthrow of the last emperor of the Western Roman Empire and then the collapse of it. However, it rose again during the Carolingian period in the 6th-8th centuries. The Emperor Charlemagne (742-814) gave his full support to the arts and sciences, even though he had learned to write at an old age. His palace in Aachen (in present-day Germany) became a cultural centre of sorts, with a room for copying books. In this centre, the form of lower-case letters - known as minuscules - developed during the retyping of books and are still present in the Latin alphabet today (the capital letters are derived from the ancient Roman majuscule). In the 9th century, documents related to Christianity began to emerge (Jablonski, 1979).

By the 9th century, papyrus, parchment (13th century) and later paper were used in the papal office. The first paper mills appeared in Italy in the 13th century, in France and Germany in the 14th century, in Poland in the 15th century and in Lithuania in the 16th century. Two paper mills were established by S. Vernart in 1524 and another in 1590 near Vilnia, on the territory of Vilnius Castle. In 1578, a paper mill was opened at Jiesia near Kaunas, and in 1580 in Kaunas. These mills produced very good paper with watermarks. The paper from the Kaunas mill was used by the royal chancellery in Warsaw. Paper mills disappeared in the 19th century when paper was produced by machines. The production of paper, which replaced parchment, encouraged the spread of writing and books.

In Lithuania, writing originated during the existence of the Grand Duchy of Lithuania, but the language of writing was chosen to be the old Belarusian language, otherwise known as the Chancery Slavic (Ruthenian) language. Lithuanian documents date back to the 13th century - the time of Mindaugas. At the beginning of Lithuanian statehood, writing was very fragmented. The first documents were devoted to diplomatic relations and treaties with neighbouring countries and administrative activities (Dobržinskienė, 2013).

The Act of Donation of Mindaugas (1253) is the oldest known document of a Lithuanian ruler, by which Mindaugas donated lands to the Livonian Order. The document was in Latin, as it was prepared by the Livonian Order's chancery. It is one of the oldest known documents of a Lithuanian ruler, by which King Mindaugas granted lands to the Livonian Order. This act was significant because it reflected the relations between Lithuania and the Livonian Order and Mindaugas' desire to consolidate his power. Other documents of the time are also significant. These include the bulls of Pope Innocent IV (1251-1253), written acts recognising the Lithuanian ruler as a Christian ruler and Lithuania as a vassal state of the Pope. The treaties between

Lithuania and the Livonian Order (late 13th - 14th century) - writings regulating the borders and obligations between Lithuania and the Livonian Order (Jurgutis, 2004).

During the reign of Grand Duke Gediminas (1316-1341), Lithuanian diplomacy became more active, and at the same time the importance of written documents grew. Gediminas' letters show that Lithuania already had a functioning system of record-keeping: the letters of Gediminas (1323-1324) are among the most important documents sent to Western Europe in Latin. Gediminas invited craftsmen, merchants and clergy to come to Lithuania, offering them privileges. These letters were also important from a propaganda point of view, as they created a positive image of Lithuania in Europe (Nikžentaitis, 1996).

The first legal documents of the GDL were legal acts and privileges for towns and nobles, which began to be written in Lithuania in the 14th century. In the Middle Ages in the Grand Duchy of Lithuania, the drafting of documents was closely related to the governance of the state, relations with other countries and the establishment of legal norms. Document production developed gradually, from isolated diplomatic acts to a coherent chancery system by the end of the 14th century. The most important changes in this period were the inclusion of Lithuania in the international space of legal documents, the variety of languages of writing and the creation of a centralised clerk's office (Baronas, Rowel, 2015).

In 15th century Lithuania, during the reign of Vytautas, documents known as acts were written by professional scribes in an established form, but more experienced scribes added to and improved the documents they wrote. The scheme of drafting came to us in those times with the old Slavic written language. Later, the motives for composing the document began to be written down, other parts of the document appeared, and the scheme of Slavic documents was formed (Baronas, Dubonis, Petrauskas, 2011).

In the Middle Ages, documents were divided into legal and non-legal documents. Legal - contracts, donations, wills (they were authenticated). Non-legal documents - letters. According to the grantor of the deed: public (ruler, state) and private (private person). Internal documents: privileges, court verdicts, gifts, acts of restitution (returns), deeds of exchange, wills, acts of confirmation (treaties, awards). External documents: international treaties (perpetual and temporary peace treaties), letters of protection (issued by the sovereign himself), credentials (granting of powers of attorney). Legal documents: dispositions (privileges), testimonial documents (testifying to a pre-existing legal status/standing), arbitral decisions (settling disputes between parties). Papal documents - from the 12th century onwards, documents with silk thread - solemn and less significant, with seals hanging on a hempen cord. 13th century - bulls - solemn papal acts. Supplications - requests to the Pope. At the end of the 15th century, documents appear which do not bear the papal seal but have a signature. Documents could also be classified according to external and internal marks.

During the Middle Ages, several languages dominated the Lithuanian writing system: the Latin language was used in diplomatic documents, as it was the language of European law and church documentation. Old Slavic - in the mid-14th century, it became the main language of the Grand Duchy of Lithuania's chancery. This language was adopted due to the Orthodox influence and the Slavic lands ruled by the GDL. German - some trade and diplomatic documents were written in German, especially in relations with the Hanseatic League and the Teutonic Knights.

In addition to official documents, Lithuanian Chronicles began to be written in the 14th and 15th centuries, which were important both as historical sources and as documentary records. The Lithuanian Chronicles are the first written sources from the beginning of the 15th century that tell the story of Lithuanian rulers and historical events. They are historical documents describing the history of the Grand Duchy of Lithuania, the genealogy of the rulers and important events. The chronicles were written in Old Slavonic and reflected the political and cultural processes of the time (Vonsavičius, 2003).

In the Grand Duchy of Lithuania in the 16th century, the process of preparing documents changed significantly due to several important factors: the codification of law, the development of clerical activities, changes in the language of writing and administrative reforms. This period was particularly important in terms of the standardisation of document composition, with the emergence of legal and administrative documents which formed the basis for modern clerical work. The three Statutes of Lithuania of 1529, 1566 and 1588 had a major impact on the drafting of documents in the 16th century. They not only formed the basis of the legal system but also standardised the structure of drafting legal documents. The Statute of 1529 was the first codified legal document, which laid down the rules on how legal documents should be drafted. The Statute of 1566 extended the application of written legal norms and made them accessible to a wider section of society.

The Statute of 1588 - the first official legal act written in the Ruthenian language, which was close to Lithuanian, which was the main clerical language of the GDL. The Statutes of Lithuania regulated the procedure for drawing up official documents, their form and the methods of legalisation. They became a model for other European states and were used until the 18th century (Baronas, etc. 2022).

In the 16th century, documents were written in several languages and their use depended on the nature of the document and the addressee. Old Slavonic (Ruthenian) was the main clerical language in which official acts were drafted. Latin - used in diplomacy and international documents. Polish - increasingly used from the mid-16th century onwards, especially after the Union of Lublin (1569), when Polish cultural influence became stronger. Lithuanian language - although not yet widely used in official writing, the first Lithuanian writings appeared in the 16th century (e.g. Mažvydas Catechism, 1547), indicating the development of the written language. The 16th century saw the introduction of self-government for the nobles, and the increase in the independence of the local courts and the provinces (counties). Privileges for the nobility - written documents in which the ruler established the rights and privileges of the nobles. The documents of dietine - emerged as a means of formalising self-government decisions (Jurgutis, 2016). Wills and property transfer documents - written personal documents approved by local courts became increasingly more common. The 16th century was an important stage in the development of document production in the Grand Duchy of Lithuania. Legal documents became more standardised, the clerical system became professionalised, and the clerical work became more efficient. The Statutes of Lithuania established the forms of legal documents, and changes in the languages of writing reflected political changes. This period shaped the traditions of document drafting that influenced even later eras.

After the signing of the Union of Lublin in 1569, the Grand Duchy of Lithuania and Poland formed a common Polish-Lithuanian Commonwealth. This had a significant impact on the drafting of documents: after the union, Polish became more frequently used in official writings. Common legislation: the traditions of Lithuanian and Polish document drafting converged. Common institutions: the Seimas, the courts and the administration adopted the same principles of drafting documents (Cicėnaitė, 2011). The Union of Lublin accelerated the Polonization of the Lithuanian nobility. Polish documents began to appear in Lithuania. Until the end of the 16th century, the Polish Act of Lithuania was only a Slavic act written in the Polish spelling, and the Lithuanian words used in Slavic acts were transferred to it. These Acts had also taken over the entire formulary and writing traditions of the Lithuanian Acts up to that time.

In the 17th century, Polish writings began to overshadow Russian ones, and by the end of the same century, Polish had become the official written language. The courts were then ordered to use Polish as well. The influence of Polish culture and the Polish language began to spread rapidly in Lithuania. However, the introduction of Polish did not drive the Lithuanian language out of the ethnographic Lithuanian courts. Although the minutes of court hearings were written in Polish, cases were conducted in Lithuanian. From the 17th century onwards, Lithuanian surnames began to be written in Polish in official documents. Most often, Lithuanian sounds were replaced by Polish ones (Kaupas became *Kawpas*). The endings of Lithuanian surnames were dropped (Gintautas became *Gintowt*). There are cases of Lithuanian surnames being translated into Polish (Vabalas turned into *Žuk*) and so on. The form in which a surname was entered into documents, whether Lithuanian or Polish form, depended on the scribe and not on the holder of the surname. Consequently, even those Lithuanians who themselves and their ancestors had never spoken Polish were given Polish surnames (Zinkevičius, Z).

In the Grand Duchy of Lithuania during the 17th century, the practice of preparing documents partly continued the traditions of the 16th century, but due to political, legal and cultural changes, some processes changed. The Polish language took hold in this century, the formalities of writing became more complex, and wars and the crisis of the state presented new challenges for document production. The use of languages in 17th-century documents has changed due to the political and cultural processes of the Polish-Lithuanian Commonwealth. In the 17th century, Polish became the dominant language for the preparation of documents of the Grand Duchy of Lithuania, especially in the documents of the Seimas, the correspondence of the nobility, and legal documents. Old Slavic (Ruthenian) language - although it was the main official language of the GDL in the 16th century, its use declined sharply in the 17th century. Latin - mainly used in church documents, diplomatic correspondence and university writings. Lithuanian was still not used in official writing, but in the 17th century the first administrative and ecclesiastical documents in Lithuanian appeared. In the 17th century,

the GDL's writing system was more formalised, but bureaucratic processes became more complex due to corruption, the arbitrariness of the nobility and the crisis of the state. The Chancellor's Office was the main centre for the production of documents. It was the centre for the drafting of decrees, privileges and diplomatic relations. Local administrative bodies handled day-to-day legal, property and tax documents. The Catholic Church was active in the preparation of a wide range of documents, including parish registers, visitation reports and synod decisions. The Lithuanian Metrica is regarded as the main collection of documents of the GDL. In the Grand Duchy of Lithuania in the 17th century, the process of document production became more complex due to the growing bureaucracy, linguistic changes and political and military crises. Document production was increasingly dependent on the Polish language, formalised procedures and centralised institutions, but constant wars and administrative problems sometimes complicated their processing (Šmigelskytė-Stukienė, etc. 2014).

In the 18th and 19th centuries, Lithuanian writing system underwent significant changes due to the weakening of the Polish-Lithuanian Commonwealth, the loss of statehood (1795), the Napoleonic Wars and the influence of the Russian Empire. In the first half of the 18th century, the GDL's document drafting practices still followed the traditions of the 16th and 17th centuries, but they were gradually changing: official writings were more frequently drafted in Polish. The clerical language remained pompous and complex but became more clearly structured. The Seimas constitutions and legal documents remained the basic documents of the state until the collapse of the Commonwealth (Jurgutis, 2004)

After 1795, the Grand Duchy of Lithuania was incorporated into the Russian Empire. This had a significant impact on the preparation of documents. Until 1830, Polish and Latin remained the official language used for documents, but these were gradually replaced by Russian. After the 1831 uprising, the Russian authorities introduced stricter Russification measures, which led to a shift to Russian for official writing. Polish was replaced by Russian in documents, and the Russian writing traditions and documentary system of the time also took hold. After the 1863 Uprising (1864), Lithuanian was banned in Latin characters, and the informal Lithuanian writing system went underground. Lithuania was transformed into a kind of administrative unit, the governorate-general. Gradually, the laws of the Russian Empire came into force. In 1840, the Tsar's decree invalidated the Lithuanian Statute, introduced the Russian penal and civil codes, and unified the names of the relevant institutions. A hierarchy was established in the Russian government. Governors received orders and instructions from the Tsar and the Senate and wrote reports and notices to them. The governorate offices received instructions and reports, information on political events and the economic situation, and statistical data. Peasants wrote requests and complaints. Instructions of general nature were sent by circular letters to lower-level bodies and officials. The courts were reorganised according to the Russian legal system and their documents were drafted in Russian. Notarial entries relating to property management, inheritance and land rights were compulsorily registered in the archives of the governorates. From the middle of the 19th century, notaries became the main administrators of private documents. The Church maintained its own documentation system: the registers of births, marriages and deaths were written in Latin, Polish or Russian. After 1863, the Russian authorities began to regulate and censor church records, especially Lithuanian surnames and place names. Documents of governors, municipalities and elderates were written in Russian - the government offices were staffed almost entirely by Russians, who did not understand Lithuanian and did not try to learn the local language. This situation was in line with the Tsarist government's policy of stopping Polish influence in Lithuania and expanding its own. The Lithuanian language was also banned in public life. Until 1905, Russian advertisements prohibiting the use of Lithuanian, Samogitian and Polish were posted in institutions (banks, post offices). The most important Russification measure was the introduction of Russian letters into Lithuanian writing, banning the previously used Lithuanian (Latin) alphabet. Lithuanian surnames and first names were also Russified. Not only were Russian letters made mandatory, but also a three-level naming system (first name, patronymic, surname) was imposed (Zinkevičius, 2010).

In the 19th century, the names of some documents were already regulated, and certain forms were established. Documents began to be written with letterheads. The following data were recorded on them: the name of the department, institution, structural unit, the date of sending the document, the registration number, the title of the document. A uniform paper format was also established. State archives began to be established. The new means of communication, the telegraph and the telephone, also led to the creation of new documents, the telegraph and the phonogram. The cost of transmitting a document by telegraph was high, and the so-called telegraphic style was invented: no prepositions, no hyphens, and conventional (short) addresses.

However, even under the rule of Tsarist Russia, the Lithuanian language was inevitably needed by the local authorities, government and by the lower court. Lithuanian was used orally to announce the orders or decrees of the tsarist authorities, and more narrowly, in written documents of a legal nature.

As the revolutionary struggles of 1905 spread, the struggle for the use of the mother tongue in public life intensified. In 1905, in one of his circulars, the governor-general of Kaunas announced that, in addition to Russian, the use of Lithuanian could be permitted in internal correspondence in the municipal boards, but that correspondence with other institutions was to be conducted only in the language that was the official language of the whole of Russia. The circular mentions that scribes who are unfamiliar with the Lithuanian language can be replaced by others, but they (the replaced ones) must have a good knowledge of the Russian language (Bumblauskas, 2018).

At the beginning of the 20th century, the current spelling of the Lithuanian language began to take shape. After the ban on the Lithuanian press was lifted in 1904, book publishing began to develop. In 1914, the first Lithuanian spelling book was published. It contains practical instructions on how to format documents, contracts, wills, powers of attorney, applications, how to write letters, examples of addressing.

Conclusions

The development of document production and creation in Lithuania until the 20th century was closely linked to political, legal and cultural processes. The development of administrative institutions, the standardisation of record-keeping and foreign influences led to the evolution of the forms and content of Lithuanian documents. The significance of written sources has remained important in both legal and historical contexts, forming the basis of modern archival science and document management.

The first written documents in Lithuania date back to the 13th century and relate to the formation of the state and international relations. From the 14th century onwards, documents became an important part of legal and administrative activities, and their preparation was based on Latin, Russian and Polish. The development of document production in Lithuania can be divided into several phases: the pre-written culture period, the Middle Ages (the rise of clerical work in the GDL), the Polish-Lithuanian Commonwealth period (the development of the legal system), the period of Tsarist Russia (the Russification of writing), and the beginning of the 20th century (the beginning of modernisation).

Documents were written on parchment and later on paper, using Gothic and clerical writing. The most important types of documents were privileges, legal acts, church books, court decisions, chronicles and private documents (wills, gifts).

Written documents were essential to the functioning of public authorities, legal relations and everyday life. The Statutes of Lithuania became one of the most important legal documents regulating the relations of the society of the GDL for more than three centuries. The main institutions for drafting the documents were the chancery of the Grand Duke of Lithuania, the ecclesiastical institutions, the dietines of the nobility and the courts. Scribes, chancellors, chroniclers and lawyers played a key role in the process of creating, preserving and validating documents.

Document production in Lithuania was strongly influenced by the administrative traditions of Western Europe, Poland and Russia. Latin dominated international documents, Russian dominated domestic administration, and from the 18th century onwards Polish became the main language of legal and administrative documents. Among the most important surviving documents are the Letters of Mindaugas, the Lithuanian Chronicles, the Statutes of Lithuania, the privileges of the nobility, and various ecclesiastical documents. These written sources are the main sources of historical knowledge, reflecting Lithuania's legal and cultural development.

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STUDY OF MANAGEMENT STYLES AND THEIR APPLICATION AT OJ CREW

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Keywords: Management, leadership, management style.

Abstract
The present article delves into management styles, their concept and significance in terms of theoretical aspects. The concepts of management styles are presented based on management, psychological, economic and other scientific literature analysis. The traditional management styles (autocratic, democratic and liberal (also known as laissez-faire)) and their attributes are described and categorized under modern management theories. The article also presents a study of management styles at OJ Crew company. The study revealed that traditional management styles, especially the democratic one, were predominant at OJ Crew. Employees deemed management to be an important aspect as it motivated them, increased work efficiency and helped to implement the business strategy of the company. The results also revealed that leadership and management were two different qualities. Thus, it is important for the employees to differentiate between the two.

Introduction

Business companies are constantly on the lookout for ways to survive and find the direction for further development. Economic instability, constantly fluctuating business competition conditions and political uncertainty result in changes within the companies. In light of such conditions, the function of a manager in managing an organization an ensuring the continuity of its operations remains significant in terms of holding the power to affect the process of business goal implementation. Also, unsuitable methods applied in management must be changed (Mauri, 2017). Most companies have ingrained problems of overcontrol (excessive supervision and control), dependency on the governing bodies, direct intervention of the manager and abuse of managerial power. Thus, companies focus on managers and improvement of their management skills. Management styles might affect the organization, organizational culture and its operation models as well as motivate the employees to cooperate and non-compete via open and exclusive intercommunication channels, development of professional identity, ensuring comprehensive work conditions and promoting core values of the organization (Fazzi *et al*, 2016).

Relevance. Management unfolds via the manager's skill to rally employees into a single efficient team; therefore, the success of a company largely depends on its manager's competency and thinking skills, which is especially relevant these days. Nowadays, employees seem to grow more and more invested in the operations of the company. Its manager must be able to both lead and coordinate their time with employees, listen to them, unite them towards the same activities and motivate them to seek a common goal. For the best results, the company manager has to choose a management style and involve the employees into the decision-making process, all the while paying attention to their interests.

Research question. Even though it is widely discussed in management, psychological, economic and other scientific literature, management remains one of the key functions of a manager. However, employees are not always capable of determining the management style prevalent in their company or realizing its importance to themselves and the company.

The research object is the management style prevalent at OJ Crew.

The goal of the study is to analyze the management styles and traits at OJ Crew.

Research objectives:

1. To analyze the concept of management, management styles, difference between management and leadership, and management in theoretical aspects;
2. To study the management styles and their application at OJ Crew.

Research methods: scientific literature analysis and systemization, questionnaire-based survey, statistical analysis, graphic visualization.

Theoretical Aspects of Management

The management, psychological, economic and other scientific literature study management as a process of foreseeing goals and objectives, planning and organizing works, and motivating people to raise and implement certain goals. Thus, in most cases, the success of an organization is largely dependent on its leader, i.e. the person taking a special position in organizational management, who has exclusive rights to manage the company, and their personality, skills, abilities and endeavor to utilize them, and the desire and need for life-long learning (Petrulis, 2021).

In general, a good leader is the one who is capable of rallying people of different professional and personal backgrounds into a harmonious and united crew. The role of a leader is special as they are responsible for transforming a bunch of separate individuals into a single team operating both purposively and efficiently (Čiarnienė, 2011). Systemized concepts of management as expressed by researchers are presented in Table 1 below.

Table 1

Concept of Management

Author	**Concept**
E. De Haan (2015)	Management as a function is devoted to enhancing an organization's effectiveness.
G. T. Fairhurst, S. L. Connaughton (2014)	Management is best comprehended as a balance between power and influence in directing employees, though the function of these terms is to be revised for the purpose of managing.
P. G. Northouse (2018)	Being a leader means ensuring good performance and being fully aware of the well-established work procedure (in an organization).
Alkahtani (2016)	Management is when managers are capable of choosing the best management style with respect to the specific organization and its employees.

**Source: compiled by the study author based on various authors*

The analysis of Table 1 reveals that even though authors define management differently, all of them mention a more efficient and coordinated work which should bring maximum benefits to the company.

The effect may be formal, e.g., manager's position or officially granted powers, or unsanctioned, i.e., a leader naturally appears within a group of people. This means that not all managers of organizations are leaders and not all leaders work in managerial positions. Management is a highly important and complex managerial function and a central force that presupposes the successful operation of an organization (Darškuvienė, 2011).

Management is more often than not associated with leadership which is a process, inherently similar to management. Much like management, leadership is related to bringing about changes. Much like management, leadership means working with people. Similar to management, leadership is all about achieving the set goal efficiently. In general, the majority of management functions coincide with the definition of leadership (Bakanauskienė, 2011).

However, leadership and management are two distinct concepts. Leadership studies date back to the time of Aristotle, while the science of management evolved only at the beginning of the 20th century after the rise of industrial societies. Management as comprehensive organizational management activities and science of organizational management consistencies, principles and methods was developed for the purpose of reducing the chaos within organizations and inciting people to work more efficiently and effectively. The functions of leadership and management are not similar at all. The key function of management is to ensure order and consistency within the organization. Meanwhile, the key function of leadership is to bring about changes and transition. The goal of management is to seek order and stability while the goal of leadership is to seek adaptive and constructive changes (Bakanauskas, 2011).

Even though answering the question of what a manager should be like is very important, it is only one aspect of management. Other aspects, such as how the manager acts and communicates with their subordinates, how and at what level they delegate tasks, which governing forms they apply and whether or not they care about human relations are also of great importance. All of these management traits comprise the concept of management style. Management style is a method of a manager affecting their subordinate with the aim to influence them and encourage them to implement the goals of the organization (Martinkus, 2010).

No unified classification of management styles exists to this day. Yet, they can be summarized based on several different points of view towards the differentiation of management styles. First of all, management styles can be categorized as traditional or modern ones.

The following differentiation of management styles is mentioned in management, psychological, economic and other scientific literature (Stoškus, 2014):

- Traditional and modern management styles
- Management styles based on manager's behavior
- Management styles based on manager's policies and views
- Situational management models

Traditional management styles are authoritative. Authoritative management styles can be recognized by its strong centralization and the focus of power in one person's hands. The charismatic, patriarchal, autocratic and bureaucratic management styles are categorized as traditional authoritative management styles. Charismatic management style is a type of leadership based on personal spiritual force (a gift of God). Patriarchal management style is based on the analogy of a father or mother figure in a family. Autocratic management style is rooted in hierarchical management and obedience. Much like the patriarchal style, autocratic management style is based on unconditional authority of the manager. Bureaucratic management style is rooted in legal and precise regulation system that abides by all the laws and regulations and strict obedience and subordination of the members of the organization. (Beržinskienė, 2014).

Modern management styles include the democratic style which is based on shared power and inclusion of subordinates into management and decision-making. The democratic management style can be further classified into cooperative and free management styles. In the cooperative management style, coworkers are treated as partners with extra focus on cooperation for the purpose of a common goal. The free management style is often referred to as the liberal (laissez-faire) management style and is known for the minimum interference of the manager into the activities of their subordinates. S. Stoškus *et al* (2014) note that management method is a way of implementing separate management functions. Management methods can be classified into economic, administrative/legal and social/psychological as shown in Fig. 1.

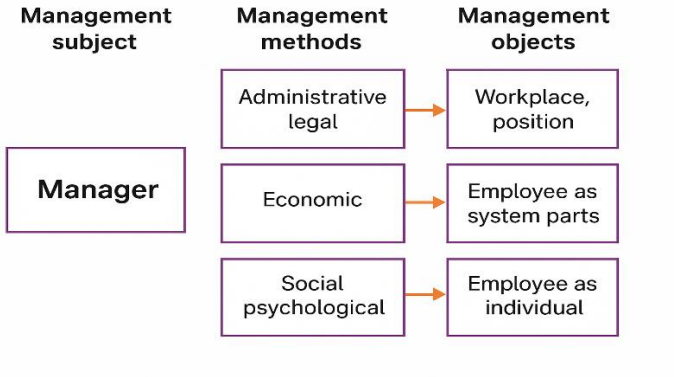


Fig. 1. Classification of management methods.
**Source: compiled by the study author based on Stoškus et al, 2014.*

Summarizing management, psychological, economic and other scientific literature, it can be said that management encompasses the setting of goals, work planning and team making. The success of an organization often depends on the skills and abilities of its manager. The management style defines the manager's behavior when working with their subordinates. Traditional management styles, such as autocratic, democratic and liberal styles, are focused on centralization of power, while modern styles, such as coaching and neurolinguistic management styles, are rooted in shared power and inclusion of subordinates into the decision-making process.

Study of Management Styles and Their Application at OJ Crew

Research methods. The study of the point of view of the employees of OJ Crew towards management and its styles was carried out using the quantitative method. A survey was given to the employees of OJ Crew. The said survey consisting of demographic questions and seven research questions was sent in April 2025. Out of 18 respondents, 16 individuals completed the survey. The goal of the survey was to find out the opinion of the employees about the significance of management styles and which management style was employed by their manager at OJ Crew company.

The majority of the respondents were female (75%). Male respondents accounted for 25% of all respondents. Respondents of other genders did not take part in the survey. Based on the age of the respondents, the majority was comprised of 31-40-year-olds (45%). As many as 31% of the respondents were 21-30 years old, 12% of the respondents were 41-50 years old, 6% of the respondents were younger than 20 years and 6% of the respondents were older than 50 years. With respect to education, all respondents had higher or postgraduate education (master's or doctor's) degree, i.e.: 62% of the respondents had higher education and 31% of the respondents had master's or doctor's degree. All respondents had higher than primary and secondary education. With respect to work experience, the study of OJ Crew company revealed that half of

the respondents (50%) had worked at the company for 4-6 years, 25% of the respondents had worked for 1-3 years, 19% of the respondents had worked less than one year, and only 6% of the respondents had worked for more than 7 years at the company.

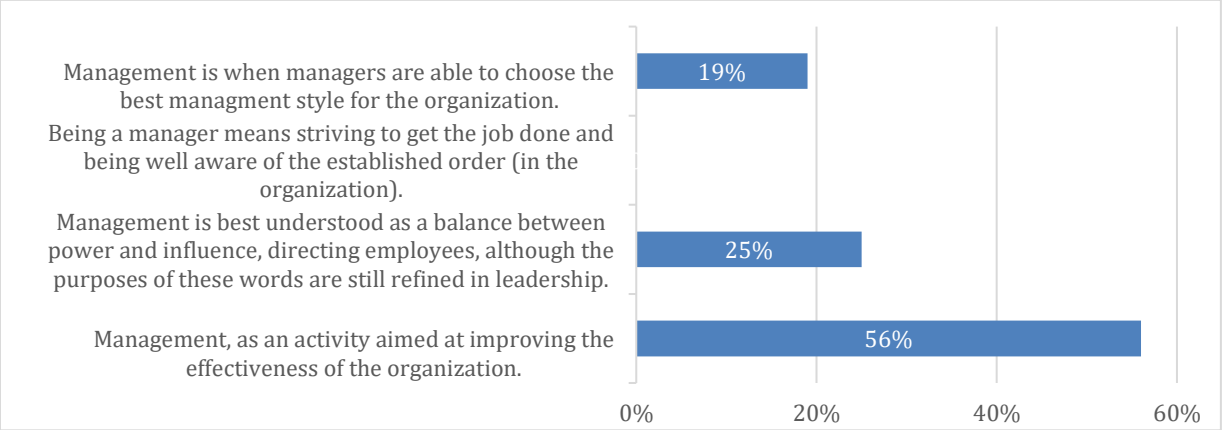


Fig. 2. Concept of management style, in %
** Source: compiled by the study author based on collected data*

Research data presented in Fig. 2 illustrates how the respondents perceive the concept of management. The majority of the respondents (56%) believes management to be a function devoted to enhancing an organization's effectiveness. This shows that the majority of the respondents associate the core function of management with organization's results, effectiveness and operational optimization. As many as 25% of the respondents perceive management as a balance between power and influence in directing employees. This approach denotes that management is more than simple following of rules; it is also a subtle skill to motivate and influence the team. As many as 19% of the respondents believe that management is the ability to choose the best management style for the specific organization and its employees. This accentuates the importance of the flexibility of the manager and their skill to adapt to different situations and individuals. None of the respondents believe management to mean comprehensive knowledge of work procedure and ensuring that the works are performed in line with the applicable regulations. This shows that strictly formalized approach to management is not popular among the respondents.

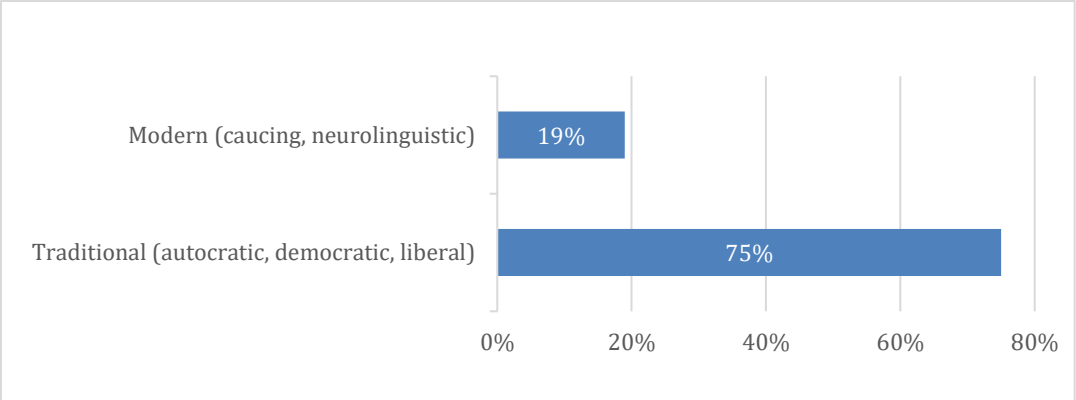


Fig. 3. Management style applied at OJ Crew, in %.
** Source: compiled by the study author based on collected data*

Research data presented in Fig. 3 illustrates the management styles applied at OJ Crew. The majority of the respondents (75%) indicated the traditional management models (autocratic, democratic and liberal styles) as being the predominant ones at the company. This means that the managers of the company employ typical management methods based on clearly defined hierarchical structure, rules and decision-making models. Only 19% of the respondents believed that the management style of OJ Crew was a modern one, i.e. based on coaching and neurolinguistic programming principles. The low number reveals that innovative management methods are not widely employed at the company.

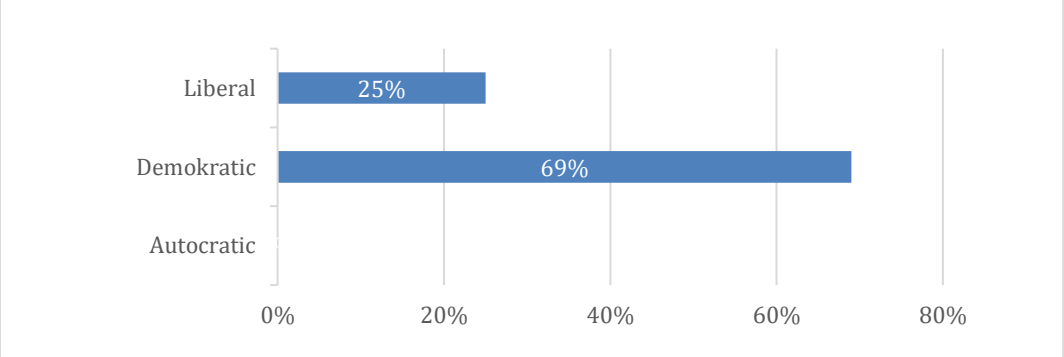


Fig. 4. Traditional management style prevalent at OJ Crew, in %.
** Source: compiled by the study author based on collected data*

Research data presented in Fig. 4 illustrates the management style employed at the company, which allows for the inclusion of the employees in the decision-making process and encourages cooperation and involvement. The liberal management style, where employees have more freedom in decision-making and the manager acts more like a counselor, seemed to be less popular and was chosen by 25% of the respondents. No one chose autocratic management style, where decisions are made by the top-tier managers who hold all the power, which might mean that the company uses a more flexible approach towards management.

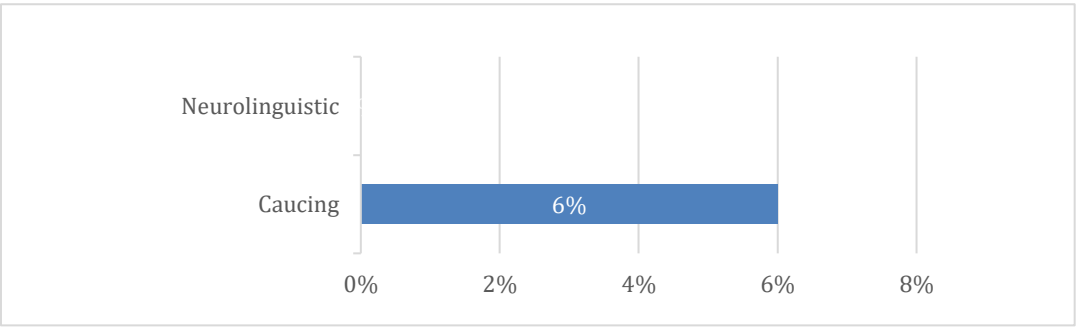


Fig. 5. Modern management style prevalent at OJ Crew, in %.
** Source: compiled by the study author based on collected data*

Fig. 5 reveals elements of modern management styles at OJ Crew. It shows that such traditional management methods as autocratic, democratic and liberal management remain the predominant ones. The coaching management style, which focuses on employee education and individual support, was chosen by as many as 6%. This proves that this modern management method is not yet widely employed by the company. The neurolinguistic management style based on the principles of communication and psychology, is absent in Fig. 5, which means that this method is not yet popular among the managers. It could be said that OJ Crew employs a traditional management style, mostly democratic. This shows that modern management styles are not as practical or convenient for OJ Crew.

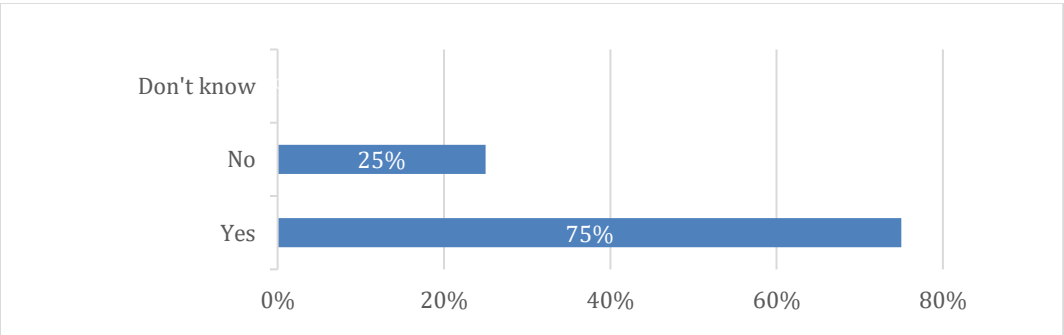


Fig. 6. Difference between management and leadership, in %.
** Source: compiled by the study author based on collected data*

Research data presented in Fig. 6 reveals that the majority of the respondents (75%) believe there to be a difference between management and leadership. As many as 25% of the respondents see no difference. None of the respondents chose the answer 'I do not know'. This means that most people are capable of differentiating between the roles of the manager and leader within the company. Evidently, the majority of the people understand that a manager is mostly oriented towards process control and organization while a leader works to inspire and motivate the team to seek a common goal. This result showcases that both management and leadership skills are important in modern work environment.

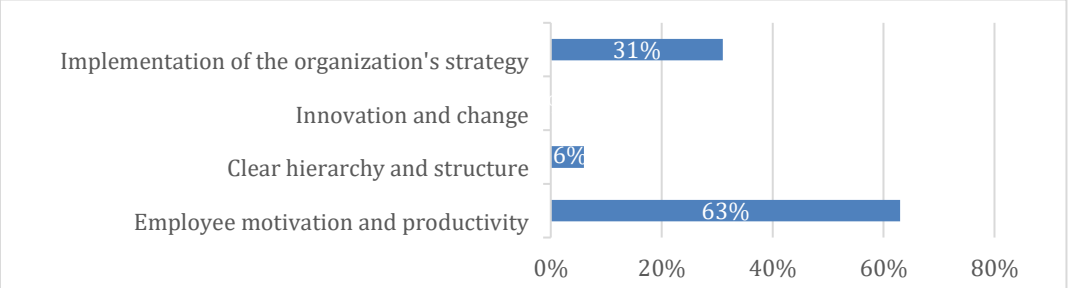


Fig. 7. Significance of management at the company, in %.
**Source: compiled by the study author based on collected data*

Analysis of the significance of management at the company revealed that the majority of the respondents (63%) indicated the impact of management on employee motivation and work efficiency. As many as 31% of the respondents accentuated the significance of management for the implementation of corporate strategy. A lower number of the respondents (6%) associated management with clear-cut hierarchy and structure. None of the respondents chose introduction of innovation and changes as part of management functions.

The research results showed that management was mostly associated with internal employee motivation and general work efficiency. The employees mostly valued the manager's skill to inspire, encourage and support work efficiency. Management was assessed as a daily practice improving employee satisfaction with work and increasing company success. This leads to an assumption that managers of modern companies must act as both planners and motivators.

Conclusions

Company management is one of the key factors affecting efficiency of operations, employee motivation and implementation of strategic goals. The analysis of scientific literature revealed that despite the differences in concepts of management, all of them highlight a more efficient and coordinated work which should bring maximum benefits to the company. Management styles are classified into traditional (autocratic, democratic and liberal) and modern (neurolinguistic, coaching) ones. Management is more often than not associated with leadership, however, the two are completely different concepts. The key function of management is to ensure order and consistency within the organization, while the key function of leadership is to bring about changes and transition. The goal of management is to seek order and stability. The goal of leadership is to seek adaptive and constructive changes. It is important to realize that the success of the operations of the company largely depends not only on the applied management styles but also on its manager and leader, i.e. the person taking a special position in organizational management, who has exclusive rights to manage the company, and their personality, skills, abilities and endeavor to utilize them, and the desire and need for life-long learning.

The case study at OJ Crew revealed that the company mostly applied the traditional democratic management style, which the employees found to be acceptable and motivating. The democratic management method helped to create a favorable work environment, encouraged employee inclusion into the decision-making process and increased work efficiency. The study results also showed that leadership and management were different traits, meaning that the managers of modern-day companies had to showcase both management and leadership skills. The study confirmed that proper management style had a great impact on the overall success of company operations and that the managers' skill to adapt to the needs of the employees was vital to modern organizations seeking to ensure sustainable growth and retain a competitive edge.

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POSSIBILITIES OF USING ARTIFICIAL INTELLIGENCE FOR BUSINESS DEVELOPMENT

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Keywords: Artificial intelligence; Innovation; Technologies.

Abstract
This article will analyze the use of artificial intelligence (AI) in various business markets and technologies. AI is becoming an increasingly important tool in the business world, enabling companies to manage processes more efficiently, forecast market trends, and create added value. Across various sectors – from finance and logistics to healthcare and manufacturing. In 2024, global AI market reached significant figures, with deep learning segment valued at USD 233.69 and services segment leading with USD 246.14 billion. North America accounted for the largest regional market share(36,84%), highlighting the growing importance and investment in AI technologies worldwide. Survey data further reveals that 43.1% of respondents associate artificial intelligence with productivity gains, while 39,4% expect improved decision-making. These findings confirm AI's transformative role and growing global relevance in business development.

Introduction

In today's rapidly changing business environment, artificial intelligence technologies are becoming an integral tool that enables the prediction of market trends, the analysis of data, and the making of strategic decisions. The ability of artificial intelligence to process vast amounts of data and extract valuable insights from them creates the prerequisites for businesses to operate more efficiently.

While artificial intelligence offers significant benefits for businesses, its implementation also poses several challenges. One of the main issues is data quality and availability, as AI systems rely heavily on large amounts of accurate and unbiased data. Poor data can lead to flawed predictions and decisions. Ethical issues are also important, as biased algorithms can lead to unfair or discriminatory outcomes. The high implementation costs and the need for specialized talent make it difficult for smaller businesses to adopt AI technologies. Furthermore, many AI systems act as "black boxes," making it difficult to understand how decisions are made, which reduces transparency and trust. Finally, the lack of a clear legal framework in many regions creates uncertainty for cross-border businesses. These challenges highlight the importance of responsible AI development and implementation.

Object of the work is artificial intelligence.

Aim of the work is to analyze the possibilities of applying artificial intelligence in business development.

Objectives:

1) present the concept and meaning of artificial intelligence,
2) examine the application of artificial intelligence to business development.

Research methods: analysis of scientific literature, quantitative analysis method.

Concept and meaning of artificial intelligence

The study of artificial intelligence (AI) has been a constant work of scientists and engineers for more than 65 years. The simple statement is that man-made machines cannot only perform labor-intensive work; they can develop human-like intelligence. Whether we know it or not, artificial intelligence has penetrated our daily lives, playing new roles in industry, healthcare, transportation, education, and many other areas that are close to the general public. Artificial intelligence is considered to be one of the main drivers of changing social and economic life. On the other hand, artificial intelligence contributes to the advancement of cutting-edge technologies in many fields of study as useful tools for innovative research (Jiang, 2022). Artificial intelligence is also being integrated and developed in business, thus facilitating and accelerating production, documentation, troubleshooting, and training.

Artificial intelligence has changed the digitalization system of enterprises, providing many transformative opportunities, including personalization, automation of repetitive tasks, advanced data analysis, adaptive learning, immersive learning experiences, and automatic content generation. AI-powered platforms can tailor content to individual learner profiles, providing personalized recommendations based on their strengths, existing skills, and areas for improvement and development. These platforms also provide automated feedback reports to employees, allowing them to improve independently of course instructors. This has resulted in reports of improved outcomes and greater alignment with organizational goals and objectives. However, the rapid shift to automation has raised concerns about the depersonalization of the learning process, potentially losing human connections such as empathy, motivation, and engagement (Asemota, Owoeye, 2025).

Released in late 2022, ChatGPT has taken the world by storm and has been quickly adopted by knowledge workers across sectors and disciplines. While artificial intelligence (AI) technology has been mostly used behind the scenes to improve consumer and enterprise software algorithms, ChatGPT is now directly and noticeably changing the working habits of both tech-savvy and everyday users. ChatGPT and the broader exploitation of the potential of generative AI have become high on the agenda of companies, executives, and entrepreneurs around the world, given the great productivity potential offered by this new general-purpose technology (Ritala, 2024). ChatGPT, developed by OpenAI, is based on a large language model that is built using a technique known as reinforcement learning with human feedback. In practice, this means that the language model (GPT-4) is pre-trained using vast amounts of data and information available on the public web and in databases and then combined with human feedback to provide useful and accessible responses. What is revolutionary about ChatGPT is its generation and conversational features, which provide easier and broader access to AI capabilities than ever before. Recent research estimates that GPT models will impact at least some of the tasks of approximately 80% of all workers, with a smaller subset of knowledge-intensive workers affected by the majority of their tasks (Eloundou et al., 2023).

Application of AI in various fields

Artificial intelligence is increasingly having an impact on various areas of life and business, changing traditional processes and opening up new opportunities. Artificial intelligence (AI) has quickly established itself as a transformative force in various industries and fields, including education. The development of AI has led to numerous advances and innovations that have affected many aspects of human life. The application of AI in education highlights the potential for enormous advantages that intelligent systems offer. The impact of AI can be seen in terms of improved learning outcomes, time and cost efficiency, global access to quality education, and other benefits. Personalized learning and intelligent teaching systems can help improve student learning outcomes, especially for underserved populations. The global reach and scalability of AI will allow students from developed and developing countries to benefit from a better learning experience. Automated grading will have enormous benefits for education. Currently, about 40% of teachers' time is spent on grading and related activities. Without the burden of grades, teachers will be able to spend more time with students and provide more learning support. While the applications and benefits of AI in education may present an enticing picture, it is important to be aware of the potential risks of implementing autonomous systems in the education system. Because children are more susceptible to misinformation than adults, the use of AI in education should be properly tested and carefully monitored. Potential issues include data privacy and security, bias and discrimination, and teacher-student relationships. Certain AI applications, such as personalized learning, require personal information about students. For example, knowing that a student has a learning disability or mental health problem will allow the AI to choose the right method and tailor its content accordingly. While students' personal information can be used to great advantage, it can also be sensitive to privacy and security concerns. Anonymizing and encrypting student data will alleviate some of the concerns. However, a comprehensive strategy is needed to address this issue. Another important issue is bias and discrimination. Because AI is trained on public data, it can be affected by biases that exist online. In addition, AI algorithms can also unintentionally learn biases themselves. Because AI algorithms have a high level of entropy, their behavior can be unpredictable. Reducing bias is one of the main challenges in applying AI to education (Kamalov et al., 2023).

In recent years, there has been tremendous progress in the field of artificial intelligence (AI) through the development of deep neural networks, natural language processing, computer vision, and robotics. These techniques are now being actively applied in healthcare, and many healthcare services are currently provided by doctors and administrators, who are expected to be taken over by AI in the coming years. However, there has also been exceptional hype about AI capabilities, with the mistaken idea that AI will completely replace human doctors. These perspectives are inaccurate, and if we take a balanced perspective of the limitations and promises of AI, we can assess which parts of the healthcare system can be integrated with AI to achieve a significant impact. The four main areas where AI would have the greatest impact would be patient management, clinical decision support, patient monitoring, and healthcare interventions. This healthcare system, in which AI plays a key role, could be called an AI-enabled or AI-augmented healthcare system. (Reddy, 2022).

In recent years, artificial intelligence (AI) has become a transformative force in several areas, including digital marketing. Specifically, digital marketing, augmented with AI, has drastically reoriented how

companies create context, manage consumer experiences and expectations, and generate new revenue opportunities. By implementing and integrating AI into digital marketing, companies can analyze and collate vast amounts of data, allowing them to recognize market and consumer patterns and improve decision-making processes. These capabilities have revolutionized the digital marketing industry and have significantly changed the way companies communicate and interact with their customers and the environment. While these capabilities offer significant opportunities for companies, the full potential impact and application of AI in digital marketing have not yet reached maturity. Several factors hinder the full exploitation of these new opportunities. For example, the development of the necessary human capital, coupled with the development of sufficient domain expertise. Furthermore, these expanded capabilities have raised several ethical concerns and legal risks, including the potential to manipulate or influence consumer purchasing decisions, consumer autonomy, and the adequacy of existing consumer privacy rights. Moving forward, companies must strike a delicate balance between exploiting new opportunities and ethically protecting consumers and ensuring their individual decision-making autonomy (Romic, 2024).

Over the past few decades, the global business environment has changed dramatically due to the widespread adoption of digital technologies. Electronic commerce, often referred to as e-commerce, has become a major catalyst in transforming business operations and the way customers interact with goods and services. This change has been driven by advances in information technology, which has increased connectivity, accessibility, and convenience for individuals around the world. E-commerce has become a major catalyst in changing the landscape of business operations and changing the dynamics of how customers interact with various goods and services. This change has been driven by advances in information technology, which has made customers around the world more connected, accessible, and convenient. The evolution of e-commerce can be divided into several notable stages. The emergence of online marketplaces and simple transaction sites marked the beginning of a paradigm shift that has allowed businesses to transcend geographical boundaries and reach a wider audience. In later stages of development, secure payment gateways were introduced, which facilitated smooth and secure financial transactions conducted online. As the digital ecosystem evolved, customization and recommendation systems were developed. These systems use user data to customize the shopping experience, thereby improving customer engagement and loyalty (Ahmad et al., 2023). Marketers can more accurately determine which customers should be targeted and whether they should be included or excluded from a campaign. Customers will be better matched with the products they are most likely to purchase, and irrelevant or expired products will be avoided. Brands can use artificial intelligence to improve the customer experience by providing customized content and offers to each user, as well as excellent customer service. Predictive marketing analytics is one of the methods that companies are using with AI. By analyzing data from past events, AI can reliably and accurately predict what performance will look like in the future, depending on various parameters. Understanding what individuals value most can help them make more meaningful recommendations. But most AI-powered personalization solutions start from the top down and are tailored to the individual, not the entire group. The ability to use AI to predict the success of marketing initiatives and better tailor the user experience is a huge tech trend that will continue for years to come. As conversational search queries and algorithms evolve with AI, search engine marketers and content creators are adapting. When it comes to marketing automation, AI can free up important human marketers' time and quickly create more targeted marketing materials that resonate better with customers. Major social networks have strongly opposed a certain practice of marketers using AI on social media. It allows users to ask customer support bots questions without having to make phone calls or engage in a human conversation. Millions of people around the world use the waning messaging services to connect in person with friends and marketers who want to engage with consumers in a more authentic and intimate way. Brands can connect with individuals in unique and intimate ways as audiences spend time online, especially on social media, thanks to AI. Add-on products like HubSpot software can help manage tasks that automate specific emails through the process. While it's true that the low cost and high efficiency of AI are appealing, there's only so much AI can mimic. Marketers need access to large amounts of data to get started with AI marketing. Many marketing teams lack data science and AI expertise, making it difficult to work with large amounts of data and provide insights. To get programs up and running, companies should partner with third-party organizations that can help collect and analyze data, train AI systems, and enable ongoing monitoring. Process intelligence technology will increasingly give companies accurate and comprehensive insight into their operations in real time, allowing them to monitor and improve. Marketers can use AI technology to identify trends and predict them for the future. Based on these facts, they can decide how to allocate their budget and where to allocate it. Brands can spend less on digital advertising and more time on high-value work. From the planning stage to the conversion

and customer loyalty stages, AI plays a crucial role in the success of any marketing campaign. As a result, companies that fully leverage AI will gain a competitive advantage.

The global spread of artificial intelligence

The largest AI market size is found in North America. With an estimated value of between $87.18bn and $167.3bn in the U.S. and $43.7bn in Canada, the North American AI industry accounts for more than a third (36.84%) of the global AI market share. AI stats reveal that almost a quarter (24.97%) of the global AI market share for 2022 was based in Europe, with Germany's AI market valued at $25.7bn – over 146% less than the U.S. (fig. 1).

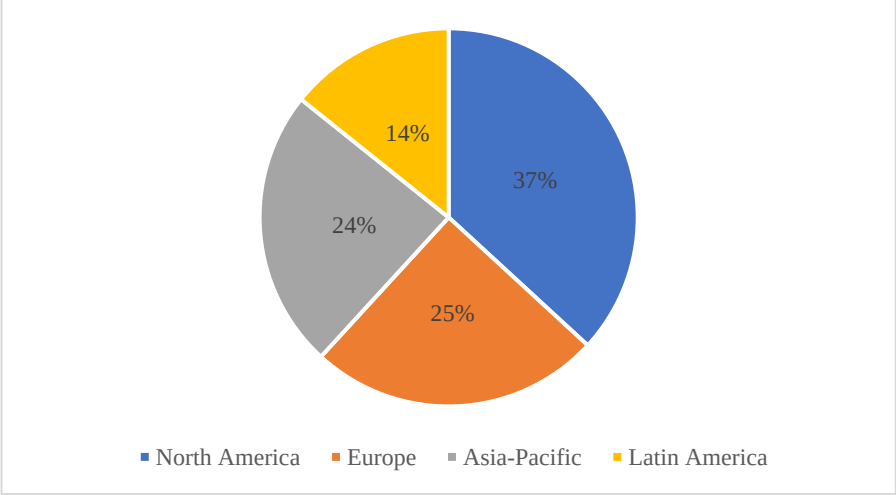


Fig. 1. Global AI market
*Source: AI statistics 2024, https://www.aiprm.com/ai-statistics/

Likewise, the Asia-Pacific region also contributes a significant proportion (23.93%) of the total AI market size. Japan and South Korea, in particular, are important players in the world of AI, valued at $20.2bn and $16.3bn, respectively, as of 2022.

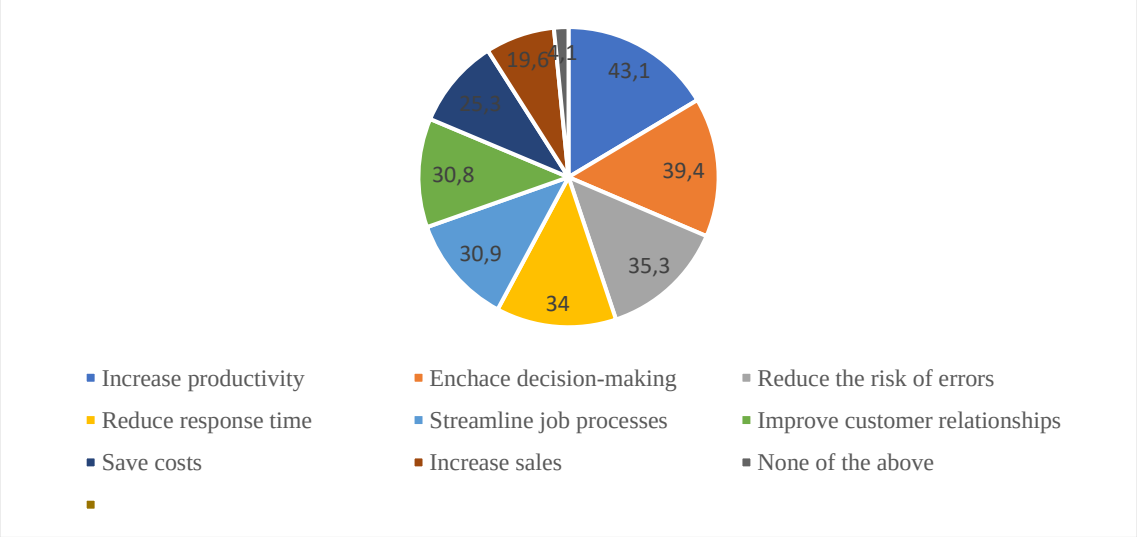


Fig. 2. Potential benefit of AI
*Source: AI statistics 2024, https://www.aiprm.com/ai-statistics/

According to the results of a survey about potential benefits of AI in business, around two in five people (43.1%) believe AI will increase productivity, with slightly less (39.4%) thinking the use of artificial

intelligence will enhance decision-making. More than a third (34%) of those surveyed said AI should reduce response times for customer queries, with around a quarter (25.3%) claiming AI could be used to help save costs.

On the other hand, less than one in 20 respondents (4.1%) believe AI will have no benefits (fig. 2).

The global finance sector is witnessing a major shift with the rapid acceptance of artificial intelligence technology. The rising implementation of artificial intelligence in the finance sector is transforming industry in several ways. Artificial intelligence is being used for algorithmic trading, fraud detection, and credit risk assessment. It enables quicker and more accurate data analysis, leading to better investment decisions along with risk management. AI carries the ability to process large amounts of data and also aids in identifying patterns and trends that human agents might miss. Overall, artificial intelligence enhances operational efficiency, reducing costs and improving customer experience in the finance sector. The deep learning segment accounted for the largest market share in 2024. This dominance is attributable to its complex applications driven by data such as audio, video, and text recognition. The rising technological advancements in the field of deep learning are expected to overcome the challenges associated with the high volumes of data. Furthermore, the rising adoption of the deep learning technology in the medical field is expected to fuel the growth of the segment during the forecast period.

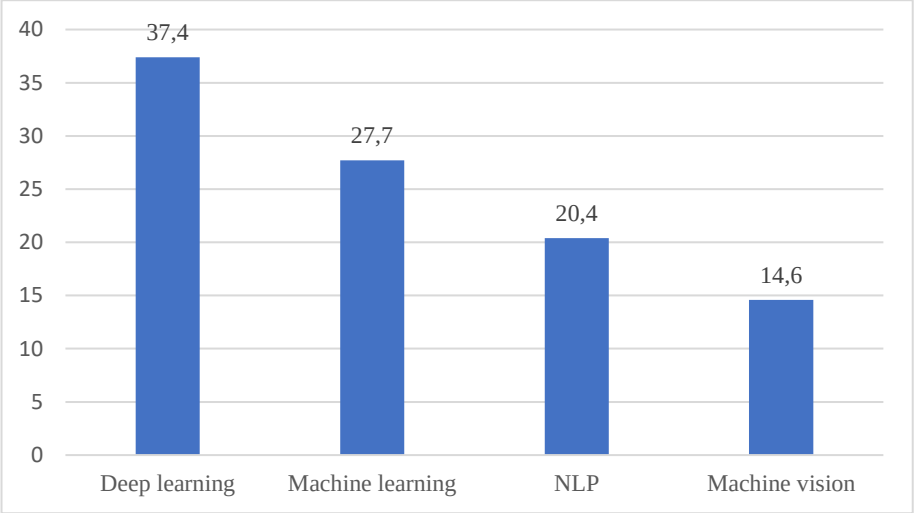


Fig. 3. AI market share by technology (%), 2024
*Source: https://www.precedenceresearch.com/artificial-intelligence-market

The huge share of the machine learning in the total investments in AI technology is fueling its adoption in various applications such as hypothesis generation, clustering, altering, tagging, clustering, filtering, visualization, and navigation promotes the development of the cognitive solutions. The rising deployment of the on-premises hardware and cloud computing platforms for handling and storing huge volumes of data has significantly contributed to the rise of the data analytics platforms. The rising investments by the top tech giants in innovation and research are expected to fuel the growth of the AI market in the upcoming future.

Table 1

Global Artificial Intelligence (AI) Market Revenue By Technology, 2022-2024 (USD Billion)

Technology	**2022**	**2023**	**2024**
Deep Learning	165.98	196.83	233.69
Machine Learning	122.59	145.43	172.72
NLP	91.33	108.31	128.50
Machine Vision	74.22	87.57	103.33

**Source: https://www.precedenceresearch.com/artificial-intelligence-market*

Table 1 shows the growth of global revenue in AI market from 2022 to 2024 from key AI technologies. The services segment held a 39.2% share of the market while being the dominating segment in 2024. The

dominance of the services segment in the market is attributed to the convenience and scalability offered by artificial intelligence (AI) as a service while deploying AI applications. Generally, AI projects are complex, they require multidisciplinary expertise in areas including computer vision, natural language processing, and machine learning. Services are being utilized widely to bring together a diverse set of skills and resources to tackle such complex projects effectively.

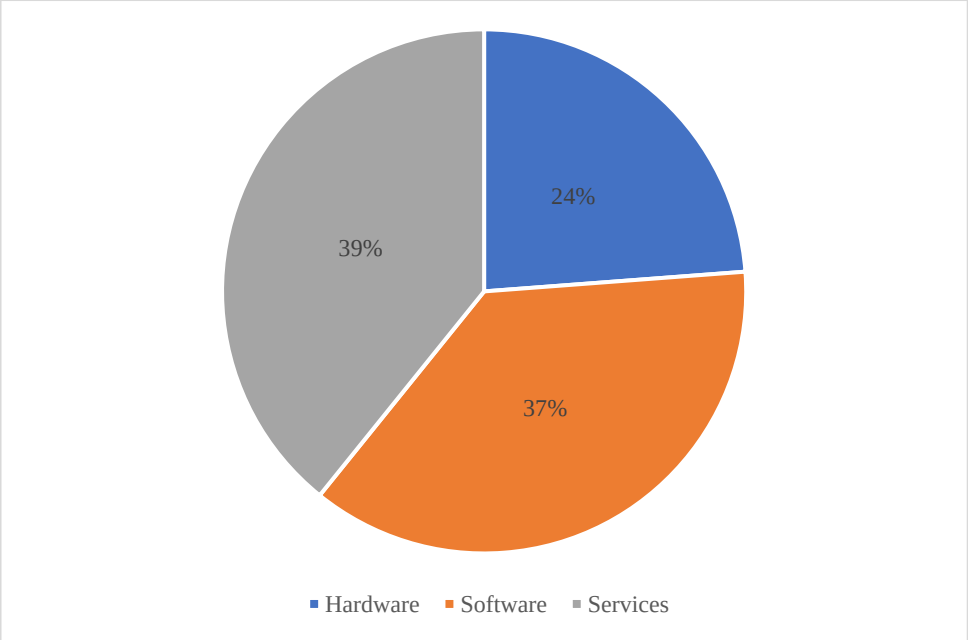


Fig. 4. AI market share by solution, 2024
*Source: https://www.precedenceresearch.com/artificial-intelligence-market

In addition, AI service providers often offer tailored or customized solutions with expertise while implementing AI technologies. This makes it easier for businesses to adopt artificial intelligence technology without any extensive expertise.

Table 2

Global Artificial Intelligence (AI) Market Revenue By Solution, 2022-2024 (USD Billion)

Solution	2022	2023	2024
Hardware	109.20	129.66	154.22
Software	168.85	200.24	237.86
Services	176.08	208.23	246.14

**Source: https://www.precedenceresearch.com/artificial-intelligence-market*

It can be said that the data provided confirms the wide application and spread of artificial intelligence on a global scale. The data, presented with figures and tables, highlights the expansive growth and integration of artificial intelligence technologies across various industries and regions. The consistent rise in market revenue for services, software, and hardware reflects increasing adoption and investment in AI-powered solutions. This analysis confirms that artificial intelligence is no longer a niche tool but a fundamental element in global digital transformation.

Conclusions

After analyzing the scientific literature, it can be stated that artificial intelligence refers to the ability of computer systems to perform tasks that typically require human intelligence, such as learning, decision-making, or language recognition. AI is becoming important in today's society's constant growth. It is reshaping social and economic processes and influencing nearly all areas of life. These technologies allow the processing of vast amounts of data and optimize operational processes. AI also promotes personalized learning, automates

repetitive tasks, and contributes to the implementation of innovations. However, as AI continues to develop, it is essential to consider ethical, data protection, and transparency issues.

In the business sector, AI is widely applied from finance, marketing, and logistics to healthcare, education, and e-commerce. For businesses, AI provides opportunities to increase productivity, reduce costs, improve customer service, and make data-driven decisions. For example, around 43,1% of respondents believe that AI will boost productivity, while 39,4% think it will enhance decision-making. In 2024, the largest share of the global AI market belonged to deep learning, valued at USD 233,69 billion, while AI technologies and their importance for business competitiveness. Regionally, North America accounted for the largest share of the AI market at 36,84%, followed by Europe and Asia-Pacific. The consistent annual growth in both hardware and software solutions also points to a robust and expanding AI ecosystem. As AI integration expands, companies that effectively harness these technologies gain a significant competitive advantage in the market. In summary, the integration of artificial intelligence technologies is not only transforming business operations but also establishing a foundation for long-term strategic advantages. Companies that invest in and effectively utilize AI are more likely to stay competitive in a digitally driven global economy.

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RESEARCH ON LOGISTICS ACTIVITIES AT UAB "VELAFOKSA"

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Keywords: logistics, logistics management, small business, logistics activities optimization.

Abstract
The topic of this bachelor's thesis is "Research on Logistics Activities at UAB "Velafoksa"". In today's business environment, logistics plays a crucial role in ensuring efficient goods movement, customer satisfaction, and the company's competitive advantage. The object of the research is UAB "Velafoksa" – a small business enterprise whose logistics processes are analysed to identify areas for improvement and propose solutions. The thesis consists of three parts. The first part examines the theoretical aspects of logistics activities, the importance of logistics in the supply chain, logistics processes, and their optimization methods. The second part presents a case study of UAB "Velafoksa" based on observation, document analysis, and expert interviews. The third part outlines suggestions for improving logistics processes, aimed at reducing costs and enhancing operational efficiency and customer service.
The aim of the thesis is to examine the logistics activities of UAB "Velafoksa" and provide recommendations for improvement.
The following objectives were set to achieve this aim: to analyse the theoretical aspects of logistics activities, to conduct an empirical study of the company's logistics operations, and to present improvement proposals.

Introduction

Logistics primarily focuses on the movement of goods, but its impact is much broader. Business success in logistics means greater efficiency, lower costs, faster production rates, better inventory control, smarter use of warehouse space, increased customer and supplier satisfaction, and an improved customer experience. Each factors can significantly affect a company's overall success (Kherbach and Mocan, 2016). The main goal of logistics activity management is to effectively support the smooth flow of materials within the supply chain in order to achieve the desired level of customer satisfaction (Croucher, Baker and Rushton, 2014). The strategic importance of logistics processes is equally vital in both small businesses and large corporations, as organizations that carry out efficient logistics operations are more productive and competitive, capable of reducing operating costs and offering high-quality services to their customers.

In today's business environment, the success of logistics operations is influenced by efficient goods movement and supply chain management. To meet growing consumer expectations, maintain product quality, and improve delivery times, logistics centers are implementing various measures aimed at improving their processes. The application of advanced technologies, automation, and regular analysis of efficiency indicators also enables logistics centers to optimize operations, reduce costs, and avoid errors. Meanwhile, the increasing focus on sustainability and social responsibility encourages companies to adopt sustainable principles. Ongoing research on logistics processes helps optimize daily operations in logistics centers, paving the way for greater customer satisfaction and successful business growth.

Data and results

Theoretical Foundations of Logistics Activitie. The concept of logistics has evolved significantly, now encompassing the planning, implementation, and control of the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption to meet customer requirements (Wisner et al., 2019).

Logistics is an essential component of supply chain management, responsible for the timely delivery of products in the correct quantity and condition, at the right time and location. Effective logistics management directly influences customer satisfaction, operational cost-efficiency, and competitive advantage (Pfohl, 2022; Liu, 2022). According to Harrison et al. (2019), logistics ensures that materials and finished goods are efficiently transferred through the supply chain, enhancing productivity and responsiveness.

The supply chain is a network of interconnected businesses involved in the provision of product and service packages required by end customers. Logistics acts as the integrative function within this network, enabling collaboration and flow coordination (Sweeney and Waters, 2021; Coyle et al., 2021). As highlighted in the thesis, digitalization, automation, and sustainability have become key trends in modern supply chain logistics (Strandhagen et al., 2017; Malagón-Suárez and Orjuela-Castro, 2023).

Logistics management includes strategic, tactical, and operational decision-making. Strategic decisions pertain to the structure of the logistics network, while operational decisions involve transportation, inventory, warehousing, and order fulfilment (Tien et al., 2019). Efficient logistics management helps reduce lead times, optimize inventory levels, and ensure service quality (Radhakrishnan, 2018; Slam et al., 2023).

Logistics processes presents as a series of interconnected activities including procurement, inbound and outbound logistics, warehousing, order processing, and distribution. These processes can be optimized using lean logistics, just-in-time (JIT), inventory control systems, and digital warehouse management tools (Chen, 2023; Teixeira et al., 2018). Moreover, reverse logistics and green supply chain management are increasingly emphasized for sustainability purposes (Antonyova et al., 2016; Bouhtati et al., 2025).

Small enterprises face unique challenges in logistics due to limited financial and human resources, lack of automation, and informal procedures. Nonetheless, flexibility and adaptability often serve as their advantages. According to Dimitrakieva et al. (2023), small firms should implement scalable and low-cost logistics solutions to maintain competitiveness and operational resilience. The thesis emphasizes that logistics practices in SMEs are often manual and based on tacit knowledge, which introduces inefficiencies and risks, especially under pressure.

The literature reviewed in the thesis includes not only classical logistics theory but also contemporary studies on digital transformation, inventory management, and performance metrics. It provides a solid foundation for understanding the practical analysis conducted at UAB "Velafoksa" and the formulation of feasible improvement recommendations.

The research on UAB "Velafoksa" logistics activities was conducted using qualitative methods: direct observation during the internship (from February 17 to March 24, 2025), document analysis, and a semi-structured expert interview. These methods were chosen to gain in-depth understanding of the company's internal logistics processes and evaluate their effectiveness in real conditions.

Company Logistics Profile. UAB "Velafoksa" is a small business with a limited number of employees (4, including the owner), which requires each team member to multitask. The company operates in auto parts sales, workshop supply, and property rental. Its logistics system includes ordering goods from multiple suppliers (mostly Lithuanian, but also from Latvia, Germany, and Finland), warehousing, inventory management, and delivery to clients.

Procurement and Supply Chain. The company works with over 10 suppliers. Orders are placed regularly based on inventory levels, sales trends, and customer needs. Supplier selection is based on price, delivery time, flexibility, product assortment, and reliability. Although long-term relationships with some suppliers support fast and predictable deliveries, occasional delays, limited assortment, and seasonal shortages create disruption risks. Orders are made in larger volumes before seasonal demand spikes (e.g., windshield fluids, tires).

Warehouse and Inventory Management. UAB "Velafoksa" operates a small warehouse adjacent to its store. Inventory is managed manually using Excel spreadsheets. Goods are categorized by type and frequency of use. High-turnover products are stored closer to dispatch zones, while slower-moving or seasonal items are kept deeper in the warehouse. There is no barcode or warehouse management system (WMS), which results in longer item search times and increased risk of misplacement or duplication. Product labelling is inconsistent, often done by hand, and tracking depends on the memory and experience of employees.

Order Fulfillment. The company processes three types of orders: immediate in-store sales, regular deliveries to long-term partners (car repair services), and urgent or custom orders. When goods are in stock, orders are usually prepared and delivered the same or next business day. If products need to be ordered from suppliers, the delivery timeline extends to 3–7 days. All orders are processed manually, and no digital system monitors fulfillment time or accuracy. Based on estimates, 90–95% of stock-based orders are fulfilled within 24 hours, while supplier-based orders may face delays. Mistakes occur due to human error—such as delivering incorrect items or mislabeling—which is partly due to the lack of standardized procedures.

Goods Receipt and Quality Control. Upon delivery from suppliers, goods are checked against invoices and inspected for damage. Quality control is especially important for fragile components like electronic parts or fluids. If discrepancies or damages are found, items are separated and reported. However, there is no automated validation system or digital registration—everything is logged manually. Guarantees and certificates are verified manually as well.

Inventory Accuracy and Stocktaking. The company performs full annual inventory counts and partial cycle counts throughout the year. Inventory data is reconciled manually with Excel records. Discrepancies are common due to late or inaccurate data entry, leading to overstock or shortages. Damaged items are removed from circulation and tracked separately. Inventory is also impacted by unrecorded movement or verbal-only communication among staff.

Delivery Process. Because UAB "Velafoksa" lacks its own transportation fleet, it relies entirely on courier services for external deliveries. This limits control over delivery times and customer satisfaction. Deliveries within the city are typically completed in 1–2 working days. However, delivery quality and reliability depend on third-party providers.

Expert Interview Findings The director of UAB "Velafoksa" provided key insights into process challenges and informal practices:

- Inventory is managed "by intuition" based on experience, with Excel formulas often breaking or being outdated.
- Predefined emergency protocols for high-load or failure scenarios are lacking.
- Manual labeling and data tracking make the system prone to mistakes.
- Employees have internal knowledge but rely heavily on memory and verbal coordination.

The observation, document analysis, and expert interview show that logistics at UAB "Velafoksa" functions adequately under low-to-moderate load. However, the system is vulnerable during high demand or operational stress. While current practices rely on staff experience and informal coordination, they are insufficient for scaling or modern competitive environments. The study half confirmed the thesis hypothesis: logistics optimization would reduce costs, improve speed and accuracy, and strengthen customer satisfaction.

Suggestions and recommendations

The study of logistics activities at UAB "Velafoksa" revealed several core challenges hindering the company's operational efficiency. These include the lack of formalized procedures, a high reliance on manual processes, and an unstructured warehousing system. Based on these findings, three main improvement directions are proposed: process formalization, digitalization, and optimization of warehouse organization and labeling.

Process Formalization. Currently, most logistics tasks are performed based on staff experience or verbal instructions, which works under stable conditions but creates risks during periods of change or increased workload. It is recommended that the company develop clear written procedures for core logistics functions—such as goods receiving, order picking, labeling, and inventory checks. A visual logistics flowchart and responsibility matrix would also help ensure operational continuity and reduce reliance on individual knowledge.

Digitalization and Automation. Since the company already uses Excel for stock tracking, it is advised to adopt basic warehouse management software (WMS) tailored to small businesses. Solutions such as Sortly, inFlow, or Zoho Inventory can offer real-time inventory tracking, automatic order alerts, barcode generation, and product history. These tools reduce errors, increase order speed, and improve visibility. Additionally, integrating cloud-based platforms (e.g., Google Workspace or Microsoft 365) would streamline document sharing and ensure updated data across all users. Implementing barcode scanners or mobile apps would further automate receiving and dispatching processes.

Warehouse Structure and Labeling Improvements. Currently, goods are stored without a unified labeling system, which leads to confusion and inefficiencies. It is recommended to implement shelf numbering, standardized labeling formats, and create a warehouse layout map. This would significantly reduce item search time and improve orientation for both new and experienced staff. Labels should include product name, code, and batch number. Clear zoning based on product type or demand frequency should also be applied.

Conclusions

The theoretical analysis of logistics activities highlighted that logistics encompasses the entire flow management of goods, services, and information from suppliers to end users. When well-organized, logistics can ensure uninterrupted supply chains, enhance cost-efficiency, strengthen competitiveness, and increase customer satisfaction. Logistics is no longer seen merely as a support function but as a strategic component of business operations, especially for small and medium-sized enterprises.

The empirical research conducted at UAB "Velafoksa" revealed several operational weaknesses in the company's logistics system. Manual processes dominate key logistics activities such as order handling, goods reception, and inventory control. There are no formalized procedures or documented instructions, and the current system for warehousing and product labeling is poorly structured. Although many of the internal routines are long-standing, they lack consistency and transparency, relying heavily on employee experience and verbal communication. This increases the likelihood of human error and reduces process resilience under pressure or during employee turnover.

The central hypothesis of the thesis—that the application of logistics optimization methods would reduce operational costs, shorten delivery times, and improve customer satisfaction—was partially confirmed. While the study primarily employed qualitative methods and did not measure the quantitative effects of

improvements, the analysis identified clear inefficiencies and proposed solutions that are logically aligned with performance enhancement goals.

As a result, several practical recommendations were formulated. These include formalizing internal processes, expanding digitalization, and improving the warehouse organization and labeling system. The thesis recommends implementing a basic warehouse management system, introducing barcode labeling, standardizing key logistics steps, and creating a product location map within the warehouse. These solutions were selected based on the company's size, available resources, and current technological capacity. Their gradual implementation would allow for process improvement without interrupting day-to-day operations. Ultimately, these changes could lead to more reliable logistics performance, improved service quality, and greater customer satisfaction.

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ANALYSIS OF E-COMMERCE ACTIVITIES OF UAB "MAKVEŽA"

Auksė Skubiejūtė

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Keywords: e-commerce, e-shop, trading models, e-commerce analysis, online platforms.

Abstract

The article formulates the problem of e-commerce, analyses and systematizes the scientific works of various Lithuanian and foreign authors on the main theoretical aspects of e-commerce: models and forms of trade, advantages and disadvantages of e-commerce, security aspects.

A quantitative study and a questionnaire survey were carried out in UAB "Makveža". The was confirmed that if the e-commerce activities of UAB "Makveza" are influenced by customer behavior and competition, the analysis of these aspects will help to find ways to improve the company's activities.

Introduction

Relevance of the topic: In the 21st century, e-commerce and e-shops are extremely popular worldwide. The majority of the world's consumers tend to order both food and household goods electronically, with consumers' preferences being driven by the convenience and speed of payment, as well as the rapid delivery of goods to their homes. E-commerce offers the possibility to order goods at any time of the day and from anywhere in the world. All a consumer needs is an internet connection.

Researchability of the topic: The topic of e-commerce and e-shops is widespread throughout the world, as most of today's commerce is e-commerce. I. Vaisiūnienė (2020), V. Simakov (2020), have written about e-commerce, its theoretical aspects and adaptation to the market.

The problem of the article: The e-commerce activities of UAB "Makveža" have not been investigated. It has not been analyzed how the company's e-commerce is influenced by customer behavior, the competitive environment and the trading models used.

The object of the article: The analysis of e-commerce activities of UAB "Makveža".

The aim of the article: To analyze the e-commerce activity of UAB "Makveža".

Objectives: 1. Analyze the theoretical aspects of e-commerce. 2. To conduct a study of the e-commerce activities of UAB "Makveža". 3. To identify opportunities for improvement of e-commerce activities of UAB "Makveža".

Methods of research: analysis of scientific literature, quantitative research method.

The hypothesis of the paper: if UAB "Makveža" e-commerce activity is influenced by customer behavior and competition, the analysis of these aspects will help to find ways to improve the company's activity.

Trends and forms of e-commerce development

E-commerce is an extremely fast-growing industry that has managed to attract many businesses and consumers since its inception (Jain, Satyendra, Malviya, 2021). It is the purchase of physical goods or services online. E-commerce is the trading of goods and services using telecommunication tools. E-commerce can be viewed in several senses. In a narrow sense, e-commerce includes financial transactions conducted over the Internet (Jain, Satyendra, Malviya, 2021). In the broad sense, e-commerce covers any business relationship: between a business and a business, or between a business and a consumer.

According to Campisi, Russo et al (2023), in 2020, the world faced a sudden surge in e-commerce in the face of the COVID-19 pandemic. While it was initially thought that the pandemic would cause serious economic losses and force most businesses to close down, the situation has reversed, with e-commerce not only surviving, but also achieving record sales (Campisi, Russo et al. 2023). Statistics show that in 2020, e-commerce volumes grew by as much as 87% compared to 2019 (Vaisiūnienė, 2020), reflecting the importance of e-commerce in the pandemic. With all physical stores closed and human physical contact reduced to a minimum, online platforms have become the main way to shop. This shows how the world and the trade sector have been able to adapt to the conditions caused by the pandemic. It also demonstrates the advantage of digital business, which is important and resilient to economic volatility.

One tool that is essential for the development of e-commerce is a fast and high-quality internet connection. The Internet is one of the main tools that allow consumers to purchase goods not only from local stores but also from anywhere in the world (Jain, Satyendra, Malviya, 2021).

The development of e-commerce dates to the 1970s, when the internet was invented. Only large corporations had the luxury of being able to use and access the Internet at that time, as it was during that period

that e-commerce was limited to inter-corporate transactions carried out through private communication networks, which required the Internet (Ferreira dos Santos, Sabino et al. 2017).

The evolution of e-commerce can be divided into four main phases (Ferreira dos Santos, Sabino et al. 2017):

1. Phase one - dissemination of information.
2. The second phase is order taking and logistics integration.
3. The third phase is the digitization of products and services.
4. The fourth phase is interactive communication between sellers and consumers.

E-commerce is a rapidly developing and growing industry that has become an integral part of the global economy over the past few decades (Tarakanova, 2023). Its development is driven by technological advances and changing consumer habits. The e-commerce sector has particularly grown during the 2020 pandemic and has become the main way of shopping. Globalization and the internet have contributed to the development of international trade, which has enabled consumers to compare prices and choose from the largest ranges of products.

E-commerce business models

E-commerce can be classified according to the relationship between economic operators. According to V. Babenko, Z. Kulczyk et al (2019) and S. Wenbin, (2022), the main models of e-commerce according to the relationship between the economic actors are:

1. B2B, Business-to-Business
2. B2C, Business-to-Consumer
3. B2G, Business-to-Government
4. C2C, Consumer-to-Consumer
5. C2G, Consumer-to-Government
6. M-commerce, Mobile Commerce

According to O. Chukurna, T. Tardashina et al (2024), the following e-commerce models are in addition to the above-mentioned ones in order of importance:

1. Electronic marketplace
2. S-Commerce
3. E-Trade

Dropshipping also contributes to these e-commerce business forms, according to K. Mostarac, Z. Kavran and others (2020).

The variety of business models and forms prevalent in e-commerce allows businesses to adapt to a changing market and evolving consumer needs. Traditional models such as (B2B, B2C, C2C, etc.) are still the mainstays of e-commerce, but the rapid development of technology is allowing new business models to flourish, reflecting modern market trends.

In summary, the main trading models in the commerce sector, whether e-commerce or physical commerce, are B2B, B2C, B2G, C2C, C2G. However, the development of e-commerce has brought new models and forms of trade into the commerce sector.

The advantages and disadvantages of e-commerce

The emergence of e-commerce has fundamentally changed the business models that existed before, providing new opportunities for businesses and consumers, but at the same time posing certain challenges. However, a targeted analysis of the e-commerce market and its operating principles can identify some of the main advantages and disadvantages of e-commerce.

Table 2

Advantages and disadvantages of retailing for the consumer. Based on (Taher, 2021, Tamer, 2021 and Demiroglu, 2021)

Aspect	Advantage, Disadvantage	User attitude
Convenience	Advantage	Ability to buy anywhere, anytime
Increased range of products	Advantage	Increased range of products compared to physical stores
Price comparison	Advantage	Easy to compare prices in different stores

24/7 availability	Advantage	Purchase at any time of the day
Possibility of inspecting the goods	Disadvantage	Not being able to inspect and test the goods before purchase
Delivery	Disadvantage	Long delivery times in some cases, additional costs
Security	Disadvantage	Risk of data theft, fraud

Table 2 shows the advantages and disadvantages of e-commerce for consumers and businesses. As Taher (2021) argues, convenience is one of the most significant advantages of e-commerce for consumers. E-commerce enables consumers to purchase goods or services at any time of the day or night, regardless of the location or time zone of the customer. This accessibility of e-commerce allows consumers to save time, as consumers no longer must visit physical stores and queue. Also, e-commerce platforms often offer a wider range of products than the physical branch of the same store, as e-shops can order products that are in stock. Also, e-shops are open 24 hours a day, which is useful for people who do not have the opportunity to visit physical stores.

Table 3

Advantages and disadvantages of trade for business. Compiled by the author based on (Taher, 2021, Tamer, 2021and Demiroglu, 2021)

Aspect	**Advantage, Disadvantage**	**Business approach**
Security	Disadvantage	Requires additional investment in data protection
Competition	Disadvantage	High competition with other vendors
Technological problems	Disadvantage	Requires technical solutions, infrastructure
Customer loyalty	Disadvantage	Increased challenge to maintain long-term customer relationships
Legal problems	Disadvantage	Legal and tax regulatory problems
Minimal operating costs	Advantage	Lower costs than physical stores
Market expansion	Advantage	Opportunity to expand into international markets
Targeted advertising	Advantage	Possibility of targeted advertising through data analysis

E-commerce has highly relevant advantages for consumers, but it is not without its disadvantages. According to Taher, (2021) one of the biggest disadvantages of e-commerce is the privacy and security risks (see Table 3). Fraud, leaks of personal data and identity theft occur both in reality and online.

Security aspects of e-commerce

The security of e-commerce is a key aspect that must be taken care of by every company involved in online commerce (Nawi, Mohamed, Ramdzan Raaban, 2023). Well-designed online security systems help businesses protect themselves against cyber-attacks that can leak customers' personal data [Rodrigues, Policarpo et al., (2022). According to M. B. Ahmed (2019), e-commerce security can be analyzed from four main aspects: customer security, server security, network security and database security.

Server security is important to ensure proper database performance and data protection. It is important to ensure proper user authentication, data encryption and robust access control. According to A. Mutemi, F. Bacao, (2024), servers that are not properly secured may be subject to cyber-attacks, which can result in the theft of confidential company information and the alteration of system data.

Network threats are mainly caused by data interception and unauthorized access to information. According to M.B. Ahmed (2019), one of the main threats is packet sniffers, where hackers monitor network traffic and extract important company and customer information.

E-commerce systems use large databases that store product information, consumer data, payment information, addresses and login details. All company data must be protected with appropriate encryption methods to prevent easy misappropriation and misuse during cyber-attacks (Ahmed 2019).

Businesses engaged in e-commerce must comply with laws that make it mandatory to ensure consumer safety. These laws not only protect against possible leaks of consumers' personal data, but also against fraud. The following laws apply in the Republic of Lithuania:

1. Law on Consumer Rights Protection of the Republic of Lithuania.
2. Law on Prohibition of Unfair Commercial Practices for Consumers of the Republic of Lithuania.
3. Civil Code of the Republic of Lithuania.

In summary, e-commerce security is a pressing issue in this sector. Companies involved in e-commerce must take care of and ensure the security of the following aspects: customer security, server security, network security, database security. In this form of commerce, both consumers and businesses are most at risk from individuals who use information technology to create programs and viruses. With the help of viruses, dangerous individuals can misappropriate users' private data, steal identities, and change logins to private accounts.

UAB "Makveža" e-commerce performance study

Makveža is a private limited liability company which operates the "Moki-veži" trading network. Makveža UAB was established in 2000, the company's manager is Gintautas Butkevičius. The branch of UAB "Makveža" is located in Vilnius, Vakarinė str. 105. The company employs 744 people, with 29 qualified specialists in the purchasing and sales department. In 2023, UAB "Makveža" had sales revenues of more than EUR 127 million and a net profit of EUR 1 962 639. The average salary of an employee in this company is EUR 1 750.98 before taxes. Makveža UAB is engaged in wholesale and retail trade in construction, decoration, household and garden goods. The company's retail network consists of 24 shops spread over more than 20 cities in Lithuania. Makveža UAB has 13 valid trademarks, such as "Meistro kalnė", "Interjero vėjai", "Sodo gama", etc. These trademarks are registered in the database of the State Patent Bureau of the Republic of Lithuania.

Study methodology

E-commerce is one of the most popular and fastest-growing trading methods worldwide. The aim of this study is to investigate how e-commerce in UAB "Makveža" influences customer behavior, how the competitive environment affects the company's performance and what kind of trading models prevail in the company.

Objective of the study. To assess the e-commerce activities of UAB "Makveža".

Research method. The research was carried out using a quantitative method, a questionnaire survey.

Place and time of the research. The research was carried out in the commercial department of UAB "Makveža". The survey was carried out in March 2025.

Type of questionnaire. Anonymous questionnaire.

Structure of the questionnaire. The questionnaire consists of 17 closed questions. Some of the questions are based on the Likert scale. These questions give respondents the opportunity to rate the items presented.

Quantitative research process. The study was carried out using a quantitative research approach.

Sample. The sample size of the study was determined using the Paniotto formula [Kardelis, 2016].

$n= 1/(\Delta 2 +1/N)$ $n= 1/((0,1)2+1/70) = 1/(0,01+0,0142857)$ $n= 41,2$

n is the sample size.

Δ is the sampling error rate (10%)

N - general population size.

The questionnaire survey was submitted to the Personnel Department of UAB "Makveža". The validated questionnaire was sent twice to the employees by the HR department. The sample size of the survey, with a margin of error of 10 %, is 41 respondents. A total of 32 questionnaires were completed during the survey.

The quantitative research sought to find out how employees feel about the company's e-commerce activities.

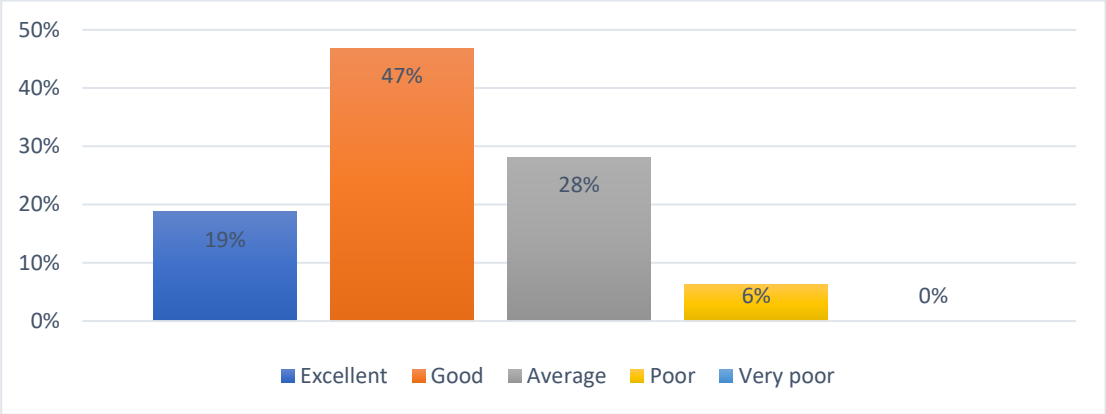


Fig. 8. Organization of online trading of UAB "Makveža".

Most of the company's employees have a positive attitude towards e-commerce, which suggests that Makveža UAB is successful in its e-commerce activities, but that there are areas for improvement if it is to achieve greater customer satisfaction.

The results obtained confirm that e-commerce in the market is characterized by flexibility and convenience. Well-organized and well-designed e-shops are able to attract customers to purchase goods online.

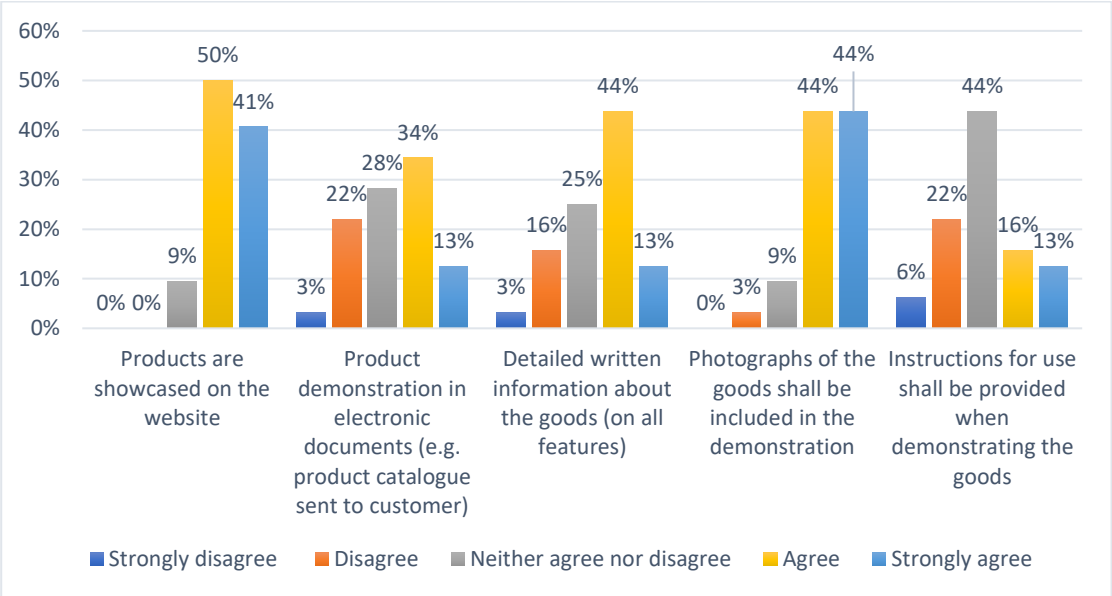


Fig. 10. Demonstration of UAB "Makveža" products.

Consumers are more appreciative and positive about the company's display of products, with quality and detailed product information and pictures of the products. In an e-shop, products should be clearly described and visually presented, which makes it easier for customers to decide on whether to purchase a product.

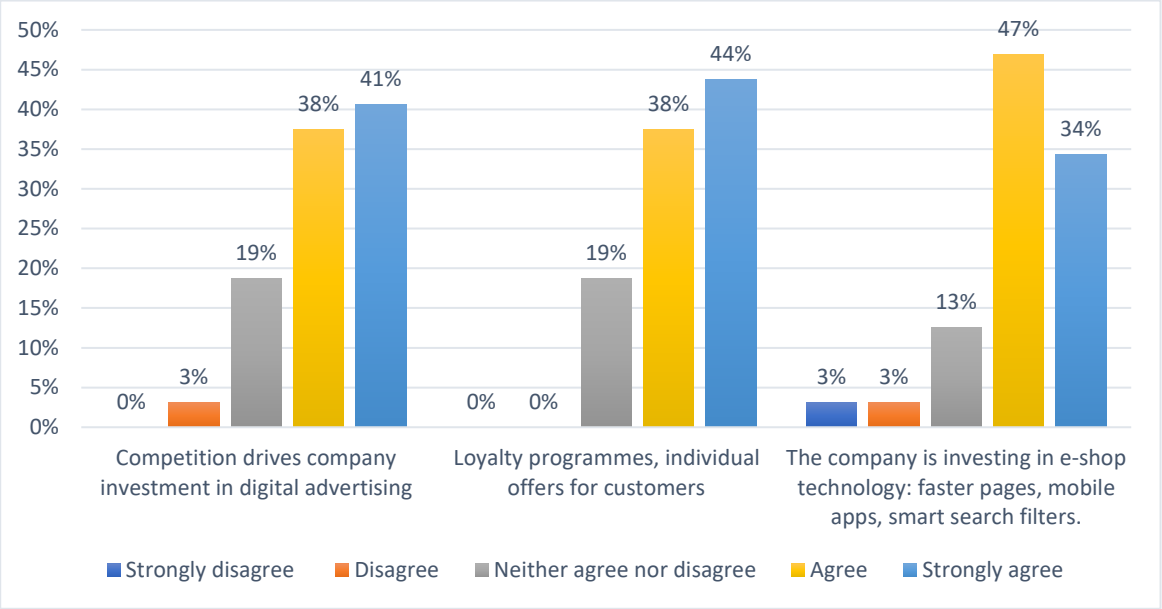


Fig. 12. Impact of competition on UAB "Makveža" e-commerce.

The data presented in the table shows that digital advertising helps companies to address the challenges of competition. Makveža takes its customers seriously and tries to retain them by creating exclusive loyalty programs for regular customers. Makveza invests in a wide range of measures to gain an edge and stay ahead of the competition.

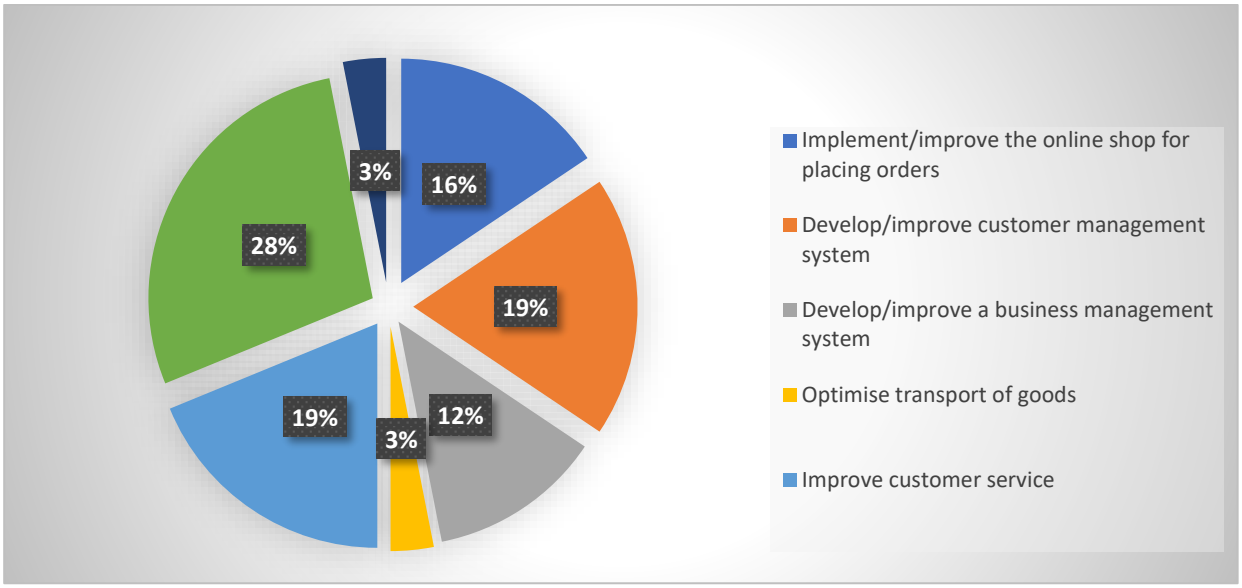


Fig. 20. Areas for improvement at UAB "Makveža".

The figures show that the majority of employees perceived a lack of advertising by the company compared to its competitors. Employees perceive gaps in the company's customer management system, which create additional problems in providing quality customer service. Some employees note that the online shop lacks perhaps some functionality that would facilitate and speed up the placing of orders. From the point of view of the employees, UAB "Makveža" should pay more attention to all management systems, customer service and the improvement of the online shop. According to the answers given by the respondents, the company's transport/logistics process is currently efficient and needs no improvement.

Opportunities for improving e-commerce at UAB "Makveža"

The analysis of the study conducted to assess the e-commerce activities of UAB "Makveža" has confirmed the hypothesis that if UAB "Makveža" e-commerce activities are influenced by customer behavior and

competition, the analysis of these aspects will help to find ways to improve the company's activities. The study found that the company should focus on the implementation of advanced e-commerce technologies, advertising, internal company communication, competitor and market monitoring. In view of the above, the following directions for improvement of UAB "Makveža" e-commerce were identified:

1. **Ensure continuous competitor monitoring and market analysis.** The results of the employee survey show that the company lacks a focus on competitor analysis. As many as 44% of employees chose a neutral answer when evaluating whether Makveza's e-shop is better than its competitors', while 22% of employees directly disagreed that the company's e-shop is better than its competitors. This shows that some staff do not see a clear advantage over competitors. There is a lack of encouragement for staff to take an interest in competitors' actions and market developments. To overcome these weaknesses, it is recommended to ensure continuous monitoring of competitors and a detailed market analysis. The company should designate responsible people to monitor competitors' actions: regular monitoring of their pricing, product mix, promotions and customer service decisions. The same appointees could analyze competitors' offers to consumers. These internal changes would enable the company to adjust its marketing strategies and improve its offers. It would also be beneficial to constantly monitor general market trends (e.g. changes in consumer behavior, technological innovations) in order to take strategic decisions in the light of the evolving market situation.
2. **Deploy advanced e-commerce technologies.** The company's e-commerce system has some technical shortcomings that reduce operational efficiency and customer experience. A survey of respondents revealed that 16% of employees believe that the efficiency of placing orders in e-commerce should be improved. The company's current system lacks solutions that facilitate order processing, product search, and adaptation of e-commerce to smart devices. The company could invest in the implementation of advanced e-commerce technologies and the update of existing systems. It would be worth updating the e-commerce platform or integrating additional functions that would improve the user experience. For example, implementing faster checkout, improving search and product filtering tools.
3. **More intensive advertising and various advertising tools.** The advertising strategy of UAB "Makveža" is not intensive enough, especially compared to its competitors, so the company may lose some of the attention of potential customers. The study showed that most employees miss the company's more active communication with consumers: the largest part of the respondents, 28 percent. indicated the need to increase the dissemination of information about the company and its products on social networks. The company could carry out more intensive and diverse advertising, focusing on digital channels. The company's advertising on social networks should be strengthened: create a communication strategy on Facebook, Instagram and other platforms visited by target customers of UAB "Makveža". More interesting posts could be placed on social networks, telling about the products offered by the company, their benefits, and sharing customer feedback.

Conclusions

After analyzing the scientific literature, it can be stated that e-commerce has rapidly improved and developed over the past decades. Such a rapid integration of e-commerce into the retail sector has set new trends and requirements in the market. The main business models for both e-commerce and physical retail have remained the same, the main ones being: B2B, B2C and B2G. Although the main trade models have remained the same, e-commerce has brought new models to the retail sector, such as mobile commerce, social commerce, dropshipping. The development of e-commerce has been determined by rapid technological progress and globalization. E-commerce, as a form of trade, provides a number of advantages for both consumers and businesses. For consumers, convenience and the ability to compare prices are important. Meanwhile, businesses use less costs for an e-store than for a physical store, and an e-store also provides all the opportunities to reach the international market. However, despite all the advantages provided, e-commerce also poses problems, such as cybersecurity and loyalty maintenance.

The quantitative research method chosen for the study was a questionnaire survey. The study found that 53 percent of women and 44 percent of men participated in the survey. Of all respondents who participated in the survey, 25 percent of respondents fell into the 18-25 age group, 34 percent were in the 26-35 age group, 19 percent were in the 36-45 age group, 13 percent are in the 46-55 age group and 9 percent of respondents who participated in the survey are in the 56 and over age group.

The study found that employees of UAB "Makveža" positively assess aspects related to the organization of the company's e-commerce. It was found that the greatest influence on visiting the company's e-shop is convenience, promotions and discounts, and the ability to compare prices. Employees most positively assess the presentation of goods in the e-shop by presenting them in pictures and believe that it is important to provide a correct and informative description of the goods. To combat competition, the company chooses to invest in technological advantages, advertising, and creates loyalty programs. It was found that employees of the company notice that the company lacks information sharing in various social networks. There are also noticeable gaps in the company's management systems.

Improving e-commerce activities will provide the company with the opportunity to more easily implement its goals and achieve the desired results. In order to improve e-commerce, the company should pay the most attention to e-commerce technologies, advertising, competitor and market analysis. It is important to make appropriate advertising decisions, UAB "Makveža" has gathered a fairly large audience in social networks to date. networks, all of this should be used creatively and frequently.

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TEAM EDUCATION AND ORGANIZATION OF COOPERATION IN UAB „STATYBŲ VIZIJA”

Aušra Kiršienė
Assoc. Prof. Dr. Jurgita Martinkienė
Keywords: team, team development, team cooperation.

Abstract
The article formulates the problem and in the first part an analysis of scientific literature is performed, which reviews the theoretical aspects of team education and cooperation. The second part presents the company's activities, research methodology and research results and their generalization. The study found that team education promotes more effective task performance, because the skills acquired during training allow for faster problem solving, promote the generation of ideas and ensure professional work that meets customer needs. Promoting cooperation, which includes communication training, strengthening respect and creating a good atmosphere, increases employee motivation, promotes initiative and productivity, and better communication reduces misunderstandings and conflicts, ensuring smooth and high-quality work. The third part presents the possibilities for improving the organization of team education and cooperation in UAB „Statybų vizija”. The hypothesis confirmed in the work is that if team development and cooperation are encouraged, teamwork will improve.

Introduction

Topic relevance - Team training has a positive effect on team performance, improves emotional, cognitive, process and performance results. One of the main characteristics of a successful team is how well team members communicate with each other. This includes good listening skills, the ability to clearly convey thoughts and the ability to respond quickly to comments and inquiries.

Topic problem - It has been established that not all team members have sufficient skills and experience to interact in teams. The team may lack openness, trust, communication, and knowledge sharing, which has a negative impact on the team's microclimate. If communication in the team is poor, the transfer of information may be disrupted, which can lead to misunderstandings and ambiguity in performing tasks

Topic research

Team development and the organization of cooperation have been widely studied by both Lithuanian and foreign scientists. Training and education play a crucial role in strengthening team effectiveness. R. Arora, S. Gajendragadkar, N. Neelam (2023) agree with this statement, stating that organizations that invest in continuous learning create dynamic teams that can adapt to a changing environment.

The object of this study - organizational team development and cooperation organization.

The purpose of the study – to investigate the organization of team development and cooperation in UAB „Statybų vizija".

Objectives of the study:

1. To reveal the theoretical aspects of team development and cooperation organization;
2. To conduct a study of the organization of team development and cooperation in UAB „Statybų vizija".
3. To present possibilities for improving the organization of team development and cooperation in UAB „Statybų vizija".

Research methods - analysis of scientific literature, qualitative research - interviews and generalization.

Working hypothesis - if team development and cooperation are encouraged, teamwork will improve.

Theoretical aspects of team building and cooperation

The concept and importance of a team

A team is defined as a group of two or more individuals who interact socially, pursue common goals, and work together to perform tasks that are important to the organization. Teams are characterized by interrelated work processes, different roles, and shared responsibility for achieving specific results (Reiter-Palmon, Kennel, & Allen, 2021). It is important to provide a description of the concept of a team (Table 1).

Analyzing the management literature presented in Table 1, it can be stated that a team is two or more individuals who are interconnected to achieve a set goal. Each of the team members has assigned functions or roles. Individuals in a team communicate with each other, share knowledge in order to perform the tasks assigned to them or solve problem situations.

In summary, a team in an organization is a social group in which members cooperate to achieve a common goal and share responsibility. It is characterized by clear roles, common decision-making processes, and the pursuit of efficiency

Table 1

Description of the concept of a team (compiled by the author based on the aforementioned scientists)

Author	Description
L.Šalkauskienė, L.Jankienė (2023)	It is a social group that is formed to achieve the goals of the company
S. Nuraeni et al., (2022).	It is at least two people who perform their functions and take responsibility for the results of their work
J. V. Dinh et al. (2021).	It is a group of employees who, working together for a common goal and satisfying interpersonal relationships.
J.N. Ervin et al., 2018	2 or more people who interact dynamically, with each other for a common goal/object/mission; each has been assigned specific roles or functions
J.E. Driskell, E. Salas, T. Driskell (2018)	Working in groups, focusing members on specific work, sharing responsibilities, personal experience and success.
O. Obiekwe, P. A. Obiekwe, P. A. ir P.O. Oiku (2023)	A small number of people who are committed to achieving a common goal, productive goals and a common approach for which they are responsible.
A. Khaliq, U.S. Kayani, U. S., ir G. M. Mir (2020)	Group members who cooperate with others, share accountability and strive for the same results
R. Reiter-Palmon R., Kennel ir J. A. Allen (2021)	A group of two or more people who are characterized by interrelated work performance to achieve a single result
L. Luneckienė ir O. Riklikienė (2024)	A collective that is focused on implementing the tasks that have been assigned to it

Team formation and the work process

Team formation is the process of bringing together people with different needs, skills, and experiences. Team formation is the process that aims to increase the effectiveness and efficiency of a team by creating a favorable working environment, a better level of understanding, effective communication, and a high level of trust among team members (Khaliq, Kayani, & Mir, 2020). L. Šalkauskienė, L. Jankienė (2023) present four stages of team formation (Table 2).

After analyzing the information presented in Table 2, it can be stated that team formation goes through such stages as formation, when goals and objectives are set for the team. In the differentiation stage, the roles of team members are distributed. In the integration stage, the manager distributes work methods to team members. In the maturity stage, relationships between team members are established, which must be based on trust.

In summary, it can be stated that organizational team formation is a strategic process that brings together individuals with various skills and experiences to ensure effective cooperation

Table 2

Stages of team formation (Šalkauskienė, Jankienė, 2023)

Stages	Processes	Psychological problems
Formation	Setting tasks and goals	Interdependence
Differentiation	Distribution of roles	Dissatisfaction and responsibility
Integration	Formation of norms and distribution of work methods	Openness
Maturity	Formation of team relationships	Trust

Peculiarities of organizing team development

Organizational team development is important for achieving optimal results and ensuring collective effectiveness. A team consists of individuals with various skills, experiences and approaches, and its success depends on the interaction between its members. Effective team development includes promoting cooperation, improving communication and ensuring that the role of each member meets the goals of the organization (Umar et al., 2020). It is important to provide definitions of training in the organization (Table 4).

It can be said that organizational training is a process during which information is provided to employees that they will need in their work. In this way, they will expand their knowledge and strengthen their competencies in a professional field.

In summary, it can be said that team training is a process during which team members' competencies and knowledge of how to work in a team are developed. Employee training and development programs can provide many benefits to companies, including greater employee satisfaction with their work, increased employee motivation, increased ability to apply new technologies and methods; reduced employee turnover; improved company image.

Table 3

The concept of a training organization (compiled by the author based on the aforementioned scientists)

Author	**Description**
Benarkuu, G. G., ir Katere, E. (2023)	A process designed to raise the level of competence, knowledge and skills of staff members
Driskell, J. E., Salas, E., ir Driskell, T. (2018).	A set of training strategies and tools designed to enhance the knowledge, skills, processes and effectiveness of teamwork
Blume, B. D., Ford, J. K., Surface, E. A., ir Olenick, J. (2019).	A set of guidelines designed to engage employees to achieve desired results.
Umar, A. et al., (2020).	A sequence of instructions, methods and knowledge designed to improve an employee's skills to achieve intended goals
Fidia, O., ir Annisa, M. N. (2020).	It is a way of developing knowledge, gaining experience related to their job responsibilities and duties

Features of team collaboration

Communication between stakeholders is another important aspect of team collaboration (Marlow et al., 2018). The term collaboration is defined as a process during which two or more individuals interact to achieve a common goal (Driskell, Salas, & Driskell, 2018). It is worth presenting the concept of team collaboration (Table 5).

It can be said that team communication is a process of sharing information, promoting commitment and managing changes, which is a key factor in employee motivation and performance in the organization.

It can be said that organizational team cooperation is a complex process that includes social interaction, sharing information and achieving common goals. Cooperation is based on six main aspects: social interdependence, implementation of new ideas, definition of tasks, conflict resolution, resource sharing and communication.

Table 4

The concept of team collaboration (compiled by the author based on the aforementioned scientists)

Author	**Description**
S. L. Marlow et al., 2018	The exchange of information, both verbal and nonverbal (e.g., email) between two or more team members
Dzimidienė ir Bagdžiūnienė, 2022	The ability to work together with colleagues at different organizational levels, across functional areas, on various project teams within the organization and on joint projects with other organizations or in virtual teams
W. D. Febrian (2023).	An integral part of most team processes or interdependent team behaviors
J. Ervin et al. (2018)	The ability to convey information, ideas, and opinions to team members with different backgrounds, experiences, and skill levels.
G. Benarkuu, E. Katere (2023)	Formal or informal communication within an organization

Team development and cooperation research UAB „Statybų vizija"

The aim of the research is to investigate the organization of team development and cooperation in UAB „Statybų vizija".

Research selection. Qualitative research, interviews, was chosen for the research.

Research progress. The research was conducted in March-April 2025. Informants - 7 employees who have experience working with a team were interviewed at their workplace. The researcher used a dictaphone to make audio recordings. Verbal information is transcribed in text form.

The aim is to find out what the benefits of promoting team development are for improving team work. After analyzing the answers, the following subcategories can be distinguished: faster work completion; increased trust; better communication (Table 25).

According to the research data in Table 25, it can be stated that team development is one of the essential factors that have a direct impact on work efficiency, the quality of communication and mutual relations in the team. By improving the competencies of team members through training, tasks are performed much faster and more effectively. The skills acquired during team training help teams solve problems faster, "new proposals, ideas are born faster, because there are many professionals in the team" (A4). Training helps team members learn to communicate clearly and accurately, promotes the free sharing of ideas, discussions and joint decision-making. This strengthens the team's involvement in the activity and joint responsibility for the results. It can be stated that promoting team development helps to complete work faster, strengthens mutual trust between employees and improves communication. Team development helps to complete tasks faster, because employees acquire the necessary knowledge and solve problems more easily, and perform their work professionally. Mutual trust also increases – team members get to know each other better, respect each other more, help each other, share knowledge and experience. Team building improves communication: employees convey information more clearly, share ideas more actively and engage in joint discussions. This increases the team's effectiveness and quality of work.

Table 5

Benefits of promoting team development for improving team work (compiled by the author)

Category	Subcategory	Statements
The benefits of promoting team development for improving teamwork	Faster work completion	„*Improvement of competencies, which allows you to complete tasks faster" (A5)* „*Problems are solved faster" (A3)* *„Ew suggestions appear faster" (A4)*
	Increased trust	*„Training allows you to trust and get to know each other more" (A1)* *„Respect team members" (A7)*
	Better communication	*„Knows how to convey information" (A2)* *„Is not afraid to share ideas, observations" (A3)* *„There are constant discussions on how to do the job better.. all members get involved" (A7)* *„Training helps you learn how to convey information properly" (A6)*

The aim is to find out what the benefits of promoting team cooperation are for improving team work. After analyzing the answers, the following subcategories can be distinguished: communication training, promoting respect, creating a good working atmosphere (Table 26).

According to the research data in Table 26, it can be stated that, first of all, employee motivation increases – when they feel heard, they become more involved in activities, become more active, more receptive to initiative and work more productively. One of the research participants emphasized that "sincere communication, understanding, listening to opinions encourages me to take the initiative, to try to do good for the employees, because I am listened to, appreciated for my efforts" (A6). Secondly, work performance becomes more effective, because better communication helps to smoothly perform tasks, and mutual understanding leads to higher-quality and more professional work. During proper communication, misunderstandings and conflicts are reduced – clear communication helps "avoid ambiguities, reduce tension and allow for faster resolution of disagreements" (A2, A3, A7). Team cooperation helps in conflict management and clarification of uncertainties.

It can be stated that promoting team cooperation improves the quality of work – it increases employee motivation and reduces the number of misunderstandings. As a result, tasks are performed more smoothly, more efficiently, and conflicts are reduced.

Table 6

Benefits of promoting team cooperation for improving team work (compiled by the author)

Category	Subcategory	Statements
The benefits of promoting team development for improving teamwork	Increased motivation	*„Employees who feel heard are more engaged in their work" (A5)* *„Employees are more motivated to work in a team" (A3)* *„Increased initiative, activity and productivity" (A6)*
	More efficient work performance	*„Proper communication helps to implement tasks smoothly" (A1)* *„Team members understand each other and perform work with higher quality and professionalism" (A4)*
	Reduced misunderstandings	*„Reduction of conflicts and tension" (A2)* *„Avoidance of ambiguities" (A3)* *„Faster conflict resolution" (A7)*

Improving team development and cooperation at UAB „Statybų vizija”

In order to create a model for improving team development and cooperation at UAB „Statybų vizija” (see Figure 6), not only negative employee feedback was taken into account, but also suggestions from research participants regarding improving team development and cooperation were used.

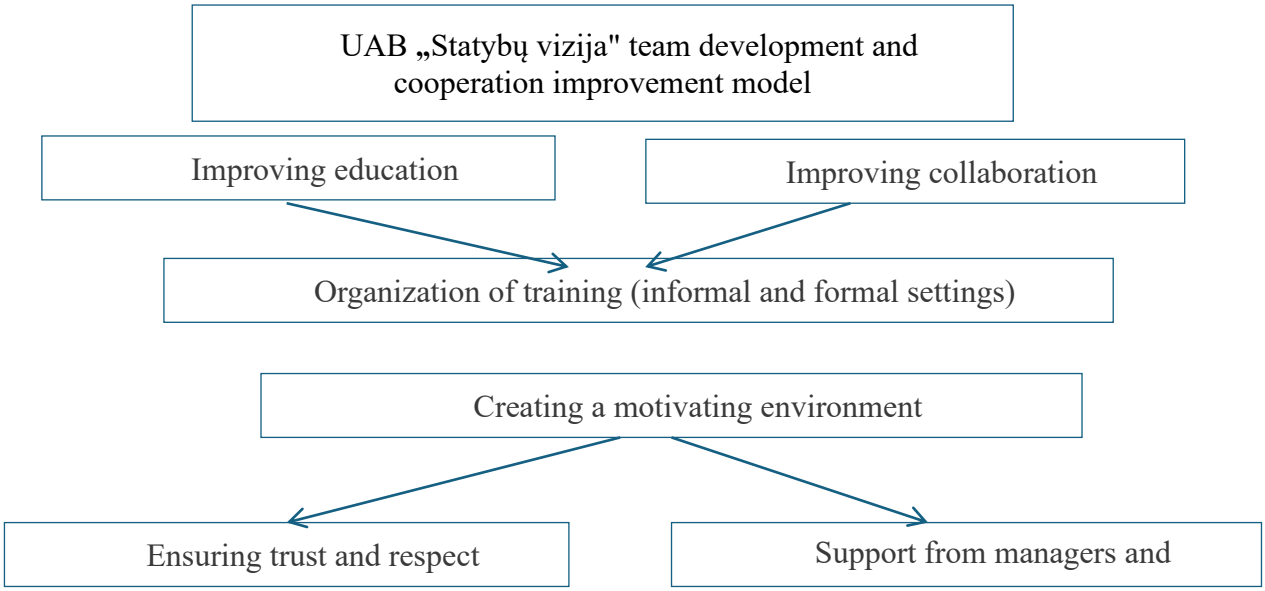


Fig. 6. UAB „Statybų vizija” team development and cooperation improvement model

The presented model shows what factors are included in the team development and cooperation improvement model of UAB „Statybų vizija”. In order to improve the team development of UAB „Statybųvizija”, it is worth organizing training in both formal and informal environments using different training methods both live and remotely. The organization of training includes a structured training process carried out in both formal (e.g., seminars, courses) and informal (e.g., team discussions, mentoring) environments. It is designed to ensure that employees have the opportunity to constantly update their knowledge and skills, adapting to the needs of the company and market changes. Employees will be more interested in learning when training is applied not only in a formal environment but also in other companies or training organizations. Training can be carried out by presenting real situations through practice.

Conclusions

After analyzing the scientific literature of Lithuanian and foreign authors, it can be stated that a team is a group of individuals who are delegated tasks for the sake of the organization's goal. Teamwork is the activity of a group of people focused on performing tasks and achieving results in an organization. During this activity,

all individuals in the team have their own responsibilities, but they also help other team members in performing their functions. Teamwork is important in an organization because it helps find better solutions to problems, get work done faster, and generate new ideas. Improving teamwork can be done through training, effective communication, empowering employees, rewarding them, and setting clear goals and expectations.

After analyzing the scientific literature of Lithuanian and foreign authors, it can be stated that team development is the transfer of knowledge and skills to team members in order to strengthen their ability to act together as a team. The goals of team development include better employee productivity and improvement of professional knowledge. Such training creates stronger relationships and helps to improve overall work performance, increases employee loyalty and productivity, as members learn to take into account the needs and expectations of colleagues. Team cooperation ensures proper information transfer and trust between members. Team communication can be influenced by both personal (cultural differences, personality types, language skills, empathy) and external (communication environment, organizational structure, workplace relationships) factors. Weak communication in a team can lead to disruption of the flow of information, poor provision of feedback and decreased motivation. Communication in a team must be improved by creating a positive atmosphere of cooperation, acceptance of opinions, understanding of points of view and trust.

During the qualitative research, it was found that UAB „Statybų vizija" team development strengthens the team spirit, promotes the sharing of experience and support among members, and forms a sense of unity. Team development in the organization is closely related to employee safety, risk management, and professional development. Team development is most often applied in the organization through training and seminars. Lack of training weakens the professionalism of the team, which can reduce the level of service quality. Team development is considered effective when work results improve, collective orientation, and respect between team members increases.

During the qualitative research, it was found that UAB „Statybų vizija", team cooperation and knowledge sharing not only improve work processes, but also create a more productive work environment. Most often, information is transmitted in the team through regular meetings, direct conversations, and e-mail and telephone. Successful cooperation in the team depends on trust between members and respect for each other. Poor communication in a team can lead to serious consequences such as conflicts, misunderstandings, avoidance of responsibility, and a tense atmosphere. Team cooperation can be improved by investing in communication training, developing a culture of respect, and creating a supportive and motivating work environment.

The UAB „Statybų vizija" team development and cooperation improvement model, based on organizing training, forming a motivating environment, and strengthening trust and respect, improves teamwork. Organizing training must be a consistent process that is focused on strengthening the competencies of team members for teamwork. A motivating environment is created through motivating employees, establishing good relationships, empowering employees, and involving them in work processes. Ensuring trust and respect refers to actions designed to ensure trust between team members.

The directions for improving the development and cooperation of the UAB „Statybų vizija" team include the organization of theoretical and practical team training, in a formal (during meetings), practical training and in an informal environment (on joint trips). The organization of communication training will help to convey information more clearly and avoid misunderstandings in the team. Involving team members in the stages of work processes, trusting them creates a suitable working environment. The team leader must be responsible for ensuring respect in the team, i.e. that each member must be listened to and evaluated.

Formal and informal training with the involvement of experts, communication seminars and the creation of a work environment based on respect and trust with the help of managers and feedback ensure the feasibility of this model. Support from managers and colleagues includes the support of managers, mentoring and mutual assistance of colleagues, which promotes trust and cooperation in the team. Improving team development and cooperation leads to more effective task performance, reduces conflicts and strengthens the

UAB „Statybų vizija" team quality of work

The working hypothesis can be confirmed - if team development and cooperation are encouraged, teamwork will improve. Team development promotes more efficient task performance, because the skills acquired during training allow for faster problem solving, encourage the generation of ideas and ensure professional work that meets customer needs. Mutual trust also strengthens, because team members get to know each other better, develop respect and share knowledge, which creates a motivating environment in which openness and courtesy prevail. Clearer information transfer, more active sharing of ideas and discussions increase team involvement and responsibility for results.

Promoting cooperation, which includes communication training, strengthening respect and creating a good atmosphere, increases employee motivation, encourages initiative and productivity, and better communication reduces misunderstandings and conflicts, ensuring smooth and high-quality work.

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IMPROVEMENT OF THE MOTIVATION SYSTEM AT UAB "BEGVEŽA"

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Keywords: employee, demotivation, motivation, motive, motivational tool, need, expectation, promotion.

Abstract
The article examines the concept and essence of the motivation system, its components, stages of the development process, motivational tools and their influence on employees and the organization. The work includes research which goal is to investigate the motivation system of UAB "BEGVEŽA". The results of the research showed how employees understand the motivation system, what aspects are most important to them, and how they evaluate the applied motivation measures. The hypothesis formulated by the author is confirmed - if the motivational measures for employees are selected properly, the motivation system works effectively. Directions and measures for improving the motivation system have been formulated, which could increase employee satisfaction.

Introduction

Topic relevance. Organizations operate in a competitive and constantly changing environment, in order to survive in the labor market, organizations must constantly change, take care of their employees, because the results of the organization's activities depend on them (I. Baginska, 2022). The motivation system plays a major role here. It can be said that the motivation system creates a motivating work environment, thanks to which the organization receives a higher level of work productivity. To create effective motivational solutions, it is necessary to consider the needs, expectations and capabilities of the organization. It is believed that this should be the starting point of the motivation system (Piotrowska-Puchała, 2023). With an effective motivation system, the organization gains a competitive advantage, better specialists, and a higher level of performance results. To have an effective motivation system, organizations must constantly improve it, adjust it, analyses the needs of employees, and for this, employers must know all the motivation tools and be able to combine, present and apply all this.

Work problem. UAB "BEGVEŽA" is an international freight forwarding company that offers solutions that meet individual needs, which help create added value for customers' logistics and supply chains. People working in the logistics sector can experience a lot of stress, because everything must happen according to the agreed deadlines, but sometimes due to unforeseen circumstances, the transportation deadline can change and this affects both the driver and the manager, and sometimes the administration itself. Therefore, UAB "BEGVEŽA" must have an effective motivation system that would include both material and non-material incentives and would be applied to employees holding different positions to motivate and increase work productivity.

Work object- motivation system.

Work goal - to investigate the motivation system of UAB "BEGVEŽA".

Job tasks:

1. To examine the motivation system from a theoretical point of view.
2. Conduct a study of the motivation system at UAB "BEGVEŽA".
3. To present possibilities for improving the motivation system of UAB "BEGVEŽA".

Job research methods – analysis of scientific literature, research of online sources, quantitative research - questionnaire survey, graphical representation.

Work hypothesis – if the motivational measures for employees are selected properly, the motivation system works effectively.

Motivation system in theoretical aspect

According to A. Piotrowska-Puchała (2023), the motivation system is a logical, consistent, complementary set of motivational measures. Motivating human resources is a very important aspect, it is one of the main management tools, so it is important for an organization to have an effective motivation system. According to M. Armstrong et al. (2017), the motivation system is needed to create a good working environment and develop the organization's policy, such factors can ensure a higher level of employee performance. It can be argued that the motivation system essentially contributes to the development of leadership, reward systems, and performance management processes. Authors describe the motivation system differently, distinguishing different aspects of this system. More definitions of the concept of motivation system are presented in Table 1.

Table 1

Motivation system (compiled by the author of the work, based on the sources indicated in the table)

Author	Definition
Ministry of Internal Affairs of Lithuania [2023],	A motivation system is described as a set of measures that help encourage employees to work more effectively and achieve goals that are important to the organization and should encompass the interests of both employees and the organization.
I. Baginska (2022)	"A motivation system is an organized set of tools and motivational factors that are interconnected and form a coherent whole."
M. Smolarek [2017]	"A motivation system is a consistent and purposefully selected set of motivational measures from the point of view of achieving the goals of the organization and employees".
C. Anderson [2024]	A motivation system is an organized approach to understanding and managing the forces that drive behavior.

Based on the definitions presented in Table 1, it can be stated that the authors define the motivation system as a consistent process that consists of all existing and applied measures. It can be stated that the motivation system must provide benefits to both employees and the organization.

A motivation system is essentially a system that helps people and organizations to empower their desire to achieve goals. This system helps to align internal motives, ambitions for personal growth and productivity. An effective motivation system helps to set specific goals and maintain enthusiasm for their implementation [C. Anderson 2024]. It is believed that a motivation system creates a motivating work environment, thanks to which the organization receives a higher level of work productivity and qualified employees.

When an organization realizes the importance and benefits of the motivation system and general motivation, the first step is taken towards satisfying people's needs [S. Toy, B. Isik, 2024]. According to I. Skačkauskienė and A. Kiselevskaja [2014], motivation theories help to clarify what goals people want to achieve and what their needs are. B. Souders [2019] and A. Erceg and A. Šuljug (2016) argue that motivation theories can be divided into two categories: content (needs) theories and process theories, but both categories are important, since content (needs) theories explain what motivation is, while process theories describe how motivation occurs.

C. Anderson [2024] states that the motivation system helps to systematize our goals and motivation to achieve them. The motivation system can be divided into several components: goal, encouragement, feedback, support. It is believed that the integration of such components of the motivation system can encourage the necessary behavior and actions of people, which brings them closer to successful results. S. Makushkin [2019] states that the motivation system should be a priority for every organization and has drawn up a diagram of the process of creating a motivation system, which is presented in Figure 1.

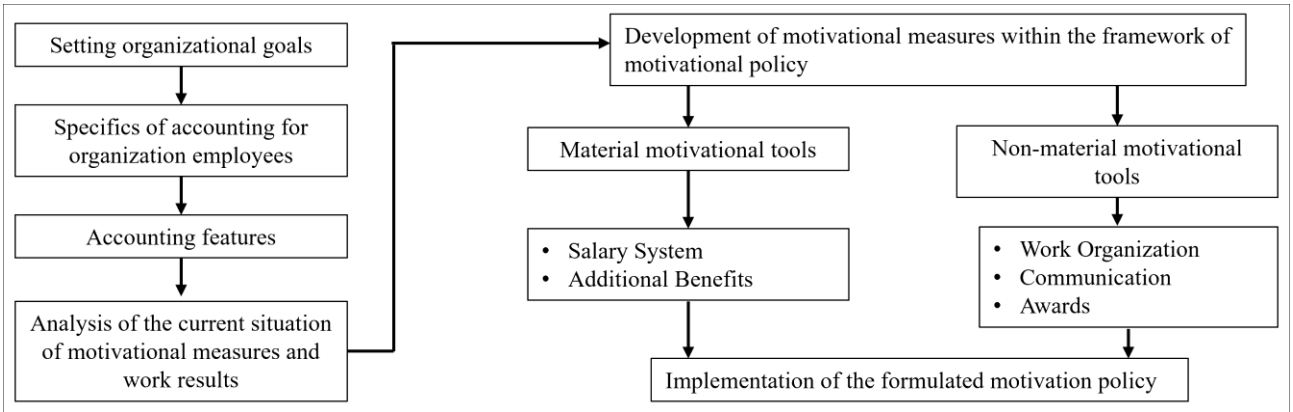


Fig. 1. Process diagram for developing a motivation system
[Makushkin, 2019]

In Figure 1, S. Makushkin [2019] emphasizes that the organization must specifically formulate the policy of the motivation system. First, the organization must set goals and objectives, according to the specifics of the organization. The organization should analyze the needs of employees and the current situation in the work environment, to further develop an appropriate motivation system, which would include both material motivational means and non-material motivational means.

R. Korsakienė et al. [2011] highlight the issues that managers should be guided by when creating a motivation system, and J. Bivainis [2011] highlights the most important stages of implementing an effective motivation system, which include situation analysis, planning, implementation and monitoring of motivational measures. It is believed that when creating a motivational system, it is important to determine the level of employee motivation, employee's needs, create a priority plan for the implementation of motivational measures and, most importantly, later monitor how the created motivational system works.

According to H. Rina [2020], motivational measures are an auxiliary tool in an organization. It can be argued that this tool helps to increase employees' interest in work and work productivity. Motivational measures can be divided into material and psychological (moral). E. Rimkus [2021] argues that material measures are based on the monetary value received, while psychological (moral) measures cannot be evaluated in monetary value, as can their impact. D. Andrews et al. (2017) argue that there is no single established form of motivation. According to V. Gražulis et al. (2015), the knowledge and skills accumulated by employees help the organization achieve the desired results, so good organizational performance must also benefit employees. It can be argued that after achieving certain organizational goals, a correct assessment increases the employee's confidence and motivation to work even better. It is believed that motivational measures affect the growth of employee productivity, which affects better organizational results. There is also an increase in loyalty, which has a positive impact on the organization.

Motivation system research at UAB "BEGVEŽA"

Presentation of UAB "BEGVEŽA": UAB "BEGVEŽA" is one of the largest and most dynamic international freight forwarding companies in the Baltic States, offering solutions that meet individual needs and help create added value for customers' logistics and supply chain. UAB "BEGVEŽA" is mainly focused on forwarding, so the company organizes freight transportation with the help of third parties and usually does not carry out physical transportation itself but manages the entire process chain. UAB "BEGVEŽA" belongs to the "BEGVEŽA" group of companies, all of which provides an exclusive range of clients and opportunities. The company's activities are accompanied by success, as the company promotes a responsible approach to each order and invests in the professionalism and well-being of its employees.

Purpose of the study. To analyze the motivation system of UAB "BEGVEŽA", based on quantitative research and statistical data analysis.

Type of study. The quantitative research type chosen for the study is characterized by the fact that it allows for objective analysis of data and provides statistical analysis, which is presented in numerical form.

Method of collecting data required for the study. The data required for the study are collected using a questionnaire survey method. The questionnaire survey method is popular because it makes it easier to reach respondents, allows for faster data collection, does not require additional costs, and ensures the anonymity of respondents.

Research sample: According to the data of March 28, 2025, 350 employees worked in the Vilnius head office of UAB "BEGVEŽA". In order to determine the required number of employees to be surveyed, the V. I. Paniott formula (Kardelis, 2016) is used. In order for the survey of UAB "BEGVEŽA" employees to be representative and reliable with a 10 percent error, 78 employees of the organization must be surveyed in the study. 78 respondents answered the questionnaire. It can be concluded that the data are reliable, so summarizing the collected questionnaire data, the attitude of the majority of the organization's employees is presented.

Parts of the survey questionnaire. In order to analyze the motivation system of UAB "BEGVEŽA", a questionnaire was compiled, which is divided into 5 question categories. The questionnaire consists of 18 questions, 18 questions are based on the theoretical part, and question 19 covers the demographic aspects of the respondents.

The motivation system is an important component of an organization, so first, respondents are asked a question that aims to find out how respondents understand the concept of motivation system. The results are presented in Figure 2.

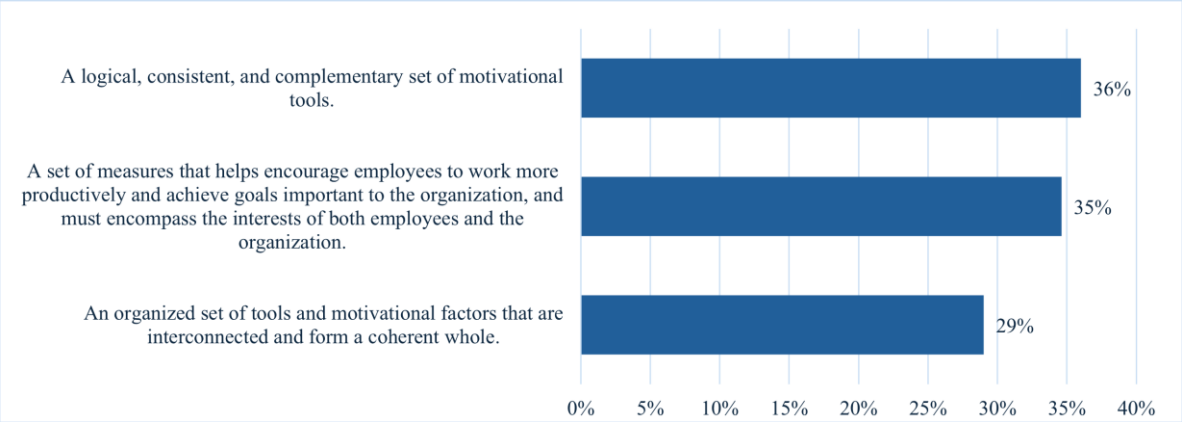


Fig. 2. The concept of motivation system

The data presented in Figure 2 show that the respondents' opinions about the motivation system were distributed very similarly. 36 percent of respondents indicated that they understood the motivation system as a logical and consistent set of motivational tools. This indicates that people value structured, reasonable, clearly presented things. 35 percent of respondents' motivation system is associated with work productivity, the implementation of organizational goals and the satisfaction of the interests of all parties. This shows people's focus on results and the benefits received. 29 percent of respondents believe that the motivation system is an organized set of tools and motivational factors that are interconnected. It is believed that they pay attention to the interconnection of the tools used. It is believed that the motivation system is most associated with the set of motivational tools, which must be based on logic and consistency. It is believed that respondents value reasonableness, clarity, and consistency the most.

It is important not only to understand what a motivation system is, but also why it is needed, so this questionnaire sought to find out when a motivation system is needed. The results are presented in Figure 3.

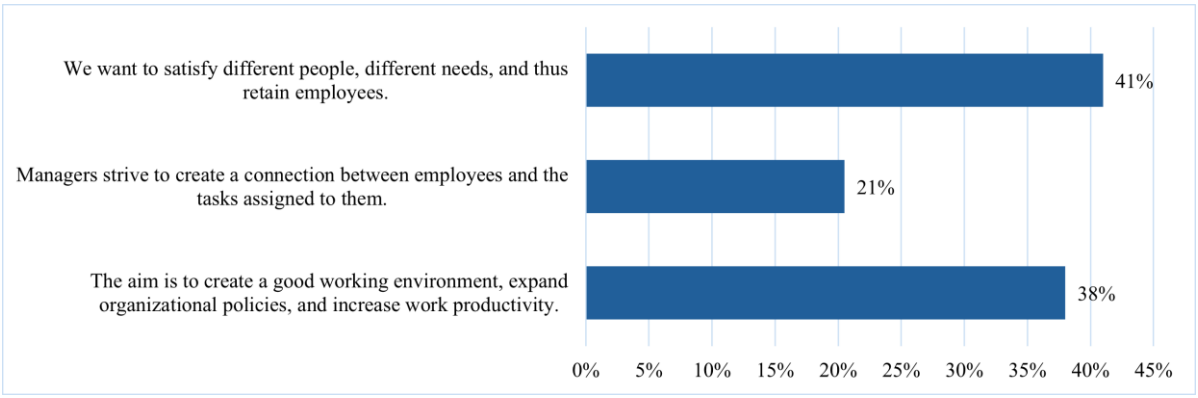


Fig. 3. The need for a motivation system

The data presented in Figure 3 show that 41 percent of respondents believe that a motivation system is necessary when it is desired to satisfy the needs of different people and retain them. This shows that an individual approach is important for the majority, in their opinion, this would help increase loyalty. 21 percent of respondents associate the need for a motivation system with the connection created between the assigned task and the employee himself. This shows that the meaning and benefits of work are important to people, they want to understand the direct connection between the assigned tasks and benefits. 38 percent of respondents indicated that a motivation system is necessary in order to create a good working environment, change the organization's policy and increase work productivity. It is likely that they see the motivation system as a tool with which the organization can be improved. It is likely that most respondents see the need for a motivation system as an opportunity to reduce employee turnover by satisfying the different needs of different people. It can be said that satisfaction needs, and individual approaches are important for most respondents, and this would keep them in the organization.

This questionnaire sought to find out which component of the motivation system was most important, in the opinion of the respondents. The results are presented in Figure 4.

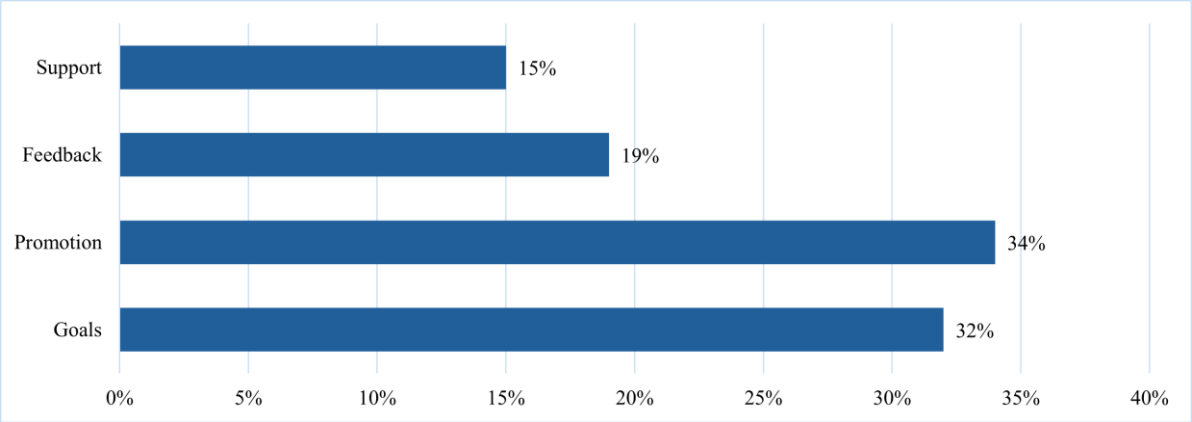


Fig. 4. The most important component of the motivation system

The data presented in Figure 4 show that 32 percent of respondents believe that the most important component of the motivation system is goals, and 34 percent believe that encouragement. This shows that for most it is important to clearly understand what is being achieved, to be more involved in the purposeful pursuit of the goal, and for others it is important to be notified and evaluated for their work. 19 percent of respondents identify feedback as the most important component of the motivation system. It can be said that this helps respondents to strengthen their confidence, improve the quality of work, they want to know how they are doing in their activities. Only 15 percent of respondents indicated that the most important component is support. This reveals that emotional and professional support in the work environment is important for these respondents. It can be said that for most people, encouragement and goals are the most important in the motivation system. It can be assumed that this shows people's orientation towards achieved results and evaluation.

Another question in the questionnaire asked whether respondents were satisfied with the motivational measures used. The results are presented in Figure 5.

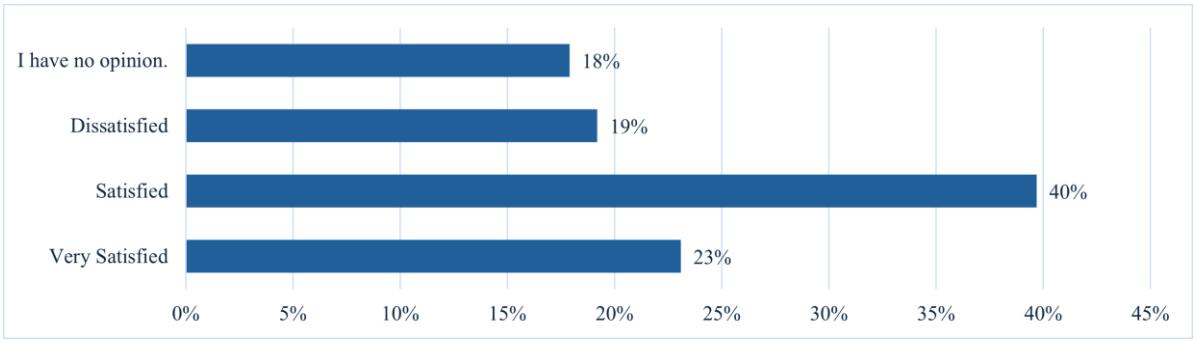


Fig. 5. Evaluation of applied motivational measures

The data presented in Figure 5 show that as many as 40 percent of respondents are satisfied with the applied motivational measures, 23 percent are very satisfied, 19 percent are dissatisfied, and 18 percent have no opinion. It is worth noting that most respondents are satisfied or very satisfied with the applied motivational measures in the organization. This shows that the motivational measures in the organization are sufficiently well selected and meet the expectations of most employees. It is noted that a significant proportion are dissatisfied with the applied measures or have no opinion on this issue. It is believed that the organization should pay attention to and analyze groups of dissatisfied and indifferent employees to improve employee engagement and the effectiveness of the motivational system.

The results obtained during the study provide an understanding of how most employees understand the motivation system and that it is appropriate for most, but areas for improvement still emerge to ensure that all employees are satisfied.

Opportunities for improving the motivation system at UAB "BEGVEŽA"

The motivation system has a significant impact on the organization and its activities. With the help of an effective motivation system, the organization can create a motivating work environment, which increases employee productivity. The results of the study showed that most employees of UAB "BEGVEŽA" are

satisfied with the applied motivation system, but there are areas that should be improved to achieve the highest level of employee satisfaction and organizational performance. Based on the results of the study and considering the needs and expectations of employees, directions and measures for improving the motivation system have been formulated, which are presented in Figure 6.

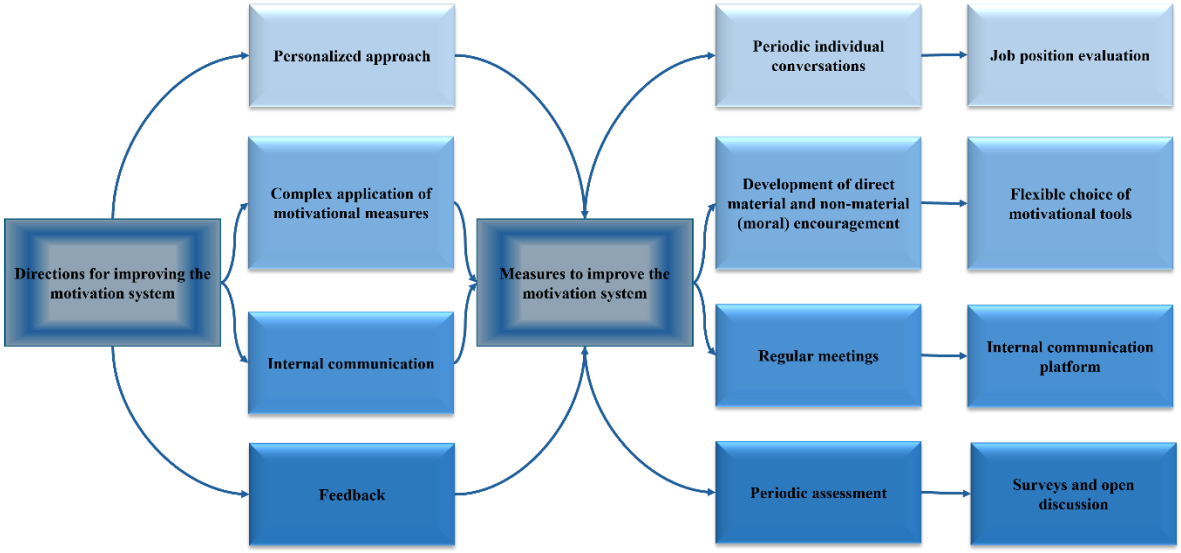


Fig. 6. Directions and measures for improving the motivation system

The improvement of the motivation system of UAB "BEGVEŽA" should be based on listening to employees, needs analysis, complex application of motivational measures, periodic interviews, open communication and continuous improvement, aiming at long-term benefits for both employees and the organization. The implementation of the directions and measures for improving the motivation system will improve the motivation system applied by the company and increase employee satisfaction, productivity, loyalty, and performance results.

Conclusions

The motivation system is essentially an important system that helps to increase employee motivation, job satisfaction, and increases work productivity and quality. A purposefully applied motivation system helps to retain and attract qualified employees. Creating a motivation system is an important process, as the applied motivation measures depend on it. When creating a motivation system, it is important to determine the level of employee motivation, employee needs, create a priority plan for implementing motivation measures, and, most importantly, later monitor how the created motivation system works. Correctly and purposefully applied motivation measures provide benefits to both employees and the organization.

The study showed that for most employees (36%) the motivation system is associated with a logical, consistent set of motivational measures, which complement each other and are necessary to satisfy different people's different needs (41%). The results of the study also showed that respondents would be most motivated by the basic salary, payment of transportation expenses, and flexible work schedules. For most, incentives and goals are important, which shows the employees' desire to achieve goals and to be evaluated accordingly.

The hypothesis formed during the work - if appropriate motivational measures are selected for employee motivation, then the motivation system works effectively is confirmed. As many as 43 percent indicated that all types of incentives are applied in the organization, which shows that the needs of most employees should be satisfied. Employees are satisfied (40 percent) with the incentives applied in the organization and even 23 percent are very satisfied, which shows the effective application of the motivation system. All this shows that the motivation system is suitable for most employees in the organization.

The following directions have been formulated for improving the motivation system: an individualized approach, complex application of motivational tools, internal communication and feedback.

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THE IMPLEMENTATION OPPORTUNITIES OF SUSTAINABILITY PROJECTS IN UAB "AMERIKA"

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Keywords: sustainability, sustainable projects, challenges and opportunities of sustainability application in projects, sustainability strategies, sustainability integration, sustainability trends.

Abstract
This work discusses sustainability in projects, its benefits, trends, and opportunities. A large amount of Lithuanian and international scientific literature on the subject has been analyzed, as well as the issues of applying sustainability in projects and the development of sustainability strategies. The thesis includes a qualitative research study on the feasibility of implementing sustainability projects in UAB "Amerika". This is not only a theoretical and literature-based analysis, but also a collection of practical insights based on semi-structured interviews with four company employees. The responses were transcribed and analyzed using thematic analysis, which allowed identifying the main themes: understanding of sustainability, integration benefits, challenges, strategies, and future opportunities.

Introduction

Relevance of the topic. Changes in the modern business environment, such as climate change, resource scarcity, shifting consumer expectations, and social inequality, are forcing organizations to seek not only profit but also long-term impact on society and the environment. According to Streimikienė, Mikalauskienė, and Kiaušienė [2019], a responsible approach to sustainability has become a necessity in contemporary management. According to NielsenIQ [2015], 73% of consumers worldwide are willing to change their consumption habits if it helps protect the environment, making corporate sustainability directly related to consumer choices. Meanwhile, in Lithuania, as stated by R. Čiegis, J. Ramanauskienė, and B. Martinkus [2007], companies still fail to sufficiently integrate sustainability principles into their strategic decisions and often limit themselves to superficial initiatives.

This makes it important to explore how sustainability projects can be implemented not only in large companies but also in smaller Lithuanian businesses, such as UAB "Amerika," which seek to keep up with international trends and leverage the long-term competitive advantages created by sustainability.

Research ability of the topic. The term 'sustainability' was first used in 1972 in relation to the future of humanity in the British book 'Plan for Survival' [Kidd, 1992]. Sustainable projects are initiatives aimed at creating a balanced relationship between economic prosperity, social equality, and environmental protection. Sustainable projects not only contribute to economic growth but also ensure that this growth is fair and long-lasting [Sachs, 2015]. Naomi [2014] speaks of sustainable projects as systemic changes that not only address ecological issues but also challenge the economy. In her view, sustainable projects must consider structural economic and political changes to achieve a true balance between environmental protection and social equality. K. Raworth [2017] defines a sustainable project as one that aims to create an economy focused on human well-being, but without exceeding the planet's ecological boundaries. According to her, sustainable projects should meet social needs without exceeding environmental limits, ensuring the long-term survival of the planet.

Work problem. In today's world, where there is increasing concern for environmental protection and social responsibility, sustainability has become an increasingly important aspect in various fields, including project sustainability. More and more companies and organizations realize that sustainable projects can not only help reduce the negative impact on the environment and society but also become a source of competitive advantage. However, despite the growing awareness of sustainability, many project managers still fail to fully understand the benefits of sustainability in projects. As a result, sustainability principles are often not sufficiently integrated into project planning, execution, and control.

The object of the work. The implementation opportunities of sustainability projects at UAB "Amerika".
The aim of the work. To analyze the implementation opportunities of sustainability projects at UAB "Amerika".
The tasks of the work:

1. To analyze the theoretical aspects of sustainability.
2. To conduct a study on the implementation opportunities of sustainability projects at UAB "Amerika".
3. To present the implementation opportunities of sustainability projects at UAB "Amerika".

Applied research methods. Analysis of scientific literature, qualitative research method – interviews.
Hypothesis of the work. If the employees and customers of UAB "Amerika" understand sustainability principles well, the company will successfully implement sustainability projects.

Sustainability and its importance in project management

Below is Table 1 with authors and their definitions of sustainability.

Table 1

Sustainability Concept According to Different Authors

(Compiled by the author based on the authors listed in the table)

Author	Sustainability definition
Christofi, P. Christofi, S. Sisaye [2012]	Maintaining harmony between people, nature, and society in their relationships.
E. Bendoraitienė, E. Šimkutė [2016]	A strategic effort to ensure long-term balance between the environment, society, and the economy.
Dr. L. Bivainienė [2021]	A concept of responsible business practices, continuously creating relevant value.
Dr. R. Pranckutė [2022]	An essential condition for the survival of the world and ensuring well-being.
D. Bagdonienė, A. Galbuogienė, E. Paulavičienė [2009]	A paradigm for shaping the organization's relationship with the surrounding environment.
L. Buys, K. Mengersen, S. Johnson, N. van Buuren, A. Chauvin [2014]	A systemic concept covering economic, social, and environmental aspects.
Z. O. Atkočiūnaitė [2013]	A concept of responsible business practices based on creating continuous value.
K. Gibson [2022]	The foundation for corporate longevity, related to the protection of the planet, climate change mitigation, and social development.
United Nations World Commission on Environment and Development [1987]	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

A sustainable restaurant is one that operates consciously, aiming to reduce its environmental impact, supports the community, and promotes social responsibility. Restaurants have started to implement sustainability practices and have begun to reap various benefits, including an eco-friendly image [Hwang, Kim, Choe, 2020; Namkung, Jang, 2017] and improved business performance [Chiu, Hsieh, 2016]. Some of these sustainable practices include better demand forecasting [Mu, Spaargaren, Lansink, 2019], the search for alternative uses of kitchen waste [Ishak, Kamari, 2019], waste management [Filimonau, de Coteau, 2019], and the use of reusable or biodegradable utensils and packaging [Trafialek, Czarniecka-Skubina, Kulaitienė, Vaitkevičienė, 2019]. Growing sustainability is a message for every business that wants to have a competitive advantage in the market. Sustainability is characterized by the fact that consumers increasingly value companies that operate ethically, socially responsibly, harmoniously, and transparently.

Sustainability in projects is a business approach that balances environmental, social, and economic aspects of project work, aiming to meet the current needs of stakeholders without harming or overburdening future generations. Project sustainability has become more important than ever before. Table 2 below lists definitions of sustainable project management by different authors.

Table 2

Sustainable Project Management Definitions

(Compiled by the author based on the authors presented in the table)

Author	**Sustainable Project Management Definition**
J. G. Silvius, R. P. J. Schipper [2014]	Sustainable project management is the management of processes, strategies, resources, and organizational changes, considering sustainability principles in the project and its outcomes.
J. Tharp [2012]	Project management, which encompasses both internal and external factors influencing the success of the project, and balances economic, social, and environmental aspects.

M. L. Martens, M. M. Carvalho [2016]	Sustainable project management is a project management practice that considers long-term impact, resource use efficiency, and the principles of sustainable development.
Gimenez, V. Sierra, J. Rodon [2012]	Environmental sustainability in projects includes optimizing the use of energy and other resources, reducing waste, and minimizing negative environmental impacts.
J. Carboni, W. R. Duncan, M. González, P. Milsom, M. Young [2018]	Sustainable project management is based on the P5 standard, which balances the aspects of people, planet, prosperity, processes, and products in projects.
Uribe, I. Ortiz-Marcos, A. Uruburu [2018]	Sustainability in projects is related to integrating corporate sustainability policies into project management systems, aiming to reduce risks and strengthen responsible business practices.

There is an increasing interest in developing and demonstrating new management practices in project management, with sustainability principles dominating every context of business and organizational management. Therefore, the integration of these two areas signifies the future in project-based organizations. Sustainability defines the criteria for how to properly use resources and assess outcomes based on economic, social, and environmental impacts. The traditional project management approach allocates and utilizes these resources to achieve the optimal combination of time, cost, and quality, to maximize stakeholder benefit [Costantino, Di Gravio, Nonino, 2015].

However, although the shift towards sustainability contributes to improving corporate management (reducing risks, strengthening internal codes of conduct, etc.) [Uribe, Ortiz-Marcos, Uruburu, 2018], it is still difficult to integrate corporate sustainability principles and policies into project management systems [Corder, McLellan, Bangerter, Van Beers, Green, 2012]. Sustainability is one of the biggest challenges that companies are currently facing. A. Bekele, T. Bosona, I. Nordmark, G. Gebresenbet, D. Ljungberg [2012] highlight several issues. They identified that the main problems with sustainability initiatives were the higher prices of environmentally friendly products, high logistics and emissions costs, the seasonality of local products, and the high investment costs.

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development. It established 17 Sustainable Development Goals: no poverty; zero hunger; good health and well-being; quality education; gender equality; clean water and sanitation; affordable and clean energy; decent work and economic growth; industry, innovation, and infrastructure; reduced inequality; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace, justice, and strong institutions; partnerships for the goals. The European Union has set approximately 100 sustainable development goal indicators, which largely align with the United Nations global indicators but are not identical. This allows the European Union to focus its sustainable development goal indicators on areas that are particularly important in the European context. Since 2017, the European Commission has been monitoring their implementation and providing annual reports on the monitoring of sustainable development goals.

The development of a sustainability strategy is a key process that allows companies to systematically implement sustainability principles and achieve long-term success. This process includes six main stages: preparation, stakeholder analysis, materiality analysis, risk management, goal setting, and action plan development, followed by monitoring and accountability. Only a clearly defined and consistently implemented strategy enables companies to effectively manage sustainability risks, adapt to market changes, and create long-term value for both business and society [C. Jones, 2021].

According to K. Semionovaitė's research, the most important motivations are meeting customer expectations (49%), maintaining competitiveness (37%), reducing operational costs (33%), increasing employee motivation and attracting talent (26%), implementing innovations (22%), reducing business risks and legal requirements (18%), as well as contributing to a better future for society (16%). This shows that companies are increasingly recognizing the importance of sustainability not only from an environmental perspective but also as a factor in business success, which is why they invest in strategic changes that align with market and stakeholder needs [2023].

The pursuit of sustainability in business, project management, the public catering sector, and society requires a comprehensive approach, encompassing strategic planning, innovation, and creative problem-solving. Only consistently implemented sustainability initiatives can ensure long-term economic, social, and environmental benefits.

The Feasibility Study of Sustainability Project Implementation at UAB "America"

UAB "Amerika" was founded on April 19, 2018. It was previously a restaurant named "Diner Map", which ceased operations due to losses and inefficiency. On February 15, 2022, it started operations under the new restaurant name "Paslėpti Receptai". The main activity is public catering. The company also offers food delivery via the 'Bolt' platform and provides fresh pasta preparation kits for home cooking. All sauces, toppings, and mayonnaise are made in-house using natural ingredients. The cooking process uses induction wok devices, ensuring that the dishes preserve all valuable nutrients and are prepared very quickly. Expired products are separately sorted and placed in appropriate containers, later collected by UAB "Biomotorai", which provides waste collection and disposal services. Used oil from fryers is also poured into large capacity separate containers, and once they are full, the company comes to collect it, ensuring that the used oil is not disposed of in general waste or elsewhere. The company also uses only sustainable packaging for takeaway food or home delivery, including paper bags, wooden utensils, and recycled paper straws and napkins. For takeaway coffee, paper cups are used. The company uses the Lean system for goods storage.

Research Methodology

Research aim – to analyze the sustainability project implementation opportunities at UAB "Amerika". Research method – qualitative, expert interview.

Research instrument – semi-structured interview.

Research sample – 6 participants.

Research time – from April 2, 2025, to April 5, 2025.

The research was conducted at UAB "Amerika," with interviews involving four employees holding various positions and two regular restaurant customers. The research method used was a semi-structured interview, meaning that pre-prepared questions were utilized. The participants were identified as follows: the first informant – A; the second informant – B; the third informant – C; the fourth informant – D; the fifth informant – E; and the sixth – F. The interview questions were divided into categories. There are 5 categories, 14 subcategories, and a total of 14 questions. The questions were as follows:

1. How do you understand the concept of sustainability?
2. How do you understand sustainability at UAB "Amerika"?
3. What is the benefit of integrating sustainability at UAB "Amerika"?
4. How do you understand projects at UAB "Amerika"?
5. Can you identify a sustainable project at UAB "Amerika"?
6. What is the goal of sustainable projects?
7. What problems do UAB "Amerika" face in sustainable projects?
8. Is it difficult to integrate sustainability principles into the operations of UAB "Amerika"?
9. How do you understand the sustainability strategy?
10. Does UAB "Amerika" have a sustainability strategy?
11. What reasons encourage UAB "Amerika" to adopt sustainability changes?
12. Are sustainable projects important to UAB "Amerika"?
13. Are sustainability projects necessary for UAB "Amerika"?
14. What opportunities and directions can you identify for implementing sustainability projects at UAB "Amerika"?

The opinions of the informants reveal that the employees of UAB "Amerika" view sustainability as a complex concept, encompassing environmental protection, social responsibilities, and economic efficiency aspects. The participants believe that integrating sustainability principles and implementing sustainable projects are essential for the company's long-term growth and competitiveness.

Sustainability perception – each respondent interprets sustainability in their own way, emphasizing both environmental protection and the importance of a responsible approach.

Strategy and projects – within the company, the sustainability strategy is still being developed, but the ongoing practices show positive results, such as waste reduction, energy savings, optimization of production processes, and quality improvement.

Reasons and motivation – according to the employees, sustainability changes are driven by both external (market demands, consumer expectations) and internal factors (process optimization, resource saving, and innovation implementation).

Implementation opportunities – the company sees potential for further innovation implementation, such as advanced technologies, sustainable packaging systems, and optimized production processes, as well as

greater inclusion of local and organic products, which would further strengthen the company's operational efficiency and protect the environment.

The participants emphasize that investments in advanced manufacturing technologies can help reduce energy consumption and waste. By introducing modern production lines and innovations, it is possible not only to improve product quality but also to reduce production costs. These innovations may include equipment upgrades and the implementation of new energy-saving solutions, contributing to a sustainable business model.

One of the most important opportunities is the transition to sustainable packaging, which reduces waste and is environmentally friendly. According to employees, responsible material selection, using natural and recycled products, helps reduce environmental pollution. This contributes to creating a reliable company image and attracts consumers who are more likely to choose eco-friendly solutions.

Sustainability Project Implementation Directions at UAB "Amerika"

The directions for implementing sustainability projects are among the most important for UAB "Amerika" to become more sustainable. To effectively implement sustainability projects, it is necessary to choose directions that are practical. Based on the research conducted, several key directions can be identified that the company could develop to implement sustainability principles and achieve long-term goals.

One of the main sustainability directions that UAB "Amerika" could develop is the implementation of energy-saving measures. A sustainability project direction related to waste reduction is highly important for both environmental and economic goals. Consumers are increasingly choosing eco-friendly products, so UAB "Amerika" could strengthen its market position by using more organic ingredients and ensuring that the supply chain is responsible.

Sustainability projects, to ensure their effectiveness and sustainability, cannot be implemented solely based on technological solutions or financial investments. They also depend on employees' understanding of sustainability and their active involvement. The research showed that employees who understand sustainability principles well are more motivated to contribute to the company's sustainability initiatives.

Sustainability projects should also include social responsibility – employee well-being and their active involvement in the company's activities. All of these directions have great potential, but their implementation depends on consistency and a long-term approach. To ensure these directions are implemented, it is essential to integrate them into the daily operations of the company and ensure that each sustainability project is connected to others, creating synergy and a consistent impact on the company's activities.

Implementation of Sustainability Projects at UAB "Amerika"

The implementation of sustainability projects at UAB "Amerika" requires a consistent, thoughtful, and strategic approach. To ensure that the projects meet ecological goals and are financially viable, various aspects need to be considered. This includes not only technological solutions but also employee involvement, continuous process monitoring, and organizational changes that will ensure the integration of sustainability principles into everyday operations.

When implementing sustainability projects, UAB "Amerika" needs to assess key aspects to achieve the desired results.

One of the biggest challenges in implementing sustainability projects is the need for initial investments. Many sustainability initiatives, such as energy-saving technologies, the introduction of organic ingredients, or the installation of waste recycling systems, require significant initial costs. However, as demonstrated by many studies and practical examples, these investments pay off in the long run by reducing energy, raw materials, and waste management costs. For example, modernizing production equipment and implementing energy-saving solutions can reduce electricity costs, which will directly contribute to the company's profitability. Moreover, the use of organic ingredients can open up new markets and increase sales, as consumers are increasingly choosing sustainable products.

The implementation of sustainability projects at UAB "Amerika" requires a thoughtful and consistent approach to all aspects of the company's operations – from financial investments to employee involvement and organizational changes. It is important that these changes be long-term and integrated into the daily life of the company, with the pursuit of goals based on both economic and ecological values.

Conclusions

The concept of sustainability in scientific literature is interpreted in various ways, ranging from maintaining harmony between people, nature, and society to business responsibility and innovation promotion. Some authors associate sustainability with social responsibility, while others emphasize its importance in the

economy and the long-term success of businesses. The general trend shows that sustainability is not only an environmental issue but also part of social and economic processes, requiring continuous improvement and responsible decision-making.

The application of sustainability in restaurants faces many challenges, including higher prices for environmentally friendly products, the impact of seasonality on local ingredients, high investment costs, and a lack of consumer awareness. Restaurants generate large amounts of food and plastic waste, consume significant amounts of water and energy, and are responsible for inefficient waste disposal strategies and energy wastage.

In the restaurant sector, the implementation of sustainability is not only an ecological but also an economic decision. It can help reduce costs associated with energy and water usage and minimize waste. Moreover, such actions contribute to an improved company image and can attract conscious consumers who value environmental protection and sustainability. At the same time, restaurants need to address issues related to increased product prices and "greenwashing," which may mislead consumers about eco-friendly products.

The research results show that employees understand the importance of sustainability and are motivated to contribute to these initiatives, but it was also observed that there is a lack of resources to fully implement sustainability projects. Regular customers also show great interest in the sustainability practices at the restaurant and are willing to support a company that actively applies sustainability principles. Customers appreciate sustainability initiatives such as the use of organic ingredients and waste reduction.

The study revealed that sustainability changes at UAB “Amerika” are driven by both external and internal factors. External factors, such as market demands and consumer expectations, motivate the company to implement sustainable innovations. Internal factors, such as resource savings and process optimization, also contribute to the implementation of the sustainability strategy.

The implementation of sustainability projects at UAB “Amerika” requires a comprehensive and consistent approach, covering not only technological solutions but also employee involvement and organizational changes. The research results show that the company is already implementing several successful sustainability initiatives, such as energy-saving measures, waste reduction, the inclusion of eco-friendly products, and strengthening employees' understanding of sustainability. However, for these initiatives to be successfully implemented and become long-term changes, continuous monitoring, the implementation of evaluation systems, and consistent process improvement are necessary. Due to the large initial investments required for certain sustainability projects, it is important not only to monitor the effectiveness of the projects but also to ensure that these investments pay off in the long run.

The hypothesis states that if the employees and customers of UAB “Amerika” have a good understanding of sustainability principles, the company will successfully implement sustainability projects, and this is partially confirmed. The research results show that the understanding of sustainability by both employees and customers has a significant impact on the implementation of sustainability projects. Employees who understand these principles are motivated and actively contribute to initiatives such as waste reduction, energy savings, and the use of eco-friendly products.

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ANALYSIS OF EMPLOYEE MOTIVATION UAB "KAUNAS AIRCRAFT MAINTENANCE SERVICES"

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Keywords: motivation, intrinsic motivation, extrinsic motivation.

Abstract
The article analyses and summarizes employee motivation at UAB "Kaunas Aircraft Maintenance Services". Based on various works of Lithuanian and foreign authors analysed and systematized theories of the motivation and work motivation with more details are discussed intrinsic and extrinsic motivation measures. Beside this it's examines the possibilities of increasing motivation measures and its impact for employee.
The paper presents analysis of employee motivation at UAB "Kaunas Aircraft Maintenance Services", based on the survey with results of the company employees. The hypothesis that is created by author is confirmed.

Introduction

Relevance of the topic. Motivation is one of the most important things, that not only helps to organizations to complete their goals and get the good results, but also helps to employees to reach their challenges and goals.

Previous research on the topic. Employee motivation as a theme is widely examined not only between authors of Lithuania, but also by foreign authors, such as M. Morkevičiūtė, A. Endriulaitienė, E. Jočienė (2015), M. Armstrong, S. Taylor L. (2017), Pilukienės (2017), S. Staniulienės, I. Kurienės (2021) Y. Dai (2019), A. M. Haya., A. Toker (2022) and others.

The problem of the study. UAB „Kaunas Aircraft Maintenance Services "– is a company that provides engineering services to the Ryanair group. Aviation, especially technical services is critical important to ensure high work quality and success. This is the reason why it is very important to find out and satisfy the motivation of mechanics to ensure the ability and reliability of the work to be carried out and most importantly to maintain quality and safety.

Objective of the study. Analyse employee motivation at UAB „Kaunas Aircraft Maintenance Services "

Tasks of the article:

1. To examine the motivation of employees from theoretical point of view.
2. To conduct a survey of employee motivation at UAB "Kaunas Aircraft Maintenance Services".
3. To provide opportunities for improving employee motivation to UAB „Kaunas Aircraft Maintenance Services "

Methods of the study: review of scientific literature, examination of online sources, questionnaire survey.

The hypothesis – if intrinsic and extrinsic motivation measures will be systematically applied, then employee involvement and commitment to work will further improve.

Theoretical aspects of employee motivation

The concept of the word "Motivation" began to be studied more widely and actively in the past XX century, although its roots is from the times of ancient Greeks, such as Socrates, Plato, or Aristotle. It's widely studied on psychology, sociology, management, education, and other scientific fields. The term "Motivation" comes from Latin word "movere" which means movement. Motivation is expressed and described differently by each author. The following are the most used concepts of this term in managerial scientific articles and literature (Table 1).

Table 1

Motivation concept in works of different authors (created by thesis author, based on the scientific sources provided)

Author	Concept
E. H. Simpson ir P. D. Balsam [2016]	Motivation is a pursuit of goal and the main element of our interaction with the world and other people.
N. M. Saki (2016)	Motivation – behaviour that described certain actions, that are carried out to achieve goal and appropriate energy consumption.
F. Yardimci, M. Bektas ir kt. (2017)	Motivation – is like defined power that activates, supports and directs pursuit of our goals in the right direction.

M. Armstrong ir S. Taylor (2017)	Motivation – force and direction of behaviour and the factors that influence people to behave in a certain way.
K. Madhumitha ir S. Dhanabakkiyam (2019)	Motivation – process, that encourages a person to act and the desire to continue the activity started.
J. Filgona, J. Sakiyo, D. M. Gwany ir A. U. Okoronka [2020]	Motivation – that what gives to person a desire to learn, act, understand, believe and achieve some skills or just a simply desire to satisfy all the needs of an individual.
D. Bandhu, M. M. Mohan, N. A. P. Nittala, P. Jadhav, A. Bhadauria, K. K. Saxena, [2024]	Motivation – desire to complete a task, combined with enthusiasm and determination to implement it. It acts as a driving force that motivates an individual to take certain actions to achieve the set goals.
J. Reeve (2024)	Motivation – is a state inside us that wants or desires change – changing ourselves or the environment around us.

The authors in table 1 describe motivation in very similar ways. It can be stated that motivation and goals are inseparable parts of one another. Even if N. M. Saki (2016) states that motivation and goals have differences.

Motivation is important to all of us, as the achievement of goals and the desire or driving force that pushes us forward. It is a process that determines the performance of the tasks and determines the direction and changes in behaviour at work. Work motivation encourages purposeful action to meet personal needs and organizational interests, giving value and meaning to work activities [Morkevičiūtė ir kt. 2015]. Motivation and employee or work motivation are two inseparable things. It's the setting of goals and the need to realize those goals. The difference is that motivation is the setting of the individual goals while employee or work motivation is the setting of work – related goals.

The study of motivation is based on various theories to find out its meaning and benefits of use these days. Motivation theories explains reasons, goals, motives that encourages person to work and fill in gaps. There are a few theories that explains motivation. Most of them are grouped in *content* and *process* theories (Bakotic, Tadic, 2018). The most famous theories of these groups.

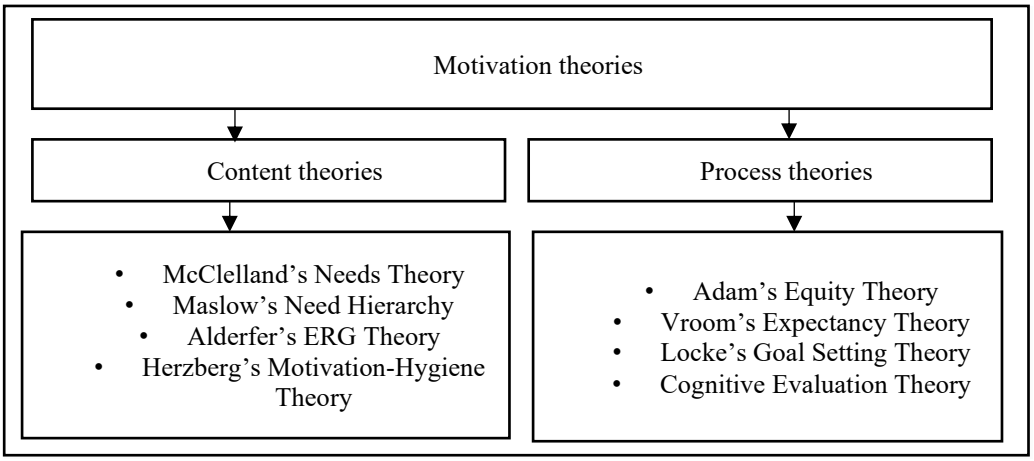


Fig.1. Motivation theories

Summarizing both, content, and process motivation measures from Figure 1, it can be said that everyone's motivation is based on certain established principles. Everyone decides individually, what is their driving force. It looks like that's the reason why people are choosing theory by themselves which is the most acceptable and even the most relevant.

A. Makki and M. Abid (2017) state that motivation can be separated to two contents: intrinsic and extrinsic motivation. Intrinsic motivation. *Intrinsic motivation* - J. D. Pandya (2024) asserts that this motivation, typically appears, when the person performing their work is driven by some internal forces or incentives, that come from work completion, rather than from external rewards. *Extrinsic motivation* – motivation to perform work or engage in a certain activity, where the main goal is to get receive some material reward or avoid punishment (Pandya, 2024).

Promoting motivation is important not only for everyone pursuing their own goals, but also for organizations to maintain the loyalty of their employees and help them achieve their personal and corporate goals.

Employee motivation research at UAB "Kaunas Aircraft Maintenance Services"

Presentation of UAB "Kaunas Aircraft Maintenance Services": is one of Ryanair group's maintenance bases, operating in Lithuania, at Kaunas airport. The company currently operates 4 hangars, where maintenance of Boeing 737 – 800 aircraft is carried out, in accordance with the requirements of the European Aviation Safety Agency (EASA), established rules and internal company procedures.

Research objectives: Conduct a survey at UAB "Kaunas Aircraft Maintenance Services".

Type of Research: For the research, a quantitative research type has been chosen.

Research data collecting method: The data collection tool chosen is a questionnaire (Kardelis, 2016)

Research place and date: research is completed at UAB "Kaunas Aircraft Maintenance Services. Survey was conducted from 24th of March to 28th of March.

Research sample: on March 9, 2025, UAB "Kaunas Aircraft Maintenance Services employed 356 employees. To ensure the reliability of employees, the sample will consist of no more than 10% margin of error, without necessity to survey all the employees of the company. To count the amount of research participants is used formula of Paniott'o (Kardelis. 2016). After performing all the steps specified in formula, using the available information about the survey error and the number of employees in the company, it was determined that to ensure 90 percent reliability of the survey, 78 employees need to be surveyed. A total of 78 questionnaires were distributed, and all 78 were returned.

This question is asked to find out, how participants evaluate the statement: systematically applied intrinsic and extrinsic motivation measures at organization, will improve my involvement and commitment to work. The distribution of responses is shown in figure 2.

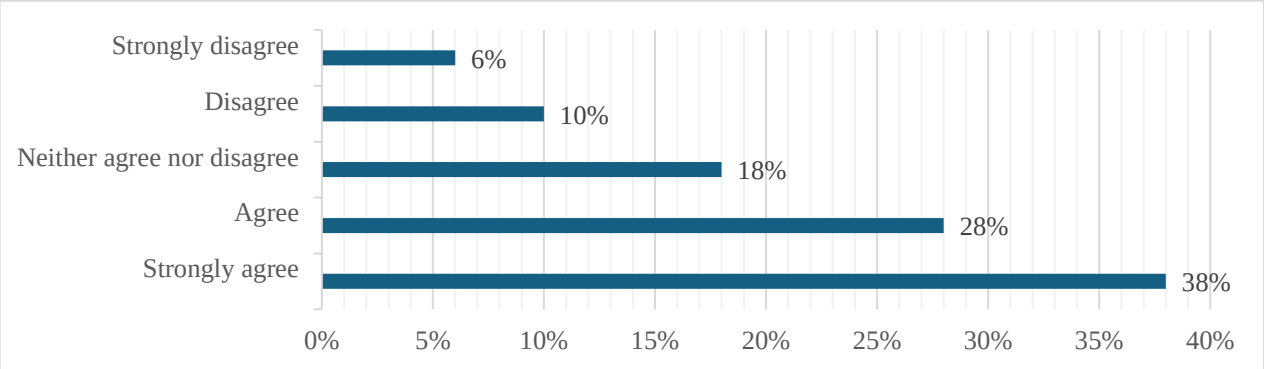


Fig. 2. Statement: systematically applied intrinsic and extrinsic motivation measures at organization, will improve my involvement and commitment to work, evaluation

Based on Figure 2 research data can be stated that 38 percent strongly agree, and 28 percent agree with statement that intrinsic and extrinsic motivation measures are improving their involvement and commitment to work. 18 percent are not sure, they neither agree, nor disagree with this statement. It can happen because maybe only one of the measures improve their work or totally different things. 10 percent disagree and 6 percent strongly disagree. It can indicate that it is not relevant to them, or they do not feel any impact when these measures are promoted.

It can be said that this question partially confirms the hypothesis formulated during the thesis because majority of respondents agree that measures like this improves their commitment and engagement at work.

The next question aimed to clarify the application of intrinsic measures at UAB "Kaunas Aircraft Maintenance Services. The results are presented in Figure 3.

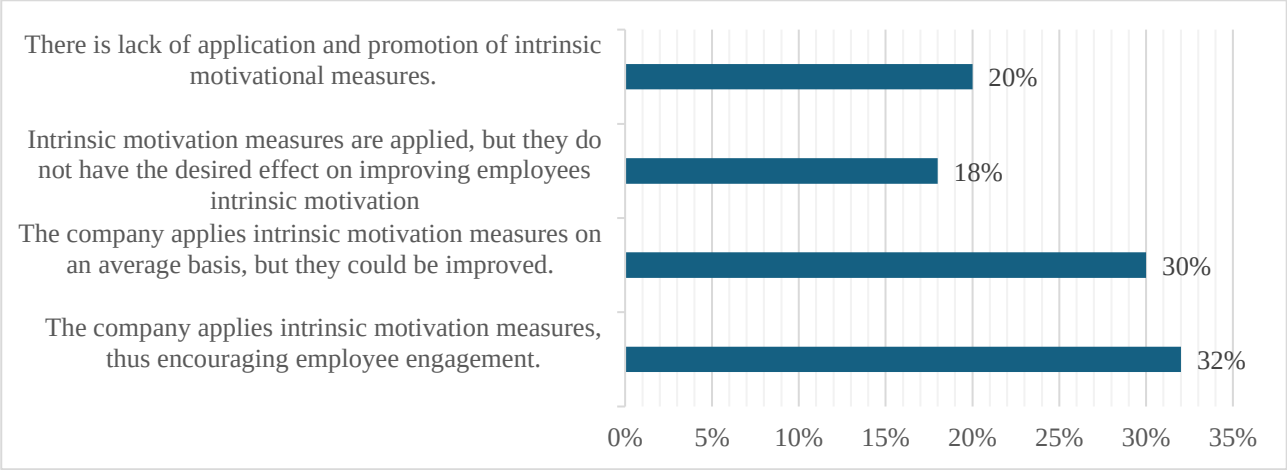


Fig. 3. Applying of intrinsic motivational measures at UAB "Kaunas Aircraft Maintenance Services

Analysing the survey data shown in Figure 3, can be stated that this question received a diverse distribution of responses. Only 32 percent agrees that the company applies intrinsic motivation measures, in a way to encourage employees engagement, it means that this part of the employees can feel these measures applying. 30 percent of participants agree that these measures apply on average basis and could be improved. 18 percent – agree that measures are applied, but not effective. 20 percent state, that there is lack of motivation measures.

Having clarified the application of intrinsic motivation measures, the aim is also to learn about the application of extrinsic motivation measures in the organization. Respondents are asked to evaluate extrinsic motivation measures applying at UAB "Kaunas Aircraft Maintenance Services". The results are presented in Figure 4.

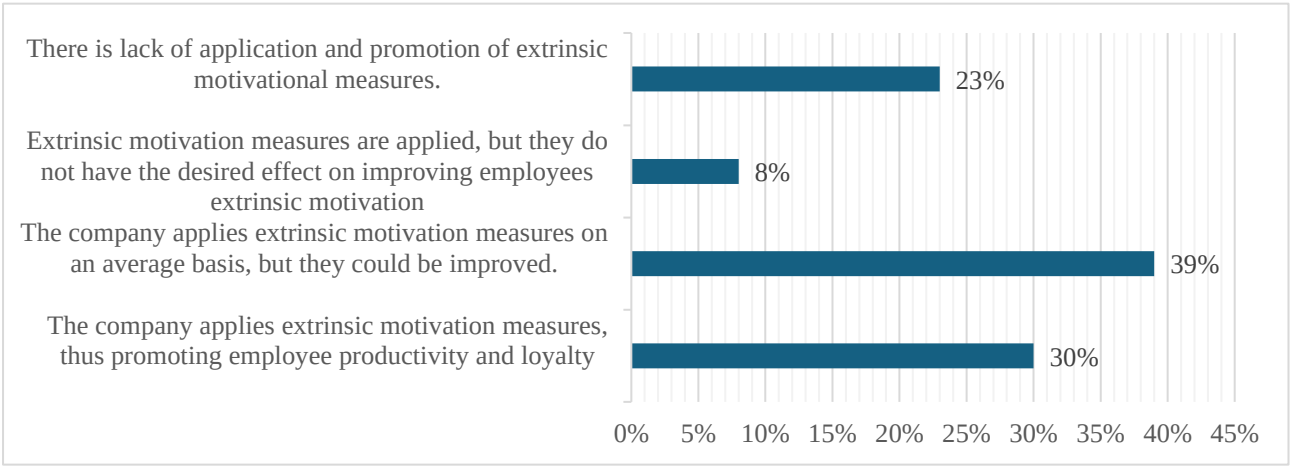


Fig. 4. Promotion of extrinsic motivational measures at UAB "Kaunas Aircraft Maintenance Services

In Figure 4 analysed research data shows that 39 percent of respondents agree that the company applies extrinsic motivation measures on average basis, but they must be improved. It means, that employees are feeling extrinsic motivation measures applying, but not so much as they want or expect it. 30 percent state that these measures are applied, and it's promoted employee's productivity and loyalty. It can be stated that more than half of the respondents agree and confirm the part of the hypothesis that improving extrinsic motivation measures in the company promotes employee dedication and engagement in work, and they should be improved. 8 percent also agreeing that these measures are applied, but they do not feel the effectiveness of such measures, and 23 percent claim that there is lack of application and promotion of these measures.

Analysing all the research results, we obtained a lot of useful information about the understanding and importance of motivation not only for individuals, but also for employees of the company.

The hypothesis formed during the study that systematically applied intrinsic and extrinsic motivation measures promote employee engagement and dedication to work has been *confirmed.*

Employee motivation at UAB "Kaunas Aircraft Maintenance Services" opportunities for improvement

In this section is analysed measures to improve employee motivation and their application possibilities, based on the results of research conducted in the company. Based on them, it is possible to predict that would effectively motivate employees and strengthen their commitment and loyalty.

Self-realization, fair and timely payment of wages, friendly relations with colleagues, opportunities for development and growth, support and appreciation from the managers are important for all the employees. According to these factors and based on the results of the thesis, it is possible to distinguish material and non-material measures for improving motivation, which are indicated in Figure 5.

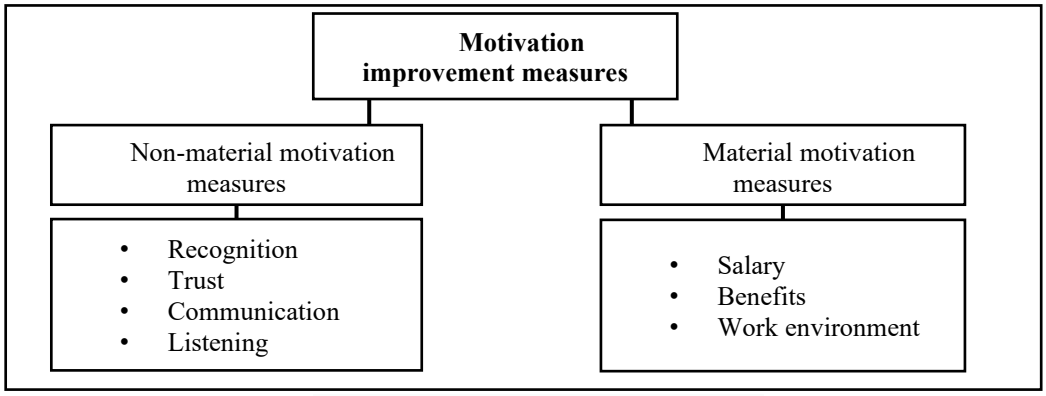


Fig. 5. Motivation improvement measures

Improving material and non-material motivation measures in organization can be main action that improves employee's motivation. It is possible to name a few different possibilities for improving, which good choosing and adapting would give to organization more loyal and motivated employees.

Conclusions

Motivation is a certain desire, a force that pushes us forward and encouraging us to achieve goals. Meanwhile employee motivation is creativity, ideas, and efforts, thanks to which work results are achieved. Employee or work motivation are two inseparable things. It is the setting of goals and the need to achieve them.

Motivation can be interpreted by two *process* and *content* theories. Content (needs) theories are used to analyse the individual's needs. Process theories describe the efforts an individual makes to achieve goals and observe what type of behaviour they choose to carry out the process. Motivation is also divided into *intrinsic* and *extrinsic. Intrinsic motivation,* when the person is driven by internal incentives and feelings, extrinsic, when is motivation comes from outside (salary, benefits). It can be stated that both should be encourage not only for individuals that want to achieve their goals, but also for organizations that want to keep their employees and to achieve their desired results, because appropriate choose of these two motivations encourage measures can decide the luck and employee loyalty for organization.

The study of employee motivation clarified the meaning of the concept of motivation for respondents. It can be stated that motivation is important for everyone because it's like strong gust of the wind that makes everyone's work and life easier. The motivation of employees, determined according to Maslow's theory of needs, helps to understand that the most important thing for them is to satisfy their physiological needs, as this will help them more easily to satisfy their self-esteem needs, which will ensure the improvement of their motivation in the organization.

Results of the survey indicated evaluation of employee motivation at UAB "Kaunas Aircraft Maintenance Services". More than half employees are satisfied or moderately satisfied with the promotion of motivation, they are happy with the implementation of their personal and professional goals in the company, although this could be improved.

Material and non-material measures have been established, which improving would significantly contribute to increasing employee's motivation. Improving these measures strengthen the trust of the employees, and encourage recognition, which positively affects their dedication and loyalty.

The study conducted at UAB "Kaunas Aircraft Maintenance Services" confirms the hypothesis that systematically applied intrinsic and extrinsic motivation measures improve employee commitment and

engagement. By improving material and non-material measures in an organization, intrinsic and extrinsic motivation measures are also improved to achieve the implementation of the company's goals, employee dedication and loyalty.

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EVALUATION OF THE SERVICES PROVIDED BY UAB „FL TECHNICS“ FROM THE POINT OF VIEW OF CUSTOMERS

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Lekt. A. Lukauskas
Keywords: UAB "FL Technics", services, services provided, customer reviews.

Abstract
The article analyzes the theoretical aspects of the services provided in the context of Lithuanian and foreign authors. Great attention is paid to service models, where it was determined that the SERVQUAL model is one of the most effective in assessing the quality of the services provided. It was determined that customer satisfaction/dissatisfaction indicates the quality of the services.
After evaluating the services provided by UAB "FL Technics" from the point of view of customers, it was determined that customers are satisfied with the services provided by the company and will continue to use them. Some customers do not agree with this and name the problems: the necessary information was not received, rude service.

Introduction

In today's modern, competitive and globalized business world, the main aspect of maintaining competitive advantage is the quality of services that companies can provide, which in turn determines effective customer retention. A successful strategy implies the need to build positive relationships with target customers and provide superior value compared to competitors. An organization that provides high quality services exceeds customer expectations, where long-term economic competitiveness and profitability are maintained.

Improvements can be achieved by restructuring business processes, systematically identifying key problems and thus establishing reliable and valid methods for measuring performance. According to L. Becker, E. Jaakkola (2020), the assessment of services provided is directly related to three other elements: service potential, service process and service result, such as appropriate employee qualifications, service delivery time and customer satisfaction.

Researchability. The evaluation of provided services and the processes related to it have been analyzed from various perspectives by foreign and Lithuanian scientists and practitioners: A. De Keyser, K. Verleye, K. N. Lemon, T. L. Keiningham, P. Klaus, P. (2020) analyzed the improvement of customer experience, P. Kotler, G. Armstrong (2012) defined the service approach and presented its features, P. Hong, M. Ga Yang, D. Dobrzykowski (2014) determined the importance of marketing in the context of services, L. Pilelienė, A. Šimkus (2010) studied the characteristics of services, J. Wen, S. S. Huang, P. Hou (2019), P. Lai, K. Singh, J. Kokkranikal, R. Bharadwaj, S. Rai, J. Antony (2019), A. Chaubey, C. K. Sahoo, N. Khatri (2019) conducted research using the SERVQUAL methodology to prove the links between customer satisfaction and loyalty.

Problem. A number of studies have been conducted to evaluate the services provided, but they do not sufficiently reveal what determines the satisfaction of consumer expectations. The main research question is raised - how do customers evaluate the services provided by UAB "FL Technics"?

Object - evaluation of the services provided by UAB "FL Technics".

Objective - to conduct an evaluation of the services provided by UAB "FL Technics".

Objectives:

1. Analyze the evaluation of services from a theoretical perspective.
2. Conduct a study of the services provided by UAB “FL Technics” from the perspective of customers.
3. Present the possibilities for improving the services provided by UAB “FL Technics” from the perspective of customers.

Research methods: systematization and analysis of scientific literature, questionnaire survey, generalization, data systematization and graphic representation.

Hypothesis: if UAB “FL Technics” provides high-quality services, this creates an opportunity to form customer loyalty.

Thesis structure: the study consists of three main structural parts - sections: conceptual, analytical research and constructive.

The conceptual part of the work presents four subsections, in which the evaluation of services is analyzed.

The analytical research part presents three subsections: company presentation, research methodology, research results and their analysis.

The constructive part presents the model and measures for improving the services of UAB “FL Technics” based on the results of the quantitative research.

Thesis scope: 47 pages, 7 tables, 28 figures, 2 appendices.

Data and…..

A quantitative study of the attitude of UAB “FL Technics” customers (questionnaire survey) was conducted. 77 respondents participated in the study. UAB “FL Technics” cooperates with five airlines in Lithuania (in order to maintain confidentiality, the names of the companies are not published, but are known to the author of the work, since he himself works for this company). The study was conducted by visiting UAB “FL Technics” customers, communicating via email and social networks (messenger) in April 2025.

Results

After conducting a study of the services provided by UAB "FL Technics" from the point of view of customers, it was found that 62 percent. use the services provided by the company quite often, i.e. once a month. Also, after systematizing the results of the conducted study, it became clear that communication with customers in the company is smooth, because 41 percent. indicated that they receive answers to their questions from the company's employees within one or two days. It was also found that 57 percent. highly appreciate the ease of communication, 49 percent. that they are given the opportunity to use all the necessary services. 72 percent. very well appreciate the listening to the customer and 61 percent. the reliability, persuasiveness and honesty of the staff. However, 41 percent. poorly appreciate the fast service, which increases the occurrence of conflicts. During the study, it was found that despite some customer dissatisfaction with the services provided by the company, the expectations of the majority of respondents are met, where the following aspects are mentioned: pleasant and polite service, fast service provision, responsibility, care and positive attitude.

Conclusions

After analyzing the scientific literature, it was determined that a service is the result of the work or resources of a service provider that provides value to the customer. It reflects what the customer receives or buys from the service provider. Both the customer and the service provider can be individuals or organizations, both internal and external to the company.

The conducted research highlighted the following problems of the provided services: to respond more promptly to inquiries, to better understand the client, it is appropriate to employ additional specialists, because those currently working do not always have the competence to answer the questions that arise.

A model for improving the services provided by UAB "FL Technics" has been developed, where the goal is to meet customer expectations. The intended goal is planned to be achieved by improving operational strategies. In order to smoothly improve operational strategies, it is also planned to follow the appropriate process: conduct anonymous surveys in order to clarify customer needs, conduct an analysis of the research results, prepare a "test" option, for example, to additionally hire a specialist who would answer only customer calls and consult on issues of concern, and conduct a repeated customer survey.

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ANALYSIS OF SALES PROMOTION MEASURES OF UAB "ANTRITEKSA"

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Keywords: sales promotion, sales promotion measures, marketing, marketing strategy.

Abstract

The article formulates the problem and analyzes the concept of sales promotion, factors that stimulate sales, sales promotion goals, the development of a sales promotion program and the selection of measures. The theoretical and practical aspects of sales promotion measures by Lithuanian and foreign authors are analysed. The directions for improving sales promotion are presented and a plan for sales promotion measures is prepared. A qualitative study was conducted - an interview survey at UAB "Antriteksa". During the study, it was determined that UAB "Antriteksa" does not have a unified plan for reviewing sales promotion measures, which would be evaluated and developed by the entire sales team and approved by the responsible person. The author's hypothesis is confirmed, if sales promotion measures are chosen correctly, the company will increase sales.

Introduction

Business organizations perform a number of activities to reach their customers with the services they provide and the goods they sell. The activities that are carried out to sell products or services to customers are called marketing and it is an important business function today. Marketing is the execution of business activities that direct the flow of goods and services from producers to customers. Modern marketing is more than just producing good products, the right price and easy access to customers. Attracting new customers has become a key aspect in modern business, which has created opportunities for greater interest in sales promotions. Sales promotions are an essential component that creates a comprehensive marketing strategy for any business that seeks to increase sales and attract new customers. Sales promotions are targeted campaigns designed to immediately drive sales or customer engagement. Sales promotions create urgency and offer quick results through tactics such as discounts, buy one get one free, bundled offers and seasonal sales. Interactive promotions, such as contests and sweepstakes, also increase engagement and campaign reach. Sales promotions, often used during key shopping seasons or product launches, encourage customers to act quickly, resulting in short-term sales increases and long-term engagement. They provide immediate value by motivating customers to buy, to become interested in the brand.

Theoretical part

Sales promotion is a marketing strategy in which a company uses short-term measures to stimulate interest and create demand and purchase of a product, service or other promotional offer. P. Kotler and K.L Keller (2016) state that sales promotion is a set of short-term measures designed to encourage consumers to purchase products more quickly or in larger quantities. However, organizations to **increase their sales** must appreciate that certain factors and effective strategies determine the behaviour of consumers when purchasing goods. A seller, to create the right solution at the right time for the right consumer, must analyse consumer behaviour patterns and how they are influenced when purchasing those products. Consumer behaviour refers to the individual behaviour of any person when purchasing (Mohajan, 2017). An organization to increase its sales must listen to the needs and wants of consumers. The first and most important step of every seller before giving the goods to the buyer is to analyse the consumer action and those influencing it (Hughes, 2019). It is important to note that **sales promotions are short-term marketing strategies** designed to induce quick and targeted responses from consumers, retailers, or sales teams (Dhian, Malik, Hasiholan, 2020). According to M. Justine (2019), sales promotions are temporary incentives that are intended to increase sales, attract customers, and increase brand awareness. However, not all sales promotion ideas are equally effective, and some can even backfire or waste budgets.

Sales promotions include all short-term offers (or incentives) that are given to buyers, retailers, or wholesalers and are designed to achieve a specific, immediate response.

Sales promotions are often delivered through or combined with an advertising program. Therefore, these programs may contribute to building brand awareness, fostering favourable attitudes, or other promotional goals, but the primary function of sales promotion is to create direct and specific behavioural responses from buyers or resellers, as sales promotion programs have different goals (Ames, 2016).

The goal of these strategies is to drive purchase or interest actions, such as purchases or increased engagement, and typically involve limited-time incentives such as discounts, free samples, or coupons. However, well-targeted sales promotion objectives can also lead to long-term customer loyalty and interest and contribute to the success of the company. Sales promotion immediately improves sales and fosters consumer loyalty, while public relations emphasize creating and maintaining a favourable corporate image in stakeholder interactions. These two tools increase the effectiveness of corporate sales promotion when used together and help companies perform well in a competitive environment.

Date and research methodology

Sales promotion is one of the most important marketing strategy tools, allowing for a quick response to market changes and encouraging consumers to make a purchase decision. This study aims to analyze the sales promotion tools used by UAB "Antriteksa".

Research methods:

The qualitative research method chosen for the study was an interview. A semi-structured interview is one of the most popular qualitative research methods, allowing for a deeper understanding of the experience, attitudes and opinions of the study participants (Kardelis, 2016). This method combines structured and free interview elements, providing flexibility for the researchers, while maintaining the structure of the questionnaire. Place and time of the study. The study was conducted using the Zoom program at a time agreed in advance with the interviewee. The interview was recorded and processed in Microsoft Word. The interview was conducted in April 2025. Interview type. A semi-structured interview was conducted. Structure of the qualitative research. The interview questionnaire consists of 15 open-ended questions.

Qualitative research - interview with UAB “Antriteksa” employees

The qualitative research method chosen for the study was an interview. A semi-structured interview is one of the most popular qualitative research methods, allowing for a deeper understanding of the experiences, attitudes and opinions of the study participants (Kardelis, 2016). This method combines elements of structured and free interviews, giving the researcher flexibility, while maintaining the structure of the questionnaire. Place and time of the study. The study was conducted using the Zoom program at a time agreed in advance with the interviewees. The interview was recorded and processed in Microsoft Word. The interview was conducted in April 2025. Type of interview. A semi-structured interview was conducted. 5 experts were selected who have many years of experience in UAB “Antriteksa”, a deep understanding of sales and their promotion measures, as well as direct contact with the company's customers. Qualitative research process. The purpose of this qualitative research is to analyze the sales promotion measures used by UAB “Antriteksa”. When planning the study and its questionnaire, information about the purpose of the interview, the use of the results and the confidentiality of employees was sent by e-mail. After receiving the director's consent, a time was planned for the interview.

Results

Analysis and summary of the results of the experts' internal assessment

The interview questionnaire consists of 15 open-ended questions. Tab 1. The interview questions are divided into blocks:

Table 1

Structure of interview questions at UAB "Antriteksa".

Category	Purpose	Question number
Demographic questions	Analyze the experts' work experience and education.	1.2
The concept of sales promotion and factors that stimulate sales	To find out and evaluate experts' understanding of sales promotion measures.	3,4,5

Setting sales promotion goals	To investigate the main goals of sales promotion in the company and possible obstacles.	6,7
Creating a sales promotion program	Find out how sales promotion programs are created in a company.	8,9,10
Selection of sales promotion tools	Analyze what measures would help boost sales.	11,12,13
Hypothesis justification questions	Test the hypothesis "If sales promotion measures are chosen correctly, the company will increase sales."	14,15

The interview survey was attended by the export manager, wholesale manager, retail manager, senior manager and sales manager of UAB “Antriteksa”. The aim of the interview was to investigate the sales promotion measures of UAB “Antriteksa”. In order to better understand the informants’ position in the company and their work experience, demographic questions were asked in the first part of the interview.
They helped to determine the informants’ positions and seniority in UAB “Antriteksa”. All 5 employees of UAB “Antriteksa”, who work in the sales area and constantly communicate with the company's customers, agreed to participate in the interview. The interview was conducted at a pre-planned time via the “Zoom” chat program. A pre-prepared questionnaire consisting of 15 questions was used during the interview. Each respondent was given about 60 minutes of time. This study will help analyse the application of sales promotion measures in UAB “Antriteksa”.

Table 2

Interview questions with UAB “Antriteksa” employees and their purpose (compiled by the author of the thesis)

Questions	**Purpose**
What is your position at UAB "Antriteksa"?	Analyze the experts' work experience and education.
How many years have you worked at UAB "Antriteksa"?	
How is sales promotion understood in your organization?	To find out and evaluate experts' understanding of sales promotion measures.
What are the main factors influencing sales growth at UAB "Antriteksa"?	
Do you use different sales promotion strategies for different customer groups?	
What are the main sales promotion goals set by UAB "Antriteksa"?	To investigate the main goals of sales promotion in the company and possible obstacles.
How often do you review and adjust your sales promotion goals?	
What are the main criteria used when choosing the right sales promotion tools?	Find out how sales promotion programs are created in a company.
What challenges do you face when implementing sales promotion programs?	
How do you create sales promotion programs? Who creates and approves them?	
How does a company select the most appropriate sales promotion measures?	Analyze what measures would help boost sales.
What sales promotion methods do you consider to be the most successful?	
What criteria do you use to determine whether sales promotion measures are appropriate?	
What sales promotion strategies have worked for UAB Antriteksa and which ones would you consider ineffective?	Test the hypothesis "If sales promotion measures are chosen correctly, the company will increase sales."
In your opinion, is sales growth mainly determined by appropriate promotional measures, or are there other more important factors? (market situation, competition, loyalty).	

The study found that the employees of UAB "Antriteksa" have many years of experience, which shows that the employees are not only loyal to the company, but also have accumulated extensive sales experience, are familiar with working with the company's clients and different markets, which leads to greater success in trying to attract more clients and increase sales. It is also very important to mention that such a structure of questions allows

for a targeted assessment of the insights provided, because the longer the experience in the company and the wider the area of responsibility, the more the informant's approach can be based on practical insights and include a broader view of sales promotion measures and their use. The study found that the company perceives sales promotion not only as a temporary measure, but also as a long-term investment in customer relations. The company's approach provides an opportunity to retain the company's customers, but also to attract new ones. By adapting sales promotion strategies to different customer groups, UAB "Antriteksa" allows not only to better understand the expectations of different customers, but also to ensure a higher level of customer satisfaction and maintain long-term business relationships. UAB "Antriteksa" sales promotion goals are strategically thought out, focused on long-term benefits, strengthening loyalty and development abroad. Such a goal suggests that the company not only responds to market changes, but also forms a targeted sales policy focused on customer retention and growth. Evaluating the results of the study, we can state that long-term business success depends not only on commercial incentives, but also on strategic relationships with customers, reliable service and the ability to adapt to market changes.

The **hypothesis** that if sales promotion measures are chosen correctly, the company will increase sales was confirmed. During the study, it was determined that the company pays great attention to the selection of sales promotion measures and the creation of long-term relationships with customers. It was determined that sales promotion measures are assigned differently for each region, because customers, size, needs, logistics capabilities differ, but they are adapted individually for each of them. It was determined that UAB “Antriteksa” does not have a unified plan for reviewing sales promotion measures, which would be evaluated and developed by the entire sales team and approved by the responsible person. UAB “Antriteksa” must improve its internal structure to make it more consistent and structured.

Based on the qualitative research conducted and the opinions expressed by employees, as well as the sales promotion measures analysed in the theoretical part, the main directions for improving sales promotion can be identified (Fig. 1).

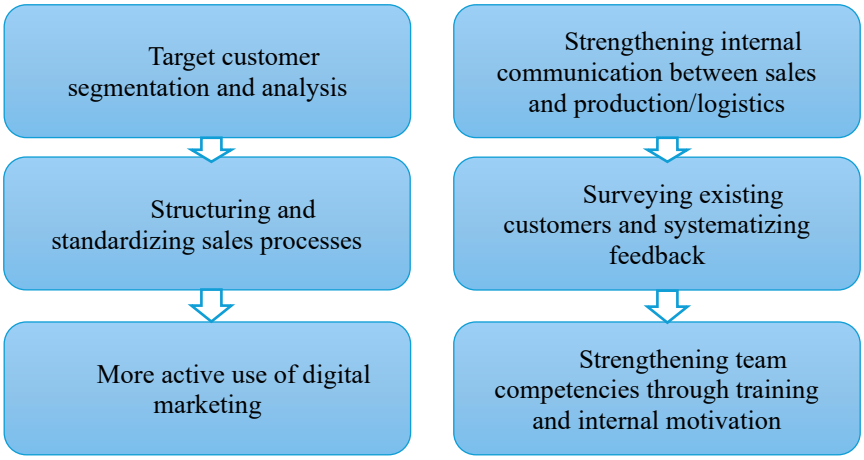


Fig. 1. Directions for improving sales promotion at UAB "Antriteksa" (compiled by the author of the work)

Based on the qualitative research conducted, UAB "Antriteksa" creates sales promotion improvement directions, which are presented in Figure 7. Each of these planned improvement directions is aimed at strengthening customer analysis, personalized offers, development of digital marketing, loyalty programs, systematization of customer feedback and development of employee competencies. These directions aim to increase the even and consistent increase in sales, maintain the competitiveness and efficiency of the company.

Taking into account the directions for improving sales promotion at UAB "Antriteksa" listed in Fig.1, a plan of measures has been prepared to help systematically implement the proposed changes. The plan is focused on analysing the needs of business customers, strengthening employee competencies, improving the effectiveness of internal communication, and developing digital marketing.

Customer segmentation and personalization of offers: perform an analysis of existing and potential customers by field of activity, purchase volume and needs. Prepare different offer templates according to customer segments.

Create standardized offer formats with the possibility of personalization. *Structuring and standardization of sales processes:* prepare a clear description of the stages of the sales process - from the first contact with the customer to the transfer of the order to production/logistics and after-sales service. Create a unified procedure for working with customers, including the preparation of offers, confirmation of orders and recording of information. Organize training for employees and familiarize them with new procedures, their use and regularly evaluate their effectiveness. *Digital marketing activation:* create a content plan for the company's LinkedIn and website updates - upload success stories, new products, partnerships. Use paid advertising (LinkedIn Ads, Google Ads) to reach new B2B customers. Prepare monthly newsletters informing customers about product innovations, benefits and acquisition opportunities. *Strengthening internal communication between departments:* use a common order tracking and commenting system, available to both sales and logistics/production departments. Organize weekly short internal meetings between sales and logistics teams to discuss current orders. Create a responsibility distribution model for the department. *Systematizing feedback:* conduct a customer satisfaction survey once a year. Create an internal database with the most common customer comments or suggestions. Use customer feedback to adjust the sales strategy. *Employee training and motivation:* organize internal training on the art of negotiation, customer service and the basics of sales. Introduce an incentive system that would include bonuses for achieving sales goals. Create a growth plan (for advanced employees), providing additional responsibilities and opportunities to participate in decision-making.

The sales promotion measures plan of UAB "Antriteksa" has been prepared based on specific directions for improving the company's activities. The plan includes both the optimization of internal processes and the strengthening of external communication with customers. Each measure is focused on a systematic and long-term impact - understanding customer needs, targeted provision of offers, developing employee competencies, managing feedback and exploiting digital marketing opportunities. The implementation of these measures will allow UAB "Antriteksa" not only to increase sales volumes, but also to strengthen the company's position in the competitive B2B market.

Conclusions

1. Sales promotion measures are targeted and strategically planned directions that, using various means (discounts, gifts, loyalty programs, additional services), help to influence consumer behaviour and increase sales in the short term. The most effective application of sales promotion measures requires the formulation of clear goals, a well-planned program and the selection of appropriate measures, taking into account the target audience and market segment.
2. When analysing sales promotion measures, it can be stated that sales promotion is an important part of the marketing strategy, encompassing complex processes – from understanding the concept of promotion and formulating goals to drawing up a program and selecting measures. Effective sales promotion helps a company not only increase sales volumes, but also attract new customers, strengthen the loyalty of existing ones, increase brand awareness and competitive advantage. Properly formulated promotion goals allow you to focus not only on short-term results, but also on long-term business development.
3. The results of the study revealed that UAB "Antriteksa" does not have a unified sales promotion review plan that would be evaluated and developed by the entire sales team and approved by the responsible person. UAB "Antriteksa" must improve its internal structure to make it more consistent and structured.
4. Based on the analysis, UAB "Antriteksa" has several important areas for improvement. Target customer segmentation, structuring and standardization of sales processes, more active use of digital marketing solutions, and strengthening internal communication between sales and production/logistics are some of the most important areas for achieving smoother organization of the company's activities and better satisfaction of customer needs.
5. In order to improve the selection of sales promotion measures, UAB “Antriteksa” has created sales promotion improvement directions, which include segmentation and analysis of target customers, structuring and standardization of sales processes, more active use of digital marketing, strengthening internal communication between sales and production/logistics, surveying existing customers and systematizing feedback, strengthening team competencies through training and internal motivation. The plan includes both optimization of internal processes and strengthening external communication with customers. Each measure is focused on a systematic and long-term impact – understanding customer needs, targeted provision of offers, development of employee competencies, feedback management and exploitation of digital marketing opportunities.

6. The **hypothesis** raised in the article was confirmed, if sales promotion measures are chosen correctly, the company will increase sales, it was confirmed. During the study, it was found that the company pays great attention to the selection of sales promotion measures and the creation of long-term relationships with customers. It was found that sales promotion measures are assigned differently for each region, because the customers, size, needs, logistics capabilities are different, but they are adapted individually for each of them.

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EMPLOYEE ADAPTATION AT UAB „BITĖ LIETUVA“

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Keywords: adaptation, employee adaptation, induction process, professional adaptation, social adaptation, psychological adaptation, adaptation effectiveness, feedback, emotional support, organizational culture, adaptation improvement, communication.

Abstract
The article deals with the concept and essence of employee adaptation, adaptation processes and stages, peculiarities of social, psychological and professional adaptation types and the impact of employee adaptation on new employees. The aim of the study was to investigate the adaptation of employees in UAB ‘Bitė Lietuva’. The results of the study showed how employees perceive the adaptation process, the importance of adaptation factors and the support of managers and colleagues during the adaptation process. The author's hypothesis is confirmed - if the adaptation process is properly applied, the successful adaptation of new employees will be accelerated.
Based on the results of the study, the directions and measures to improve the adaptation of new employees in the company were formulated.

Introduction

Relevance of the Topic: Employee adaptation is an important area in the activities of modern companies. The process of employee adaptation is becoming increasingly important in the competitive labor market, as the effective introduction of new employees helps organizations adapt to market changes faster and maintain a competitive advantage [Bernatavičiūtė, Radzevičienė, 2020]. It should be noted that nowadays, in most business areas, employees are directly responsible for the customer experience, and their professional preparation and mental health have a significant impact on the quality of services. According to P. Sparrow, C. Brewster, C. Chung [2017], employee adaptation is a fundamental process that allows an organization not only to effectively adapt new employees, but also to maintain their productivity at work and involvement in the organization's culture and activities. Having successfully overcome the adaptation process, employees become more motivated, competent and can effectively achieve the company's goals. Insufficiently or improperly adapted employees often face difficulties that are directly reflected in the level of customer service.

Research Problem: The ability to adapt properly and successfully in companies is one of the most important factors in the success of companies, especially companies whose work is related to the provision of customer service and delivery services, one of which is UAB "Bitė Lietuva". Insufficient or improperly applied adaptation to new employees can reduce their motivation, increase emotional exhaustion, encourage employee turnover, and reduce loyalty to the company.

Research Object: adaptation of employees of UAB "Bitė Lietuva".

Research Aim: to investigate the adaptation of employees at UAB "Bitė Lietuva"

Research Objectives:

1. To analyze the adaptation of employees from a theoretical perspective.
2. To conduct a study of the adaptation of employees at UAB “Bitė Lietuva”.
3. To present possibilities for improving the adaptation of employees at UAB “Bitė Lietuva”.

Research Methods: scientific literature review, examination of online sources, questionnaire survey, graphical representation, Excel program for processing research data.

Research Hypothesis: If the employee adaptation process is applied properly, the successful adaptation of new employees will be accelerated.

Theoretical Aspects of Employee Adaptation

The concept of employee adaptation has been widely mentioned since the 20th century. Adaptation is a natural process of developing those qualities of an individual that help him or her to exist [Visuotinė lietuvių enciklopedija, 2024]. Different authors see different definitions of adaptation, focusing on certain aspects, including psychological adaptation, higher work productivity or social integration. The concepts of adaptation of different authors are presented in Table 1.

Table 1

The concept of employee adaptation (compiled by the author of the work)

Author	Definition
T. W. Britt, W. Shen, R. R. Sinclair, R. M. Grossman, D. M. Klieger [2015]	Adaptation – an employee's ability to recover from difficulties and adapt to changing working conditions while maintaining high performance.
I.Stravinskienė [2017]	Employee adaptation is an element of the personnel management system, the task of which is to familiarize employees with their new job and try to integrate them into the team as quickly as possible.
J. Gajda [2018]	Adaptation is the process of new employees acquiring the necessary knowledge, skills, and behavioral patterns that allow them to effectively perform their duties and integrate into the organizational culture.
G. Bernatavičiūtė, A. Radzevičienė [2020]	Adaptation – adapting the value proposition to different groups of employees, considering their needs and expectations, in order to create an attractive employer image.
D. Jeske, D. Olson [2021]	Adaptation is a process of mutual learning, during which both new employees and the organization exchange information and experience, aiming for optimal cooperation.
O. Ybarra [2023]	Adaptation is an employee's ability to respond flexibly to new situations, learn from experience, and apply acquired knowledge and skills to solve problems.
J. Čėsnienė, G. Slušnienė [2023]	Social adaptation is the process by which a person learns the rules, values, and behavioral norms of a new social environment in order to successfully integrate into society.
Visuotinė lietuvių enciklopedija [2024]	Adaptation (Latin: Adaptation – adjustment, adjustment), adaptation, usually a natural process of self-regulation, preserving and developing those characteristics of an individual that help them exist and better adapt to the environment.

Table 1 presents the concepts of employee adaptation of different authors, which emphasize various aspects of this process - from the acquisition of knowledge and skills to psychological and social adaptation. Although the definitions differ, all authors state quite similarly that adaptation helps employees successfully integrate into the organization and properly perform their functions.

Employee adaptation is a process that helps new employees adapt. According to VTD [2022], two forms of adaptation are distinguished: formalized (structured, with clear rules) and informal (occurring naturally). Effective adaptation increases employee motivation, reduces stress and strengthens the image of the organization; therefore, it is important to ensure that the adaptation process is clear and adapted to the needs of employees.

Employee adaptation is a mutual process, when both the employee and the organization adapt [Jeske, Olson, 2021]. According to I. Stravinskienė [2017], adaptation occurs in four stages: negative reaction to changes, resistance, recognition of changes and successful adaptation. The State Service Department [2022] distinguishes quite similar stages of adaptation: preparation for work, employee "introduction" to the organization, integration into work functions and feedback. Successful adaptation helps reduce stress, promotes engagement and reduces employee turnover.

According to the Ministry of Internal Affairs [2024], employee adaptation includes three main types – social, psychological and professional. Social adaptation means adapting to the values of the team and the organization, psychological – maintaining emotional balance during adaptation, and professional – mastering new knowledge and skills. Employee adaptation is a mutual and continuous process, requiring efforts from both the employee and the employer.

According to L. Kučinskaitė [2018], employee adaptation is influenced by internal (personal qualities, experience, motivation) and external factors (manager support, clear tasks, organizational culture). Successful adaptation is promoted by the social environment, mentoring, and generational differences. Organizations that take these differences into account ensure faster adaptation, greater engagement, and loyalty.

Research On Employee Adaptation in UAB „Bitė Lietuva"

Organization Overview: UAB "Bitė Lietuva" is one of the telecommunications leaders in Lithuania, founded in 1995, providing mobile communication, Internet, IT and cloud services. The company is managed by a hierarchical management system, which allows for effective management of processes and development. Since 2007, the main shareholder has been "Providence Equity Partners". The company's vision and goal is to create smart solutions that make people's everyday lives easier. The company's activities are based on the following values: attention to people, teamwork, creativity, impeccable performance and a passion for winning.

Research Aim: to investigate the adaptation of employees at UAB "Bitė Lietuva".

Research Type: quantitative type of research.

Method Of Collecting Data Needed for Research: The questionnaire survey method was chosen for data collection. In the modern world, the questionnaire survey method is most suitable for quickly surveying a sample of respondents.

Sample Size: The survey is carried out between March and April at the main office of Bitė Lietuva UAB, Žemaitės g. 15, Vilnius, where 400 employees work. To ensure the reliability of the survey with a margin of error of no more than 10 %, it is not necessary to interview all the employees of the company. The Paniott formula is used to calculate the required number of participants. (Kardelis, 2016). The calculations in the formula indicate that a minimum of 80 respondents should be interviewed to ensure 90% reliability. 80 questionnaires were distributed for the survey, of which 80 were returned.

Survey Structure: The questionnaire consists of 22 closed questions, divided into 6 categories, which are directly relevant for the study.

First, respondents are asked to rate the importance of adaptation processes during adaptation. The results are presented in Figure 1.

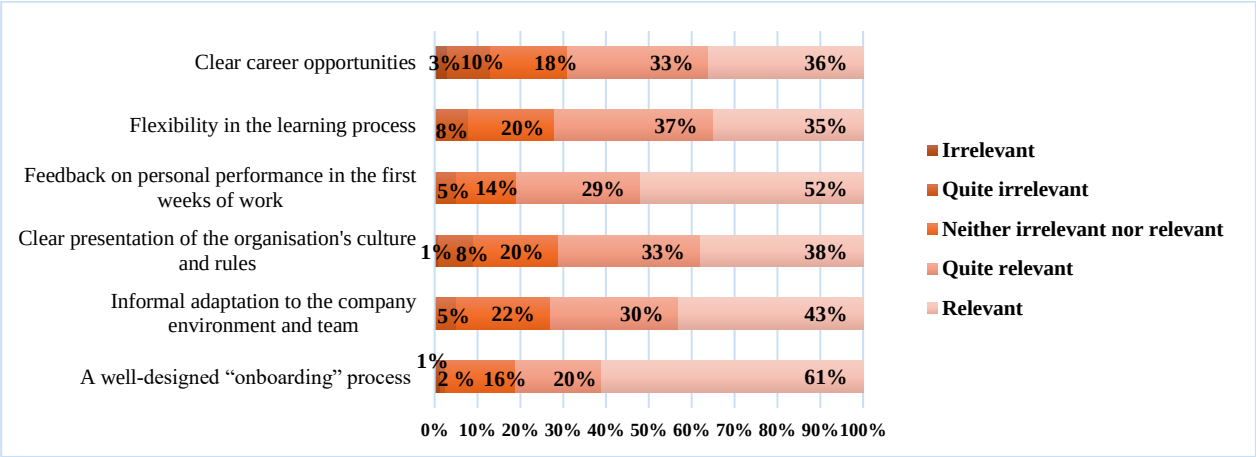


Fig. 1. The importance of adaptation processes during adaptation

The results in Figure 1 show that the most important aspects of adaptation were the induction process (61%), feedback (52%) and informal adaptation to the team (43%). However, 16% of respondents rated the 'onboarding' process as neither important nor important and 2% as unimportant or somewhat unimportant. Informal adaptation was rated as neutral by 22% of respondents and somewhat unimportant by 5%. Flexible learning was rated as important or important by 72% of respondents. Career opportunities were rated as important or important by 69% of respondents, but 3% rated it as unimportant. The results show that while most factors are rated as important by respondents, some factors are unimportant to some respondents.

The next question asked how respondents felt about their line manager's support. The results are presented in Figure 2.

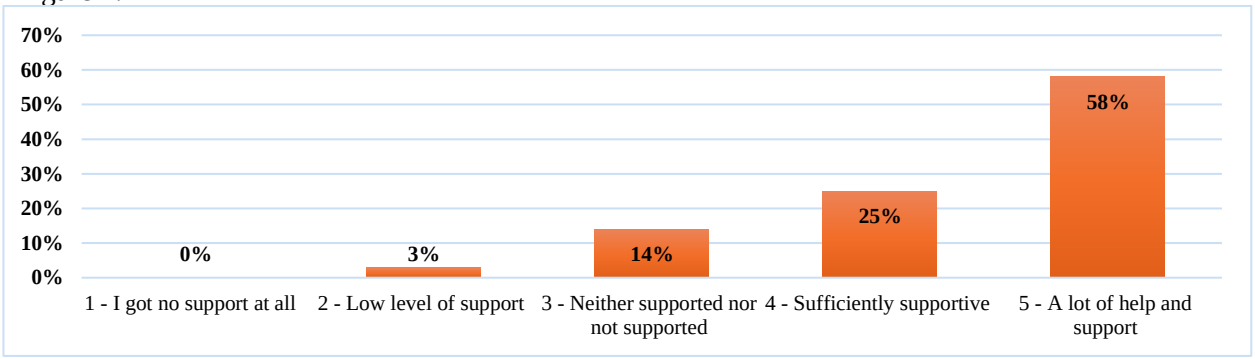


Fig. 2: Support from line manager during adaptation

Figure 2 shows that 58% of respondents felt supported by their line manager during the adaptation process, 25% felt that their support was sufficient, while only 3% reported a lack of support. No respondents reported that they did not receive any support at all from their line manager, suggesting that most employees experienced at least minimal support.

Next, employees are asked to indicate the duration of their adaptation. The results are shown in Figure 3.

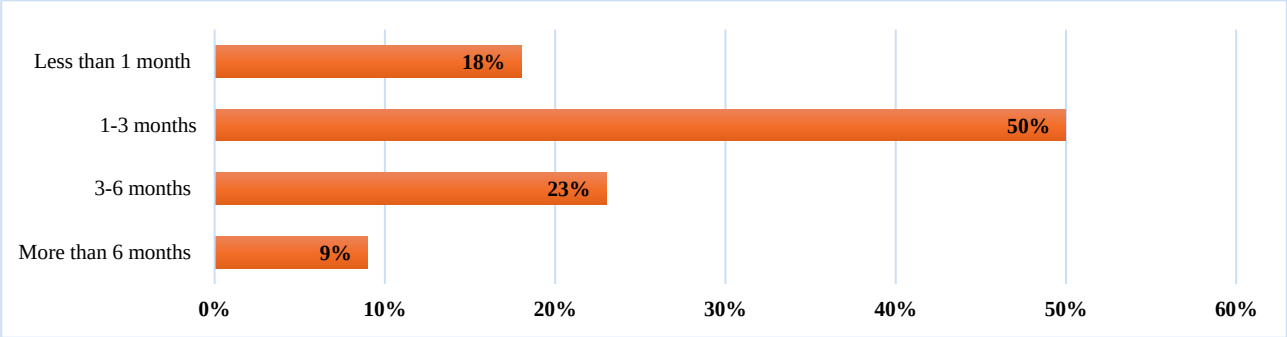


Fig. 3. Adaptation time

The results in Figure 3 show that most employees (50%) adapted within 1-3 months, 23% within 3-6 months and 18% in less than a month. Only 9% of respondents took longer to adapt, indicating that the vast majority adapt relatively quickly.

Next, respondents are asked to evaluate the adaptation process used in the company. The results are presented in Figure 4.

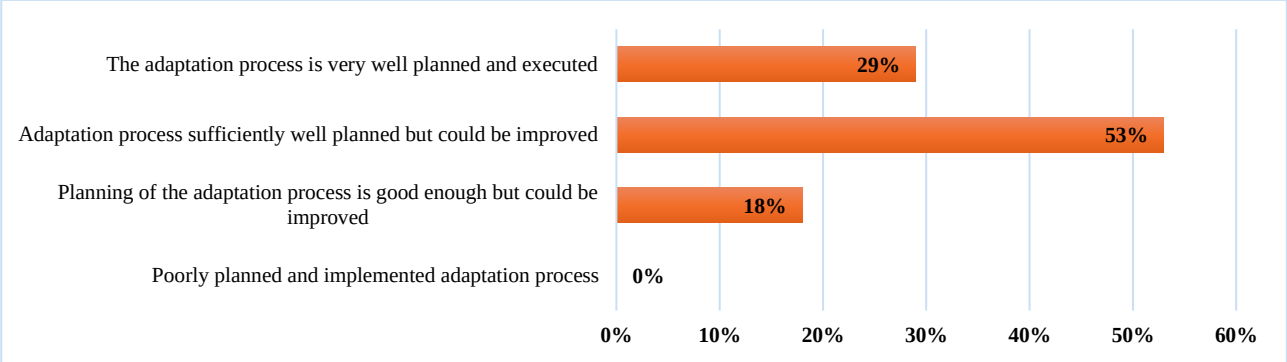


Fig. 4. Evaluation of the application of the adaptation process

Figure 4 shows that most respondents (53%) indicated that the adaptation process is well planned but needs improvement. 29% of staff say that the process is well planned and executed, 18% say that the adaptation process is well executed but that the planning could be improved. No respondent identified the adaptation process as poor, suggesting that the company has a clear adaptation framework but that its implementation is not always uniformly applied.

The results of the survey suggest that most employees had a positive experience of adaptation in the company, but there are still areas for improvement.

Opportunities to improve the adaptation of employees in UAB "Bitė Lietuva"

Employees are one of the company's most important assets, as they contribute directly to the achievement of the company's objectives and results. The company's performance depends on employees' adaptation, motivation and ability to perform well. The results of the employee adaptation survey highlighted weaknesses in the company's adaptation process: new employees do not always receive enough emotional support from colleagues, there is a lack of clear communication with line managers, there is not always enough clarity of work objectives and there is a lack of stress management tools. The improvement plan allows to address the shortcomings to ensure a more efficient and faster adaptation process. Figure 5 shows the directions and measures to improve the adaptation of the employees of UAB "Bitė Lietuva".

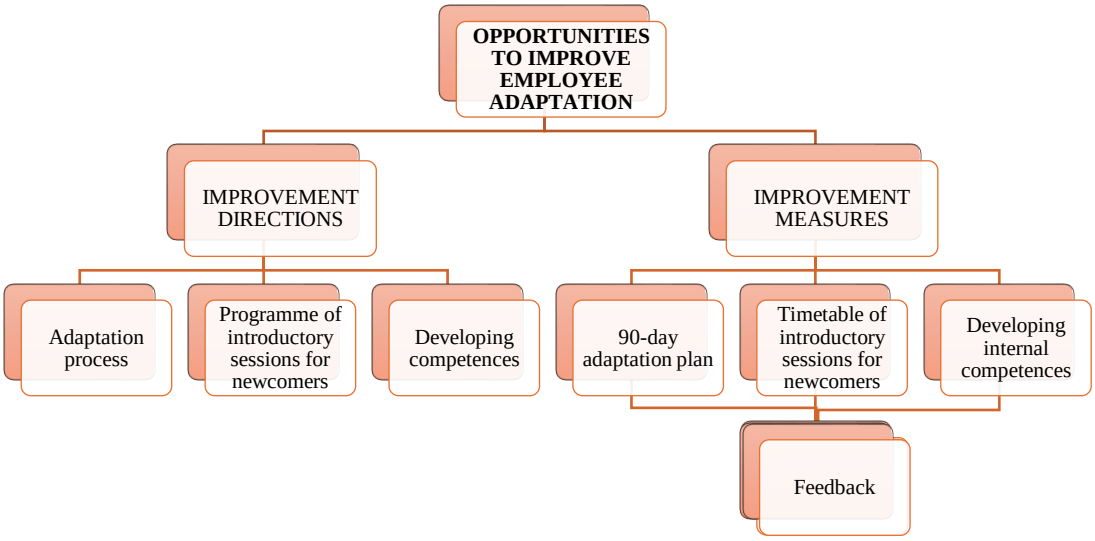


Fig. 5. Directions and measures to improve employee adaptation

The directions and measures to improve the adaptation of employees will help improve the adaptation process in the company. The digitisation and customisation of the adaptation plan, the scheduling of induction sessions for new recruits, the active organisation of the development of internal competences, and the provision of feedback will provide the right conditions for a more effective adaptation of employees in the company, allowing employees to achieve their adaptation goals consistently and to acquire the necessary knowledge and competences more quickly.

Conclusions

Employee adaptation is a complex, multifaceted and long-term process involving professional, social and psychological adaptation factors. Successful adaptation involves not only the mastery of work tasks, but also the assimilation of the company's values, culture and social environment. As different aspects of adaptation are important to employees, the adaptation process should be flexible and tailored to everyone to meet the needs of all employees and to help them adapt more quickly and effectively.

Most employees at UAB “Bitė Lietuva” have a positive view of the adaptation process. 48% of employees reported that they feel fully adapted and that they are full members of the team. Employees identified the most important factors of adaptation as psychological well-being, professional training and the social environment, especially the support of managers and colleagues. Almost half (49%) say they did not have an assigned mentor and were helped by colleagues to adapt. 9% of employees say that their adaptation took more than half a year, which shows that there is a mixed response, i.e. the adaptation process is not uniformly applied.

The research hypothesis was confirmed. 68% of respondents reported that they were able to adapt within 1-3 months or less. 53% of staff reported that the adaptation process was well planned. 58% say they had very strong support from their line manager. According to the staff, the support of the manager was rated highly (4.5). This shows that a clearly planned and properly executed adaptation process helps to ensure a quick and effective adaptation.

Suggested areas for improving adaptation: digitisation of the adaptation process, organisation of induction sessions for new recruits, development of internal competences. Proposed measures to implement these directions: 90-day adaptation plan, regular sessions for newcomers, training on internal competences. These three measures will improve one of the most important tools, feedback, which will help to identify difficulties and problems in time throughout the adaptation process. Improving the adaptation process is essential to ensure the smooth adaptation, engagement and loyalty of new employees.

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ANALYSIS OF CUSTOMER SERVICE AND SERVICE POLICY AT "BALCIA INSURANCE SE"

Evelina Moskovcevaitė
Lect. Birutė Povilianskienė
Keywords: customer, customer service, quality, service.

Abstract
The article addresses the issue of the complexity of customer service and importance of service policy. The conceptual part of the work analyzes different types of trade and services are, explores theoretical aspects of customer service and service policy, and discusses various forms of customer service, their impact, and the factors that improve service.
Through a quantitative study, the customer service, its quality and service policy of „Balcia Insurance SE" are analyzed. The author's hypothesis is partially confirmed, as the company applies various customer service methods, although some of them are recommended to receive more focused attention.

Introduction

Relevance of the topic. The customer service and service policy have evolved significantly alongside the industrial revolution in the 19th century. Initially, the service involved handwritten letters and typewritten complaints, but it has now reached the technological era, with many services and customer support provided by automated programs and smart devices. Customer service holds great importance for companies: customer loyalty is determined by the quality of shopping experience, the feeling of being valued and welcomed. High-quality service not only contributes to customer satisfaction but also shapes the company's image, which can directly influence its sales and long-term success.

Research ability of the topic. The concepts of services, policies, and customer service have been extensively explored not only in Lithuania but also in other countries. Service policy has been studied by B. Edvardsson and B. Tronvoll (2022, p. 38), S.L. Vargo and R.F. Lusch (2016), J. Wirtz (2023), and others. Trade has been explored by S. Dwivedi (2018), D. Chaffey (2025), N. Giang, N. Duy, and others (2025), and others. Customer service and its improvement factors were analyzed by M. Grant (2020), P. Kotler (2017), L. Šalkauskienė (2018), and others.

Problem of the work. Each company must make considerable efforts to ensure that employees positively influence customer service. For the insurance company "Balcia Insurance SE," proper customer service is particularly important, as the company's reputation and revenue directly depend on pleasant customer service, the conditions provided to clients, and the overall image of the company.

The object of the work. Customer service and service policy of the company "Balcia Insurance SE."

The aim of the work. To analyze the customer service and service policy of the company "Balcia Insurance SE".

Work tasks:

1. To analyze the theoretical aspects of customer service and service policy.
2. To conduct research on the customer service and service policy of "Balcia Insurance SE."
3. To provide suggestions for improving the customer service and service policy of "Balcia Insurance SE."

Research methods. Literature review, analysis of online sources, graphical representation, questionnaire survey.

Work hypothesis "If "Balcia Insurance SE" applies more diverse methods in customer service and service delivery that attract customers, then the company's sales and recognition will increase".

Understanding the Concepts of Service Policy and Customer Service

The concept of service policy is one of the essential elements that helps to understand the perception of this process. According to B. Edvardsson and B. Tronvoll (2022), the significance of services has been discussed for quite some time. Therefore, the authors present different opinions on services from various societal actors (Table 1).

Table 1

Definitions of the concept of services, table created by the author of the work based on (Edvardsson and Tronvoll, 2022)

AUTHOR	DEFINITION
Ch. Grönroos (2000)	A service is a process based on intangible activities, where a person, the customer, interacts with the service staff, physical resources, or other service delivery methods.
S.L. Vargo ir R.F. Lusch (2004)	A service is the application of knowledge and skills through the service provided to another person.
B. Edvardsson et al. (2005)	The main factor of a service is value co-creation with customers, while its processual and relational nature forms the basis for defining the service.
C. Lovelock ir J. Wirtz (2007)	Services are processes that deliver value to the recipient through time, place, form, problem-solving, or experience.
S.L. Vargo ir R.F. Lusch (2016)	A service is a value creation approach, and value is always co-created, often involving multiple actors.

Summarizing the data presented in Table 1, it can be said that a service is not a material good but a process that provides the user with emotions, memories, and a certain experience, and the service provides value.

M. Grant (2020) notes that for many companies, live customer service is still important, even though a large part of customer service is handled by automated technological processes.

V. A. Zeithaml, M. J. Bitner, and D. D. Dwayne (2016) state that service policy can be described in various aspects, including service design, marketing, pricing, and customer service factors. They also mention that a clear and specifically formulated service policy allows organizations to better and more effectively meet customer expectations and requirements. One of the main characteristics of a service is its intangibility.

In conclusion, it can be said that a service is a process that provides the user with emotions, memories, and a certain experience. Modern technologies allow businesses to expand and better reach their target audience, and for customers, it is an easier way to buy or sell goods and services. However, it is important to emphasize that live communication with customers still remains an important factor.

Types of Trade and Services

According to V. Burkšienė et al. (2017), the awareness and purchaseability of services depend on the impact they have on society and the benefits they provide. The more accessible a service is and the more visible its significance or impact, the more it will be used.

Services can be focused on individuals (beauty salons, gyms, concerts, cafes, etc.) or more on businesses (IT services, accounting services, legal services, etc.).

Trade can generally be divided into international, domestic, and foreign. Any trade can be conducted directly or indirectly, and the goods or services offered can be sold in physical or digital spaces, not only between individuals but also between companies.

D. Chaffey (2025) identifies four main types of trade: electronic retail trade, electronic wholesale trade (B2B model), service trade, and C2C trade (consumer-to-consumer).

In summary, both trade and service types can be distinguished by the classification of trade and services based on various factors. Additionally, everything is becoming more digitized, and both the trade and service sectors are increasingly developing in a technological environment.

Forms of Customer Service in the Service Sector

Customer service has always been a key factor in a company's success. The formats of communication with consumers have evolved as technology advanced, shifting from direct interactions to automated solutions capable of operating seamlessly.

As communication opportunities expanded, companies began combining traditional methods with new tools. As P. Kotler (2017) highlights, multichannel strategies became an important phase in the development of customer service, as they allowed companies to be more accessible. Customer service now incorporates chatbots, mobile apps, and voice assistants. As noted by LRT (2023), the development of such technologies greatly simplifies access to product and service information, eliminating barriers related to time or location.

We can conclude that using multichannel strategies creates a personalized experience, which increases customer satisfaction and loyalty.

Factors, affecting the Quality of Customer Service

The quality of customer service depends on the organizational approach, technical capabilities, the level of staff professionalism, and even the emotional climate during interactions.

Table 2

Key factors affecting the Quality of Customer Service, compiled based on (Cheong et al., 2008)

FACTOR	HOW IT MANIFESTS
Organizational	Minimal waiting time, the ability to use various communication channels.
Technological	Use of automation, simple and understandable customer interfaces.
Human	Professionalism, politeness, and employees' ability to handle non-standard situations.
Emotional	Empathy, attentive approach to customer needs, ability to create a comfortable interaction environment.

It can be concluded that the quality of customer service depends on many factors, including process organization, technological solutions, company reliability, customer data protection, staff professionalism, and emotional atmosphere. A harmonious combination of these elements ensures not only efficiency but also a positive customer experience.

Customer service and service survey of "Balcia Insurance SE"

The insurance company "Balcia Insurance SE" began its operations back in 1993 in Latvia. To this day, the company actively operates in all the Baltic States and has branches in Germany, France, Italy, and Poland. "Balcia Insurance SE" has been operating in Lithuania since 2017.

"Balcia Insurance SE" offers services such as mandatory insurance, KASKO, liability, home, children's insurance, and others, which can be purchased by phone, email, through the website, or via the mobile app.

The aim of the research. To examine the customer service and service policy practices and rules of "Balcia Insurance SE".

Research Location and Time. Insurance company "Balcia Insurance SE", Vilnius. The research was conducted in April 2025.

Questionnaire type. Anonymous survey questionnaire.

Questionnaire structure. The survey consists of an introductory and main section. It contains 20 questions. One question is open-ended, fifteen are closed-ended, and four are Likert scale questions.

The research was conducted at the insurance company "Balcia Insurance SE" to investigate customer service and service policies.

The questionnaire begins with demographic questions, followed by inquiries about customer satisfaction with the services and their processing speed, whether they would recommend the services to others, if they have received any special offers, and whether they have encountered any issues. Respondents were also asked what they consider to be quality service and how it impacts customer loyalty.

In the second part of the survey, respondents were asked about the qualifications and helpfulness of employees, the price-to-quality ratio, the importance of the mobile app and website, and areas where the company’s customer service could be improved.

For the company's customers, quality service is most associated with a quick response to their inquiries (76%), friendly service (76%), and receiving answers to their questions (85%). A slightly smaller percentage, 55%, stated that it is important for them to be able to quickly acquire services.

These responses suggest that personalized offers tailored to customers' needs are not as important for the company's clients, and the respondents also do not associate quality service with their personal opinion of the services provided or the company itself (Figure 1).

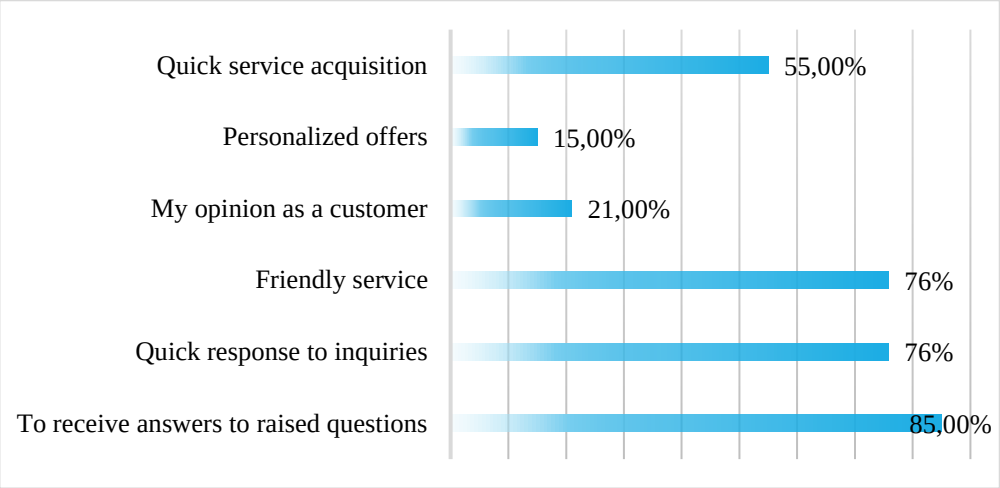


Fig. 1. Quality Customer Service at "Balcia Insurance SE"

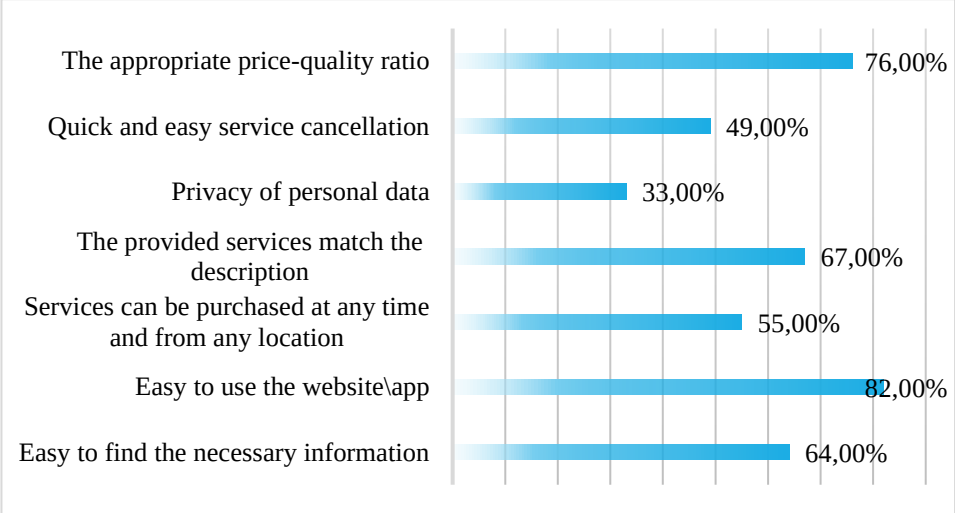


Fig. 2. Factors Indicating Service Quality at "Balcia Insurance SE"

Respondents believe that the quality of services is primarily indicated by the ease of using the company's website or mobile app (82%), as well as the simplicity of finding the required information (s website or mobile app (82%), as well as the simplicity of finding the required information (64%) and a fair price to-quality ratio (76%). This result can be attributed to the fact that, in today's world, with a vast supply of both good and services, customers often encounter poor quality and excessively high prices. Respondents also found it important that the services match their descriptions (67%).

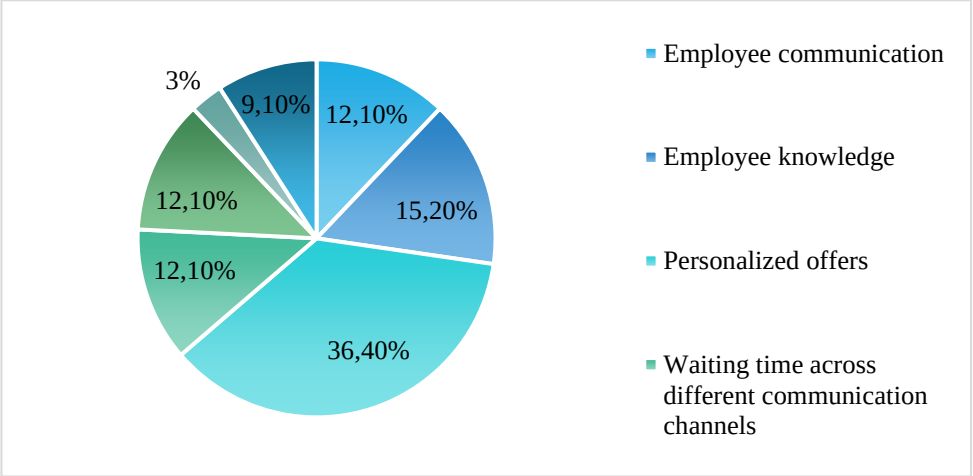


Fig. 3. Customer Suggestions for Improving Service at "Balcia Insurance SE"

Customer Opinion on Areas for Improvement in Service and Service Delivery at "Balcia Insurance SE":

The majority of votes in the survey suggested that the company should focus on improving personalized offers (36.40%) and enhancing employees' knowledge (15.20%). Additionally, 12.10% of votes emphasized the need for improvements in problem-solving, communication channel response times, and employee communication.

Based on the survey responses, it can be concluded that the company maintains a good price-to-quality ratio, staff helpfulness, and ease and convenience in finding relevant information or signing contracts on the website or mobile app.

The hypothesis can be partially confirmed. “Balcia Insurance SE” implements various methods that demonstrate service and service quality. For example, loyalty programs, clear contract explanations, and prompt responses to inquiries. Employee training, qualification enhancements, internal meetings, and quality checks are also in place.

However, according to customers, the most attention should be given to personalized offers. In other words, focusing on each service recipient individually.

Customers also suggested further improving employees' qualifications. “Balcia Insurance SE” is a company that serves large numbers of customers daily and encounters various situations that require not only professional skills but also communication and emotional intelligence.

Opportunities for improving customer service and service policies at “Balcia Insurance SE”.

Companies aiming for customer loyalty, brand recognition, and a strong reputation for the services or products they provide should place significant focus on the quality of their customer service and service policies.

The suggestions made by “Balcia Insurance SE” for improving certain aspects of customer service and service policies are presented in Figure 18. These include enhancing the appeal of the mobile app, organizing more frequent training sessions, and improving personalized offers. These recommendations were based on data collected during the research, reflecting the opinions of the company’s clients.

Suggestions for improving certain aspects of customer service and provided services at “Balcia Insurance SE” are presented in Figure 4. It highlights the need to make the mobile application more engaging, organize training sessions more frequently, and enhance personalized offers. These suggestions were developed based on the data collected during the research, which reflects the opinions of the company’s clients.

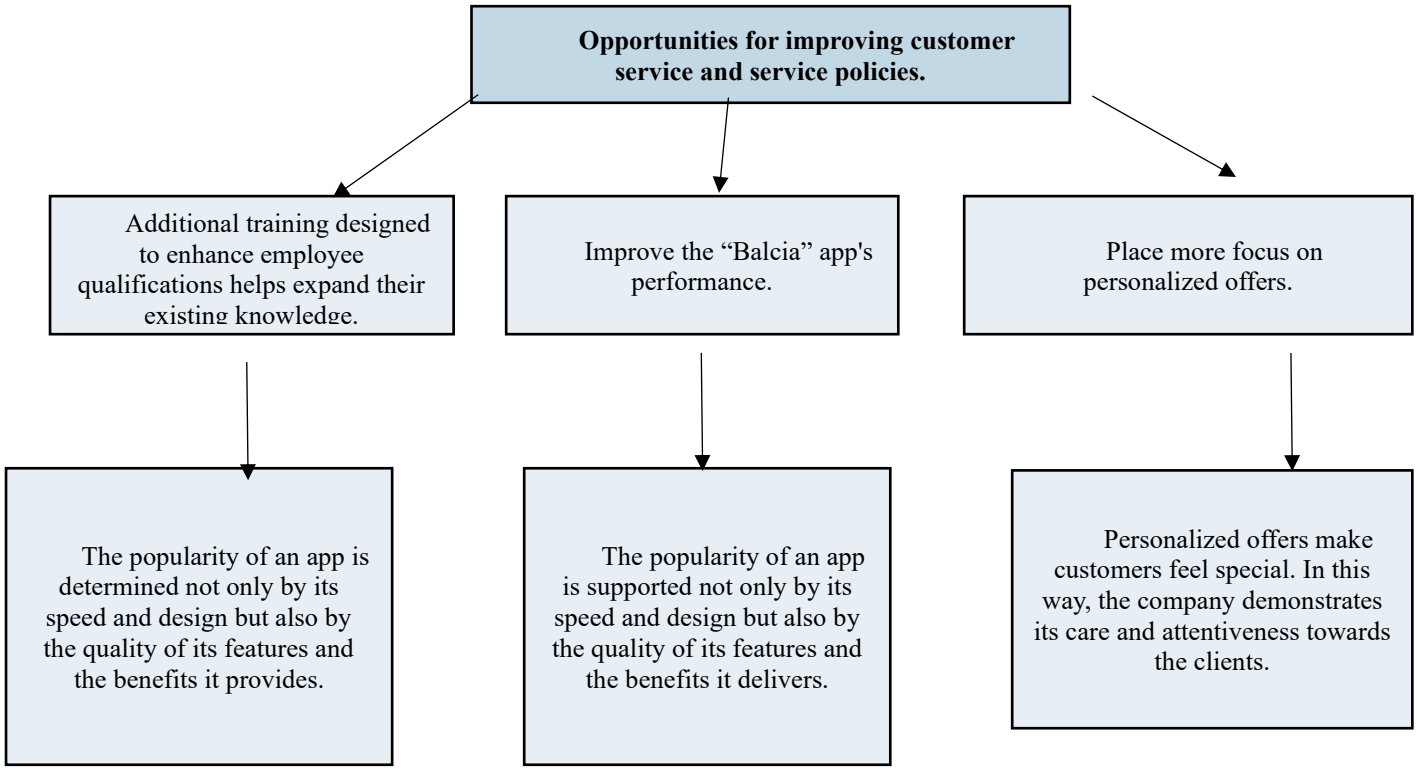


Fig. 4. Opportunities for Improving Customer Service and Service Policy in the Company (compiled by the author)

Conclusions

Customer experience is enhanced by effective employee communication, personalized offers, prompt responses to inquiries, and both the internal and external image of the company. The visual appearance and usability of the website or mobile app also play a key role. Technological service solutions provide convenience for customers and free up more time for staff.

In-person service requires proper training that covers conflict resolution, emotional intelligence, communication style, and, of course, adequate professional qualifications. The quality of a service is reflected in the balance between price and value, the emotional experience, and the benefit received. The main goal of a service provider is to meet—or ideally exceed—customer expectations.

Ultimately, both customer service and service delivery depend on a wide range of quality-related factors. Maintaining a company's reputation and trustworthiness takes considerable time and effort. This responsibility falls not only on management but also on every employee, who must be motivated to contribute.

The research revealed that, according to customers of "Balcia Insurance SE," quality service includes quick responses to inquiries (84.8%), friendly customer support (75.8%), and fast access to services (54.5%). In terms of service quality, customers emphasized ease of use of the website or mobile app (81.8%), a fair price-to-quality ratio (75.8%), the ability to easily find necessary information (63.6%), and the accuracy of service descriptions (66.7%).

Based on all responses and customer feedback regarding what defines service and support quality, it can be concluded that "Balcia Insurance SE" successfully implements most of these factors in its operations and does so effectively. A total of 78.8% of respondents stated they were very satisfied with the services provided, and an impressive 97% said they would recommend them to friends or family.

Improving the customer service experience and enhancing service quality policies can help the company build greater trust and satisfaction among clients, ultimately boosting brand recognition and increasing revenue. These areas should be continuously improved in line with global trends. Suggested improvements for "Balcia Insurance SE" include enhancing personalized offers, increasing the number of employee training sessions, and upgrading the current mobile application.

Based on the results of the conducted research, the proposed hypothesis can be partially confirmed. "Balcia Insurance SE" provides fast customer service, delivers necessary information, offers attractive

insurance pricing, considers customer feedback, and continuously improves not only its service but also its products.

However, clients of "Balcia Insurance SE" have noted shortcomings in the personalized offers and the mobile application. Clients also points out that employees do not always have sufficient competence when addressing issues. Clients recommend improvements it these areas.

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EVALUATION OF UAB „AŽUOLITOS PREKYBA“ PERSONAL SELLING PROCESS

Gabija Dovydienė

Lect. Birutė Povilianskienė

Keywords: communication, communication mix, personal selling, personal selling process, sale.

Abstract

The article examines the role of the personal selling process in the activities of UAB “Ažuolitos prekyba” and evaluates its strengths and weaknesses. The study analyzes the theoretical aspects of personal selling: its place in the marketing communication mix, its opportunities and limitations, strategies and types, as well as the structure of the personal selling process itself. The study also presents the company’s operations, research methodology and organization, and analyzes how personal selling functions within the company, what role it plays in communication, and how it is perceived by clients. The quantitative research revealed that clients evaluate the professionalism of sales representatives and the suitability of proposed solutions positively, yet weaknesses such as insufficient initiation of contact with potential clients, inconsistent identification of client needs, and weak post-sale communication were identified. Based on the research findings, improvements such as more active contact initiation, a standardized needs analysis process, enhanced post-sale communication, and systematic collection of customer feedback are proposed. The author’s hypothesis that systematic evaluation of the personal selling process creates conditions for its improvement and for strengthening client relationships was confirmed.

Introduction

Personal selling remains one of the most relevant and effective sales methods, especially in business-to-business markets, where individualized communication and trust-building are essential (Egan, 2022; Percy, 2023). Unlike mass communication tools such as advertising, personal selling allows direct interaction with clients, enabling sales representatives to respond immediately to customer concerns and tailor offers to specific needs (Mishra & Vijay, 2023). In today’s competitive environment, it serves not only as a tool to inform but also as a strategic function that directly influences customer decisions, satisfaction, and loyalty (Pramita & Manafe, 2022). As market expectations and customer needs evolve, companies must continuously assess and improve their personal selling practices to ensure long-term business success (Hemzo, 2023; Mascaraque-Ramírez & Para-González, 2022).

Object of the research – the evaluation of the personal selling process at UAB “Ažuolitos prekyba”.

Aim of the research – to analyse the evaluation of the personal selling process at UAB “Ažuolitos prekyba”.

Objectives of the research:

1. To present the theoretical analysis of the personal selling process;
2. To evaluate the personal selling process at UAB “Ažuolitos prekyba”;
3. To explore the possibilities for improving the personal selling process in the company.

Research methods: analysis of scientific literature and company data, customer survey, graphical and statistical analysis of results.

Hypothesis: If UAB “Ažuolitos prekyba” conducts a systematic evaluation of the personal selling process, it will be able to improve its sales performance and strengthen client relationships.

Data and methods

UAB “Ažuolitos prekyba” is a wood processing company operating since 2003, specializing in the trade of oak and ash timber blanks. The company's product range includes sawn timber, solid laminated panels, and various other wooden elements used in the production of furniture, stairs, doors, windows, and floors. With an 1800 m² warehouse and drying capacities for up to 350 m³ of timber, the company serves both local and international clients. It has a simple functional organizational structure and a small team of 8 employees, with clearly defined responsibilities. The main functions of sales and marketing communication are carried out by the company’s sales representative. Despite a 7.5% decrease in sales revenue in 2023, the company increased its net profit by 2.5%, indicating stable and efficient performance.

To assess the personal selling process in this specific business context, a three-stage empirical study was conducted. The first stage involved analysing the company’s operational profile and its marketing communication context, applying document analysis based on internal company data. In the second stage, the role of personal selling within the company’s broader marketing communication mix was examined using both publicly available and company-provided information.

The core of the research was carried out during the third stage, which involved a quantitative survey of the company's clients. A structured questionnaire containing 12 questions (closed-ended, Likert-scale and open-ended) was prepared and distributed in Lithuanian and English to ensure participation from both domestic and foreign clients. The questionnaire focused on customer characteristics, evaluation of communication quality, the personal selling process based on the AIDA model, and identification of strengths and weaknesses in the sales process. The survey was conducted from April 6 to April 9, 2025, via the online platform www.manoapklausa.lt.

Based on the total number of 130 clients served by the company in 2024, a representative sample of 79 respondents was calculated using the Paniotto formula with a 7% margin of error (Gegužienė, Kamienas & Maciukevičienė, 2019). The collected data were processed and analysed using Microsoft Excel, applying descriptive statistical methods and graphical representation of results.

Results

One of the main goals of marketing communication is to inform potential buyers about the company's activities and encourage them to make a purchase. In order to identify which communication tools used by UAB "Ažuolitos prekyba" most effectively fulfill this goal, it is relevant to evaluate how the company's customers who participated in the survey first learned about its activities (see Figure 9).

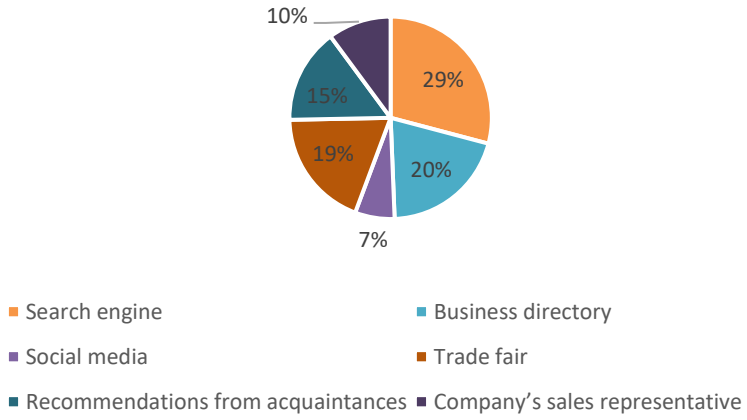


Fig. 9. Sources of information about UAB "Ažuolitos prekyba", %

An analysis of the survey results presented in Figure 9 reveals that the majority of respondents (29%) first learned about UAB "Ažuolitos prekyba" through a search engine. Slightly fewer (20%) discovered the company via business directories. Nearly the same proportion (19%) became aware of the company through trade fairs, while 15% became clients based on recommendations from acquaintances. Only 10% of respondents learned about the company through direct contact with its sales representatives, and the lowest number (7%) indicated social media as their source of information.

These findings suggest that UAB "Ažuolitos prekyba" has successfully achieved strong online visibility, as more than half of the surveyed clients discovered the company through search engines or business directories. Public relations efforts such as participation in trade fairs also appear to be effective. On the other hand, the relatively low number of respondents who learned about the company through direct communication with sales representatives may indicate a need to strengthen personal selling activities or make more active use of direct communication tools.

The theoretical part of the thesis presented various scholarly perspectives on the composition of the personal selling process. One such approach was based on the AIDA model, which focuses on psychological aspects of customer behavior and the buyer's journey from initial attention to the final purchase decision. To assess how effectively UAB "Ažuolitos prekyba" utilizes elements of the AIDA model in its personal selling process, the questionnaire included statements related to each stage of this model. The average scores of the respondents' evaluations are presented in Figure 11.

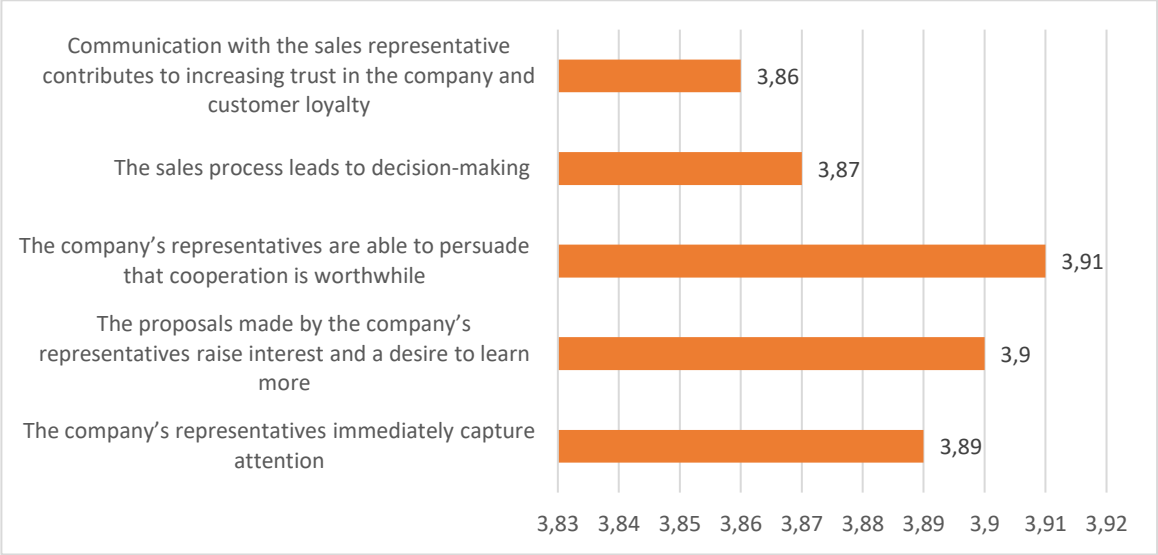


Fig. 11. Evaluation of the impact of UAB "Ažuolitos prekyba" personal selling on customer decision-making, in points

An analysis of the data shows that the personal selling process at UAB "Ažuolitos prekyba" generally aligns with the AIDA model structure, which emphasizes the psychological engagement of the customer from initial contact to final purchase decision. All statements related to the model were rated relatively highly. The first stage of the AIDA model—attention—was evaluated through the statement "The company's representatives immediately capture attention," which received an average score of 3.89. This indicates that the initial communication is generally noticeable and able to attract interest.

The second stage—interest—was reflected in the statement "The proposals made by the company's representatives raise interest and a desire to learn more," rated at 3.90. This suggests that the information and services offered by the company often stimulate customer curiosity and motivate further engagement—an essential step toward the decision-making phase.

The third stage—desire—received the highest score. The statement "The company's representatives are able to persuade that cooperation is worthwhile" was rated at 3.91, indicating that the company's representatives are effective in building trust and presenting the value of their offerings convincingly.

The fourth stage—action—received a slightly lower average score of 3.87 through the statement "The sales process leads to decision-making." While still relatively high, this score suggests that in some cases, the sales process may not fully ensure a final purchase decision. This points to a potential need to refine elements of the desire or decision-making stages to improve conversion.

An additional aspect related to loyalty was assessed through the statement "Communication with the sales representative contributes to increasing trust in the company and customer loyalty," which received an average score of 3.86. This indicates that more attention should be given to building lasting relationships beyond one-time transactions.

Based on the survey results, it can be concluded that the company's personal selling process successfully triggers attention, interest, and desire to cooperate. However, the stages related to final decision-making and long-term loyalty require further development to enhance effectiveness.

The theoretical analysis of the topic revealed that the traditional personal selling process consists of four main stages: identifying customer needs, searching for solutions, implementing and demonstrating the solution, and maintaining the relationship after the sale. To evaluate how effectively UAB "Ažuolitos prekyba" sales representatives implement each of these stages, respondents were asked to rate statements related to each stage. The average scores of these evaluations allowed for identification of the strongest and weakest aspects of the company's personal selling process. A summary of the average scores by stage is presented in Figure 12.

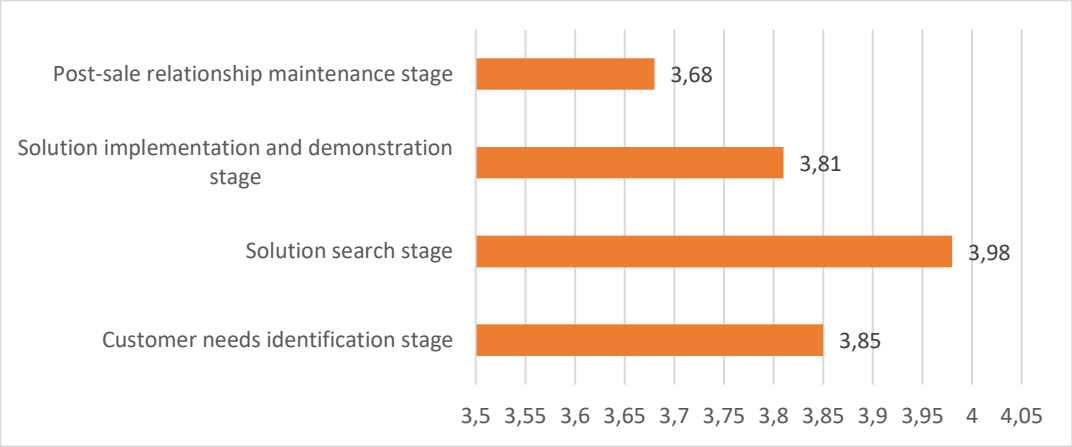


Fig. 12. Evaluation of the implementation of personal selling process stages at UAB "Ažuolitos prekyba", in points

An analysis of the evaluations presented in Figure 12 reveals that most stages of the personal selling process at UAB "Ažuolitos prekyba" are rated positively, though not all are implemented with equal success. The highest average score was given to the solution search stage (3.98), indicating that the company's representatives are effective in offering appropriate solutions tailored to customer needs. Slightly lower ratings were given to the needs identification stage (3.85) and the solution implementation and demonstration stage (3.81). While employees are generally able to identify customer expectations and present solutions, there is room for improvement in providing more personalized offers and clearly demonstrating their added value.

The post-sale relationship maintenance stage received the lowest score (3.68), suggesting that maintaining communication after the sale remains a challenge. This indicates that the company's sales representatives devote insufficient attention to post-sale follow-up—an important phase for building long-term loyalty and encouraging repeat purchases. To strengthen customer relationships, this stage of the personal selling process should be improved.

Summarizing the customer survey results, it is also evident that the company's sales representatives seldom initiate contact with potential clients, as only a small percentage of respondents indicated learning about the company through direct outreach. This implies that personal selling is not being fully utilized as a customer acquisition tool. Nevertheless, the overall quality of communication between sales representatives and clients is rated positively. Clients noted that information is delivered clearly, communication is professional, polite, and trust-enhancing. However, there is still a need to better listen to individual customer needs.

According to the AIDA model evaluation, UAB "Ažuolitos prekyba" successfully captures attention, generates interest, and creates a desire to cooperate. When evaluating each stage of the personal selling process in detail, customers rated the solution search stage the highest, acknowledging the company's ability to adapt offers to specific client situations. Slightly lower ratings for needs identification and solution implementation suggest that some customers lack a deeper understanding of how proposed solutions contribute to their business goals. The lowest score for post-sale follow-up confirms that continued customer engagement after the transaction is often lacking.

Based on the survey results, the company's strengths lie in professional communication and the ability to offer appropriate solutions. Areas for improvement include more active contact initiation, more accurate needs assessment, and enhanced relationship maintenance after the sale.

Accordingly, the research hypothesis was confirmed: conducting a systematic evaluation of the personal selling process gives the company a real opportunity to improve sales activities and strengthen relationships with its clients.

Conclusions

Personal selling is an essential part of the marketing communication mix, enabling direct interaction with customers, offering personalized solutions, and building long-term relationships. Its effectiveness depends on the nature of the company's activity and the market context, particularly in B2B environments where complex or high-value products are involved. The personal selling process typically involves several stages: identifying

customer needs, offering appropriate solutions, implementing and demonstrating the proposal, and maintaining the relationship after the transaction.

The case analysis of UAB "Ažuolitos prekyba" revealed that the company demonstrates strengths in communication quality and the ability to offer relevant solutions. However, it was also found that sales representatives rarely initiate contact with potential clients, and post-sale relationship maintenance is limited. Evaluation based on the AIDA model showed success in attracting attention, generating interest, and creating desire to cooperate, but the final stages—especially maintaining contact after the sale—received lower ratings.

The highest scores were recorded for the solution search stage, confirming the company's ability to adapt its offers to client needs. Meanwhile, identifying client needs and demonstrating how solutions support business goals were rated lower, indicating room for improvement in these areas.

To strengthen its personal selling process, UAB "Ažuolitos prekyba" should focus on initiating contact with potential clients, conducting structured needs assessments, collecting customer feedback, and maintaining communication after sales. Implementing these improvements would enhance client loyalty, support long-term relationships, and contribute to sustained business growth.

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„LOOP DIGITAL MARKETING“ LTD DIGITAL MARKETING COMMUNICATION ANALYSIS

Gabrielė Vindigytė
Lect. Antanas Lukauskas
Keywords: digital marketing, digital marketing communication, digital marketing agency, digital marketing channels, promotion mix, digital marketing strategy.

Abstract
The article explores the theoretical aspects of digital marketing communication based on scientific literature by Lithuanian and foreign authors on digital marketing and marketing communication topics, as well as practical research, presents theoretical aspects of digital marketing communication. The concept of digital marketing communication, the specifics of its effective implementation in a business context, the tools and channels of digital marketing communication and their application possibilities, as well as current trends and problematic areas are presented.
The article analyses the characteristics of digital marketing communication in a Cyprus – based company specialising in digital marketing, with a link to strategic approach applied to achieve defined marketing objectives.

Introduction

Continuously improving technologies, together with changing consumer needs, encourage the digitalization of business processes, making digital marketing an increasingly important strategic dimension in today's business context. Today, the Internet is a part of life as people are searching, communicating, and sharing information in virtual space daily, thus companies must adapt their marketing communication strategy to the opportunities provided by the online environment (Zlateva, 2020).

In marketing mix, promotion defines communication with customers and other stakeholders (target audience) to purposefully convey information about companies, brands, products or services (Chaffey, 2016) and to create partnerships with other organizations (Fill, 2023). Promotion involves advertising, sales promotion, personal selling, public relations, direct marketing and other additional activities, such as sponsorship, events, etc. (Chaffey, 2016; Fill, 2023). Due to the development of modern marketing processes, word-of-mouth communication - an unpredictable, but strongly influential communication tool for consumer behaviour – also applies (Fill, 2023; Madan, 2022).

Digital marketing communication is defined as an integrated process where marketing communication activities are carried out using digital technologies, mainly online (Owusu-Kyei, 2022; Utami, 2023). Company-consumer interactions increasingly occur through digital media and various marketing goals are successfully achieved (Shankar and Grewal, 2022; Utami, 2023). Marketing communication via digital channels is characterized by integrity, personalization, flexibility, cost-effectiveness and measurability – features that determine the effectiveness of digital marketing communication (Ponde, 2019; Rathi, 2021; Chaffey, 2016).

For the digital marketing process to be effective, a strategic approach to communication is required: it must not only be precisely planned but also integrated into the overall business strategy (Rėklaitis, 2019; Izakova, 2021; Madan, 2022). Essential aspects in digital marketing communication planning include defining goals, understanding the audience, choosing the most appropriate channels and tools, deciding on the content that conveys the message, and evaluating the response to marketing communication efforts (Shankar, 2022; Bilkova, 2021; Kurum, 2023; Mačiulienė and Gulevičiūtė, 2024).

One of the problem areas of digital marketing communication can be considered the lack of a strategic approach. Digital marketing communication of companies often occurs without a clear direction based on meaningful strategic insights (Shankar, 2022). Marketing strategies, including digital communication, are often absent or less formal in small and medium-sized businesses due to limited financial resources, lack of technology, lack of competence or management attitudes (Peter, 2021). The implementation of effective online marketing communication requires expert knowledge and technical experience (Zlateva, 2020; Utami, 2023; Shankar, 2022; Širvelė, 2021), which is why companies cooperate with marketing agencies that are competent in the use of digital platforms and technologies (Pratiwi, 2024).

Such agencies often not only implement but also become partners strategically shaping the direction of the client's marketing communication. In the context of digital marketing and communication, it is interesting to analyse how digital marketing agencies, often being small companies themselves, structure and implement their digital marketing communication. Thus, the purpose of work was to analyse the digital marketing communication of "LOOP DIGITAL MARKETING" LTD – a small Cyprus based digital marketing agency.

Research methods: analysis of scientific literature, qualitative and quantitative research methods (expert interview, analysis of Google Analytics 4 performance report data)

Data analysis and results: qualitative study

A personal expert interview was conducted to elucidate the characteristics of digital marketing communication of "LOOP DIGITAL MARKETING" LTD. The research, based on scientific marketing literature and market research, delved into the role of digital marketing communication in the company's marketing strategy, the set goals, audience characteristics, content, aspects of communication integrity and consistency, the selection and justification of digital marketing communication tools and channels used to implement them, and the qualitative assessment of the results of digital communication efforts, linking them to aspects of strategic planning.

The responses to the interview questions were analysed using qualitative content analysis, guided by thematic coding. The data were organized into six categories that reflect the essential aspects of planning and organizing digital marketing communication. Categories and subcategories were formed by combining the theoretical basis with empirically emerging themes.

"LOOP DIGITAL MARKETING" LTD highlights the significance of digital marketing communication in general context of the company. The link between digital marketing communication and the company's business idea relate to the nature of the company's activities as digital marketing services are provided. It was emphasized that digital marketing communication is a key element in achieving business goals. Despite marketing communication efforts in traditional ways, the focus on communication in the digital realm is increasing. The position substantiates regarding ıcreasingly important role of digital marketing communication in developing marketing strategies for modern businesses.

Regarding specific digital marketing goals being pursued through digital marketing communication efforts by the company, the expansion of customer base by increasing brand awareness and attracting potential customers were identified as marketing objectives. From a strategic point of view, setting marketing goals is considered one of the essential aspects of planning digital marketing communication. The company focuses on informing the market about the brand and the services provided; positions the brand as a competent and reliable digital marketing service provider; persuades, encourages "actions" – conversions (defined as lead generation). The answer allows to state that the company's digital communication is based on strategic planning: it is focused on clear strategic directions of digital marketing and consistency of communication effects, considering the stage in customer journey or "sales funnel". However, audience engagement to create sustainable relationships with existing or potential customers is not mentioned, though the connection with existing customers as one of the strategic directions of digital marketing, determining trust, especially relevant in the B2B market environment. It turned out that the company in the analysed period was focused on direct results due to limited human resources. It was revealed that the company understands the importance of audience engagement and the complexity of digital communication and is considering including more customer experience-oriented digital marketing initiatives in the future. Given that the main obstacle is a lack of resources, rather than a lack of ideas or expertise, it can be assumed that the implementation of additional strategic direction requires additional management decisions in the overall context of the company. In a general sense, given the clearly defined goals and objectives of the company's digital marketing and communication, it can be stated that digital marketing communication is strategically justified.

"LOOP DIGITAL MARKETING" LTD digital marketing communication is focused on a business market. Operating under the B2B business model, the company targets small and medium-sized enterprises, mainly located in Cyprus, but also serves customers in other markets (European, Middle Eastern countries). Audience segmentation includes not only geographical, organizational, but also psychographic aspects – attention is paid to business owners and managers who are inclined to introduce innovations or feel the need to optimize their digital presence. Identification of the target audience is a strategically important step in digital marketing communication planning, as the appropriate adaptation of actions and measures to achieve digital marketing goals depend on it. The approach to conscious market segmentation to adapt communication ing on the characteristics and needs of the target audience confirms the company's strategic approach in digital marketing communication planning.

"LOOP DIGITAL MARKETING" LTD communicates mainly through representative text and static image content - blog posts on digital marketing topics, case studies, portfolio on its website, less often on social networks and third-party websites. The format and nature of the content substantiates the digital marketing communication's goal of positioning "LOOP Digital Marketing" as a competent, expert in its field. The

informative, educational nature of the content (blog posts on digital marketing topics) corresponds to the nuances of communication in the B2B market environment. In addition, the content supplemented with keywords on the website is a tactical decision related to optimizing the website for search engines to achieve visibility, therefore it can be stated that the content contributes to the digital marketing goal of expanding brand awareness. The inconsistency of the published content becomes apparent when the respondent emphasizes inactivity on social networks. The principles of content marketing state that content must be valuable and consistent. Therefore, it can be stated that company's tactical content decisions during the analysed period only partially corresponded to good practice. However, it was revealed that the inclusion of new content on the website more often is in the future. It can be argued that the company understands the strategic value and significance of content in digital marketing communication but faces difficulties in implementing the vision in practice.

The company uses various digital marketing platforms to communicate with the target audience, including search engines, its own and third-party websites, so tworks and email. It can be said that multi-channel digital marketing communication is applied to ensure a smooth customer journey.

The main digital marketing communication channel is the company's website optimized for search engines. The website is the main medium of contact with the target audience, one of the most important elements ensuring the existence of the company in the digital space and competitiveness. Therefore, the company's position in prioritizing the website is strategically justified. To ensure the visibility of the website, the company, in addition to the SEO method, also uses Google Ads advertising campaigns, although paid search is not a consistently applied. The company's visibility is also ensured by third-party websites, specifically niche online directories "Sortlist" and "DesignRush", which are used as digital channels for communication by the company, which are intended to provide information about digital marketing and other services relevant to business enterprises.

The social networking platforms Facebook, Instagram, and LinkedIn as well as email were identified as digital marketing communication channels used by the company. Email, as a communication channel, is used to send messages confirming requests and for further direct communication, but not for distributing valuable content. Digital marketing research identifies email as a powerful marketing communication channel for content marketing by sending newsletters, which is an important tactic for maintaining sustainable relationships with consumers. Social networks are also one of the most promising digital marketing communication channels, providing an opportunity to achieve many digital marketing goals and are particularly suitable for creating and nurturing relationships with the audience. However, the channels are not actively used as content dissemination tools. As indicated in the previous stages of the analysis of the research results, the company did not plan to create a connection with potential customers using content marketing as a strategic direction during the analysed period, due to limited time and human resources. The reason explains the insufficient use of the potential of email and social networks for digital marketing communication. However, the company actively exploits "Meta" social networks for advertising campaigns.

When asked what determines the decisions when choosing paid media, it turned out that the choice is based on testing and practical experience. The company chooses those paid digital marketing communication channels that appear to be the most stable, most effective and most financially favourable. It is revealed that the most profitable channels for advertising campaigns are "Facebook" and "Instagram", based on the ability to reach target personas – small business owners and managers. A constant flow of potential customers is observed due to the campaigns conducted on "Meta" platforms, which suggests that the target audience is reached. The choice of advertising in search engines and niche business directories for marketing communication is also based on the effectiveness and perceived interest of business enterprises (target audience) in finding digital marketing service providers through active search, therefore the company uses the opportunity to be more visible to the target audience. Interestingly, LinkedIn, often discussed as a business-to-business marketing-friendly social networking platform, did not bring the desired results when used for advertising. It can be assumed that this could have been influenced by insufficient organic brand activity on the platform. The data-based selection of paid communication channels corresponds to best-practice paid media decision making, considering the needs of the audience, the reach of the intended audience and the economic justification. Considering the multi-channel digital marketing communication applied by the company and the purposeful selection of paid channels, it can be stated that digital marketing communication is planned and implemented in accordance with a strategic approach.

The interview revealed that the company's marketing communications are integrated. Digital marketing communication tools include various elements of promotion mix - digital advertising, sales promotion, online public relations, direct marketing, personal selling and potentially electronic communication „word of mouth".

Digital advertising stands out among the mentioned promotional methods, as the possibilities provided by digital advertising to segment the audience ensure the reach of the target audience. The company organizes programmatic advertising campaigns on Meta social networks and periodically publishes paid search ads using Google Ads platform. Digital advertising campaigns on social media are adapted to the characteristics of the target audience and the stage in sales cycle. During certain campaigns, advertising on social networks is combined with sales promotion initiatives by offering discounts on the services provided. Recognition of possibilities, consistency and combination of digital advertising with sales promotion based on the needs, characteristics and objectives of the target audience reflect a strategic approach to digital marketing communication planning, which coincides with the concept of integrated marketing communications. Company sometimes takes the opportunity to advertise on third-party websites – online directories – where sponsored content is published. The interviewee mentioned that promotion in online directories contributes to improving the company's reputation. In addition, this aspect is useful from an SEO perspective. The company also applies the SEO method independently, publishing content supplemented with links and significant keywords on its website. Positive mentions on third-party websites and search engine optimization are associated with public relations management on the Internet, which is important for the reputation of the company and the brand.

It was found that direct marketing methods are used as advertising campaigns on social networks encourage direct response: filling out a form (redirected by clicking on the ad) or contacting by phone. Communication with convinced potential is continued by e-mail as personal confirmation messages are sent. Direct communication by e-mail is continued later, when the company contacts prospective customers and sends feedback forms after the service is provided, to receive feedback.

During the interview, it was revealed that potential customers are converted into service users using personal selling. The need of personal contact corresponds to the aspects of marketing communication in the B2B market, associating with a longer decision-making process, possibly several participants in the decision making, the importance detailed information and the perceived value of the service. It is stated that conversions in the local market require a human factor, so personal face-to-face contact, which determines sales, occurs (which is not a form of digital communication). However, the company also uses digital means of communication for personal selling, especially when concluding transactions with customers from foreign markets. Based on this insight, several interrelated assumptions can be made: personal selling complements the spectrum of integrated digital marketing communication methods in the context of the company; the company's digital communication is not isolated from the broader marketing strategy for achieving sales as it is integrated into the general logic of achieving conversions.

It was stated that word-of-mouth communication significantly determines business development and business opportunities as positive consumer feedback and recommendations help attract new customers. As it turned out, the company initiates consumer feedback through digital means to use insights for content marketing or advertising campaigns in the future and to exploit the potential of the feedback for the benefit of the business. The situation reflects a strategic approach and the ability to use unplanned marketing communication tools in a digital environment to achieve its marketing goals. Considering the variety of marcoms supporting the company's digital marketing, it can be stated that the applied integrated marketing communications practice not only reflects a strategic approach, but also acts as a targeted system, focused on strategic directions that achieve the company's marketing goals.

The consistency of marketing communication is achieved through visual integrity of content, maintaining a clear brand identity across different channels. Consistent use of the logo, colours and font contributes to the company's recognizability, and the constantly communicated essence of the value proposition creates narrative stability throughout the communication process. The approach corresponds to one of the principles of integrated marketing communications, which emphasizes the formation of a unified message ("one voice") across all means of contact with the audience to position the brand in a competitive market. Brand recognizability, according to the authors, is directly related to increasing brand awareness - one of the main marketing goals. Based on these aspects, it can be stated that the company's digital marketing communication efforts are strategically justified.

To clarify the criteria by which "LOOP DIGITAL MARKETING" LTD measures the effectiveness of digital marketing communication, it was revealed that company prioritize quantitative results-based assessment of digital communication. The monitoring of the efficiency of digital communication through paid channels in achieving conversions, focusing on the costs of advertising campaigns was emphasized. The assessment of the company's search engine optimization efforts was also mentioned, considering the position of the website on the search results pages and click-through rates. Monitoring the effectiveness of digital

marketing campaigns is important for making data-based decisions for process optimization. It can be assumed that the company, by monitoring the effectiveness tors of communication activities that are important for the company, acts accordingly and is consistent with a strategic approach.

Regarding the evaluation of digital marketing communication efforts, it was stated that the marketing results are satisfactory, although there are opportunities for improvement. Advertising campaigns on social networks aimed at attracting potential customers are effective - a constant flow of potential customers is observed. Digital marketing efforts in search engines are also relatively effective. However, despite content tactics and backlinks, maintaining optimal positions on search engine results pages is difficult, although paid search advertising campaigns help to supplement organic search efforts. It can be assumed that the demand for and competition for key phrases and the principles of algorithm operation in the search engine affect the company's goal of increasing brand awareness. Based on the overall assessment of the respondent, it can be stated that the company's digital marketing goals are achievable, based on a strategic approach to planning and organizing digital marketing communication.

Summarizing the interview results and analysis, it can be stated that the digital marketing communication of "LOOP DIGITAL MARKETING" LTD is based on strategic principles. The validity is proven by: orientation to specific digital marketing and communication goals; clearly defined target audience and channels to reach it; integration of various marketing communication methods ensuring acquisition of target customers; content specificity that meets the needs of the target audience and SEO practices; consistency of the message sent for brand positioning in the market; quantitative indicators evaluate the results of digital marketing communication efforts. The company's digital marketing communication is effective in terms of direct digital marketing communication results as set digital marketing goals are achievable. Although creating and maintaining relationships with the audience as a strategic direction was not planned in the analysed period due to lack of resources, and digital marketing efforts were not developed in this direction, strategic awareness and potential to adapt digital marketing communication and launch new digital marketing tactics in the future are discernible. From a qualitative point of view, the research results and analysis confirm the research hypothesis: strategically based digital marketing communication of the company has a positive impact on achieving marketing goals.

Data analysis and results: quantitative study

To assess the traffic of the "LOOP DIGITAL MARKETING" LTD website, as one of the most promising digital marketing communication channels, its effectiveness in engaging the target audience and promoting conversions (potential customer actions) and to clarify the features of integration with other communication channels, an additional quantitative analysis was conducted. The analysis used data from the Google Analytics 4 tool, covering the period from March 1, 2025, to March 31. The analysis used website traffic and user acquisition by channel reports, which provide quantitative data.

It turned out that the flow of visitors to the company's website is determined by various other digital communication channels. It was determined that the largest number of visitors was attracted from social networks (40.43 percent of all users), through natural search in the search engine (26.67 percent) and directly (23.01 percent). Since the company has Facebook, Instagram and LinkedIn accounts, but is not active on social networks, it is likely that the traffic is not determined by by Meta Ads advertising on social networks. Unspecified and recommendation channels generated 5.81 percent and 1.29 percent of visitor traffic to the website, respectively. The traffic of the latter channels is possibly influenced by the cooperation with the “Sortlist” and “DesignRush”. Paid search during the analysed period attracted 2.8 percent of the total visitor traffic, which can be justified by the Google Ads advertising campaign carried out. The data confirms that the company uses multiple digital channels to communicate to promote connectedness in the customer journey. The number of people returning to the company's website through multiple channels may indicate that potential customers are moving to different phases of the customer journey in search of additional information or contact details. Considering the flow of visitors, it can be assumed that the company's digital marketing communication through multiple channels is effective, as it is able to direct the target audience to the company's website, while potentially boosting brand awareness. In addition, i es the fact that marketing communication channels are multiple and integrated with each other.

According to data, engagement rate was 50.93%. The average engagement duration per session was 24 seconds. Considering the engagement indicators, it can be assumed that for some website visitors the content may have been irrelevant or did not meet their needs, but the recorded engagement reveals that website visitors

browsed and interacted with the content, albeit rather briefly and superficially; this can be treated as a quick "scan" of information - users quickly review only what seems relevant to them.

During the analysed period, a total of 33 significant visitor actions were identified. Conversions include form submissions and clicks on contact details links. 9 out of 33 significant actions are associated with interaction with contact/registration forms, 17 with interest in contacting the company by phone, and 7 – by email. Considering the conversion data, it can be assumed that some of the website visitors were potentially positively and in a short time influenced by the company's marketing communication in this channel (including encouragement to act), especially if they had a predefined need. It is important to note that quantitative indicators should be evaluated with caution. Some of the visits could have been related to testing and not related to customer acquisition (e.g., visits by employees, interns), or be random, leading to lower engagement rates or otherwise distorting the data. In addition, the data provided by the system is only approximate.

In summary, it can be stated that the company's website is a functional digital marketing communication channel. Visitors access the website in various ways (via social networks, paid and organic search, third-party channels), and the website itself encourages contact by phone, email or by filling out contact/registration forms for consultations. The aspect reveals the companies successfully implemented multi-channel marketing communication philosophy and strategic approach and justifies the role of the website in the context of a consistent customer journey. In addition, the flow of new and returning visitors can be associated with the implemented digital marketing communication function to promote brand visibility and awareness. In terms of audience engagement, communication on the website is likely to be partially effective. The engagement rate shows that some visitors interact with the website content, but the duration of engagement is quite short. It can be assumed that the website was used for quick information retrieval, or that the content fails to engage the audience for a long time, therefore the probability of building relationships with the target audience becomes limited. However, visitor actions (conversions) suggest that the website has the potential to persuade visitors to contact the company or that visitors have already decided to contact, therefore it can be stated that digital marketing communication was effective in attracting potential customers. The quantitative results of website traffic, visitor engagement, conversions and achieved digital marketing goals support the research hypothesis regarding the strategic validity of digital marketing communication in positively influencing the achievement of the company's marketing goals.

Conclusions

"LOOP DIGITAL MARKETING" LTD digital marketing communication is strategically sound, as it is carried out according to the characteristics of a clearly defined target audience; integrating marketing communications, ensuring content and message consistency and brand positioning in the B2B market; purposefully using multiple, interconnected communication channels, monitoring and evaluating the success of communication efforts. This helps the company achieve marketing goals - brand awareness, attracting potential customers and substantiates the research hypothesis.

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ANALYSIS OF THE PROJECT TEAM MANAGEMENT IN THE ORGANIZATION KONTRUKTIONSGRUPPE BAUEN

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Abstract
This article includes a comprehensive analysis of the project team management in the organization KONTRUKTIONSGRUPPE BAUEN, which aims to identify strengths and areas for improvement in the structure, management and operation of project teams. The work was conducted to address a critical need for improvements in project team management at KONSTRUKTIONSGRUPPE BAUEN, a company operating in the civil engineering industry. Recognizing that effective team management is essential to project success, the study aimed to identify existing weaknesses and develop targeted improvement strategies. The hypothesis of this study was that clearly defined roles, responsibilities, and the implementation of decision-making processes, as well as the promotion of strong project management principles, would provide measurable improvements in team performance and overall project outcomes. To test this hypothesis, the study combined a thorough review of the scientific literature with empirical data obtained from a quantitative survey of company employees. The study aimed to provide practical recommendations that would help the company improve team cohesion, increase efficiency, and reduce the risks associated with poor management practices, ensuring long-term organizational success in a rapidly changing industry.

Introduction

The study is structured in several interrelated parts, starting with a detailed analysis of the theoretical aspects of project team management. This section examines key concepts such as the definition of a project, the roles and responsibilities of project teams, management and communication practices, as well as tools used to promote effective teamwork. It emphasizes the human factor in project success and discusses models and systems such as the input-process-output (IPO) model, SMART goals, risk registers and evaluation methods, which serve as a basis for practical application.

A review of the scientific literature and reference sources on project team management highlights several key insights and conclusions that also formed the theoretical basis for conducting the practical research. First, a project is essentially a short-term event aimed at creating unique products, services or results within a given time and budget, involving various activities carried out by a team under the leadership of a project manager. The success of such projects largely depends on the human factor - the skills, motivation and ability of team members to cooperate with other team members - emphasizing the importance of effective human resource management.

Effective project management is characterized by clear roles, well-defined objectives and the strategic use of methodologies such as SMART objectives, risk registers and performance assessments to ensure that projects achieve their objectives within a given scope, time and cost. The project team, which is often cross-functional, includes various roles such as project managers, specialists and stakeholders, all of whom must work in harmony. The literature emphasizes that, in addition to tools and processes, leadership and interpersonal skills such as empathy, communication, active listening, and creativity are crucial for motivating teams, resolving conflicts, and fostering a culture of trust and collaboration.

It is repeatedly concluded that human factors—team dynamics, leadership style, organizational culture, and communication—are extremely important in determining project success. Effective team leadership involves fostering open communication, fostering diverse perspectives, and adapting leadership approaches to the specific context, often through the use of situational leadership. Proper management of team structure, roles, and responsibilities improves clarity and accountability, which directly impacts productivity and morale.

Furthermore, the literature emphasizes that collaboration occurs at multiple levels—within teams, across departments, and with external partners—and that seamless collaboration at all of these levels is vital to achieving project goals. An integrated approach to collaboration, supported by appropriate organizational structures and communication channels, improves efficiency and innovation.

Finally, measuring results and implementing continuous improvement are at the heart of project team management. Regularly assessing team composition, leadership effectiveness, communication, and stakeholder satisfaction using tools such as SWOT analysis, feedback mechanisms, and performance indicators is essential to identify strengths and weaknesses. This ongoing assessment fosters a learning culture where lessons learned are captured and applied to future projects, ultimately leading to higher success rates.

Overall, the theoretical analysis led to the conclusion that successful project team management depends on a balanced combination of technical tools, strategic planning, and a strong focus on human and organizational factors. Leadership, communication, collaboration, and continuous evaluation are pillars that

support effective management, ensuring that projects deliver the intended value and contribute to organizational success.

Company and Survey data

After a theoretical overview, the thesis provides a detailed analysis of the organization KONTRUKTIONSGRUPPE BAUEN. It includes an introduction to the company's history, core activities, organizational structure and personnel composition.

KONTRUKTIONSGRUPPE BAUEN is a well-known engineering services company specializing in comprehensive construction engineering solutions. The company was founded in 1978. It provides a wide range of services, including consulting, planning, management, supervision and inspection throughout the entire life cycle of infrastructure projects. Its main specialization is the design and construction of bridges, tunnels and civil structures using various materials such as reinforced concrete, prestressed structures and steel. With decades of successful experience, KB has gained recognition for its specialization in bridge construction, serving both public and private clients throughout Germany, as well as in Riga and Zagreb, providing a close and personalized approach to project management. The company employs a multidisciplinary team consisting of professionals such as structural engineers, project managers, architects, civil engineers, technicians, construction managers and quality inspectors, all of whom work together to provide customized infrastructure solutions. The company's organizational structure is led by a board member who oversees project managers, assistants and accounting staff, while project managers directly supervise the design team. This structure promotes effective communication and decision-making, supporting the company's mission to provide high-quality, innovative and sustainable engineering solutions in various construction projects.

An important component is an empirical study using a structured employee survey designed to assess the effectiveness of project team management. The survey collects demographic data such as gender, age and tenure and assesses various aspects of team performance at multiple levels. These include team composition and structure, leadership and management effectiveness, communication and collaboration, employee engagement and well-being, performance appraisal and overall satisfaction. The data collected helps identify existing strengths, such as skill diversity and effective communication, as well as weaknesses, particularly in leadership confidence, conflict resolution and work-life balance.

Results

The survey, which surveyed employees of KONTRUKTIONSGRUPPE BAUEN, aimed to assess the effectiveness of project team management, identify existing weaknesses and explore opportunities for improvement. 77 out of 89 employees participated in the study and provided valuable insights into team dynamics, leadership, communication, engagement and organizational processes.

In terms of demographics, the respondents were mostly male, with only 10% female, reflecting the significant gender imbalance that is typical of the construction industry. In terms of age, the majority of employees were in the 26–30 and 36–40 age groups, indicating a relatively young to middle-aged workforce. The distribution also revealed a high level of staff turnover, as more than half of the respondents had only worked for the company for 1–2 years, and none had more than ten years of experience. This may have been due to recent hiring practices or organizational changes that may have affected team cohesion and accumulated experience.

The analysis of the survey results highlighted several strengths. The high proportion of respondents (86%) who affirmed the diversity of skills indicates that the team possesses a wide range of relevant competencies, which are essential for solving complex engineering projects. Communication within the team seems effective for the majority of employees, with around 65% confirming the timely and effective exchange of information. In addition, almost 60% of employees feel comfortable expressing their opinions, promoting an open organizational culture that encourages collaboration and engagement. In addition, around 85% believe that the team consistently achieves project goals on time and within budget, demonstrating strong project management capabilities. Overall, employee satisfaction levels are high, reflecting an overall positive perception of the team’s performance. Despite many strengths, the survey also revealed critical areas that require attention. A significant concern is management effectiveness, with over 50% of respondents expressing dissatisfaction with the project manager’s ability to effectively lead the team. This indicates a need for leadership development, training or restructuring to improve leadership skills and foster stronger leadership. Conflict resolution emerged as another significant issue, with 61% of employees disagreeing that conflict within the team is being

managed effectively. Poor conflict management can undermine team cohesion, cause delays and exacerbate misunderstandings, thereby hindering overall project progress.

Issues were also identified in areas such as employee engagement and well-being. While the majority of employees feel motivated and engaged, more than half (52%) reported that the organization does not sufficiently support a healthy work-life balance. This level of imbalance can lead to burnout, reduced productivity and increased employee turnover, especially given the relatively young workforce. Furthermore, the scale relating to performance appraisal revealed uncertainty and dissatisfaction regarding the use of feedback for improvement, with almost 30% of respondents unsure about this process. This lack of clarity hinders continuous improvement and can prevent an organization from fully utilizing performance reviews as a growth tool.

Conclusions

Based on these findings, part 3 of the article presents the author's recommendations and proposes an implementation plan aimed at improving project team management at KONTRUKTIONSGRUPPE BAUEN, based on the data collected during the survey. The analysis highlights both the organization's strengths, such as diverse skills, effective communication, and high project goal achievement, and critical weaknesses, including leadership effectiveness, conflict management, employee well-being, and feedback processes. These insights form the basis for targeted strategies designed to address weaknesses and promote more cohesive and effective project team management.

Given that leadership and conflict resolution issues threaten the long-term success of the company, as well as that more than half of the employees expressed dissatisfaction with the project manager's leadership skills, and 61% noted ineffective conflict management in the team, in addition, more than 52% of respondents believe that the organization does not sufficiently promote a healthy work-life balance, which could lead to burnout and high staff turnover, and there is significant uncertainty about the use of feedback to improve performance, as almost 30% of employees are unsure about how their input is used, the author proposed the implementation of various measures to address these problems.

The total annual investment in these initiatives is approximately 9,200 euros. The author believes that these expenses are justified by the expected benefits: reduced staff turnover, improved communication, greater employee involvement and ultimately better project results. The plan emphasizes the importance of monitoring these measures annually to assess their effectiveness and make necessary adjustments.

It is expected that the implementation of these strategies will confirm the hypothesis initially put forward for the final project that clearly defined roles, effective leadership, clear communication and attention to employee well-being improve project management performance. The proposed plan offers a structured path for KONTRUKTIONSGRUPPE BAUEN to foster a more motivated, cohesive and resilient project team, ensuring sustainable organizational growth and project success.

These recommendations are accompanied by an implementation plan detailing responsible people, specific activities, timelines and estimated costs. The total estimated annual expenditure for these measures is approximately €9,200, which is justified by the expected benefits such as reduced staff turnover, improved communication, greater employee engagement and better project outcomes. The plan emphasises the importance of ongoing monitoring and evaluation to ensure the effectiveness of the measures implemented and to promote continuous improvement.

This work offers a structured approach to diagnosing and improving project team management within the CONSTRUCTION GROUP BAUEN. It combines theoretical insights with empirical data, leading to practical strategies designed to foster a more cohesive, motivated and efficient project workforce. The main goal is to support long-term organizational success by improving team dynamics, leadership and employee well-being, thereby contributing to more successful project implementation and organizational resilience.

Overall, this work provides insight into project team management and demonstrates the challenges that similar companies in this industry and other industries may face. It can be used as a reference and, based on it, further research can be conducted to improve project team performance and achieve various company and industry goals.

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PROBLEMS/CHANGES IN PERSONNEL MANAGEMENT IN ORGANIZATIONS UAB „MIKOTELGROUP“

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Keywords: personnel management, change management in the organization, personnel management factors.

Abstract
The article examines the concept of personnel management, its essence and significance for the organization, personnel management problems and their solutions, the concept and importance of change management and the impact of change management on personnel management. The article conducted a study to examine personnel management problems and changes in UAB "Mikotelgroup". The results of the study showed how employees understand what personnel management is, what factors, in their opinion, have the greatest impact on personnel and change management in the company, employees' attitudes towards the role of managers, communication and motivation applied in the company and employee involvement during changes, revealed what obstacles employees encounter during changes and employees' assessment of personnel management measures that increase labor productivity and job satisfaction. The author's hypothesis is confirmed - if personnel management is successful in implementing changes, then this affects the efficiency of employees' work and job satisfaction. Based on the results of the study, possibilities for improving personnel management problems and changes are presented, with the help of which personnel and change management would be improved.

Introduction

Relevance of the Topic: Personnel management is an important element of every company's activities. It is especially important that in a modernizing environment, organizations increasingly understand the importance of personnel as a factor that can determine the successful operation of the organization (Bortnikas, 2017). R. Česynienė, A. Stankevičienė and N. Jurgaitytė (2015) reveal that companies are in a hurry to integrate into the global economy, take into account globalization, various emerging challenges, especially those associated with personnel management. Personnel management is one of the necessary business needs of today (Goswami, 2018). The relevance of this topic is also particularly associated with various ongoing changes. S. Alimova (2024) notes that various business areas are currently strongly influenced by the rapid development of information technologies, as well as the development trends of the global economy. Technological progress is associated with the initiation of changes when the structure of the organization and the information environment change (Boikovska et al., 2022). In order to survive in the market and compete with various companies, it is especially important to be able to manage changes (Petrauskaitė, Korsakienė, 2019).

Research Problem: Organizations face various challenges. It is especially important to note that the problems of personnel management and change are associated with various aspects, and especially modern technologies. Various information and communication technologies influence the areas of personnel management and change management. It should be noted that various changes in the field of personnel management are associated with the implementation of new systems, open technologies (Cameron & Green, 2019). Regardless of the ongoing changes, without implementing innovations, the activities of companies experience stagnation. Ineffective management of changes can lead to various problems related to operational efficiency and personnel management in organizations.

Research Object: personnel management problems and changes in UAB "Mikotelgroup".

Research Aim: to analyze personnel management problems and changes in UAB "Mikotelgroup".

Research Objectives:

1. To analyze the theoretical aspects of personnel management and change management in organizations.
2. To evaluate the main problems of personnel management in UAB "Mikotelgroup".
3. To present the possibilities for improving personnel management at UAB "Mikotelgroup".

Research Methods:review of scientific literature, analysis of online sources, questionnaire survey, graphic representation.

Research Hypothesis: if personnel management is successful in implementing changes, then this affects the efficiency of employees' work and job satisfaction.

Theoretical Aspects of Personnel Management Problems and Changes

Personnel in a company is one of the largest resources. The importance of personnel is defined in various sources. In order to achieve the goals set by a profit or non-profit company, the main resource is personnel (Alimova, 2024). The personnel of an organization can be defined as a factor in the success of companies (Jatautaitė, Janušauskienė, 2021). It is indicated that initially personnel management was

perceived as only a tool, a business function, thanks to which employees were hired, fired, and salaries were paid (Vilčiauskaitė, 2017). Personnel was understood only as a labor force and all functions were associated with elementary work related to working with personnel. It turns out that personnel management is a particularly important factor in achieving the effectiveness of a company's activities, the success of its activities, and the ability to work in a competitive environment.

The concepts of adaptation of different authors are presented in Table 1.

Table 1

The concept of personnel management (compiled by the author of the work, based on Bortnikas (2017); Juodeikaitė, Fominienė (2016); Toshov (2024); Goswami (2018); Juodišiūtė, Vorevičienė (2016)

Author	Concept
A. Bortnikas (2017)	Personnel management is a continuous process that includes planning, recruitment, selection, socialization, training and development, performance evaluation, etc.
M. Juodeikaitė ir A. Fominienė (2016)	Personnel management – the management of employees to achieve the intended goals of the company.
M. Toshov (2024)	Personnel management is a purposeful and collaborative activity within an organization, involving company managers, as well as other specialists responsible for developing an effective personnel policy concept and methodological framework for managing individual employees in an organization.
A. Goswami (2018)	Personnel management is an activity whose problems and issues should be resolved at the highest level by organizing and managing strategic decisions..
Ž. Juodišiūtė ir J. A.Vorevičienė (2016)	Personnel management is a very important part of every organization's operations, as personnel are an asset, the absence of which would affect the failure of the organization's operations.
B. Vilčiauskaitė (2017)	Personnel management is a broad concept that encompasses various activities related to personnel planning, search, development, motivation, etc.

Taking into account the definitions provided, the main keywords of the definitions related to personnel management are distinguished: continuous process; employee management; targeted activity; collaborative activity; efficiency; strategic decisions. It is these keywords, taking into account the definitions of scientists presented in Table 1, that determine the concept of personnel management, which can be formulated as follows: Personnel management is a continuous process when employees are targeted, cooperation and operational efficiency are sought, and strategic decisions are made.

Personnel is one of the most important aspects of the organization, which directly influences the implementation and success of the company's goals and results (Alimova, 2024). Initially, personnel management was understood as a simple business function, but over time it expanded to a concept that includes planning, training and motivating employees (Vilčiauskaitė, 2017). According to A. Goswami, 2018, personnel management is directly related to operational efficiency. M. Toshov, 2024 states that issues related to personnel management should be addressed very responsibly. The ability of employees to learn, develop and apply skills at work is one of the assessed factors (Česynienė, Stankevičienė, Jurgaitytė, 2015). According to B. Vilčiauskaitė, 2017, globalization, demographic changes and the use of technology have a significant impact on personnel management. Proper and effective management requires managerial support, employee involvement, feedback, training, and innovation (Krivienė, Mackelienė, Fedosejevaitė, 2015).

According to B. Vilčiauskaitė, 2017, in modern organizations, personnel management problems often depend on information technologies, globalization and a constantly changing market. Implementing changes in personnel management requires strategic decisions and employee involvement (Liukinevičienė, Kuodytė, 2021). It is important to modernize management practices by implementing innovative technologies and educational tools (Bortnikas, 2017). One of the fundamental problems that emerge in personnel management is the lack of employees and insufficient motivation, therefore it is important to pay attention to the needs of employees (Jatautaitė, Janušauskaienė, 2021).

Change is an inevitable phenomenon, supported by various factors of technological development, information and changing working conditions (Petrauskaitė-Jocienė, Korsakienė, 2023). According to L. Liukinevičienė and K. Kuodytė, 2021, changes can be external and internal, organizational and strategic. Successful change management depends on the ability to initiate, implement and institutionalize them and evaluate the results obtained (Miknevičiūtė, Valackienė, 2017a). The essential success factors in managing change are leadership, vision and strategy setting, communication and disclosure of employee values (Tan,

Gn, Goh, 2019). Proper change management allows an organization to adapt to emerging problems and difficulties, remain competitive in the market and strive for heights (Petrauskaitė, Korsakienė, 2019).

In summary, over time, the concept of personnel management has changed from simple administrative functions to strategic ones (encompassing employee development, motivation and engagement). Personnel is one of the most important resources of an organization, and its management is a key factor in achieving the company's goals (Alimova, 2024, Juodišiūtė, Vorevičienė, 2016). Personnel must be given attention, ensuring all opportunities for development and motivation. (Česynienė, Stankevičienė, Jurgaitytė, 2015). The main problems of personnel management are identified - the integration of technological innovations, qualification development and insufficient employee involvement. (Bortnikas, 2017, Vardalier, 2020). According to K. Petrauskaitė and R, Korsakienė (2019), changes in an organization are an inevitable part that requires management, communication and employee participation. Proper change management ensures adaptation to the environment, effective personnel management and strengthens the company's organizational culture. (Župerkienė, Tuminienė, Župerka, 2020). According to J. Martinkienė, A. Valackienė and M. Vaikšnors (2019), the role of the manager is very important in order to create a connection with employees and at the same time promote their trust and engagement during changes.

Research on Personnel Management Problems and Changes at UAB „Mikotelgroup“

Presentation of UAB „Mikotelgroup“: UAB „Mikotelgroup" is one of the leading Lithuanian companies providing accommodation services. One of the most famous objects of the company is "Hotel Panorama" in Vilnius, which has 252 rooms, a large conference hall and organization of various events. The hotel cooperates with various agencies, therefore it is in demand not only among individual tourists, but also among large groups of people. Since 2007. the company has been headed by a professional in the hotel sector, who is known as an important person who contributed to the development of Lithuanian hotels.

Research Aim: to analyze the problems and changes in personnel management in UAB "Mikotelgroup".

Research type - quantitative research type.

Method of Collecting Data required for the research: The empirical study of personnel management problems and changes in UAB "Mikotelgroup", an online survey of employees was conducted from 2025-03-30 to 2025-04-01, the questionnaire is filled out online, on the "Google Forms" platform.

Research sample: 2025m. January 4. UAB "Mikotelgroup" employs 48 employees. In order to ensure the reliability of the study with an error of no more than 10 percent, it is not necessary to interview all employees of the company. This is difficult to implement for various reasons. To calculate the required number of study participants, the Paniott formula is used (Kardelis, 2016). After performing the calculations recorded in the formula, it can be determined that in order to ensure 90 percent. reliability of the study, it is necessary to interview at least 32 employees.

Questionnaire structure: The questionnaire consisted of 23 questions, of which there were closed and open-ended questions, and at the beginning of the questionnaire, respondents were asked socio-demographic questions.

First, respondents are asked to assess the importance of change management factors. The results are presented in Figure 1.

Figure 1 shows that, according to respondents, an organization must be flexible, able to change and accept risks. 62 percent of respondents emphasize that employee competencies and knowledge are very important. 53 percent of respondents also identify the use of technology in change management as very important, but 3 percent identified it as neither important nor unimportant. 9 percent of respondents say that the organization's flexibility and ability to respond appropriately to innovations are completely unimportant. These results show that the general attitude of employees towards technology and the importance of employee competencies is quite positive, but still, there are those for whom these aspects are less important and significant.

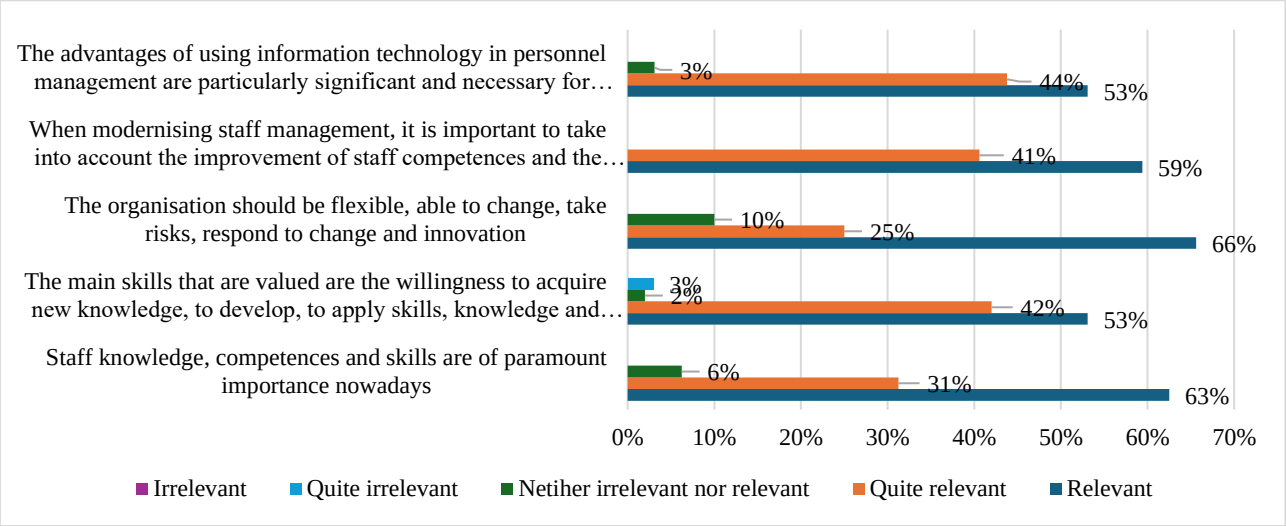


Fig. 1. Evaluating the importance of chance management

Next, respondents are asked to evaluate statements about change management. The results are presented in Figure 2.

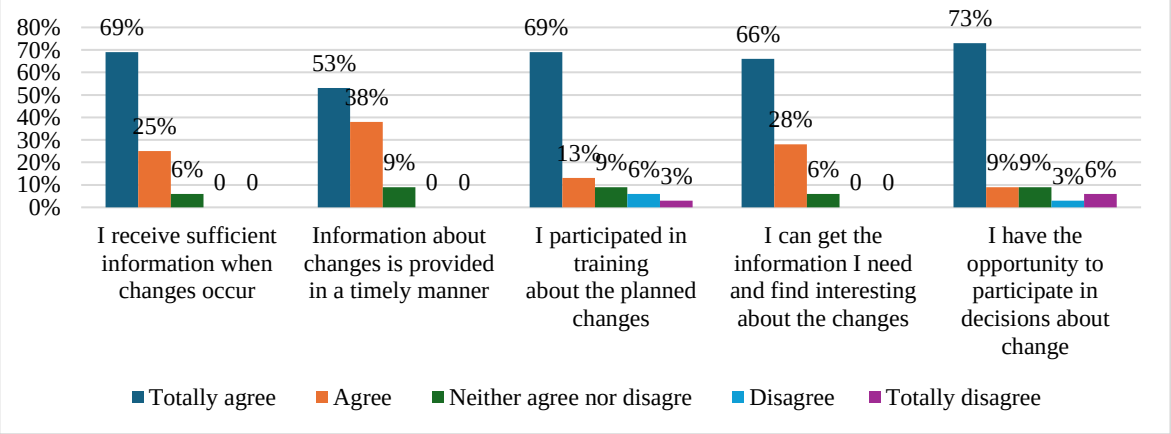


Fig. 2. Evaluation of statements about the importance of changes in the company

The majority (72%) of respondents say they are able to participate in decision-making. 69% say they receive sufficient information about changes during training. However, 9% of respondents say they feel a lack of information about changes.

Next, employees are asked to assess which of the listed factors affects the increase in motivation when implementing changes. The results are presented in Figure 3.

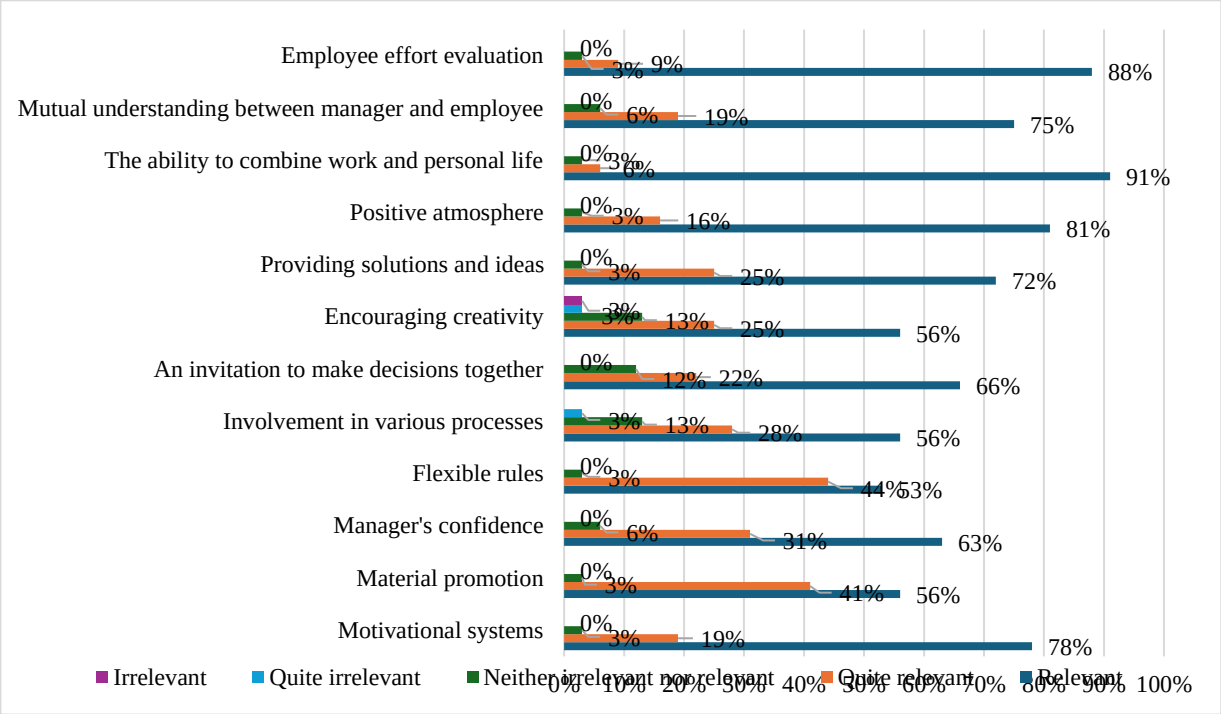


Fig. 3. Factors, influencing respondents' motivation to implement changes

Almost all factors were selected as very important. This may mean that respondents understand the importance of motivation during changes and agree with all the factors listed in the table. According to the data obtained, it is possible to distinguish the most important factors that increase motivation. Thus, material incentives, motivational systems, flexible rules, providing solutions and ideas, the ability to combine work and personal life, and assessing employee efforts are very important factors for more than 55 percent of respondents who participated in the survey. It is also possible to distinguish the least motivating factor - promoting creativity, as even 12 percent of respondents do not see the importance of this statement or do not agree with it. It turned out that all the actions listed in Figure 33 are important for respondents to increase motivation during changes, since no factor was considered important by more than 12 percent.

Next, employees are asked to answer whether they agree with the statement that successful personnel management during the implementation of changes affects the efficiency and satisfaction of employees' work. The results are presented in Figure 4.

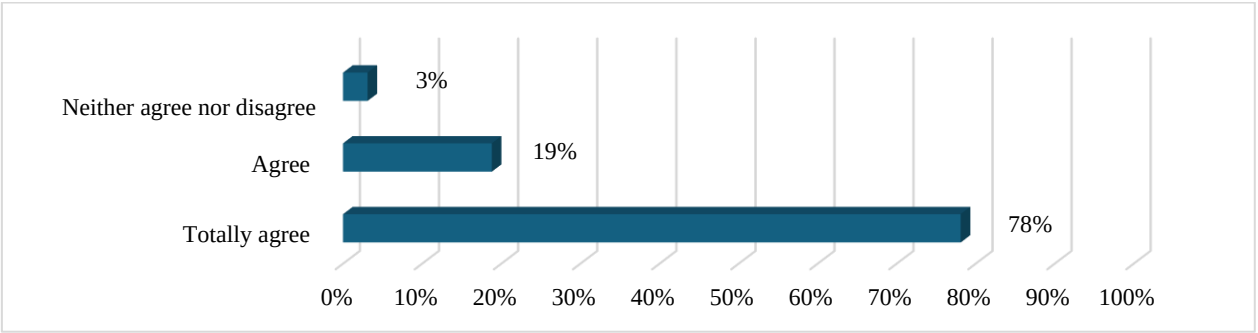


Fig. 4. Respondents' agreement with the statement about the importance of personnel management during changes

As many as 78 percent of respondents fully agree with the statement that successful personnel management during the implementation of changes affects the efficiency of employees' work and job satisfaction. 19 percent agree with this statement, and 3 percent neither agree nor disagree. Evaluating these results, it can be stated that the company's employees are convinced that successful change management has a positive impact on their work results and job satisfaction.

The results obtained during the study make it clear that the vast majority positively assess the company's personnel management and the changes that occur, but some areas for improvement are highlighted.

Personnel management problems and opportunities for improvement of changes at UAB "Mikotelgroup"

Proper personnel management in a modern company is one of the most important and significant indicators that determine the success and results of the company. Personnel management includes not only the distribution of work or functions, but also the creation of a company environment so that employees can feel valued, motivated and work effectively. The results of the study conducted by UAB "Mikotelgroup" show that there are still areas for improvement in the personnel management applied by the company, which can be addressed to achieve even higher results. The study revealed significant shortcomings and areas for improvement - employees feel a lack of motivation, note weak feedback, claim that they are not always included in joint decision-making and feel a lack of opportunities for education and personal development. The identified shortcomings indicate that UAB "Mikotelgroup" personnel management is still not sufficiently and properly systematic. Figure 5 presents guidelines for solving personnel management problems at UAB "Mikotelgroup" and directions for improving the change management process.

Taking into account the identified shortcomings, guidelines for solving personnel management problems are proposed, which can help to purposefully and properly improve the personnel management strategy and principles, which will allow achieving higher goals and increasing employee involvement, loyalty and satisfaction. The main directions for improving the change management process have been formulated, which can ensure smooth implementation of changes, more active employee involvement and proper growth of the organization.

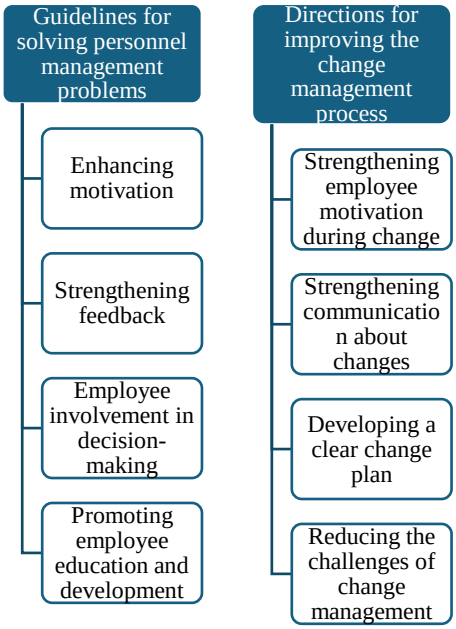


Fig. 5. Guidelines for solving personnel management problems and directions for improving the change management process

Conclusions

Personnel management is a constantly changing process that determines the success and results of an organization. The concept of personnel management, analyzed by various Lithuanian and foreign authors, reveals that personnel management includes not only the commonly known and understood administrative aspects, but also strategic aspects, which include employee training, motivation, etc. Proper personnel management determines the ability to achieve the desired results. In a rapidly changing business environment, personnel management requires changes. Changes are an inevitable part of business, allowing an organization to improve and achieve its goals. Effective change management includes involving employees in the organization's activities, proper communication, leadership, and reducing resistance to change.

A study conducted by UAB Mikotelgroup revealed that a total of 94 percent of respondents say that successful personnel management has a positive impact on their work productivity and job satisfaction.

The results of the empirical study revealed that the greatest influence on personnel management is exerted by changes, the introduction of modern technologies into the work process and innovations. The study revealed that there are still areas for improvement in the company: during changes, employees are not sufficiently motivated, not all employees feel involved in making decisions about changes.

The hypothesis formulated during the study - if personnel management is successful in implementing changes, then this affects the efficiency of employees' work and job satisfaction - was confirmed. The results obtained show that respondents agree that effective personnel management during changes contributes to better company results. Also, respondents agree that employee knowledge and competencies affect the successful implementation of changes. The results obtained show that properly applied and employee-oriented personnel management significantly increases labor productivity, increases job satisfaction and reduces resistance.

Several aspects that need improvement have emerged in the personnel management of UAB "Mikotelgroup" – employee motivation, feedback, weak employee involvement in decision-making and insufficient opportunities for employee development and improvement. In order to solve this, guidelines for solving personnel management problems have been formulated and proposed: strengthening motivation and feedback, promoting employee involvement in decision-making and improving employee development. By properly addressing these shortcomings, the company can strengthen the internal culture and environment, increase employee loyalty and job satisfaction. By properly implementing these directions, the company can reduce the feeling of fear and uncertainty, strengthen employee trust in the company and promote employee involvement. This will ensure smooth and effective implementation of changes and improve performance.

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ANALYSIS AND APPLICATION POSSIBILITIES OF DIGITAL PROJECT MANAGEMENT PLATFORMS AT UAB "ENITY LT"

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Keywords: project management, digital platforms, digital transformation, qualitative research.

Abstract
This study addresses the issue of how digital project management platforms can be applied in the operations of UAB "Enity LT" to ensure more efficient project implementation. The main objective of the research is to analyze the capabilities of digital project management platforms and assess their applicability within the context of the company. The theoretical part of the thesis explores project management principles, traditional and modern methodologies, the impact of digital transformation, and the specifics of project management platforms.
The empirical research is based on a qualitative method – semi-structured interviews were conducted with company specialists. The results revealed that while there is potential to improve project management efficiency through digital platforms, successful implementation requires employee training and internal process optimization.

Introduction

In today's dynamic business environment, organizations striving for competitive advantage and operational efficiency increasingly adopt project-based management as a strategic tool for goal implementation. Project management is a complex process involving planning, organizing, executing, monitoring, and closing projects to achieve specific outcomes while ensuring efficient resource allocation and adaptability to change (Project Management Institute, 2021; Gray & Larson, 2018). A project is characterized as a temporary and unique endeavor aimed at creating value, and its success depends not only on technical aspects but also on effective risk management, team coordination, and stakeholder engagement (Radujković, 2017; International Project Management Association, n.d.).

In recent years, digital transformation has significantly impacted project management practices. Technologies such as artificial intelligence, cloud computing, and project management platforms enable more efficient project tracking, data-driven decision-making, and transparent communication among team members (Adeniran et al., 2024; Aloini et al., 2022). These advancements not only improve operational efficiency but also reshape organizational culture by fostering flexibility, collaboration, and continuous improvement (Sharma, 2023).

The diversity of project management methodologies allows organizations to choose approaches suited to the nature of their projects. Traditional methods such as PMBOK and PRINCE2 emphasize structure and clearly defined stages, while agile methods (e.g., Agile, Scrum) are better suited for fast-changing environments (Axelos, 2023; Schwalbe, 2016). Increasingly, hybrid approaches combine the strengths of both models, enhancing adaptability to modern project complexity (Serrador & Pinto, 2015).

Considering these trends, this bachelor's thesis examines the applicability of digital project management platforms in the context of UAB "Enity LT". As the organization grows and the complexity of its projects increases, the implementation of digital tools becomes critically important. The aim of the study is to explore the possibilities of applying project management platforms at UAB "Enity LT". The thesis combines theoretical insights with practical analysis to propose a model for how digital transformation could contribute to more efficient project management. The main objectives of the research are: To analyze digital project management platforms from a theoretical perspective; To conduct a study of UAB "Enity LT" and identify key needs regarding digital project management platforms; To present a model for improving project management platforms at UAB "Enity LT".

The research methods include the analysis and review of scientific literature and online sources, along with their comparison and synthesis. A qualitative research method – a semi-structured interview – was also applied.

Data and metod

The object of the research is the application of digital project management platforms in UAB "Enity LT" The aim is to examine the applicability of such platforms within the company. A qualitative research method was applied – semi-structured interviews. The interview consisted of 17 open-ended questions, grouped by topic:

Questions 1–4: current project management practices;

Questions 5–7: challenges and issues encountered;
Questions 8–13: experience with digital platforms and AI;
Questions 14–17: attitude toward new technologies and implementation opportunities.

The questions were prepared based on academic literature. Collected responses were analyzed using thematic analysis and grouped into four main categories. A purposive sampling strategy was used – 6 employees directly involved in project management at UAB "Enity LT" were interviewed *1* Table They met the following criteria:

Worked in the company for at least 1 year;
Had experience in project management and/or digital tools;
I voluntarily agreed to participate in the interviews.

1 Table

Distribution of Respondents by Work Experience

Respondent Code	Position	Experience in Company
R1	Project Manager	4 years
R2	Head of Project Management Department	3 years
R3	Project Manager (LT, LV, EE)	2 years
R4	Project Manager	1.5 years
R5	Project Coordinator	1 year
R6	Commercial Projects Manager	3 years

Evaluating the current situation at UAB "Enity LT", traditional tools such as Excel, Outlook, Teams, and WhatsApp are primarily used for project management. While these tools provide some support, they are insufficient for managing complex projects—information is scattered, and there is no unified system. The company faces key project management challenges such as information duplication and loss, limited functionality, and inefficient teamwork as the number of projects grows.

According to respondents, the benefits of digital platforms would include clearer task allocation and control, real-time project progress tracking, centralized information in one place, and more effective decision-making. Potential obstacles to implementing innovations include employees' existing habits, the need for training, and fear of increased workload. However, most employees expressed a positive attitude, especially if management provides sufficient attention, training, and support.

Based on the conducted qualitative research, it was found that UAB "Enity LT" currently does not systematically use a project management platform. Project management processes are carried out using individual digital tools such as Excel spreadsheets and email. Specialized project management systems like Jira or Trello have not been implemented in the company. The research identified the following key needs:

- Real-time project tracking and control;
- More effective communication between different departments;
- Smoother task allocation and execution control;
- Risk management and documentation.

The research conducted at UAB "Enity LT" revealed the main problems hindering effective project management: insufficiently standardized and optimized project execution processes, limited use of digital tools, and inadequate employee readiness to work with digital project management systems. Based on the collected data, four main directions for the application of digital project management platforms were identified, the implementation of which could ensure a more efficient management process and increase competitiveness.

The hypothesis proposed at the beginning of the thesis—that the use of digital project management platforms at UAB "Enity LT" would improve project management quality—was confirmed. According to the research findings, the implementation of digital project management platforms in the company would allow for centralized information management, improved task control, strengthened communication, and more efficient work organization.

Results

A qualitative study conducted at UAB "Enity LT" revealed that the company currently does not use a unified digital platform for project management. Most project-related tasks are organized using separate tools such as Excel, Outlook, Teams, or WhatsApp. The only slightly more advanced tool mentioned by one respondent was Dalux. While these tools help maintain a basic level of planning and communication, they are insufficient for managing large or complex projects. Respondents frequently noted that information is scattered across different communication channels, making it difficult to respond quickly, track tasks, or collaborate efficiently.

Excel is the most frequently used tool for planning and monitoring project progress, while other tools are used sporadically depending on employees' personal habits or the nature of the project.

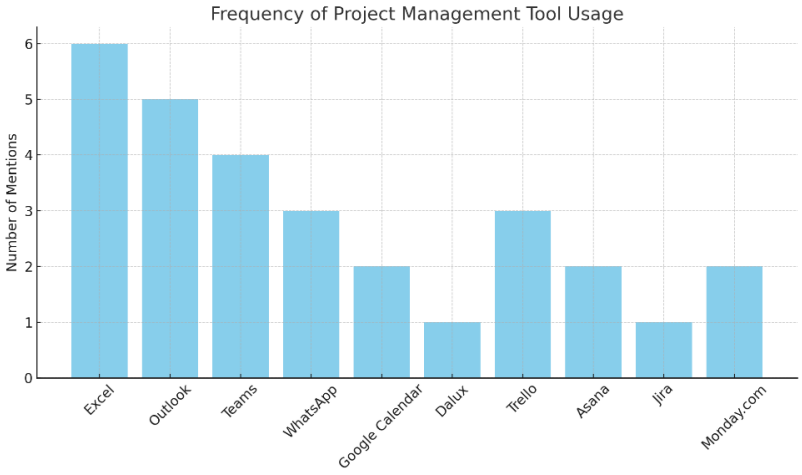


Fig. 1. Frequency of Use of Project Management Tools

The interviews revealed that the main challenges in managing projects are related to information management, task delegation, and communication. The tools currently in use are not designed for real-time collaboration or team-based workflows. Employees often mentioned the lack of automatic reminders, difficulty seeing project progress in real time, lack of clarity in responsibilities, and the inability to attach or comment on documents within tasks.

As shown in the most frequently mentioned shortcomings of current tools include information scattering, the absence of reminders, and limited support for teamwork.

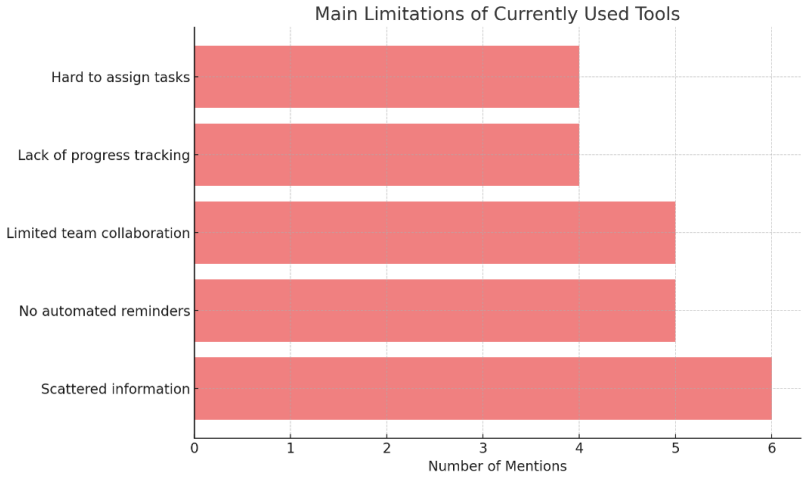


Fig. 2. Main Shortcomings of Currently Used Tools

But emphasized that successful adoption would require team engagement, training, and support from management. It was observed that younger employees are more willing to embrace innovation, while older or

long-tenured colleagues tend to be more cautious or skeptical. This cautiousness stems from fear of added workload, a lack of technical confidence, and uncertainty about responsibilities for managing the new system.

2 Table

Comparison: Current Tools vs. Digital Project Management Platform

Function	Current Tools	Digital Platform
Real-time progress tracking	✗	✓
Centralized document management	✗	✓
Task delegation	✗	✓
Reminders	✗	✓
Integration with Outlook/Drive	✓ (partial)	✓

The study also examined employees' familiarity with platforms such as Trello, Asana, Jira, and Monday.com. Some had used these systems either personally or in previous jobs and gave positive feedback, highlighting their ease of use, visual clarity, and effectiveness in tracking tasks. Most respondents agreed that adopting such platforms would centralize project workflows, simplify communication among teams, and reduce reliance on email or phone calls.

To support the benefits of such platforms, a comparison table was created, highlighting key differences between the current tools used by the company and what a digital platform could offer. Table 2 clearly demonstrates that a specialized project management system would provide essential features currently missing in the company's processes.

To summarize, the company clearly needs a more efficient and centralized approach to project management. Although employees make do with current tools, these are not sufficient for managing a growing number of complex projects. Implementing a modern project management platform could significantly improve work quality, deadline compliance, transparency, and team collaboration. However, to ensure successful adoption, it is essential to develop a clear implementation strategy, provide adequate training, and foster employee engagement so that the new solution is effectively adopted and applied in practice.

Conclusions

Project management is a complex process that requires not only technical planning but also flexible adaptation to change, team engagement, and continuous communication with stakeholders for successful implementation. Theoretical analysis reveals that while classical project management models are still widely used due to their structured approach, in today's dynamic environment, agile and hybrid methodologies are becoming increasingly important for enabling more efficient collaboration.

Digital project management platforms are essential tools in modern project management, allowing for increased efficiency, improved communication, and faster decision-making. Theory emphasizes that the use of platforms such as Asana, Jira, and Trello enables project teams to work in real time, track tasks, automate processes, and optimize resource utilization.

The project management tools currently used at UAB "Enity LT" are not sufficiently effective or high-quality as project volumes increase. The company utilizes tools that help perform basic project planning and coordination functions, but these tools are not integrated, resulting in information loss and increased risk of missed deadlines.

Implementing digital project management platforms in the company could significantly improve the quality of project management. However, successful change requires employee engagement and management

support. Respondents unanimously acknowledged that digital platforms would help ensure more transparent, faster, and better-coordinated project management.

The analysis of the applicability of digital project management platforms shows that a properly chosen and integrated system can significantly increase the efficiency of project management within the company. However, achieving this requires consistent changes: optimized internal processes, selection of a modern platform, trained and motivated employees, and a strengthened communication culture.

By comprehensively addressing the key challenges of the improvement model, a digital platform will become not only a technological innovation but also a competitive advantage—enabling UAB "Enity LT" to execute projects faster, more smoothly, and with higher quality. This improvement model may serve as a roadmap for a successful digital transformation in the field of project management, where technology aligns with the human factor and best management practices.

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THE ROLE OF TEAMWORK AT "AB MOTORS"

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Keywords: teamwork, team, responsibility, trust, effectiveness.

Abstract
The thesis analyses the concept of teamwork, the peculiarities of teamwork formation, the effectiveness of teamwork, its determinants, the advantages and disadvantages of teamwork, translation, problems and their solution. The factors determining the effectiveness of teamwork are leadership, trust and cooperation, which affect team members differently.
This paper is a study of the role of teamwork at "AB Motors". The hypothesis formulated by the author that team members trusting and cooperating with each other will ensure the effectiveness of teamwork is partially supported

Introduction

Relevance. One of the factors for successful work performance is teamwork. Teamwork enables projects to be implemented and various tasks to be carried out that are difficult for a single person to do. Teamwork has many advantages for the company and for the personal growth and development of each employee (Chayomchai, 2023).

Exploration of the topic. The role of teamwork has been extensively analysed in the works of Lithuanian and foreign authors. In foreign countries, various aspects of teamwork, such as advantages, disadvantages, effectiveness, and existing problems, are analysed quite extensively. Therefore, this thesis mainly analyses the results of research on teamwork by foreign authors. The effectiveness of teamwork and the main factors affecting teamwork, employee performance and organisational performance have been studied by A. M. Khawam, T. DiDona and S. B. Hernándezc (2017); A. K. Saini (2021); A. Chayomchai (2023); V. X. Duc (2023); M. U. Ismael (2023); A. L. Bakke and A. Johansen (2024); R. Sharma et al. [2024].

The problem. The goal of every business organisation is to use human resources efficiently, as this leads to an overall improvement in the organisation's performance. Therefore, there is a need to assess the role of teamwork in a business organisation. The object of the work is teamwork at AB Motors. The aim of the paper is to evaluate teamwork at AB Motors. Objectives:

1. To analyse teamwork from a theoretical point of view.
2. To study the role of teamwork at AB Motors.
3. To provide directions for the improvement of teamwork at AB Motors.

Research methods used: analysis of scientific literature, analysis of online sources, summaries, comparisons, qualitative research method - structured interviews. Hypothesis: If the team members trust and cooperate with each other, the effectiveness of teamwork will be ensured. Work structure. The thesis consists of three main parts.

Data and methodology

A team is a small group of people with different abilities and skills, a common goal and team responsibility. In a team, employees have clear tasks, and the organization emphasizes cooperation and problem solving. One of the main goals of team formation is to improve communication among team members, increase trust and share information.

The leader plays an important role in the team - sets team goals, plans and coordinates team activities, ensures active participation of members and promotes team focus. The most important advantages of teamwork are problem solving, improved communication, higher productivity, better performance, and improved motivation. The disadvantages of teamwork are misunderstandings and the associated loss of information, conflicts, and stress.

After examining the management literature, it can be stated that a team is a small group of people with various abilities and skills, a common goal and team responsibility. In a team, employees have clear tasks, and the organization emphasizes cooperation and problem solving. Teamwork is work whose members have the same goal, skills, and experience. Teamwork contributes to the growth and development of employees. It is one of the most powerful tools for achieving specific goals in any business area or sector. One of the main goals of team formation is to improve communication among team members in the team, increase trust, and share information.

The leader plays an important role in the team - sets team goals, plans and coordinates team activities, ensures active participation of members, and promotes team focus. The results of the analysis of the factors determining team effectiveness suggest that the factors determining the effectiveness of teamwork are leadership, trust, and cooperation, which affect team members differently. The most important advantages of teamwork are problem solving, improved communication, higher productivity, better performance, and improved motivation. The disadvantages of teamwork are misunderstandings and the associated loss of information, conflicts, and stress. Conflicts arise in teams that face problems, but these can be avoided by adhering to a certain consistency.

Research objective: to evaluate teamwork at AB Motors. Research choice. A qualitative research method was chosen in this work. Research location: employees of the AB Motors car service, located in Ireland. Research type. In order to find out how teamwork at AB Motors can be improved, a qualitative research method – structured interviews – was used to collect research data. Research organization. The data obtained during the interviews were analyzed using qualitative content analysis, when the answers to the questions were divided into categories and subcategories. The interpretation of the text was based on the research questions raised. Research ethics. Certain ethical principles were followed when conducting the research. Before the interview, the interview time was agreed with the informants.

Results

The results of the study show that AB Motors employees feel responsible for each other, but are not always able to solve problems when they arise. Teamwork is effective and high-quality. When questions arise, meetings are organized in the company to solve problems. Decisions are made in two cases: the manager makes them, and in his absence, insignificant decisions are made by the employees themselves, but serious problems are not solved. Employees often plan their work themselves and decide how best to perform the tasks assigned to them by customers. Employees have been working together for many years, know each other well, know the capabilities and abilities of a team member, therefore, if necessary, a task can be transferred to another team member and continue teamwork.

The results of the study showed that AB Motors employees try to develop trust by communicating with colleagues and organizing meetings. Such a culture of communication between colleagues helps to achieve a common goal - to perform work quickly and qualitatively so that the client is satisfied. Trust in team members and a good emotional climate increase mutual focus. The team is fully formed, taking into account the personal qualities of the employees, but employees are sometimes encouraged when they achieve good performance results. When planning work, there is no long-term planning, and a short meeting or discussion is often held at the beginning of the day, during which work is distributed and work is coordinated. It has been established that the manager as a leader is excellent at managing a team, has good communication skills, and the manager's attitude towards teamwork is positive. Employees like to receive encouragement, kind words, and praise from the manager for a job well done. The manager's leadership contributes to the effectiveness of teamwork. A good general microclimate and employee satisfaction contribute to the quality of work. The shortcomings of teamwork at AB Motors are miscommunication, lack of employees, lack of communication, and occasional conflicts that are resolved with the help of the manager and by holding meetings. When resolving these shortcomings, it is necessary to plan work for a slightly longer term, not for one day. Communication between team members takes place in two ways: directly, face to face and using modern technologies, so sometimes communication problems arise due to haste, hasty replies that can be misunderstood, and incorrect information transmitted by a colleague.

The hypothesis put forward: “If team members trust each other and cooperate with each other, the effectiveness of teamwork will be ensured” was partially confirmed. From the informants' answers, it can be concluded that employees are respectful of each other, provide assistance when necessary, respect their colleagues, internal work rules, but there is a lack of trust in each other. When team members trust each other, work will go smoothly, when a team member, having his own task, will fully perform it or will take responsibility not only for his own tasks, but also for the general atmosphere of the team, will responsibly fulfill his duties.

The results of the study showed the main teamwork problems in AB Motors garage that hinder smooth teamwork. Therefore, five opportunities for improvement were suggested: to ensure effective decision-making, it is important to allocate responsibilities according to the competences and strengths of the employees. Regular

and constructive feedback would encourage openness and allow problems to be identified and addressed in a timely manner. A clear division of labour would help avoid duplication of effort and encourage staff to perform the tasks that are best suited to their skills. Strengthening team ownership of work and projects can lead to better engagement and trust among team members, which is essential for the success of common goals. Encouraging team members to spend time together outside of work could help to build stronger bonds and better mutual understanding, which would contribute to stronger teamwork and cooperation. The implementation of these measures could improve the role of teamwork in AB Motors.

Conclusions

A study of the role of teamwork at AB Motors found that employees feel responsible for each other and are not always able to solve problems when they arise. Decisions are made in two cases: the manager makes them, and in his absence, insignificant decisions are made by the employees themselves, although some decisions remain unresolved.

At AB Motors, efforts are made to build trust among employees by communicating with colleagues and organizing meetings. There is no long-term planning, and a short meeting or discussion is often held at the beginning of the day, during which work is distributed and work is coordinated.

Advantages of teamwork at AB Motors: quality of work, good general microclimate. Disadvantages of teamwork at AB Motors are miscommunication, lack of employees, lack of communication, and occasional conflicts that are resolved with the help of the manager and by holding meetings.

Directions for improving teamwork at AB Motors: delegation and distribution of responsibility according to employees' strengths, promotion of open feedback, strengthening team cooperation and development of mutual trust through promotion of shared responsibility and strengthening team ties.

The hypothesis put forward: "If team members trust each other and cooperate with each other, the effectiveness of teamwork will be ensured" was partially confirmed. From the informants' answers, it can be concluded that employees are respectful of each other, provide assistance when necessary, respect their colleagues, internal work rules, but there is a lack of trust in each other. When team members trust each other, work will go smoothly, when a team member who has his own task will fully perform it or will take responsibility not only for his own tasks, but also for the general atmosphere of the team, will responsibly fulfill his duties.

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HUMAN RESOURCE MANAGEMENT AND ITS SOLUTIONS AT UAB DLG

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Keywords: human resource management, human resource management decisions, strategic human resource management, human resource management systems and methods.

Abstract

The article formulates the problem of how to effectively integrate human resource management into the strategic objectives of an organisation in order to achieve better results. Theoretical and practical aspects of Lithuanian and foreign author concepts, objectives, functions, systems, methods and solutions of human resource management have been analysed and systematised. The strategic human resource management and its impact on the organisation has been examined.

The work was carried out by quantitative study, i.e. questionnaire survey was conducted and data analysis was performed. The author's hypothesis that if human resource management and its decisions are based on the organisation's objectives and strategy, the organisation and its employees will perform better is supported.

Introduction

Relevance of the topic. Human resource management and its decisions must be closely linked to the organisation's strategy and actively contribute to its objectives. This topic is driven by the rapidly changing labour market, political and economic conditions in the logistics and freight forwarding industry, as human resource management decisions and practices need to be in line with changing organisational objectives and to improve the performance of employees and organisations.

Research of the topic. As human resources significantly contribute to the implementation of strategic plans and the achievement of company objectives, there is a tendency that a number of Lithuanian and foreign authors are studying this topic, i.e. A. Bortnyk [2017], A. Czarnecka and M. Daróczi [2017], A. Giedraitis and R. Stašys [2023], V. Gražulis, D. Račelytė, R. Dačiulytė, A. Valickas, R. Adamonienė, T Sudnickas and A. Raišienė (2015), G. Grigaitė, and L. Lobanova [2021], M. Juodeikaitė and A. Fominienė [2016], I. Navikauskienė and A. Jarašiūnienė [2019], D, Thoman and R. Lloyd [2018], G. Vaitiekūnienė – Urbanovič (2024).

Problem of the work. How to effectively integrate human resource management into the organisation's strategic objectives to achieve better results.

Object of the work is human resource management and its solutions at UAB DLG.

Objective of the work is to analyse the human resources management and decisions at UAB DLG.

Tasks of the work:

1. To examine human resource management and its solutions from a theoretical perspective;
2. To carry out a study on human resource management and its solutions at UAB DLG;
3. To present options for improving human resource management and its solutions at UAB DLG.

Applicable research methods: theoretical methods of analysis, analysis of scientific articles and books, comparative analysis, quantitative research, graphical representation.

Hypothesis of the work: if human resource management and its decisions are made in the context of the organisation's objectives and strategy, the organisation and its employees will perform better.

Concept, Objectives and Functions of Human Resources Management

M. Juodeikaitė, A. Fominienė [2016] and A. Bortnyk [2017] define human resource management as the timely performance of employee functions to achieve organisational goals. A. Czarnecka, M. Daróczi [2017] prioritise employees' personal qualities in line with the company's objectives. D. Thoman, R. Lloyd [2018] and G. Grigaitė L. Lobanova [2021] see human resource management as providing development opportunities for employees to effectively harness workforce development. G. Vaitiekūnienė – Urbanovič (2024) argues that human resource management focuses on the life cycle of the employee in the organisation, from recruitment, to performance, to well-being (Table 1).

Table 1

Definitions of the concept of human resource management *(compiled by the author)*

Authors	Concepts
M. Juodeikaitė, A. Fominienė [2016]	Human resource management in an organisation is understood as the use of human capital to enhance competitive advantage and to perform expected duties in a timely manner.
A. Bortnik [2017]	Human resources are an organisation's assets, which determine its performance, the achievement of its objectives and its competitiveness.
A. Czarnecka, M. Daróczi [2017]	Human resources must ensure that the organisation of the workforce promotes the qualities of employees that are most in demand in relation to the company's objectives.
D. Thoman, R. Lloyd [2018]	Human resources is the proper management and integration of human capital into the strategic plans of the company, commensurate with the needs of the company in relation to its people and their individual usefulness and development in the organisation.
G. Grigaitė, L. Lobanova [2021]	Human resources is the analysis of the role of the human being in the organisation, its knowledge, development and work on organisational development issues, with an emphasis on the impact of competition, integration on the development and efficiency of the workforce.
A. Giedraitis, R. Stašys [2023]	Human resources management is an integrated management system that integrates practices, processes and policies of an organisation.
G. Vaitiekūnienė – Urbanovič (2024)	The author describes human resource management as a highly coherent system that clearly maps out an employee's journey, from how we discover them to how they work and feel about the organisation.

M. Juodeikaitė and A. Fominienė [2016] present the key directions and objectives of human resource management and stress that the presented human resource directions and objectives should be integrated into the company's strategy and help employees to achieve organisational goals. S. H. Nugroho [2022] agrees that human resource management goals and objectives should focus on performance and enable employees to achieve their personal goals, but he also refers to the pursuit of social goals, the aim of developing ethical and socially responsible organisational policies aimed at encouraging employees to be socially responsible members of society.

A. Bortnik [2016] draws attention to the functional areas of human resource management, which are an integral part of the human resource process. The author identifies 9 key human resource management functions, i.e. recruitment, compensation, career fulfilment, development, evaluation, career planning, diversification, promotion and motivation. A. Giedraitis and R. Stašys [2023] follow A. Bortnyk [2016] and present a slightly shorter sequence of human resource management functions, but the essence remains unchanged (Fig. 3). L. Rakštelytė and A. Valickas [2018], summarising the functions, distinguish 3 main groups of human resource management, which are focused on attracting, developing and retaining human capital within the organisation, and neglecting them inevitably leads to increased turnover of human resources and wastage in the other stages of human resource management. L. Lobanova [2015] points out that human resource management practices must be focused on the cost-effectiveness of human capital use so that the management methods and standards developed can achieve measurable performance efficiency in business. This human resource paradigm not only focuses on employee improvement, development, self-reflection, motivation and retention, but also on financial incentives directly linked to personal performance.

Strategic Human Resource Management and Its Impact on the Organisation

The authors describe strategic human resource management as a process by which the human capital of the company is managed to achieve the organisation's objectives, but each provides additional emphasis on their approach. R. Eckardt, D. P. Lepak, P. Boselie [2017] argue that a prerequisite is to plan in advance the activities of employees and to adapt the most successful practices to achieve the organisation's objectives. F. L. Cooke, Q. Xiao, M. Xiao [2020] point out that it is important to balance the needs and interests of the organisation and human capital in a way that is efficient and fair. S. Al-Qudah, A. M. Obeidat, H. Shrouf, M. A. Abuswilem [2020] stress the importance of enabling employees to achieve strategic objectives. S. Kamarudin, N. F. Tawgif [2021] see strategic human resource management through the creation of a dynamic environment aimed at fostering leadership and an organisational culture to achieve the company's goals, with

a particular emphasis on the pursuit of financial goals. P. Kittikunchotiwut [2021] argues that it is important to promote an organisational culture that embraces innovation and flexibility in processes. L. Soo-Hoon [2021] stresses the importance of adopting the most proven practices that drive performance and align goals, innovation and the bottom-line results. A. J. Kess-Momog, S. Tubokirifuruar B. G. Bello, G. B. Omotoye, A. I. Daraojimba [2024] argue that it is important to align human resource practices with its goals and objectives. A. Raupelienė (2024) stresses that the process should include objectives, policies, practices and implementation (Table 2).

Table 2

Definitions of strategic human resource management *(compiled by the author)*

Authors	Concepts
R. Eckardt, D. P. Lepak, P. Boselie [2017]	Strategic human resource management is the pre-planned use of human resources through activities to help an organisation achieve its strategic objectives.
S. Al-Qudah, A. M. Obeidat, H. Shrouf, M. A. Abuswilem [2020]	Strategic human resource management is the process of integrating human resource strategy into the organisation's strategy, enabling employees to help their organisation achieve its strategic objectives.
P. Kittikunchotiwut [2021]	Strategic human resource management is the alignment of human resource functions with the organisation's strategic objectives to improve business performance and promote an organisational culture that embraces innovation and flexibility.
S. Kamarudin, N. F. Tawgif [2021]	Strategic human resource management is about creating dynamic practices and policies that foster leadership and an organisational culture to achieve the organisation's objectives, especially financial ones.
L. Soo-Hoon [2021]	Strategic human resource management is the ongoing application of the most proven practices in an organisation that drive performance growth, alignment of objectives, innovation and bottom-line results.
A. J. Kess-Momog, S. Tubokirifuruar B. G. Bello, G. B. Omotoye, A. I. Daraojimba [2024].	Strategic human resource management is linked to various business strategies, aligning human resource practices with the organisation's goals and objectives.
A. Raupelienė (2024)	Strategic human resource management encompasses the organisation's strategic objectives, policies, practices and their implementation.

Strategic human resource management is the integration of human resource strategy into an organisation's strategy to achieve the organisation's long-term objectives.

Human Resource Management Systems and Methods

G. Grigaitė and L. Lobanova [2021] point out that a human resource framework should combine philosophies that describe the core values and guiding principles of an organisation (Fig. 1). L. Lobanova [2015] argues that a human resource management system must meet the needs of not only the organisation but also its employees in a way that enhances the organisation's value, productivity and work-life balance. T. Bondarouk, C. Brewstwe [2016] takes a broader view and presents the Harvard human resources, arguing that human resource management itself is shaped by the various stakeholders that directly or indirectly influence the organisation's activities and the people who work there. The authors combine the interests of internal and external stakeholders with the situational internal and external situational factors that shape the human resource management strategy, resulting in a human resource strategy that influences the shaping of stakeholder interests and situational factors. The approach of A. Bril, O. Kalinina, E. Zotova, V. Vilken [2018] focuses exclusively on the financial performance of the organisation and proposes that the human resource management system should be managed through the reduction of the organisation's current costs while increasing the company's revenue and the value of the organisation. To achieve this, they recommend using a wide range of indicators to measure the return on employees in individual divisions. The authors suggest that the effectiveness of human resource management should be measured in terms of costs, profits and the payback of projects and workforce. A. Giedraitis and R. Stašys [2023] argue that a human resource management system should centralise the entire infrastructure of the organisation so that the set of tools that make up the system is geared towards promoting performance.

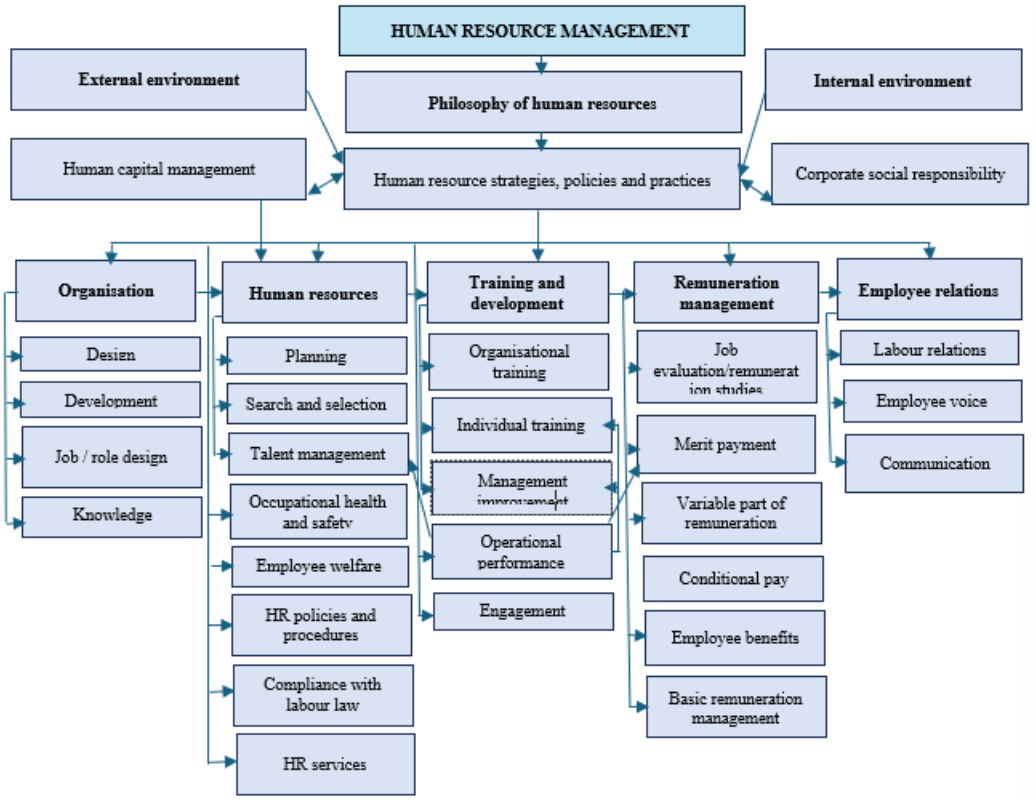


Fig. 1. Human resource management system (Grigaitė, Lobanova, 2021, p. 125)

G. Grigaitė and L. Lobanova [2021] point out that a human resource framework must combine philosophies that describe the core values and guiding principles of an organisation.

Human Resource Management Solutions in an Organisation

The aim of the software solutions is to reduce the administrative burden associated with day-to-day human resource routines such as employee data flows, payroll, training, performance appraisals, recruitment, dismissals, employee requests, management orders, leave balance management and time attendance. E. J. Marinsas, F. Belfo [2023] highlight that a resource planning programme can provide an organisation with opportunities for growth and sustainability, improve business processes and increase productivity. F. Sunmola, G. L. Lawrence [2024] argue that resource planning applications allow for efficient organisation of work across geographically dispersed locations, and that these systems can be integrated with other business management systems to achieve better results. T. Silva, R. P. Marques, G. Azevedo [2022] argue that resource planning modules are increasingly being used for an organisation's internal audit procedures, with the aim of improving the performance of the audit itself, enhancing business advantages and reducing weaknesses. H. F. Hansen, M. Haddara, M. Langseth [2022] and E. Hustad and J. Stensholt [2023] point out that software solutions for resource planning provide a competitive advantage and allow efficient real-time data management, although the implementation and maintenance of such a system requires a high level of preparation and investment.

R. Mickevičienė and A. Burinskienė [2019] argue that competition drives companies to improve, so process improvement is a continuous search for opportunities to improve processes in the company's day-to-day operations and to strengthen the interconnections between processes. Improving a company's processes requires first identifying what is to be improved, what results it is expected to deliver for the company, and how to achieve those results. The author stresses that one of the methods of efficiency improvement is the implementation of LEAN methodology in which all employees and team members are involved in the improvement of the company's processes. V. Sunder, A. Prashar [2024] emphasise that the LEAN concept is based on research that organisational processes, technology and people form the managerial framework necessary for performance. This concept aims to develop an independent and interrelated view of the impact of lean practices and digitisation on performance through organisational learning. R. R. Diaz-Reza, H. Mousavi, C. Sanchez-Ramirez, J. L. Garcia-Alcazar [2024] argue that LEAN prioritises cost reduction to

increase productivity and efficiency, which simplifies processes, reduces costs, time and labour costs for the organisation.

Study on Human Resource Management Solutions at UAB DLG

The study was carried out at UAB DLG, Perkūnkiemio st. 5, Vilnius, and the study data was collected between 31 March 2025 and 7 April 2025. The Paniotto formula was used to calculate the study sample, which resulted in a sample size of 102 employees (Kardelis, 2016). An anonymous survey questionnaire was used, consisting of an introduction and a background section of 20 open and closed questions (Annex 2). The questionnaire was posted on www.apklausa.lt website and a link to the anonymous survey was sent to all employees. A total of 91 questionnaires were completed out of the planned sample of 102 employees, with a return rate of 89%, indicating that the survey data is reliable. The questionnaire survey asked employees about their assessment of the performance of the HR Department of UAB DLG (Fig. 2).

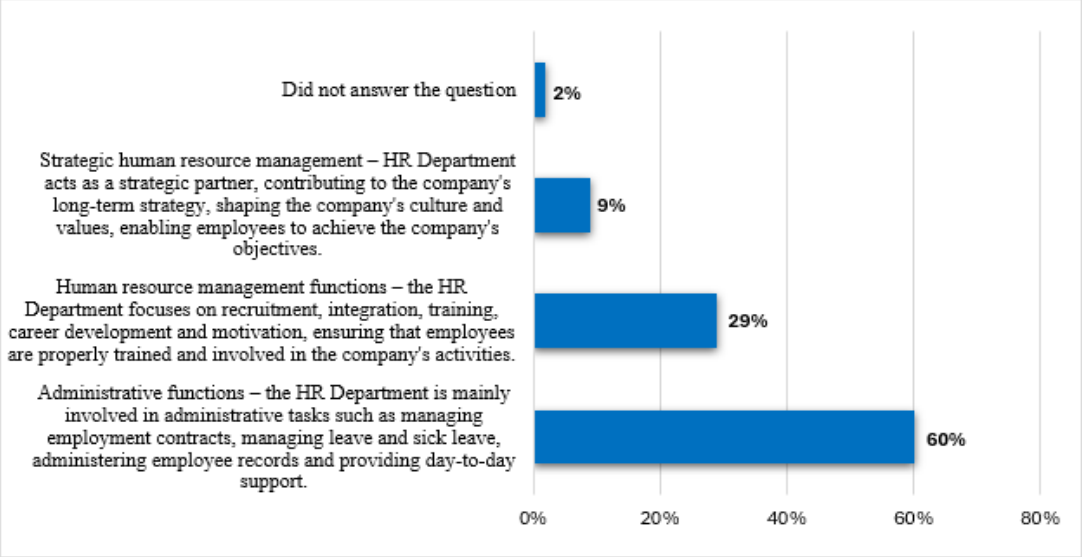


Fig. 2. Evaluation of DLG UAB's HR Department through work and activities

The survey showed that 60% of respondents see the human resource function as a department that mainly deals with administrative tasks, while 29% say that the human resource function focuses on recruitment, integration, training and career development and motivation, and ensures that employees are properly trained and involved in the company's activities. 9% see strategic human resource management in the company, where the HR Department acts as a strategic partner, contributes to the company's long-term strategy, shapes the company's culture and values, and enables employees to achieve the company's goals. 2% of respondents did not answer the question (Fig. 2). It can be argued that the company's HR Department is seen as performing technical and operational functions, the department is not or not involved in higher level problem solving, has a weak human resource management development or is not applied in a global format in the company context.

Respondents identified factors that hindered UAB DLG from achieving better results (Fig. 3). 28% of respondents stated that the company does not provide career and growth opportunities, 27% stated that the company does not provide opportunities for learning and development, and 18% stated that the company does not provide opportunities for initiatives and implementation. 11% feel that the pay and bonus system hinders performance, 8% state the culture is unfavourable, 4% state the manager and leadership style is unsatisfactory, 2% are not satisfied with the micro-environment and colleagues, 1% cite the unfavourable political environment, and the remaining 1% feel that everything is fine.

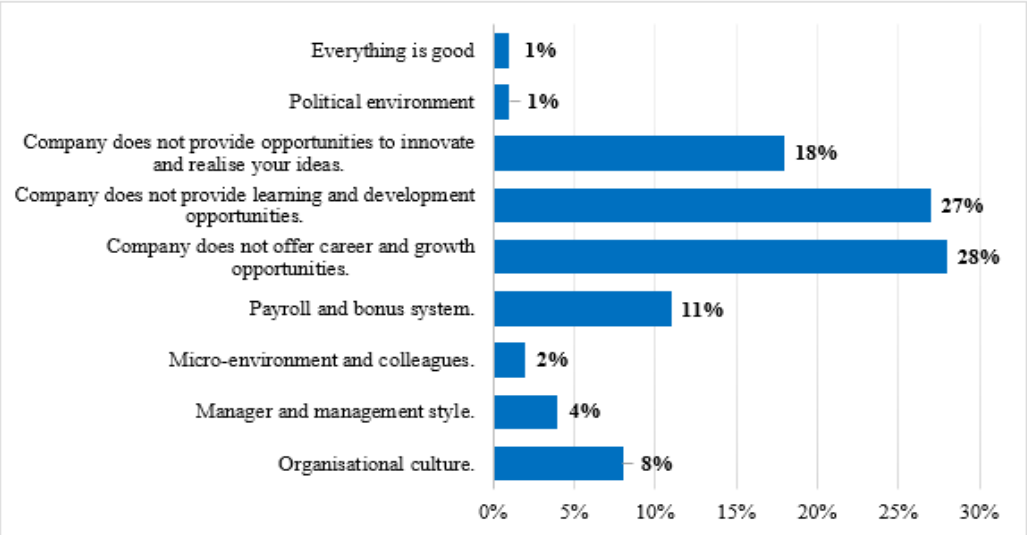


Fig. 3. Factors hindering the performance of UAB DLG employees (compiled by the author)

The results of the study showed that if human resource management and its decisions are made in the context of the organisation's objectives and strategy, the organisation and its employees will achieve better results. According to the study, if the HR Department were more involved in the strategic development of the organisation's human resources, in terms of employee motivation and the integration of engagement measures into the company's processes, employees would be more motivated to perform better. This suggests that the *hypothesis has been confirmed*.

Opportunities for Improving Human Resources Management and Its Solutions at UAB DLG

UAB DLG's HR Department needs to improve its human resource management processes so that the human resource management system and its individual functions maximise the performance of its employees in achieving the company's strategic objectives (Fig. 4). It is important to pay particular attention to employee development, career opportunities and incentives, and activities that promote employee motivation and engagement.

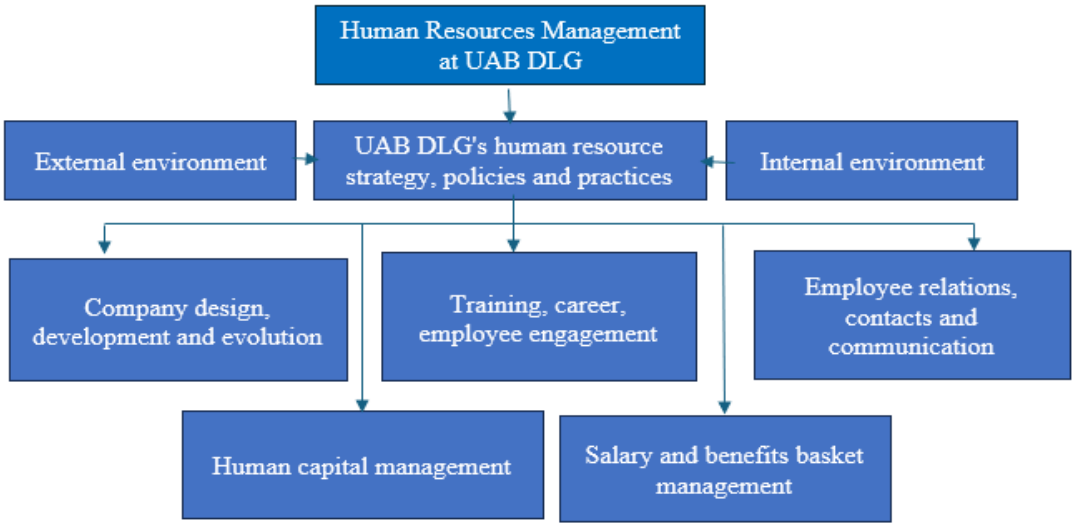


Fig. 4. Directions for improvement of the human resource management system of UAB DLG (compiled by the author)

The human resource management system must cover all stages of the employee's and the company's development, so that each process is geared towards the achievement of the company's strategic objectives. The various variables in this system are shown to be significant for organisational performance, employee

performance, engagement and motivation. This is why it is so important to develop a human resource management strategy that takes into account the objectives and specificities of the company.

Conclusions

The analysis of the literature suggests that human resources is the appropriate management and integration of human capital into the strategic objectives of the company, in order to bring out the qualities of the workforce that are more in line with the needs of the organisation, to ensure competitive advantage and to ensure the effectiveness of the use of workforce development.

The analysis of the scientific literature on human resource management and its solutions by Lithuanian and foreign scientists suggests that the functions, directions and objectives of human resource management should be integrated into the processes and activities of the company in such a way as to enable human capital to achieve better company results. Human resource management software solutions simplify human resource management processes, reduce operational work, and monitor employee data, results and activities.

The results of the study showed that UAB DLG's HR Department performs more of the day-to-day operational administrative functions, and that factors that promote employee motivation and engagement, such as training, growth and incentives, are not implemented. The study showed that employees are satisfied with regular performance reviews, individual performance-related pay and teleworking opportunities.

Based on the findings of the study, the HR Department of DLG UAB is focused on day-to-day administrative operations, with no measures in place to promote employee engagement and motivation, and it is therefore proposed to substantially improve and expand the overall human resource management system, while addressing the issues of employee learning, growth and incentives.

The directions of improvement of the human resources management of UAB DLG are improvement of the model of the human resources management system, involving the activities of the HR Department in strategic planning and implementation of the organisation's objectives, which helps to achieve better performance, motivation and engagement of employees.

The study of UAB DLG *confirms the hypothesis* that if human resource management and its decisions are made in line with the organisation's objectives and strategy, the organisation and its employees will achieve better results. Providing opportunities for career progression, growth, learning, training, initiatives and implementation would significantly increase employee engagement and motivation, leading to better results.

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CONFLICT RESOLUTION ANALYSIS IN THE ŠILUTĖ DISTRICT MUNICIPALITY

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Keywords: conflicts, conflict resolution, municipality, employees, organization, research.

Abstract
The study analyzes conflict resolution processes in the Šilutė District Municipality, aiming to identify the most common types of conflicts, their causes, and to evaluate the strategies used for resolution. The theoretical part presents the concept of conflict, its typology, development stages, and resolution methods. The empirical part includes a quantitative study - a survey conducted among municipal employees. The research results revealed that interpersonal and group conflicts dominate, with the main causes being ineffective communication, differing value perspectives, and poorly defined roles within the organization. Based on the study, practical recommendations for improving conflict resolution were provided, which may help enhance the emotional climate and the overall effectiveness of the organization.

Introduction

Conflicts in modern organizations are inevitable and often recurring phenomena that create tension among employees and have a direct impact on the work environment and organizational efficiency. As noted by Žukauskas and Korsakienė (2019), conflicts affect employees' emotional well-being, reduce motivation, and disrupt team cohesion. However, when properly managed, conflicts can lead to positive outcomes - such as fostering creativity, improving communication, and resolving long-standing issues (Bagdonas, 2009; Bercovitch, 2019).

Although conflict management has been widely examined on a theoretical level, there is still a lack of specific research in municipal institutions. According to Ronquillo et al. (2025), the public sector often lacks a systematic approach to conflict resolution, with solutions frequently left to individual initiative. This trend is also reflected in Lithuania, as shown in Skripkienė's (2017) analysis, which highlights that municipal employees often experience stress due to unclear resolution procedures.

Conflicts arising in municipalities are often linked to ineffective communication, differing values, or poorly defined responsibilities (Grigolienė, 2014; Čepaitienė, 2016). Effective resolution requires not only clear procedures but also appropriate competencies. As Thomas and Kilmann (2002) argue, the chosen conflict resolution strategy influences not only the outcome but also the emotional engagement of employees and their trust in the organization.

Therefore, conflict management becomes one of the most important organizational competencies. This competency is especially significant in public administration, where daily work is based on team decision-making and principles of public accountability (Šalkauskienė, Labuckas, 2019).

Theoretical Analysis of Conflict Resolution

The theoretical part provides an in-depth analysis of the concept of conflict, its classification, causes, and resolution methods. Conflict is defined as a natural and inevitable part of human social interaction, arising from differences in opinions, values, interests, or goals. As Bercovitch (2019) notes, conflict is inseparable from any process of cooperation, and its presence does not imply a threat but rather a need to reassess relationships. Mitchell (2023) argues that constructively resolved conflicts can become a vital source of organizational development and innovation.

This work draws on various authors (Žukauskas, Korsakienė, 2019; Ronquillo et al., 2025), whose definitions help reveal the diversity of conflicts and their impact on organizational dynamics. Conflicts can arise between individuals, groups, or departments, and their causes often lie not only in personal factors but also in structural characteristics of the organization, as emphasized by Ramašauskas (2018).

The main types of conflict identified are interpersonal, intrapersonal, group, intergroup, organizational, value-based, and cultural conflicts (Kazlauskienė, 2016). Each type has its own dynamics and typically stems from different causes - ranging from ineffective communication to unclear lines of responsibility (Čepaitienė, 2016). In modern organizations, these conflicts often occur at multiple levels simultaneously, which requires a systematic approach to their management.

The section also examines the stages of conflict development**.** According to Lekavičienė, Vasiliauskaitė, Antinienė, and Almonaitienė (2022), conflict usually begins in a latent form, escalates into open opposition,

and the success of resolution depends on how early it is identified. Spaho (2013) refines this sequence by highlighting the influence of an organization's microclimate on the development and resolution of conflicts.

Finally, the theoretical analysis focuses on conflict resolution strategies. Based on the Thomas-Kilmann model (2002), five primary strategies are distinguished in the literature: competition, collaboration, compromise, avoidance, and accommodation. Zemblytė (2015) observes that the most effective long-term strategies are based on mutual respect and the ability to negotiate - especially when the aim is not only to eliminate the problem but also to strengthen collaboration. Proper use of these strategies helps not only resolve disagreements but also create a more positive work environment and foster mutual trust.

Research on Conflict Resolution in the Šilutė District Municipality

The empirical part presents the results of a quantitative study conducted in the Šilutė District Municipality, aimed at assessing the nature, causes, and resolution methods of conflict situations within the organization. **A** total of 181 employees participated in the study by completing an anonymous questionnaire. The survey covered the frequency of conflicts, strategies for resolving them, the involvement of management, and the evaluation of the organizational microclimate. The research methodology is based on the principles of quantitative research outlined by Kardelis (2016).

The results of the study revealed that interpersonal and group conflicts are the most common in the municipality. The main causes of these conflicts are ineffective communication, value differences, and poorly defined roles within the organization. Respondents indicated that conflicts often arise due to a lack of information or misunderstandings.

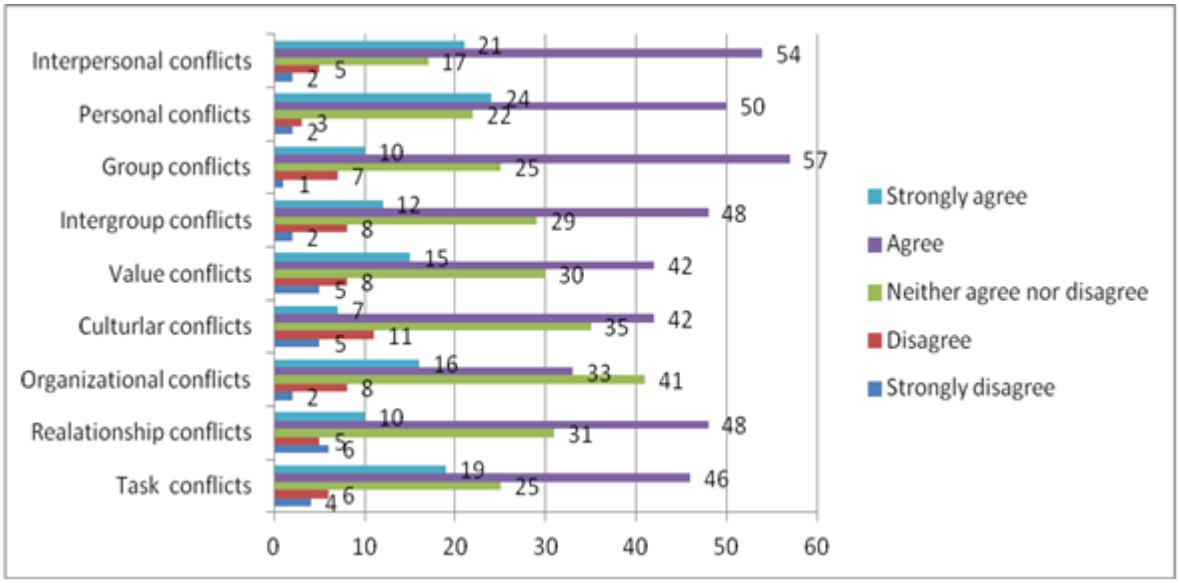


Fig. 1. Evaluation of conflict types in the workplace, percent. (compiled by the author)

Based on the research results, the majority of respondents indicated that conflicts most frequently arise between colleagues (interpersonal conflicts) and within work groups (group conflicts). This suggests that the source of conflicts is most often related to direct communication and daily interaction within the organization.

The graph shows that the main identified causes of conflicts are competition between colleagues, differing expectations, unclear responsibilities, and ineffective internal communication. These causes indicate systemic problems within the organization that lead to frequent conflict occurrences.

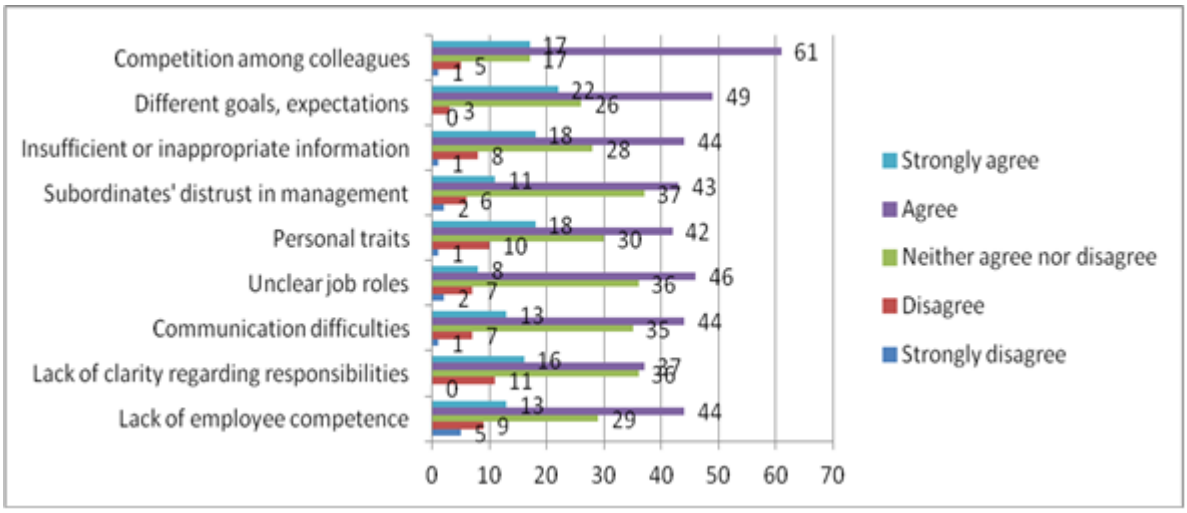


Fig. 2. Reasons influecing the emergence of conflicts in the workplace, percent. (compiled by the author)

When resolving conflicts, respondents most commonly apply accommodation and avoidance strategies. These methods help to avoid open confrontation but do not address the underlying issues in the long term. Collaboration or integration, which are theoretically considered more effective, are chosen less frequently. This disproportionate use of strategies highlights shortcomings in the organization's conflict management culture and indicates a need to develop emotional intelligence, communication skills, and to strengthen organizational processes.

In summary, the research results confirm the initial hypothesis - the ability to recognize and effectively resolve conflicts helps reduce the number of stressful situations, strengthens the organizational climate, and improves employee well-being.

Opportunities for Improving Conflict Resolution in the Šilutė District Municipality

The third part presents recommendations for improving conflict resolution processes in the Šilutė District Municipality. Based on the research results, it is evident that the organization lacks a systematic approach to conflict management, and the search for solutions is often left to the responsibility of employees, with no clear internal procedures or strategies in place. As noted by Chanya Apipalakula and Dawruang Kummoon (2017), clearly regulated processes help reduce the risk of conflict escalation and increase employees' trust in the institution.

First, it is recommended to strengthen organizational communication, as poor communication is most frequently identified as the primary cause of conflicts. This includes both interpersonal communication among colleagues and the dissemination of information from management. Tocheva-Zlatkova (2023) emphasizes that effective information flow within an organization reduces the likelihood of misunderstandings and helps to identify problems in a timely manner. Therefore, it is suggested to implement clear and accessible communication channels for all employees.

It is also important to clearly define employee roles and responsibilities, as ambiguity creates a breeding ground for tension and unrealistic expectations. Internal regulations and organizational procedures should establish the course of conflict resolution and assign responsibilities. Patton (2014) stresses that standardized conflict management steps enable an organization to act consistently and fairly, especially in crisis situations.

Finally, it is recommended to conduct conflict resolution training, particularly for managers. Such competence development fosters a more mature organizational attitude toward disagreements - viewing them as opportunities rather than threats. Additionally, it is worthwhile to enhance employees' emotional intelligence so that they are capable of recognizing emotions and handling conflict situations rationally, reducing tension rather than escalating it. Such a culture contributes to an improved organizational climate and increased overall job satisfaction.

Based on the results of the questionnaire survey and theoretical insights, key directions for improving conflict resolution have been identified, which may help the Šilutė District Municipality manage conflict situations more effectively.



Fig. 3. Directions for Improving Conflict Resolution (compiled by the author)

The figure presents four essential directions for improving conflict resolution**:** promoting effective communication, establishing clear conflict resolution procedures, strengthening organizational culture, and developing the competencies of both employees and managers. These directions reflect both the research data and the theoretical principles of conflict management.

Conclusions

The article, which analyzed conflict resolution in the Šilutė District Municipality, revealed that conflicts are a frequent phenomenon with a direct impact on employee well-being, the organizational climate, and overall operational efficiency. Based on theoretical literature and the conducted research, the main causes of conflicts in the municipality were identified as ineffective communication, value differences, and unclear roles.

The study showed that the most commonly used conflict resolution strategies are accommodation and avoidance, which help to avoid open confrontation but do not provide long-term solutions. Less frequently used, but more highly valued, is the collaboration approach, which requires greater involvement, trust, and a clearly defined organizational structure.

The work demonstrated that effective conflict management requires a systematic approach: clear communication tools, defined roles, standardized procedures, and the development of employee competencies. Conflict resolution should not be left to spontaneous or individual initiative, as this gradually reduces employee satisfaction and organizational performance.

It would be advisable for the municipality to develop a long-term conflict prevention and management strategy that includes internal regulations, training, and the strengthening of leadership culture, with the goal of creating a mature, collaboration-based organizational environment.

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ENSURING QUALITY OF LIFE BY CREATING/IMPLEMENTING GREEN SPACES IN COMPANY "ION HOTEL EHF"

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Keywords: Green spaces; Employee well-being; Sustainability; Green Project Management; Blue Project Management; Workplace design; Eco-hospitality; ION Hotel ehf.

Abstract
The study explores the integration of green spaces as a strategic approach to enhancing employee well-being and environmental sustainability within the hospitality sector. It investigates both theoretical frameworks and practical applications of green and blue projects, with a focus on the case of ION Hotel ehf. in Iceland. A comprehensive literature review highlights the benefits of biophilic design, green infrastructure, and sustainable project management.
A qualitative study was conducted at ION Hotel ehf., where semi-structured interviews with employees provided insights into their perceptions, needs, and the potential impact of green spaces in their work environment. The study identified a gap between the company's external sustainability image and the internal workplace environment, leading to the development of tailored recommendations and an implementation plan. If ION Hotel ehf. adopts the proposed solutions, employee satisfaction, productivity, and alignment with corporate sustainability goals are expected to improve.

Introduction

In recent years, the creation and implementation of green spaces in the workplace has emerged as a vital strategy for enhancing employee well-being, improving environmental sustainability, and aligning businesses with the principles of Corporate Social Responsibility (CSR). As organizations face growing pressure to adopt eco-friendly practices and foster supportive work environments, the inclusion of natural elements—such as indoor plants, biophilic design, and green infrastructure—has become more than a trend; it is now a recognized contributor to employee satisfaction, productivity, and overall workplace quality of life.

The importance of integrating green and blue infrastructure in business environments has been widely discussed in academic literature. Scholars such as K. Willis (2024), S. Pauleit, I. Kowarik (2023), L. Stringer (2009), A. Hoffmann and P. Vanham (2024), and P. Paille (2023) have emphasized the powerful impact of nature-based solutions on physical and mental health, employee engagement, and sustainable development. Their research underscores the critical role that well-designed green spaces can play in reducing stress, fostering creativity, encouraging social interaction, and contributing to ecological awareness within corporate settings. These findings suggest that green spaces are not only beneficial to individuals but also serve as a strategic tool for businesses to enhance operational performance and environmental responsibility.

The case study of ION Hotel ehf., a sustainability-oriented hospitality company in Iceland, provides a unique opportunity to examine how green space integration can be aligned with corporate identity, employee needs, and ecological goals. Despite the hotel's strong external branding focused on eco-conscious tourism and sustainable design, internal staff areas remain underdeveloped in terms of green features that support wellness and comfort. This gap highlights a need for strategic improvements that reflect the company's environmental values both outwardly and inwardly.

This study therefore seeks to explore the potential of green spaces in transforming the work environment at ION Hotel ehf., supporting not only the physical and psychological well-being of employees, but also reinforcing the company's long-term sustainability mission.

Object of work: The internal work environment of ION Hotel ehf., with a specific focus on the integration of green spaces to improve employee well-being.

Aim: To analyze the potential and practical impact of creating and implementing green spaces at ION Hotel ehf., and to develop a plan that supports workplace satisfaction, health, and sustainable development.

Objectives:

1.To analyze the theoretical framework of green and blue project development and their relevance to sustainable workplace design.

2.To investigate the current situation and opportunities for integrating green spaces within ION Hotel ehf. through qualitative research.

3.To propose practical recommendations and an implementation plan for developing green spaces that enhance employee well-being and align with the company's sustainability values.

Research methods: The research employs a combination of scientific literature analysis, semi-structured interviews with ION Hotel employees, workplace environmental assessments, and comparative analysis of sustainability practices in similar hospitality settings.

Theoretical concepts of Green and Blue Project development

The theoretical section of the thesis introduces the concept of project management as applied to sustainable development and green space implementation. The importance of structured project planning in modern sustainability practices is explored through definitions by multiple authors. These highlight key themes such as goal orientation, risk management, stakeholder engagement, and value creation. Definitions by different authors are given in Table 1.

Table 1

Interpretation of the Concept of Project Management *(Compiled by the author, based on scientific literature)*

Author(s)	Definition
Harold Kerzner (2017)	Project management is a structured approach to planning, executing, and overseeing projects to ensure successful completion while optimizing resources.
Rodney Turner (2014)	The discipline of managing projects to deliver strategic outcomes, balancing time, cost, scope, and quality constraints.
Peter W.G. Morris (2013)	An organized method of directing and coordinating human and material resources throughout a project life cycle to achieve predefined objectives.
Robert J. Graham (2008)	The science and art of balancing competing project constraints, including time, budget, and resources, while meeting stakeholder expectations.
Max Wideman (1992)	The application of principles, methods, and tools to plan, control, and execute projects efficiently and effectively.
Project Management Institute (PMI, 2021)	The structured application of processes, skills, knowledge, and techniques to achieve specific project goals within constraints of time, budget, and quality.
David I. Cleland (2007)	A dynamic and continuous management approach focused on achieving objectives while considering risks and stakeholder requirements.
John Rodney (2010)	A systematic approach to defining, planning, monitoring, and closing projects to ensure successful delivery and value creation.
Morris & Hough (1987)	A combination of planning, organizing, and controlling resources to achieve project objectives in an efficient and effective manner.
Shenhar & Dvir (2007)	Project management integrates strategic thinking with execution to deliver results, emphasizing adaptability and responsiveness to change.

These definitions collectively emphasize that project management is not only a technical discipline but also a strategic process that ensures resource efficiency, stakeholder alignment, and successful goal achievement. The integration of structured planning, risk management, and adaptive execution makes project management a critical tool in implementing sustainable initiatives such as green spaces.

To better understand the distinctive features of Green and Blue Projects in sustainability planning, a comparative overview is presented in Table 2. This comparison highlights differences in environmental focus, typical applications, and key benefits of each type of project.

Table 2

Comparison of Green vs. Blue Projects

Aspect	Green Projects	Blue Projects
Environment type	Terrestrial (land based)	Aquatic (water based)
Examples	Green roofs, vertical gardens, parks	Lakes, ponds, fountains
Key benefits	Air purification, biodiversity, shade	Cooling, water recycling
Typical materials	Plants, soil, wood structures	Water systems, aquatic plants

In summary, Green and Blue Projects represent complementary approaches to promoting environmental sustainability through carefully planned infrastructure and design. Green projects emphasize the use of

vegetation and natural land-based elements to improve air quality, biodiversity, and human comfort. In contrast, blue projects are centered on managing water bodies and systems to support climate regulation and resource conservation. When integrated strategically, these initiatives form a cohesive blue-green framework that enhances ecological resilience, supports employee well-being, and contributes to the long-term sustainability of both urban and workplace environments.

Investigation of Green spaces in ION Hotel ehf. – ensuring quality of life

The qualitative research was conducted to assess the attitudes and awareness of ION Hotel ehf employees regarding the implementation of green spaces in the workplace. The research aimed to explore how such spaces could contribute to employee well-being and reflect the hotel's broader sustainability mission. A semi-structured interview method was used to collect in-depth responses from staff members representing various departments, including reception, kitchen, wellness, and management. The data collected were analyzed using a qualitative content analysis method, which allowed for categorization and thematic evaluation of employee insights.

Organization of informant interviews. The interviews were conducted in April 2024 at ION Hotel ehf in Iceland. A total of 11 participants took part in the study. Interview times were coordinated individually to ensure a comfortable and private setting. Questions were developed based on the theoretical framework established in the first chapter, focusing on green space awareness, implementation preferences, and perceived benefits. The semi-structured format allowed for flexible discussions, enabling participants to express their opinions freely.

Ethics of qualitative research. The study followed all ethical research principles. Participants were informed about the purpose of the study and were guaranteed anonymity. Consent was obtained prior to interviews, and data were recorded with permission, also in consultation with the company management. 11 informants participated in the study. A, B, C, D, E, F, G , H, I , J , K which is shown in Table 3.

Table 3

Interviewee data *(compiled by the author)*

Interviewees	Department	Gender	Work experience
A	F&B	Male	4 years
B	F&B	Male	10 years
C	F&B	Male	2 years
D	F&B	Male	5 years
E	F&B	Male	1 year
F	HM	Female	10 years
G	F&B	Female	3 years
H	F&B	Female	6 years
I	REC	Female	12 years
J	F&B	Male	1 year
K	FO	Male	5 years

The participants were chosen based on their involvement in daily operations and the likelihood that their work environment could be directly affected by green space improvements. Their input helped identify key areas in the hotel where environmental changes could support employee well-being and organizational sustainability goals.

Analysis of the Interview Data at ION Hotel ehf.

The interviewees were asked open-ended questions, divided into several categories, about their awareness of green and blue projects, personal associations with the green environment, and their wishes for the implementation of such features in their workplace.

The first part of the analysis focuses on employee awareness of Green and Blue Project Management and whether they recognize any such initiatives already in place at the hotel. The summarized responses are presented in Table 4.

Table 4

Employee awareness and perceptions of Green and Blue Project initiatives at ION Hotel ehf

Category	Question	Interviewees' responses
Awareness of Blue and Green Project Management initiatives	Have you heard of the terms Green Project Management or Blue Project Management before? If yes, what do they mean to you?	*Interviewees A, B, E, F, G, J, K - had not heard the terms before but guessed meanings.* *Interviewees C, D, H, I -somewhat familiar but not in detail.* *Interviewee B: "Heard of green stuff at school. It's about eco-friendly choices."*
	Are you aware of any current or past Green or Blue Projects being implemented at ION Hotel ehf?	*A. Uses local food- supports sustainability.* *B. Recycled sinks and slippers seem green.* *C. Heard about eco-friendly glass space.* *D. Not seen or heard much about green projects.* *E. Nature-inspired design, unsure if it's a project.* *F. Heard about adding plants, unclear if it's a project.* *G. Design feels eco-friendly, no specific projects known.* *H. Nature around gives sustainable vibe.* *I. Uses recycled materials- ongoing, not formal projects.* *J. Basic recycling only-nothing big or structured.* *K. Local food and waste reduction seems green.*

After analyzing the answers received from the interviewees, it can be concluded that most employees at ION Hotel ehf are not fully familiar with the formal concepts of Green and Blue Project Management. While a few interviewees demonstrated a basic awareness, most associated the terms with general eco-friendly actions rather than structured initiatives. Despite this, many participants recognized efforts within the hotel such as the use of natural materials, local food sourcing, and recycling—as contributing to sustainability, even if these are not labeled as formal projects.

To better understand the connection between green spaces and employee well-being at ION Hotel ehf, interviewees were asked to share their personal definitions of green spaces, reflect on their importance in the work environment, and describe any observed impacts. The responses highlight how natural elements—such as plants, sunlight, and calming environments—contribute to reduced stress, improved mood, and overall comfort in the workplace. These insights provide valuable context for evaluating the role of biophilic design in supporting staff well-being. The summarized responses are presented in Table 5.

Table 5

Understanding, importance, and impact of green spaces according to employees at ION Hotel

Category	Question	*Interviewees' responses*
Understanding and existing environment	How do you define green spaces in the workplace?	*A: Plants, light, calm* *B: Greenery, relax* *C: Nature, sunlight* *D: Nature feel* *E: Natural elements* *F: Green stuff* *G: Peaceful, plants* *H: Greenery, soft light* *I: Real plants* *J: Fresh, natural air* *K: Plants, outdoors inside*
	Do you think green spaces are important for your well-being at work? Why or why not?	*A: Yes, more relaxed* *B: No, but others like it* *C: Yes, less stress* *D: Yes, boosts mood* *E: Yes, keeps grounded* *F: Yes, softens space* *G: Yes, peaceful* *H: Yes, calming* *I: Yes, re-energizing*

		J: Yes, helpful breaks *K: Yes, big difference*
	Have you noticed any green spaces at ION Hotel? If yes, how do they impact you?	*A & B: Mention natural materials, landscape, and large windows helping create a calm, relaxed atmosphere.* *C, H, J: Highlight indoor plants and natural decor making the space more pleasant, welcoming, and uplifting.* *D, E, I, K: Emphasize green surroundings and outdoor spaces improving mood, offering tranquility, and inspiration.* *F & G: Focus on greenery making the space feel alive, reducing stress, and boosting well-being.*

Table 6

Emotional and physical effects of green spaces in the workplace

Category	Question	Interviewees' responses
Emotional and physical effects	Do you believe green spaces could improve your mood, reduce stress, or increase productivity?	*A: Yes, feel better.* *B: No, but others do.* *C: Yes, more relaxing.* *D: Yes, lifts mood.* *E: Yes, grounding.* *F: Yes, calming.* *G: Yes, better vibe.* *H: Yes, good energy.* *I: Yes, boosts energy.* *J: Yes, helps reset.* *K: Yes, improves focus.*
	Have you experienced benefits from being around greenery at work?	*A: Yes, feel relaxed and focused.* *B: No, but others seem calmer.* *C: Yes, less stress.* *D: Yes, lifts mood.* *E: Yes, feel grounded.* *F: Yes, calming atmosphere.* *G: Yes, more at ease.* *H: Yes, helps reset.* *I: Yes, clearer and calmer.* *J: Yes, mental break.* *K: Yes, more relaxing.*
	Do you think green spaces could improve comfort by reducing noise, improving air quality, or creating more pleasant atmosphere?	*A: Yes, air feels fresher.* *B: Yes, nicer atmosphere.* *C: Yes, calmer, and breathable.* *D: Yes, better air and environment.* *E: Yes, lighter air, peaceful.* *F: Yes, softer noise, natural feel.* *G: Yes, less stuffy.* *H: Yes, improves mood and comfort.* *I: Yes, better air and sound.* *J: Yes, more inviting.* *K: Yes, quieter, and cleaner.*

The analysis of the interviewees' responses suggests that green spaces play a significant role in enhancing emotional and physical well-being in the workplace. Most participants indicated that the presence of natural elements contributes to a better mood, reduced stress, and increased mental clarity. Employees associated greenery with feelings of calm, energy, and emotional balance, which are essential for maintaining focus and productivity during the workday. In addition to emotional benefits, interviewees also recognized the potential of green spaces to improve physical comfort. Several responses highlighted how greenery helps reduce noise, purify the air, and create a more pleasant and breathable environment. These environmental improvements contribute not only to personal comfort but also to a more inviting and harmonious atmosphere at work.

Table 7

Employee perspectives on access to and participation in green space activities

Category	Question	Interviewees' responses
Interaction and access	How often should employees have access to green areas?	*A: Every break.* *B: Every shift, even briefly.* *C: Every break.* *D: As often as possible.* *E: Once or twice daily.* *F: Each break or quiet moment.* *G: Daily.* *H: Every break.* *I: Every break, even five minutes.* *J: A few minutes when possible.* *K: Every break.*
	Would you like to participate in activities related to green spaces?	*A: Yes.* *B: Sure.* *C: Yes.* *D: Definitely.* *E: Yes.* *F: Yes, if supported.* *G: Yes, sounds fun.* *H: Absolutely.* *I: Yes.* *J: Yes.* *K: Sure.*

Based on Table 7, most employees expressed a strong preference for accessing green spaces during every break or at least daily, indicating the importance of frequent interaction with nature for maintaining well-being. Additionally, all interviewees showed openness to participating in green space-related activities, suggesting high engagement potential for future initiatives.

To summarize the results of the study, ION Hotel ehf. employees value green spaces for their positive impact on well-being and express strong interest in regular access and active participation in related initiatives.

Conclusions

The analysis of scientific literature highlighted the environmental and social importance of green and blue projects. Green initiatives, such as green roofs and sustainable design, and blue projects focused on water management, contribute to climate resilience, public health, and biodiversity. These approaches are supported globally through policy and funding frameworks.

The study at ION Hotel ehf. revealed that employees see green spaces as beneficial for reducing stress, improving mood, and enhancing workplace comfort. While the hotel promotes a sustainability-focused image, internal staff areas currently lack visible green features. Interview data confirmed that staff are open to and interested in green initiatives, and that physical space and management structure support implementation.

The proposed recommendations include biophilic design elements like indoor plants, relaxation zones, and outdoor enhancements. A phased implementation plan was developed, assigning responsibilities to current managers without requiring structural changes. Although the hypothesis was only partially confirmed—due to the current absence of such spaces—the research concludes that green space development would align with staff needs, reinforce the hotel's sustainability values, and improve overall well-being.

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PROJECT ACTIVITY PLANNING IN ZALARIS ASA

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Keywords: Project Planning; Project Management; Agile Methodology; Waterfall Approach; Zalaris ASA.

Abstract
The article analyzes project activity planning practices within Zalaris ASA, a leading HR and payroll outsourcing provider. It explores the gap between theoretical planning methodologies—such as PRINCE2, SAP Activate, Agile, and Hybrid (PMI, 2021; Highsmith, 2009)—and their practical application within the company. A qualitative research approach was employed using internal documentation reviews and stakeholder interviews with 10 employees (4 Project Managers and 6 Operations Team Managers) across Zalaris branches in Latvia and Germany. Key findings show inconsistency in planning execution, inadequate collaboration, and inefficient handover procedures between project and operations teams. The study proposes a multi-layered improvement model to address these gaps by reinforcing tool integration, early collaboration, standardized procedures, and project-to-operations transition planning. These recommendations aim to ensure more efficient and seamless project handovers aligned with strategic and operational goals

Introduction

Relevance of the Topic: Effective project planning is essential for aligning organizational strategy with execution. For service-oriented firms like Zalaris ASA, which operate in over 20 countries delivering cloud-based HR and payroll solutions, structured planning is a necessity. Without it, delays, inefficiencies, and miscommunication can compromise service quality and client satisfaction Research Problem: Inefficiencies due to limited adaptability and tool integration affect project execution.

Investigation of the Topic: The topic of project planning is well-documented in academic literature. Traditional methods like Waterfall and modern methods such as Agile and Hybrid each offer structured approaches to managing scope, timelines, and deliverables (PMI, 2021; Highsmith, 2009). The Project Management Body of Knowledge (PMBOK) further outlines key planning practices including resource allocation, risk management, and stakeholder communication

Work Problem: Despite the adoption of globally recognized methodologies such as SAP Activate and PRINCE2, Zalaris faces gaps in practical execution. Tool misuse, poor cross-functional alignment, and unclear roles during handovers lead to service disruptions and incomplete project transitions

Purpose and Objectives: This thesis aims to assess the effectiveness of Zalaris ASA's planning process and to propose improvements. Specific objectives include:

- Reviewing theoretical planning approaches.
- Evaluating current practices via empirical research.
- Improvements and Proposals for smoother execution and transition

Hypothesis: If effective project management tools and methods are implemented, project handovers will be seamless.

Reaserach methods: The study employs a case study methodology, combining theoretical literature analysis with empirical research.

- Theoretical Methods: Review of scientific literature and project management methodologies (e.g., PMBOK, Agile, Waterfall).
- Empirical Methods: Interviews with project managers and operations managers; analysis of internal documentation and planning tools.

Key tools and methodologies identified include SAP Activate, PRINCE2, Agile, Lean, and Hybrid project management models. Interviews provided insights into real-world application, challenges in cross-functional collaboration, and effectiveness of planning tools like Gantt Charts, WBS, and Kanban Boards.

Results

To assess the effectiveness of project planning within Zalaris ASA, a qualitative research method was employed, primarily based on semi-structured interviews with two key stakeholder groups: project managers and operations managers. In total, ten employees were interviewed—four project managers and six operations managers—selected based on their experience in project delivery and their involvement in implementation handovers. The participants represented Zalaris offices in Latvia and Germany, offering both regional and organizational diversity in perspectives.

The research confirmed that Zalaris ASA applies a structured methodological framework in its project planning processes, primarily combining SAP Activate and PRINCE2. SAP Activate, a phased approach developed specifically for SAP implementations, organizes projects into six sequential stages: Discover,

Prepare, Explore, Realize, Deploy, and Run. This methodology ensures that project activities—from requirement gathering to post-go-live support—follow a clear path, supported by milestone-based controls and specific workstreams such as Project Management, Testing, and Solution Design. PRINCE2 complements this structure by offering principles of governance, risk control, and stage-based planning.

Internal documentation and interview responses confirmed that while this hybrid methodology is conceptually robust, execution across the organization reveals several inconsistencies. One of the most recurrent issues identified by both project managers and operations managers was the fragmented use of digital tools. Although platforms like Smartsheet and Azure DevOps are widely used within the project management team for tracking timelines, testing, and risk logs, their application varies by region and project lead. As a result, information silos often develop, especially during the transition from project execution to operations. Operations managers, in particular, reported receiving information through informal channels, or with documentation scattered across different systems, making onboarding and knowledge transfer unnecessarily complex.

Another important gap observed relates to the enforcement of quality gates and documentation standards. While SAP Activate outlines critical milestone reviews (QG1–QG4), their practical application lacks consistency. Interview feedback indicated that some teams fully adhered to these checkpoints, using them to align client expectations and ensure project stability, while others treated them as optional or rushed through them without full stakeholder engagement. This variation led to avoidable errors in data migration, overlooked deliverables, and an extended hyper-care phase following go-live.

The timing and quality of handovers to operations teams emerged as one of the most significant shortcomings in Zalaris's project planning execution. Operations managers described a reactive environment, where they were often included only in the final weeks of a project, without the opportunity to influence earlier design or testing decisions. As a result, issues such as undefined service responsibilities, incomplete Service Catalogs, and unclear knowledge transfer protocols persisted well into the early life support phase, increasing workload and stress levels on operational staff.

To address these challenges, the thesis proposes a structured Improvement Model composed of four interrelated layers designed to enhance the maturity and effectiveness of Zalaris's project planning culture. These layers are based on both empirical findings and best practices identified in the theoretical framework.

The first layer, Foundational Alignment, focuses on restructuring the early phases of the project to include operations teams from the outset. This early involvement would enable better alignment on service requirements, testing expectations, and documentation needs. The onboarding process for project managers should also be enhanced, particularly for new hires, to ensure that they understand not only the tools and templates used, but also the full project lifecycle, including post-implementation responsibilities.

The second layer, Governance and Standardization, calls for the institutionalization of common frameworks such as RACI matrices, which clearly define who is responsible, accountable, consulted, and informed at each phase of the project. This clarity of roles is essential in cross-functional teams where responsibilities often overlap or remain ambiguous. Additionally, standardized templates for handover documentation—including system blueprints, test results, and Service Catalogs—should be made mandatory across all projects, irrespective of geography.

The third layer, Digital Integration, emphasizes the importance of using planning tools uniformly across departments. Smartsheet, Azure DevOps, and SharePoint should be integrated into a shared project repository with defined access rights and version control. Automated document versioning, consistent test protocols, and centralized reporting dashboards would reduce redundancy and prevent information loss during project transitions.

The final layer, Transition and Validation, focuses specifically on the handover to operations. Rather than treating handover as a final step, this layer suggests embedding transition planning from the early "Explore" phase of the SAP Activate methodology. User Acceptance Testing (UAT), for example, should be designed in collaboration with operations, not just by consultants or clients. A final handover checklist, signed off jointly by the project manager and operations lead, would ensure that all deliverables are accounted for, including documentation, system access, and support agreements.

Together, these improvements aim to close the observed gap between theoretical methodology and its application within Zalaris ASA. By reinforcing collaboration, tool standardization, and governance, the company can improve the predictability, efficiency, and quality of its project outcomes—ultimately supporting stronger client satisfaction and organizational resilience.

Conclusions

This thesis analyzed the project activity planning process at Zalaris ASA by combining theoretical research with empirical insights gained from interviews and document analysis. The primary aim was to evaluate whether existing project planning methodologies and tools—particularly SAP Activate and PRINCE2—are effectively supporting strategic execution and seamless handovers within the company.

The theoretical foundation confirmed that structured planning is essential for successful project delivery, especially in complex, service-driven environments like Zalaris ASA (Kerzner, 2022; PMI, 2021). Planning methodologies such as Waterfall, Agile, and Hybrid offer varying degrees of control, flexibility, and adaptability, while digital tools like Smartsheet and Azure DevOps play an increasingly vital role in facilitating collaboration and progress tracking (Schwalbe, 2018; Highsmith, 2009).

Empirical research, based on semi-structured interviews with four project managers and six operations team leads, revealed that although Zalaris has adopted robust planning frameworks, significant inconsistencies remain in their execution. Project managers reported structured use of tools and adherence to methodology, but also cited internal process confusion and insufficient integration with operations teams. Conversely, operations managers expressed that they were often brought into projects too late, without clear documentation or defined responsibilities, which undermined service quality post-go-live.

The central hypothesis of this thesis stated: If effective project management methods and tools are available within the company, then the project handover process to Zalaris-involved parties should be complete and seamless. The research findings partially confirmed this hypothesis. While the availability of methods and tools is not in question, their inconsistent application and a lack of integrated cross-team collaboration diminish their effectiveness.

To resolve these challenges, the thesis proposes a structured four-layer improvement model focusing on foundational alignment, governance and standardization, digital integration, and enhanced transition processes. These recommendations are directly supported by both the theoretical models (Lock, 2019; Turner & Huemann, 2024) and the lived experiences of Zalaris employees.

In conclusion, Zalaris ASA possesses a strong theoretical base in project planning but must strengthen its practical execution. Institutionalizing standard practices, involving operations teams earlier, and ensuring consistent tool usage are critical next steps. By implementing the proposed improvements, Zalaris can enhance project outcomes, reduce transition-related risks, and better align execution with its strategic goals.

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ANALYSIS OF TRANSPORT LOGISTICS ORGANIZATION AT UAB "TRANSTIRA"

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Keywords: Transport logistics, logistics organization, route planning, client cooperation.

Abstract
In today's business environment, transport logistics is one of the most critical processes influencing both service quality and a company's competitiveness in the market. With increasing global trade flows and growing customer expectations, it is essential to ensure the smooth and efficient organization of logistics. UAB "Transtira" is one of the leading international freight transportation companies in Lithuania, operating both domestically and internationally. Therefore, analyzing the company's transport logistics processes is relevant from both a practical and theoretical perspective.

Introduction

Research Background. Transport logistics issues have been addressed in the works of such authors as A. Minalga (2009), A. Vasiliauskas (2013), I. Meidutė (2012), and J.-P. Rodrigue (2020), who analyze theoretical logistics models, transport organization principles, and supply chain management. However, there is limited academic research focusing on in-depth practical analysis of Lithuanian transport companies such as UAB "Transtira," which this thesis aims to contribute to.

Problem of the Paper. In the logistics organization process at UAB "Transtira," several challenges have been identified: inefficient route planning, poor interdepartmental communication, suboptimal customer service, and insufficient use of information technologies in logistics management. As a result, the logistics processes become suboptimal, potentially affecting service quality and operational outcomes.

Object of the Research – Transport logistics organization at UAB "Transtira."

Aim of the Article – To analyze the transport logistics organization at UAB "Transtira" and provide suggestions for its improvement.

Objectives of the Study:

1. To analyze the theoretical aspects of transport logistics organization.
2. To conduct an empirical study of transport logistics organization at UAB "Transtira";
3. To propose improvement opportunities for the company's logistics processes.

Hypothesis: If UAB "Transtira" optimizes route planning, improves the quality of logistics operations, and strengthens collaboration with clients, the company will experience enhanced service quality and reduced operational costs.

The article explores the organization of transport logistics in one of the largest logistics companies in Lithuania – UAB "Transtira". The relevance of this topic stems from the growing importance of the transport and logistics sector both nationally and internationally. The effectiveness of modern logistics solutions directly affects a company's competitiveness, customer satisfaction, and cost efficiency. Considering this, the study aims to assess how transport logistics is organized at UAB "Transtira", identify practical challenges, and propose improvements.

The main goal of the work is to analyze the transport logistics organization at UAB "Transtira" and to provide recommendations for its improvement. To achieve this, three objectives were set: 1) to examine the organization of transport logistics from a theoretical perspective; 2) to conduct an empirical study of logistics processes at UAB "Transtira"; and 3) to present proposals for improving the company's logistics operations. The research object is the transport logistics organization of UAB "Transtira". The hypothesis suggests that better route planning, efficient logistics coordination, and stronger collaboration with clients will help reduce operational costs and improve service quality.

The first part of the work presents the theoretical framework, covering the concept of transport logistics, its functions, organizational principles, and performance assessment criteria. According to the literature reviewed, transport logistics is defined as a vital component of the logistics system, ensuring the flow of goods from supplier to customer. Its primary goals are to ensure timely delivery of goods to the right place with the lowest possible cost. One of the key elements in this process is route planning, which plays a crucial role in optimizing time and resources.

Different modes of transport (road, rail, air, water) are analyzed, along with their respective advantages and disadvantages. The increasing role of intermodal and multimodal transportation is emphasized, especially in terms of sustainability and cost savings. Among the core logistics principles discussed are optimization, flexibility, systemic thinking, information management, sustainability, reliability, and cooperation. Performance indicators such as delivery time, cost efficiency, use of technology, and environmental impact are also evaluated.

The second part of the work is dedicated to empirical research and provides an analysis of how logistics is managed at UAB "Transtira". The company, operating for over 25 years, has a wide transportation network across Europe and Asia, a modern fleet, advanced IT systems, and a professional team.

The research used both secondary data analysis and qualitative methods, including interviews with staff. One of the key findings was that route planning is not always optimized. Although digital systems are used, certain inefficiencies still occur, such as underused capacity or lack of flexibility in planning. Another issue is related to internal communication gaps among departments – dispatchers, drivers, and clients – which can affect the accuracy and speed of decision-making.

Survey results indicate that clients primarily value timely deliveries, good communication, and the ability to resolve issues quickly. While UAB "Transtira" is generally seen as a reliable partner, there is room for improvement in customer communication, particularly in terms of real-time tracking and delivery updates.

The third part of the work focuses on identifying directions for improvement. It is proposed that the company implement advanced planning tools based on artificial intelligence and real-time tracking technologies. Better integration between departments is also suggested – for example, through centralized information systems and regular internal audits. Enhancing the customer experience is another priority, which could be achieved through automated communication platforms and customer satisfaction surveys.

Environmental sustainability is also highlighted. Recommendations include the adoption of eco-friendly vehicles, emission-reducing route optimization, and internal CO_2 reduction plans. These measures could contribute not only to environmental goals but also to long-term financial sustainability and reputation.

This work focuses on the organization of transport logistics at UAB "Transtira," one of the largest and longest-established international freight transportation companies in Lithuania. The relevance of this topic stems from the accelerating global trade flows and increasing customer expectations, which impose high demands on the smoothness and efficiency of logistics processes. Properly organized transport logistics is a key factor influencing a company’s competitiveness and service quality.

The theoretical part of the work presents the concept of transport logistics, its main functions, and fundamental principles of organization. Different transport: road, rail, air, and water are analysed, highlighting their respective advantages and disadvantages. The growing importance of intermodal and multimodal transport is emphasized, especially in terms of sustainability and cost reduction. Among the key theoretical insights is the critical role of route planning as a tool for saving time and resources.

The empirical part provides an analysis of UAB "Transtira" transport logistics processes, based on secondary data as well as qualitative research methods including interviews with employees and client surveys. It was found that route planning is not always optimal, resulting in underused vehicle capacity and a lack of flexibility. Communication gaps between departments such as dispatch, drivers, and customer service were also identified, which reduce decision-making efficiency. Client feedback highlighted the importance of timely deliveries, clear communication, and fast problem resolution. While UAB "Transtira" is generally regarded as a reliable partner, there is room for improvement in areas like real-time shipment tracking and delivery notifications.

The final part of the work suggests practical recommendations for improving logistics operations at UAB "Transtira." These include adopting advanced route planning tools based on artificial intelligence and real-time tracking technologies. Better integration between departments is advised through centralized information systems and regular internal audits. Enhancing customer experience by implementing automated communication platforms and conducting satisfaction surveys is also proposed. Environmental sustainability is addressed by recommending the use of eco-friendly vehicles, emission-reducing route optimization, and internal CO2 reduction programs, which could contribute to both environmental goals and long-term financial viability.

The conclusions summarize the theoretical knowledge, empirical findings, and improvement proposals. The research hypothesis was confirmed: optimizing route planning, improving operational coordination, and strengthening client cooperation can significantly enhance service quality while reducing costs. The

recommendations are grounded in both academic literature and practical data collected during the study. The studies also highlights the strategic importance of investing in modern information technologies to support logistics operations. Implementation of real-time data analytics and automated systems can significantly enhance transparency and responsiveness within the supply chain. By enabling instant communication and precise tracking, these technologies help reduce delays and improve decision-making speed.

Furthermore, the work underlines the necessity of fostering stronger internal collaboration between different departments, such as planning, dispatch, and customer service. Enhanced communication channels and a centralized information platform would facilitate smoother workflows, minimize misunderstandings, and accelerate problem resolution. This integration is critical in a dynamic logistics environment where rapid changes require flexible and coordinated responses.

From the customer perspective, increasing transparency through better communication tools is vital. Providing clients with real-time updates and predictive delivery information not only increases their satisfaction but also strengthens long-term business relationships. The introduction of automated customer support and feedback systems is recommended to better capture client needs and address concerns promptly.

Environmental sustainability emerges as a key trend influencing modern transport logistics. The work emphasizes that integrating eco-friendly practices is no longer optional but necessary for maintaining competitiveness. Recommendations include transitioning to a greener vehicle fleet, optimizing routes to lower emissions, and implementing internal policies aimed at carbon footprint reduction. Such measures align with broader regulatory trends and growing societal expectations for sustainable business practices.

Overall, the research conducted in this work demonstrates that by embracing technological innovation, improving internal cooperation, and focusing on client-centered communication, UAB “Transtira” can significantly improve its logistics efficiency and service quality. These improvements are expected to lead to reduced operational costs, enhanced environmental performance, and stronger competitive positioning in the market.

In conclusion, this thesis contributes valuable practical insights into the transport logistics organization of a major Lithuanian company, bridging the gap between theory and practice. The findings and proposals outlined here can serve as a useful reference for logistics professionals aiming to optimize their operations in an increasingly complex and demanding global environment. Moreover, the thesis stresses the importance of continuous monitoring and evaluation of logistics performance through key performance indicators (KPIs). Regular assessment of delivery times, cost efficiency, vehicle utilization, and customer satisfaction allow for early detection of inefficiencies and supports timely corrective actions. Establishing a robust performance management system would help UAB "Transtira" maintain high standards and adapt quickly to market changes.

Training and development of staff also play a crucial role in improving logistics processes. By investing in employee skills, especially in areas such as IT system usage, customer service, and logistics planning, the company can ensure that its workforce remains competent and motivated. Encouraging a culture of innovation and open communication within the organization fosters an environment where employees actively contribute ideas for process improvements.

The research findings emphasize that the logistics sector, particularly in Lithuania, is rapidly evolving due to technological advancements and shifting market demands. For companies like UAB "Transtira," staying ahead requires not only adopting new tools but also revising organizational practices and business strategies accordingly. The study underlines the necessity for a holistic approach that integrates technology, people, and processes to achieve sustainable growth.

Finally, the thesis acknowledges certain limitations, such as the scope of empirical research being limited to one company and the reliance on qualitative methods which may be complemented in future research by quantitative analyses. Nonetheless, the insights gained provide a strong foundation for further studies on transport logistics in Lithuanian and regional contexts. The thesis concludes that a combination of innovative technologies, improved internal coordination, enhanced customer focus, and sustainable practices will enable UAB "Transtira" to overcome current challenges and reinforce its position as a leader in transport logistics. In addition, the thesis highlights the growing importance of adapting logistics strategies to evolving regulatory frameworks and international standards. Compliance with environmental regulations, safety requirements, and trade policies is critical for maintaining smooth operations and avoiding legal risks. UAB “Transtira” must therefore stay informed about changes in the regulatory landscape and proactively adjust its logistics processes to ensure full compliance.

The dynamic nature of the transport logistics industry also requires flexibility in responding to unforeseen disruptions such as supply chain interruptions, economic fluctuations, or geopolitical events. Building resilience through diversified transport modes, contingency planning, and strong supplier relationships is essential for minimizing negative impacts on service delivery.

Moreover, the competitive environment in the logistics sector underscores the need for continuous innovation. UAB "Transtira" should explore opportunities for digital transformation beyond route planning and tracking, including the use of blockchain for transparency, automation in warehousing, and predictive analytics for demand forecasting. Such advancements will not only improve efficiency but also enhance customer trust and satisfaction.

In summary, this thesis demonstrates that the future success of UAB "Transtira" depends on a comprehensive approach combining operational excellence, technological innovation, environmental responsibility, and customer-centric strategies. By implementing the recommended improvements, the company can strengthen its market position, increase profitability, and contribute positively to sustainable development within the transport logistics industry. Furthermore, the thesis emphasizes that the integration of sustainability into transport logistics is not merely a regulatory obligation but also a strategic opportunity. By adopting green logistics practices, UAB "Transtira" can differentiate itself in a market where customers increasingly value environmental responsibility. Sustainable initiatives such as using alternative fuels, optimizing load capacities to reduce empty runs, and investing in energy-efficient technologies contribute to both ecological benefits and cost savings in the long run. These efforts align with global trends toward decarbonization and help the company prepare for future market demands and regulations.

The research also underlines the critical role of innovation culture within the organization. For logistics improvements to be effective and sustainable, it is important that management encourages continuous learning and openness to change among employees. Engaging staff in the development and implementation of new systems fosters ownership and improves the likelihood of successful adoption. Training programs, workshops, and incentive schemes can motivate personnel to actively participate in enhancing operational efficiency.

Moreover, the study identifies that digital transformation in logistics goes beyond the deployment of individual technologies. A holistic digital strategy should be developed that covers end-to-end processes, ensuring seamless data flow and real-time visibility across the supply chain. This includes integrating transport management systems (TMS), warehouse management systems (WMS), and customer relationship management (CRM) platforms. Such integration enables better forecasting, inventory control, and responsiveness to market fluctuations.

Customer-centricity remains at the core of successful transport logistics. The thesis recommends strengthening communication channels not only for providing updates but also for gathering actionable feedback. Implementing customer portals where clients can track shipments, submit requests, and receive support improves transparency and trust. Regularly analyzing customer feedback helps identify emerging needs and tailor services, accordingly, enhancing overall satisfaction and loyalty.

Another important aspect is risk management. The logistics sector is vulnerable to disruptions from external factors such as natural disasters, pandemics, or political instability. UAB "Transtira" should develop comprehensive risk assessment and mitigation plans to ensure continuity of operations. This includes diversifying transport routes and partners, maintaining safety stocks, and establishing rapid response teams to handle emergencies effectively.

In addition, benchmarking against industry best practices and competitors is suggested to maintain a competitive edge. Learning from global logistics leaders and adapting innovative solutions suitable for the local context can drive continuous improvement. Participation in logistics networks and professional associations also facilitates knowledge exchange and cooperation.

In conclusion, the thesis confirms that improving transport logistics at UAB "Transtira" requires a multifaceted approach. Key success factors include the adoption of advanced technologies, fostering effective internal collaboration, enhancing customer engagement, committing to sustainability, and developing robust risk management frameworks. These strategies together will enable the company to meet current challenges and capitalize on future opportunities in an increasingly complex and demanding global logistics environment.

The findings and recommendations provided in this work contribute to both the academic field of transport logistics and practical applications within Lithuanian transport companies. They offer a roadmap for UAB "Transtira" and similar enterprises striving to optimize logistics performance, reduce costs, and increase customer satisfaction while supporting sustainable development goals.

Conclusions

After conducting an analysis of the scientific literature, it was found that modern transport logistics seeks to ensure the delivery of goods to the right place in the optimal time and at minimal costs, using advanced planning methodologies and information technologies. It was found that the application of green logistics principles contributes to the long-term sustainability of the company and increasing the efficiency of its operations.

Summarizing the scientific literature, it can be stated that today's transport logistics is increasingly based on digital solutions that allow real-time monitoring of cargo movement and prompt response to network changes. The importance of route optimization and targeted selection of vehicles is gaining particular importance - these solutions are primarily focused on saving costs and time and improving the quality of services. Environmental aspects are also emphasized: sustainable logistics measures (e.g., the use of alternative fuels and saving resources) show that green initiatives can increase the competitiveness of the company in the long run.

In the analytical part, based on the data obtained, the main aspects of the organization of UAB Transtira's activities were revealed: the geography of the transportations carried out, the fleet of vehicles and the needs of customers. It was found that although UAB Transtira has the potential to expand international logistics activities, the existing planning tools and processes do not always optimize routes sufficiently. The results of the analysis showed that improving planning methodologies can reduce fuel consumption and increase the reliability of order delivery. In general, the company's logistics operates stably, but there are still undiscovered opportunities to organize processes even more efficiently in order to achieve even greater productivity. The analysis showed that the company's financial indicators and customer service level are stable, and cost control is sufficiently organized. However, the territorial distribution of services in different regions revealed untapped potential for optimizing logistics processes. It was found that although UAB Transtira responds promptly to existing disruptions, advanced data analysis and IT solutions are still not sufficiently used for route planning. These observations show that transport logistics processes can be further improved by implementing digital solutions that allow for prompt planning of transport flows and adaptation to changing customer needs.

It was determined that the improvement of transport logistics processes at UAB "Transtira" includes the implementation of modern route planning systems, the implementation of effective fleet utilization strategies and the strengthening of transport cost control: integrating advanced transport monitoring technologies (GPS navigation, telematics), which allow for real-time management of route changes and reducing the risk of emptying and losses. The importance of periodic employee training for effective logistics management and the application of green logistics initiatives (e.g., the use of alternative fuels and reducing fuel costs) is also emphasized, in order to reduce energy costs and negative environmental impact in the long term.

By implementing the above solutions, the company's transport logistics would be optimally reorganized, ensuring a higher level of customer service and reduced operating costs. In this way, UAB "Transtira" could not only expand the range of services it provides, but also respond more flexibly to changing market conditions, increasing competitiveness and long-term profitability. In summary, constant review of solutions and implementation of innovations in transport logistics create conditions for a long-term strategy of creating added value: more efficient route management and application of advanced technologies would directly improve the performance of UAB "Transtira".

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ANALYSIS OF REVERSE LOGISTICS ORGANISATION AT UAB „KAUNO ŠVARA"

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Keywords: reverse logistics, waste management, route optimization, sustainability, logistics systems.

Abstract
This study analyzes the organization and challenges of reverse logistics at UAB "Kauno Švara", aiming to evaluate current practices and identify improvement strategies within the framework of sustainability and circular economy. Reverse logistics is explored as a strategic component of waste management and logistical efficiency. The research combines theoretical insights with an empirical study that includes a full-sample survey and data-based observation. Key findings indicate inefficiencies in route optimization, low digital integration, and limited employee engagement in operational processes. Improvement directions include enhanced digital tools, better route planning, and training initiatives to strengthen environmental performance.

Introduction

Reverse logistics has emerged as a key concept in modern logistics, becoming increasingly relevant within the frameworks of sustainable development and the circular economy (Christopher, 2016; McKinnon et al., 2018). In Lithuania, the pressure on waste management companies to optimize their logistics and reduce environmental impact is growing due to EU policy changes and local environmental goals (European Commission, 2015; Lietuvos Respublikos Atliekų tvarkymo įstatymas, 2025). UAB "Kauno Švara" is one of the largest municipal waste operators, and its role in sustainable logistics is becoming ever more significant.

Reverse logistics, which includes activities such as waste collection, processing, and reintroduction into the value chain, is widely analyzed in academic literature (Waters & Rinsler, 2014; Sangwan, 2017; Wadhawan & Rizvi, 2024). However, practical implementation varies by country and organizational maturity. In Lithuania, empirical insights remain limited, hence the relevance of this applied research. The topic is also important for urban planning and public sector logistics, where transparency and environmental performance are critical (Kumar et al., 2021).

Data and Methodology

The thesis used both qualitative and quantitative research approaches. A full-sample questionnaire was conducted among all 13 logistics specialists working at UAB "Kauno Švara". In addition, tracking and performance data from the company's own systems—specifically Tracking.lt and Asmlis—were analyzed to assess route efficiency, container service frequency, and waste collection dynamics over a selected week.

The research approach was based on principles discussed by Sangwan (2017) regarding integrated reverse logistics systems and methods outlined by Attia (2023) on how to assess sustainability performance in waste operations. The visual mapping of container collection points and fuel consumption data allowed to objectively evaluate route overlaps and inefficiencies. According to Mallick & Salling (2023), route duplication and inefficient scheduling are among the most common inefficiencies in public reverse logistics systems.

Results and Findings

Tracking.lt system data revealed fluctuations in daily waste volumes and service intensity. Peak loads were identified on specific weekdays—e.g., February 17 and February 21—where the amount of collected waste was significantly higher than on other days.". These peaks required disproportionate amounts of fuel and labor, which raises questions about the adequacy of current scheduling practices (Zeo Route Planner, 2024).

This observation method was carried out using the systems employed by UAB "Kauno Švara": the waste management information system "Asmlis" and the vehicle tracking system Tracking.lt. The observation and data collection were conducted from February 17 to February 21 in the districts of Vilijampolė, Šilainiai, Sargėnai, Panemunė, Romainiai, and Šančiai, with the aim of monitoring the dynamics of waste collection (Table 17).

Table 1

Overall Dynamics of Waste Collection Routes During the Period of 2024-02-17 – 2024-02-21
(compiled by the author)

Data	Number of containers served	Distance driven, km	Amount of waste collected, t
2024-02-17 (Monday)	2646	321,3	44,88
2024-02-18 (Tuesday)	2649	293	38,82
2024-02-19 (Wednesday)	2440	274,4	34,96
2024-02-20 (Thursday)	1955	303,3	33,24
2024-02-21(Friday)	2289	360	42,46

The analysis of waste collection data by day of the week revealed significant insights, enabling the evaluation of route efficiency and workload distribution. The highest number of containers was serviced on February 18 (2649 units), yet the largest amount of waste—44.88 tons—was collected on February 17. This suggests that although the number of containers may be similar, the level of container fill can vary significantly. Additionally, on February 21, a total of 42.46 tons of waste were collected from 2289 containers, indicating that the containers on that day were either more fully loaded or located in more densely populated areas.

A quantitative research method—namely, a questionnaire survey—was chosen for this study. According to Kardelis (2017), the scientific value of quantitative research is determined by measurable indicators. Quantitative research tends to be more structured, as the methods of data analysis are typically defined prior to the study. One of the key characteristics of this type of research is its accessibility, making it one of the most widely used methods for collecting research data.

"A survey is a data collection method widely applied in both scientific and applied social research" (Gaižauskaitė & Mikėnė, 2014). This method was selected because it allows for the collection of more diverse information compared to other methods and helps reveal the essence of the problem under investigation.

The survey included all thirteen logistics specialists working at UAB "Kauno Švara", thus the entire study population was examined. At this stage of the research, a standardized semi-closed questionnaire was used, specifically designed for the logistics specialists of UAB "Kauno Švara", with the aim of analyzing the organization of reverse logistics.

The employee survey results indicated mixed perceptions. While most respondents understood the concept and goals of reverse logistics, more than one-third highlighted operational issues such as overfrequent container servicing, unbalanced routes, and lack of clarity in team coordination. Similar challenges are highlighted in studies by Ripanti (2016) and Fani et al. (2024), especially in public service organizations that do not fully integrate modern technologies.

Another key issue was low utilization of digital tools and analytics in daily decision-making. Although GPS-based monitoring is implemented, it is not integrated with planning or performance optimization tools. This partially explains high fuel costs and overtime work, which could be reduced by better shift coordination and digital forecasting (Jaegler & Roques, 2023).

Discussion and Recommendations

The empirical data suggests that improvements are feasible through relatively accessible changes. First, route optimization using modern AI-supported tools (Wadhawan & Rizvi, 2024) could improve vehicle efficiency and reduce emissions. Second, investing in staff training and developing operational dashboards would ensure better control and performance feedback loops (Attia, 2023).

Moreover, integration with broader municipal sustainability initiatives, such as smart city waste collection models, could make UAB "Kauno Švara" a leader in urban logistics innovation. According to Waters & Rinsler (2014), companies that adopt such proactive practices tend to improve both environmental performance and service quality.

An important step would be a systematic assessment of waste types and adjusting container locations accordingly. Currently, most containers are placed based on historical patterns, which do not reflect population or consumption changes. Similar inefficiencies have been corrected in other EU countries using data-driven models (Kumar et al., 2021).

The findings also suggest that Lithuania's logistics sector, as analyzed by Verslo Žinios (2025), needs stronger alignment between regulation and innovation. Legal requirements should be complemented by digital infrastructure investment and inter-organizational collaboration.

Conclusions

This thesis confirms that while reverse logistics at UAB "Kauno Švara" is functioning, several modernization steps are required. Digital tools remain underutilized, and route overlaps suggest inefficient scheduling. Increasing staff engagement and aligning operations with sustainability principles could significantly enhance performance. The hypothesis that well-organized reverse logistics improves overall efficiency and sustainability is supported. These insights provide a foundation for further innovation in public waste logistics and contribute to broader circular economy goals.

- Digital tools (tracking, analytics) are underutilized and should be better integrated.
- Route overlaps and peak load inefficiencies require targeted optimization.
- Employee engagement and operational training need strengthening.
- The potential for environmental impact reduction is high if reverse logistics is linked with circular economy goals.

The hypothesis that well-organized reverse logistics improves overall efficiency and sustainability is validated by the findings. As reverse logistics becomes more central in EU and national strategies (European Commission, 2015), UAB "Kauno Švara" has an opportunity to implement scalable innovations.

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PLANNING, RECRUITMENT AND SELECTION OF HUMAN RESOURCES IN LTD. „LIDL LIETUVA“

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Keywords: Human resources, HR planning, HR recruitment, HR selection.

Abstract
The article contains analysis of the challenges faced by a retail company in the planning, recruitment and selection of human resources (HR). Analysis includes studies published by Lithuanian and foreign authors, incorporating both theoretical and practical research on the planning, recruitment and selection of human resources. The objectives and models of HR management, sources of recruitment, selection as well as recruitment methods and criteria are analysed in detail. This work includes directions for improving HR planning, recruitment and selection. Quantitative research was conducted in *Ltd. 'Lidl Lietuva',* where personnel filled questionnaire survey. The author's hypothesis is confirmed, a retailer can avoid losses and achieve all objectives by conducting planning, recruitment and selection of human resources through effective enforcement.

Introduction

Relevance of the topic – A company cannot operate without human resources. True specialists of their fields can make the difference in the success of a company and in its market advantage. Unfortunately, companies are often faced by multiple challenges; it is not that easy to find workers devoted to their field and assemble a strong team. In order to retain existing personnel and to attract new specialists, it is necessary to allocate financial resources and to invest time in order to facilitate the improvement of the skills, competences and knowledge of workers, as well as to promote a friendly and cultured working environment.

Problem of the topic – In modern competitive markets, effective management of human resources is one of the most important processes in company's operations with direct impact on the success of the organization. Retail companies are confronted with the challenge of formulating effective strategies for staffing needs planning, selection processes and candidate identification. This work examines all methods of attracting candidates and their respective levels of effectiveness.

Research of the Topic - Planning, recruitment and selection of human resources is widely researched topic in both Lithuanian and foreign literature. Analysis of the article written by S. V. Hambardzumyan, A. M. Aghajanyan [2024] reveals that human resources are key factors in the success of the company. The authors stated that 'Since human resources form the fundamental core of every organization, their efficacy and efficiency are crucial for maintaining them' [Hambardzumyan, Aghajanyan, 2024]. It means that operations of the companies are interconnected with human resources, thus it is important to address this subject.

The object of this study - planning, recruitment and selection of human resources.

The purpose of the study – to analyse planning, recruitment and selection of human resources in Ltd. 'Lidl Lietuva'

Objectives of the work:

1. Analysis of planning, recruitment and selection of human resources in theoretical aspect.
2. To conduct a study on planning, recruitment and selection of human resources in Ltd. 'Lidl Lietuva'.
3. To provide directions for improving planning, recruitment and selection of human resources in Ltd. 'Lidl Lietuva'.

Methods of this study – analysis of scientific literature, quantitative research – questionnaire survey and conclusion.

Work hypothesis – a retailer can avoid losses and achieve all objectives by conducting planning, recruitment and selection of human resources through effective enforcement.

Theoretical Aspects of Planning, Recruitment and Selection of Human Resources

The Concept and Essence of Human Resources

Human resources gather increasing amounts of attention, due to its decisive factor in a company's success. Both internal and external challenges arise along with success of a company.

A. Dolot [2014] stresses the fact, that companies increasingly recognise the role of employees in creating competitive advantage and the positive image of the company on the labour market, which depends on human resources. Human resources are in fact companies' greatest asset, but just having them is not enough. It is important to know how to manage them. There is a wider range of authors in the scientific management

literature such as (Bogdalova [Богдалова, 2014], Nikishina [Никишина, 2016], Bortnik [2017], Janušauskienė [2021] et al.), whose views remain relevant to the definition of human resources (Table 1).

Table 1

Concepts of human resources (compiled by the author)

Author	Concept of human resources
G. D. Bogdalova [Богдалова, 2014]	'Human resources are one of the most important factors in the survival of an organisation. Sometimes even a minimal investment in recruitment makes it possible for a company to win in the competition'
V. Gražulis, D. Račelytė, R. Dačiulytė, A. Valickas, R. Adamonienė, T. Sudnickas, A. G. Raišienė [2015]	'People working in the organisation, also known as human resources (personnel / employees) are the link that connects the elements of the internal environment of the organisation into a single system, and are therefore considered to be the most important part of any management model'
A. L. Nikishina, [Никишина, 2016]	'Human resources are the core of any company, so it's important to take recruitment and hiring seriously in any company'
M. Juodeikaitė, A. Fominienė [2016]	'It is the use of human capital to increase competitive advantage and to perform the expected duties at the right time'
A. Bortnik [2017]	'Human resources are a key advantage in a modern world of constant change'
D. Jatautaitė, I. Janušauskienė [2021]	'Staff of an organisation are not just employees – they are the key to its success'

Analysis of concepts shown in the table 1 reveals that scholars have different definitions of human resources, however each of them puts emphasis on importance of human resources for the organisations. All authors agree that human resources is one of the most important factors.

Summary of provided definitions reveals that human resources are the people who work in the company and who have the physical and mental abilities, knowledge, experience and skills to contribute to the achievement of objectives of the company. In addition to contributing to the achievement of objectives, human resources also manage the material and financial capital of the organisation.

Objectives and Models of Managing Human Resources

Management of human resources (MHR) is understood as management of employees in order to achieve objectives of the organisation [Bortnik, 2017]. Management of human resources includes all aspects of recruiting and managing people in organisations. This includes strategic MHR, management of human capital, management of knowledge, corporate social responsibility, organisational development, personnel management (workforce planning, recruitment and talent management), training and development, performance and compensation management, employee relations, employee welfare and various services provided to employees [Armstrong, 2016].

Additionally, B. Kulikowski [Kulikowski, 2014] defines objectives that can be reached with effective management of human resources (Figure 1):

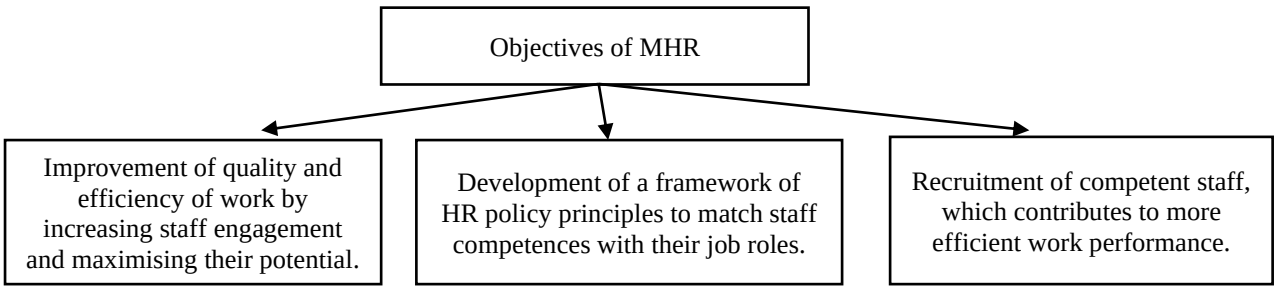


Fig. 1. Objectives of human resources management (Kulikowski, 2014)

B. Kulikowski [Kulikowski, 2014] emphasizes that the goals of human resource management are focused on improving the efficiency and quality of work, thus increasing employee involvement and maximizing their potential. To this end, it is important to establish a clear personnel policy framework that ensures that employees' competencies are in line with their duties. The recruitment of competent employees is also a very

important objective. Experienced employees increase the efficiency of work performance and the competitiveness of the organization.

In order to understand what is MHR and how it functions, MHR models are presented in Table 2:

Table 2

Models of MHR (compiled by the author, based on Grzybowska et al. [2021])

Name of the model	Model description
Michigan model	The model depicts the process of strategic HRM, which includes the organisational environment, the mission, the corporate structure, and the management of human resources.
Harvard model	This model emphasises four key aspects of HRM: employee engagement, employee flow, reward systems and work organisation.
Schuler model	This model emphasises the importance of the internal and external environment of the organisation in the development of the organisation's strategy.
Soft and hard management of human resources (MHR)	Hard MHR is based on the Michigan model, which sees workers as an economic resource. Soft MHR focuses on human relations, based on communication, motivation and intellectual capital.
Sieve model	This model is most often applied in an employer's market, where there is a large supply of labour and the employer has a wide range of candidates to choose from for a given position.
Human capital model	The human capital model is used in organisations that value long-term employment and want employees to identify with their workplace.

I. V. Kazmina, N. V. Rogov, I. V. Popova [Казьмина, Рогов, Попова, 2021] states that "the Michigan model is based on the assumption that personnel management systems and organizational structure should be managed in a way that is consistent with the organization's strategy." And the Harvard model is defined by I. V. Kazmina, N. V. Rogov, I. V. Popova [Казьмина, Рогов, Попова, 2021] as follows: "Human resource management includes all management decisions and actions that affect the nature of the relationship between an organization and its employees – its human resources." Schuler's model distinguishes MHR policies, practices, and programs that must be consistent with the organization's strategic goals. Soft MHR focuses on employee development and motivation, while hard MHR focuses on control, productivity, and cost management. The sieve model is based on rigorous selection and evaluation of employee productivity, while the human capital model invests in employee training and improving working conditions.

In summary, human resource management is a process that includes recruitment, selection, hiring, training, motivating and utilising the potential of employees. Implementation of the right MHR model can make organisation more competitive, as well as contribute to the well-being of employees and the long-term success of the company.

Peculiarities and Importance of Human Resources Planning and its Impact on Business Operations

Planning of human resources occupies a particularly important place in the company’s activities. Every company wants to achieve the best possible results, and human resources are essential for this. Only through proper planning can losses be avoided and smooth running of the company be ensured.

Zainetdinova [2015] has indicated that human resources planning is defined as ‘A process to ensure that the organisation has the right number of qualified staff recruited for the right roles at the right time’. According to the author, human resources planning helps to answer following questions:

- when and where employees will be necessary, how many and how skilled they should be;
- how to attract the right staff and reduce the number of incompetent workers;
- how to make the best use of the staff, considering their skills;
- how to ensure development of the staff, complete new jobs that require qualifications and retain high level of knowledge, that meets requirements of the company;
- the cost that the company will incur in planning its human resources.

This means that HR planning is a crucial process to ensure an adequate number of qualified staff.

Additionally, Guzina and Ezkova [Гужина, Ежкова, 2019] state that: "Personnel planning should start with the identification of the need for employees, the analysis of the labour market and the creation of a new organizational plan" [Гужина, Ежкова, 2019]. The authors emphasize that many ways and methods are

already developed across the globe for the purpose of solving this issue, so companies only need to choose an option appropriate for them.

Meanwhile, Armstrong and Taylor [Armstrong, Taylor, 2014] described reasons for organisations' engagement in HR planning:

1. Planning for the most fundamental reasons, where the aim is to have a real impact by optimising the use of resources, acquiring and developing skills, identifying potential problems and reducing the likelihood of wrong decisions.
2. Planning for process benefits, where the aim is for the organisation to better assess the current situation and to be adequately prepared for future challenges. This type of planning encourages creativity of staff and a reasoned decision-making that leads to the success of the organisation.
3. Planning for corporate reasons, to ensure that the requirements of the plans are seamlessly communicated to staff and that employees are engaged in the project.

Guzina and Ezkova [Гужина, Ежкова, 2019] stresses that workforce planning starts with an assessment of staffing needs, an analysis of the labour market and adjustments to the organisation's structure. While Armstrong and Taylor [Armstrong, Taylor, 2014] provides explanation for why organisations are implementing this process, which is to optimise their resources and ensure preparedness for future challenges. Authors complement each other, as successful HR planning requires not only an assessment of the need for human resources, but also and understanding of the objectives of planning.

To summarise the peculiarities of human resource planning, the success of an organisation depends on its ability to anticipate staffing needs in a timely manner. Human resources planning is of utmost importance as it constitutes the initial stage of the recruitment process. Effective HR planning ensures the professional development of staff, improves productivity and the competitiveness of the organisation.

Process of Recruitment and Selection of Human Resources

B. Mikula, T. Myjak, H. Tścinska [Mikuła, Myjak, Trzcińska, 2023] states that 'Recruitment and selection of employees is a complex process that organisations have to face at every stage of their development. Therefore, processes related to employee selection are of key importance in human resource management'. Authors also highlight the importance of well-designed recruitment and selection process for the success of any organisation. This demonstrates, that the recruitment and selection process is a key factor in the performance of organisations, as the proper application of selection and recruitment methods ensures quality of the workforce, which determines the survival and efficiency of companies.

A. Michna, K. Grygiel, P. Grygiel [2015] argues, that recruitment of HR means that the organisation attracts a number of candidates that allows rational selection. The aim of recruitment and selection is to recruit a worker with the right competences to meet the employer's needs. The importance of HR recruitment and selection was also stressed by O. Ali ir L. Kallach [2024] who made the following statement: 'Organisations consistently emphasise the importance of recruitment and selection, stating that recruitment and selection methods have an impact on both employee and organisational performance'. The authors place significant emphasis on the pivotal role of recruitment and selection in human resources management, underscoring the necessity for a meticulously designed recruitment and selection methodology.

Various authors perceive selection process in different ways. D. Lipinskienė [2012] distinguishes as many as 8 selection methods (Table 3):

Table 3

Methods of staff selection (Lipinskienė, 2012)

Selection method	Method description
Questionnaire	Pre-selection of candidates.
Testing	Three categories of tests are distinguished: individual, social and situational.
Group discussions	This method is used as a preliminary method of assessing fitness for work, applied to a larger group of people and with specially trained specialists or staff.
Simulation of job-related tasks	Job applicants are exposed to working conditions that are very close to the ones in real world, and their reactions and behaviour are assessed in jobs similar to those they will have to perform in the future.
Verification of references	The aim is to verify if the data provided by the candidate is correct.
Health check-up	It is needed to determine whether the candidate meets the requirements for physical fitness, and to highlight possible medical conditions and limitations.

Graphology	The candidate's personal qualities, character traits and emotional state are determined by their penmanship.
Selection conversation (interview)	The most popular and universal selection method.

Analysing methods presented in this work and methods described by D. Lipinskienė [2012], it can be seen that the author presents a broader list of methods, which include both traditional and innovative selection methods. The author lists questionnaires, testing, group discussions, simulation of job-related tasks, verification of references, health check-ups, graphology and selection conversation. It appears that selection methods, such as questionnaires or selection conversations are easily incorporated and reduces managerial workload. More sophisticated selection methods, such as group discussions or simulation of work-related tasks, allow for a more in-depth assessment of the candidate's skills and suitability. The above illustrates that for a selection process to be effective, it is necessary to use several different selection methods rather than relying on a single approach, as this is the most reliable way to ensure that the organisation is equipped with true professionals in their field.

V. Gražulis et al., (2015) has stated that: 'In modern organisations, the main criteria for selecting new staff are suitability, ability and acceptability' (V. Gražulis ir kt., 2015). Therefore, an initial assessment of a candidate's suitability, skills and acceptability is crucial to determine if all role-specific requirements are met (Table 4).

Table 4

Staff selection criteria and the human requirements they imply (V. Gražulis et al., 2015, p. 318)

Suitability	Aptitude	Acceptability
Specific professional knowledge, skills	Talent	Social adaptability
	Intellect	Horizon
Problem solving	Quality of reasoning	Approach
Teamwork	Inner energy	Interests
Leadership	Proactivity	Relationships
Project management	Flexibility	Style
	Innovation	Manner of speech

An analysis of Table 4 indicates that the employee selection criteria are divided into three distinct categories: suitability, aptitude, acceptability, which define the requirements for candidates. It can be seen that employees' aptitude depends on their level of knowledge, skills and problem-solving ability, while their skills depend on the quality of their thinking, flexibility, etc. Candidates need to invest in themselves, take initiative and develop their intellect in order to be marketable on the job market. In terms of acceptability, it can be argued that a candidate's social adaptability, outlook, attitude, manner of speaking, etc., are also important to the organisation. These individuals are instrumental in the success of the company and the attainment of its competitive advantage in the market. Therefore, it can be argued that all of the above criteria should be used to ensure a successful selection process, as this is the only way to ensure a motivated, adaptable and competent workforce.

To conclude, it can be argued that the following criteria - recruitment and selection are essential for the success of a company. Properly organised recruitment and selection processes, utilising a variety of recruitment and selection methods, enable the identification of competent and motivated employees, who meet organisational requirements and needs. Such selection process ensures that the company employs true professionals who are willing and able to contribute to the company's competetiveness and market advantage.

Study on the Planning, Recruitment and Selection of Human Resources at Ltd. 'Lidl Lietuva'

Study objective - to analyse human resource planning, recruitment and selection at Ltd. 'Lidl Lietuva' branch in Šeškinė district, based on the results of the conducted study.

Selection of the study. The research method chosen for the study is quantitative study, a questionnaire survey.

Course of the study. The questionnaire was designed using Google Form. The method was selected due to simplicity of question configuration and to ensure complete anonymity of respondents. A total of 21 questions comprises the questionnaire. The survey questionnaire was distributed online. Paniotto formula was used to calculate survey sample. The estimated sample for the survey was 29 employees. Due to the minimal

difference between estimated sample size and the total number of employees, it was decided to survey all 31 employees.

The objective of the survey was to ascertain which objectives a company can achieve through effective HRM. The survey data is displayed in Figure 2.

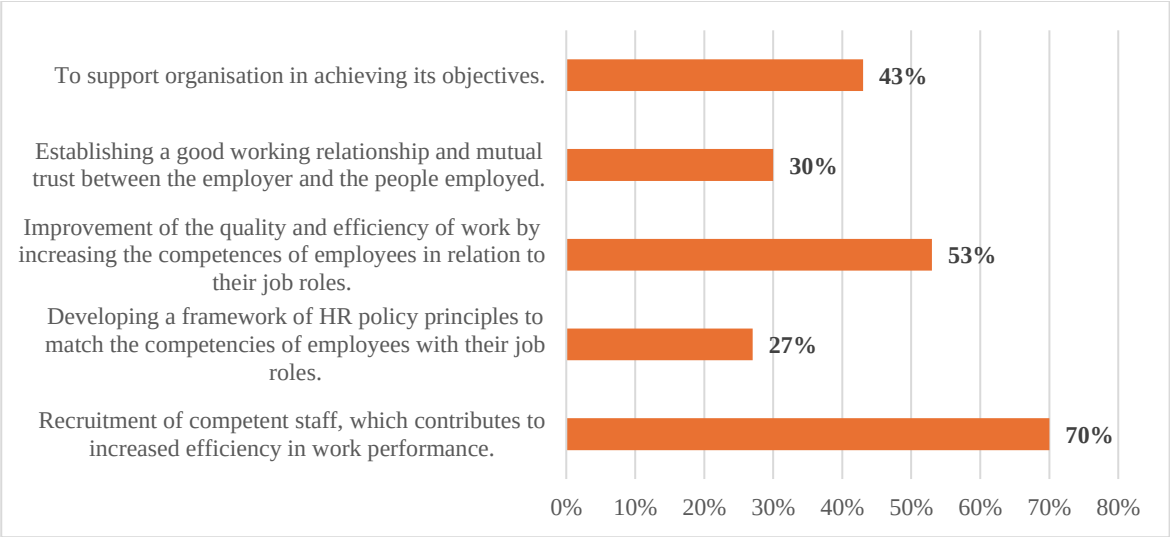


Fig. 2. Objectives, that can be achieved through proper HRM implementation.
(compiled by the author, based on the study data)

The results indicate that the vast majority of respondents selected the response that the primary objective of HRM is to recruit competent staff, thereby enhancing work performance. A slightly smaller proportion of respondents regard the improvement of work quality and efficiency as an important HRM objective. A significant number of respondents also highlighted that HRM implementation assists the company in achieving its objectives. This means that employees can contribute to the achievement of the company's objectives through their own initiative and proper work, and that it is important to continuously improve these processes.

The survey also sought to ascertain whether effective human resources planning, recruitment and selection contribute to the prevention of losses and the achievement of objectives. Respondents unanimously agreed that it does. The above indicates, that investing in human resources planning, recruitment, selection and the proper execution of these phases is crucial for the success and avoidance of losses in the company. Human resources play a crucial role in achieving set objectives; therefore, it is important to select only suitable and highly qualified specialists.

The survey also sought to determine whether the company's HR planning, recruitment and selection methods are appropriate and whether they have an impact on the company's objectives. The results of the survey are presented in Figure 3.

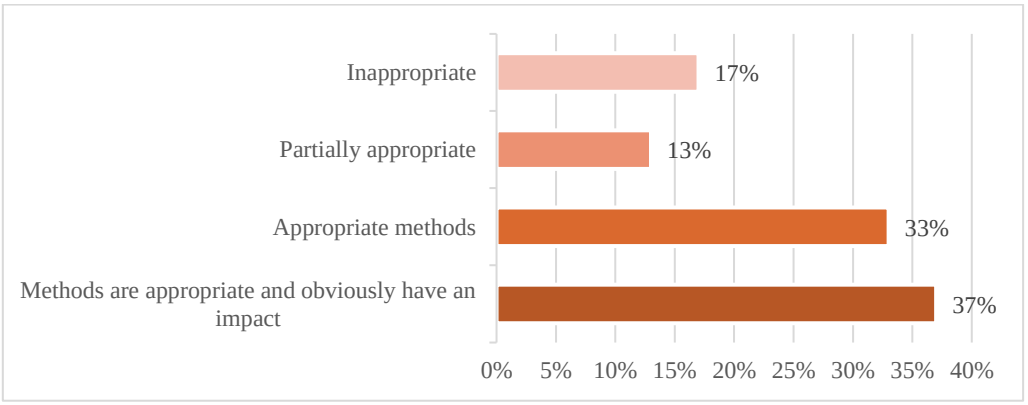


Fig. 3. The appropriateness of the company's human resources planning, recruitment and selection methods and their impact on the achievement of objectives in relation to respondents.
(compiled by the author, based on the study data)

The results indicate that the majority of respondents consider the methods to be appropriate and believe that they have an impact on the company's performance. It can be concluded that methods applied for human resource planning, recruitment and selection in the company are appropriate and meet the expectations of majority of respondents. The proper implementation of these methods directly contributes to achieving the company's goals.

However, a small portion of respondents expressed dissatisfaction, indicating that the company must continuously improve these processes in order to avoid negative impact on human resources management.

Prospects for Improvement of Planning, Recruitment and Selection of Human Resources in Ltd. 'Lidl Lietuva'

The study conducted at Ltd. 'Lidl Lietuva' indicates that the company's human resources planning, recruitment and selection process is effective. Respondents confirmed that the company has a moderate turnover of staff and a resulting shortage of staff on shifts. Therefore, there is room for improvement in the planning of staffing needs and in the selection and recruitment of staff. The analysis of the scientific literature and the research has led to the development of two main areas of improvement in the management of employees: the improvement of employee demand planning, and the improvement of employee selection and recruitment (Fig. 4).

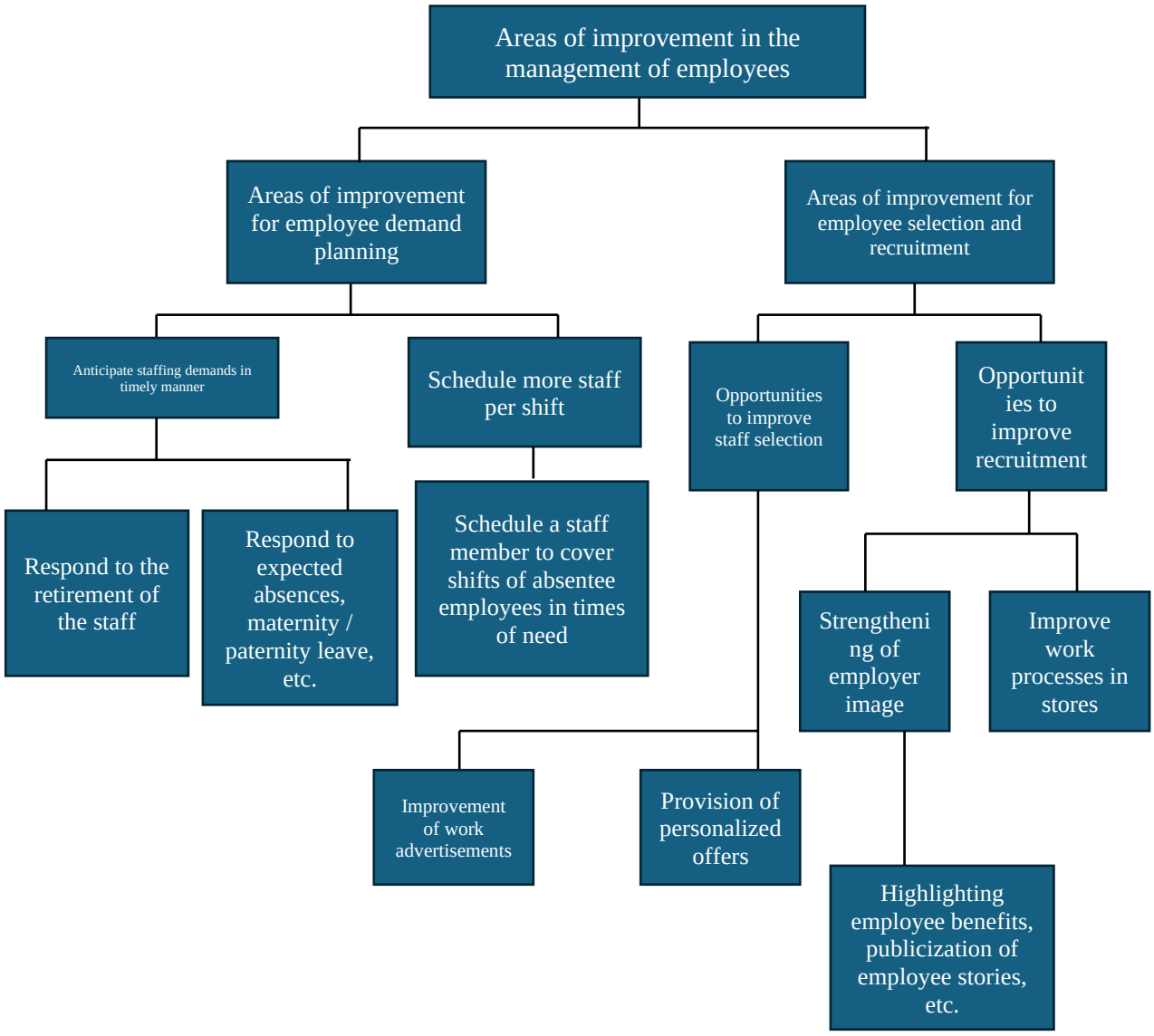


Fig. 4. Areas of improvement in the management of employees
(Compiled by the author)

To surmise, improvements in human resources planning, recruitment and selection are necessary. This approach would assist the company in avoiding staff shortages, enhancing employee loyalty and job satisfaction and increasing efficiency of work.

Conclusions

A summary of the analysis of Lithuanian and foreign scientific literature indicates that scientists define human resources differently. Nevertheless, it is universally acknowledged that human resources play a crucial role in the company's performance and indeed its success and market advantage. In addition to the analysis of Lithuanian and foreign scientific literature, it can be stated that human resource management includes all aspects related to recruitment, selection, training, etc. The model chosen is of critical importance in the management of HR, as it allows the company to select different management strategies that best suit company needs. It is also vital to respond to HR needs in a timely manner, with proper planning, effective selection and recruitment processes. Thus, it has been determined that effective planning, recruitment and selection of human resources are pivotal to the organisation's activities. These practices contribute to the achievement of company objectives and determine its competitiveness and success in the market.

The survey was conducted in the Ltd. 'Lidl Lietuva' branch in the Šeškinė district of Vilnius. The study demonstrates that the company is effective in planning, recruitment and selection of its human resources. Study data indicates, that employees are satisfied with the implementation of the planning, recruitment and selection processes, which means that they are being implemented at a high level of quality and in accordance with staff expectations. Nevertheless, the company has a moderate turnover of human resources, which has a negative impact on the company. It is evident that there is a necessity to enhance the HRM processes in order to minimise staff turnover and alleviate the workload of employees.

The improvement of human resource planning, recruitment and selection at Ltd. 'Lidl Lietuva' requires effective workforce demand planning, as well as timely responses to temporary employee absences and staff turnover. It is also important to have on-call staff to cover absenteeism when needed, to improve job advertisements, to strengthen the employer's image, to improve the store's work processes, and to provide personalised offers to candidates. Consistent implementation of all improvement measures would help to reduce employee turnover, enhance organisational performance, and prevent unnecessary expenses.

The study confirms the hypothesis that effective HR planning, recruitment and selection can prevent losses and ensure the achievement of all objectives. In their responses to the survey questions, respondents themselves emphasised the significant impact of effective HR planning, recruitment and selection on the company's performance and the prevention of unnecessary costs. This indicates that while the company must maintain the effective operation of its human resource management processes, it should also remain focused on their continuous improvement, as this is essential for ensuring long-term organisational success.

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DIGITAL MARKETING TOOLS OF UAB "STEMMA MANAGEMENT"

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Lect. Antanas Lukauskas
Keywords: digital marketing, marketing strategy, quantitative research, SWOT, SOSTAC,, communication strategy, business management.

Abstract
The study analyses scientific literature on digital marketing and presents a quantitative study. The research examines how UAB "Stemma Management" applies digital marketing strategies, evaluating their effectiveness and impact on the company's performance. Based on SOSTAC and SWOT an annual management plan was developed to improve communication and strengthen the company's competitive position.

Introduction

This study analyzes the application of digital marketing tools in UAB "Stemma Management", a real estate and property management company operating in Lithuania. In the context of rapid digitalization, marketing strategies have become increasingly dependent on digital technologies to reach audiences, build brand awareness, and stay competitive. The main objective of the research is to evaluate how the company uses digital tools and to identify improvement opportunities. The topic is relevant, as digital marketing is a key factor for business growth, especially in small and medium-sized enterprises. The theoretical framework is based on the insights of authors such as D. Chaffey, F. Ellis-Chadwick, P. Kotler, K.L. Keller, and S. Kingsnorth, who emphasize the role of SEO, social media, email marketing, content strategies, and analytics. Strategic planning models such as SOSTAC, RACE, and McKinsey Consumer Decision Journey are discussed as essential structures for digital communication management. The research aims not only to assess the effectiveness of the tools currently in use but also to provide strategic recommendations based on empirical data collected through a structured online survey.

Concept of Digital Marketing

Digital marketing refers to the use of digital technologies, channels, and platforms to promote products or services, engage with customers, and enhance brand visibility Ellis-Chadwick, 2019). It includes a variety of tools such as search engine optimization (SEO), pay- per-click (PPC) advertising, email marketing, content creation, and social media engagement. Unlike traditional marketing, digital marketing enables two-way communication, real-time analytics, and personalized targeting.

According to Kotler and Keller (2016), digital marketing allows companies to build relationships with customers through relevant, timely, and interactive content. This is particularly relevant in industries where emotional connection and trust are essential – such as real estate.

Two widely accepted frameworks for structuring digital marketing strategies are the **SOSTAC** model (Smith & Zook, 2016) and the **RACE** model (Chaffey & Ellis-Chadwick, 2019). The SOSTAC model divides the planning process into six key components: Situation analysis, Objectives, Strategy, Tactics, Action, and Control. It provides a comprehensive and logical approach to managing digital communication. The RACE model focuses on the customer lifecycle and includes four stages: Reach, Act, Convert, and Engage. This model helps organizations align marketing efforts with consumer behavior in the digital environment.

Digital marketing is essential in the real estate sector as it enables companies to increase visibility, demonstrate credibility, and interact with potential clients through virtual tours, customer testimonials, and informative content. As Fill and Turnbull (2019) note, modern marketing is no longer about pushing information, but about creating meaningful dialogue and long-term relationships.

Summary of UAB "Stemma Management" marketing situation

UAB "Stemma Management" is a Lithuanian real estate development and property management company, operating under the larger "Stemma Group." Established after a structural reorganization in 2013, the company focuses on the full real estate cycle – from land acquisition and construction supervision to commercial property leasing and facility management. Its projects are mainly concentrated in Klaipėda, with long-term partnerships, quality service, and sustainability as its core values.

Despite its strong position in the regional market, the company's digital marketing activities are minimal.

Communication with clients is still primarily based on personal contacts and recommendations. Social media accounts are rarely updated, and there is no structured content strategy or advertising plan in place. Although the company has a positive reputation and visually attractive projects, its lack of digital presence limits outreach to new audiences and younger clients. This indicates the need for a modern, data-driven digital marketing strategy to support future growth.

Data and analysis

The empirical part of the study involved a structured Google Forms survey conducted in April 2025 and distributed to clients of UAB "Stemma Management". The questionnaire was developed based on content marketing and digital communication theories, aiming to evaluate client awareness, digital engagement, and perceived value of the company's marketing activities. From a total client base of 48, 43 individuals responded, resulting in an 90 % response rate. This sample size meets the statistical threshold as defined by **Paniotto's formula**, making the data sufficiently representative for a small population.

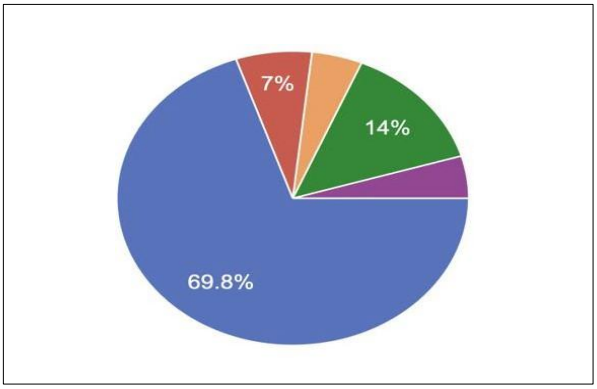


Fig. 1. Sources through which clients discovered UAB "Stemma Management" *(created by author)*

Respondents were asked multiple-choice and open-ended questions regarding how they first discovered the company, how often they interact with its digital content, and what type of content they find most valuable. **Figure 1** presents the distribution of discovery sources among surveyed clients, emphasizing the dominant role of word-of-mouth and the underperformance of digital platforms.The data showed that 70 % of clients learned about the company through word-of-mouth recommendations, confirming that informal offline networks remain the dominant source of brand awareness. In contrast, only 7% cited social media as the source of discovery, indicating poor visibility in digital channels and revealing a critical gap in the "Reach" phase of the RACE model (D. Chaffey & F. Ellis-Chadwick, 2019).

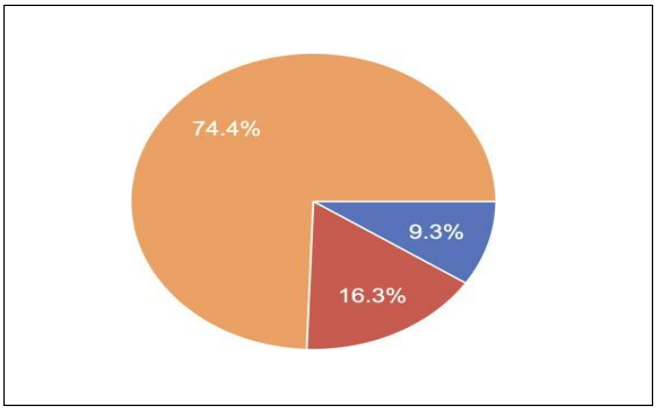


Fig. 2. Client awareness of UAB "Stemma Management" social media presence *(created by author)*

The analysis also revealed a significant lack of awareness regarding the company's social media presence. As shown in **Figure 2**, 74 % of respondents indicated that they did not know UAB "Stemma Management"

had social media accounts. Only 9 % confirmed that they follow the company online, while 16 % reported seeing its content but not engaging with it.

These findings emphasize a critical gap in the company's digital visibility and highlight the need to strengthen the "Reach" and "Engage" phases of the RACE model through more consistent and strategic communication.

It also confirms the **hypothesis** that ineffective application of digital marketing tools directly contributes to reduced visibility and missed engagement opportunities.

When asked what types of content they would like to see, clients indicated a preference for real estate news (93 %), business advice (88 %), special offers and promotions (72 %), and visual content such as project videos and before/after transformations. These results align with modern consumer behavior trends, where visual storytelling and added-value content significantly increase user interest and interaction. Respondents also emphasized the importance of transparent communication, project success stories, and clear visual representation of services.

In the open-ended section of the survey, many participants suggested improvements in digital communication. Key suggestions included: increasing social media activity (particularly on Facebook and Instagram), implementing newsletters, showcasing customer testimonials, and providing more educational or informative posts rather than purely promotional content. Several respondents even recommended using advanced tools like Google Ads, Mailchimp, and SEO strategies, indicating that the client base itself has a relatively high digital literacy level and expects the company to adapt to modern marketing standards.

To structure the findings, a **SWOT analysis** was carried out. Among the identified strengths were **long-term client relationships**, a **positive brand image**, and a **trust-based reputation** built over time. Weaknesses included the absence of a digital marketing strategy, lack of skilled personnel dedicated to marketing tasks, and minimal use of analytics tools like Google Analytics or Meta Insights. Opportunities involve the growing importance of content marketing, the relatively low cost of digital tools, and the chance to automate communication through platforms such as Meta Business Suite. Threats were associated with the rise of more digitally agile competitors and the increasing expectations of a younger, tech-savvy audience.

In conclusion, the collected data clearly demonstrated that **UAB "Stemma Management" lacks a structured and targeted digital communication approach**, which limits its visibility and effectiveness in reaching and engaging its client base. The insights gathered from the surveyprovided a strong foundation for the development of a strategic improvement plan, which is detailed in the following chapter and guided by both the **SOSTAC** and **RACE** marketing models.

Result

Based on the results of the empirical research and theoretical analysis, a comprehensive digital marketing improvement model was developed for UAB "Stemma Management". The model was designed using the SOSTAC framework, which includes six interrelated stages: Situation analysis, Objectives, Strategy, Tactics, Action, and Control (P. Smith, 2011). This model provides a structured and measurable approach to transition the company from fragmented, reactive communication toward an integrated, data-driven digital marketing system.

The first stage – Situation analysis – relied on the SWOT findings and customer survey data, which revealed insufficient brand visibility in digital channels, low engagement levels, and a lack of internal coordination. This diagnosis laid the foundation for formulating specific and achievable objectives aligned with real market needs.

The Objectives stage followed the SMART principle – setting goals that are Specific, Measurable, Achievable, Relevant, and Time-bound. Examples include:

- Increasing the company's social media followers by 50% by the end of 2025;
- Posting three pieces of content per week, including videos, news, and business tips;
- Launching three essential tools for digital communication: Meta Ads, Google Ads, and Mailchimp.

The Strategy stage focused on aligning these objectives with customer expectations derived from the research, particularly in terms of content relevance and format. This involved segmenting audiences, prioritizing high-value communication channels, and crafting content that reflects real estate updates, project visuals, and educational material.

The Tactics were translated into clear actions, tools, and responsibilities. A set of core digital tools was selected:

- Meta Business Suite for managing social media, scheduling posts, and launching paid

campaigns;

- Google Ads to capture high-intent searches and increase website traffic;
- Mailchimp for automating email campaigns and maintaining regular client contact;
- Canva / CapCut for producing high-quality visual and video content tailored to audience preferences;
- Google Analytics for tracking user behavior and campaign performance. Each tool was chosen based on both internal capabilities and client demands.At the Action stage, a detailed 12-month digital marketing plan was created. It outlines monthly activities across all selected channels, with timelines, responsibilities, content formats, and optimization checkpoints. The plan integrates the RACE model (D. Chaffey & F. Ellis-Chadwick, 2019) to align each marketing activity with a specific phase of the customer journey:
- Months 1–3: Reach – improving visibility through channel setup, audience targeting, and SEO;
- Months 4–6: Act – building engagement via content, newsletter campaigns, and social proof;
- Months 7–9: Convert – optimizing landing pages, running A/B tests, and driving inquiries;
- Months 10–12: Engage – deepening loyalty with video storytelling, community interaction, and strategy refinement.

The final Control stage focuses on evaluating marketing performance using KPIs such as:

- Engagement rate (likes, comments, shares);
- Website traffic growth;
- Conversion rate (from ad views to contact inquiries);
- Email open and click-through rates (CTR);
- Cost-per-click (CPC) and return on ad spend (ROAS).

Regular reporting and performance reviews are planned on a monthly basis. A/B testing will be conducted to identify the most effective messages, visuals, and formats. Additionally, the plan includes internal team training, creation of a content calendar, and feedback loops to ensure flexibility and continuous improvement.

In summary, this result-driven model provides UAB “Stemma Management” with a clear, step- by-step pathway to optimize its digital presence, meet client expectations, and build a long-term competitive edge in the real estate and services sector.

Conclusions

The results of this final thesis confirmed that digital marketing, when applied strategically, can significantly improve a company’s visibility, customer engagement, and long-term competitiveness. The theoretical analysis emphasized the importance of planning, personalization, and value creation, as presented by authors such as P. Kotler, D. Chaffey, F. Fill, and P. Turnbull. Models like SOSTAC and RACE provided a clear structure for evaluating and improving digital communication.

The empirical part of the research, conducted with 43 respondents from UAB “Stemma Management” client base, revealed major gaps in the company’s digital visibility and content relevance. Most clients were unaware of the company’s presence on social media, and nearly 70%

discovered the company via word-of-mouth, indicating that digital channels are currently underutilized. At the same time, clients expressed clear expectations for more valuable content, such as real estate news, business advice, and engaging visuals.

Based on these insights, a digital marketing improvement model was developed, including SMART goals, tool implementation, content alignment with customer needs, KPI-based evaluation, and a 12-month action plan. This model allows UAB “Stemma Management” to transition from a passive communication approach to a structured, data-driven digital marketing strategy that strengthens customer trust, increases online visibility, and enhances the company’s strategic position in the market.

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OPPORTUNITIES FOR DEVELOPING SMART PROJECTS AT "THE TREASURY OF THE REPUBLIC OF LATVIA"

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Assoc. prof. dr. Simona Grigaliūnienė
Keywords: SMART project management, public administration, Treasury of the Republic of Latvia, digitalization, strategic planning, realization, implementation.

Abstract
The study analyzes the possibilities of implementing and using SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) project management practices within the public financial institution "The Treasury of the Republic of Latvia." The thesis discusses SMART methodology application for strengthening strategic planning, goal-setting, and performance measurement in the public sector. The study underlines the importance of aligning digital transformation efforts with measurable performance objectives to improve institutional accountability and efficiency.

Introduction

Effective project management is among the most critical determinants of success in public sector reform and modernization. SMART project management, on its side, offers a rational and objective approach to improving transparency and strategic correspondence. This thesis examines how systematically SMART values can be applied in the Latvian Treasury to achieve better project implementation, digitalization, and budgeting.

The main objective of the thesis is to review the Treasury's internal ability to adopt SMART project management practices and provide implementable guidance on implementation. Three particular tasks drive the research: (1) to conduct a literature review for project management methods, (2) to evaluate existing project procedures at the Treasury, and (3) to develop recommendations for adding SMART principles.

Data and Methods

The study employs a qualitative research methodology. Data were collected through primary data in the form of semi-structured interviews from staff of the Treasury at different levels of the hierarchy. Secondary sources including policy documents, literature, and case studies of SMART project implementation in other settings within the public sector were employed to complement interview data.

The research design brings thematic content analysis in combination with comparative assessment of the project management models (Agile, Waterfall, Hybrid, SMART) to facilitate understanding of the real-life issues and potential measures for implementation in the Latvian public administration context.

Results

Research findings show that the Treasury currently lacks a formalized SMART-based system of project management. There are some departments with SMART elements applied ad hoc to project planning, but there is no institutional agreement. Interview responses reveal the following key challenges:

- compressed staff training in computer-based project management tools;
- absence of formal goal-setting processes based on SMART criteria;
- bureaucratic inflexibility and slow decision-making;
- lack of alignment between departmental goals and strategic institutional goals.

Despite these challenges, the Treasury staff expressed a positive approach towards applying SMART methodology to improving the delivery of projects, provided appropriate training, change management procedures, and policy directions are put in place.

Conclusions

The study finds that utilization of SMART principles of project management within "The Treasury of the Republic of Latvia" can significantly enhance operational efficiency, promote responsibility, and facilitate closer alignment with national development goals. Its successful introduction requires investment in staff training, developing standardised procedures, integration with electronic systems, and a strong commitment

from leadership. The recommended implementation plan offers comprehensive short-term and long-term suggestions in accordance with the Treasury's current institutional capacity and policy environment.

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ANALYSIS OF PRODUCT INDENTIFICATION ANT LABELING UAB "SEIFUVA"

Rasa Šilobritaitė
Lect. Birutė Povilianskienė
Keywords: product labeling, identification, labeling solutions, consumer.

Abstract
The study analyzes the importance of product identification and labeling in modern business processes, highlighting their impact on both the consumer and the producer. The paper outlines the main identification features, discusses forms of labeling, and explores different types of labeling decisions. The aim of the study is to assess how product labeling is perceived in practice and what issues are identified in this area among employees of UAB „SEIFUVA" The research was conducted using a quantitative method, specifically a questionnaire survey. The hypothesis formulated by the author is confirmed, allowing the conclusion that product labeling has a direct impact on the quality of operations within the company.

Introduction

Relevance of the Topic. Product identification and labeling represent a fundamental component of the supply chain, logistics, and trade processes, directly impacting both business efficiency and consumer experience. With the rapid advancement of technologies and the expansion of international trade, companies are increasingly facing challenges in accurately identifying goods, ensuring traceability, and maintaining proper labeling. Inadequate or inaccurate labeling data can lead to financial setbacks and reputational risks due to misleading product information or misrepresentation of origin. Effective labeling not only streamlines the movement of goods within the supply chain but also enhances consumer trust by ensuring product authenticity and quality. Moreover, advances in identification technologies contribute to the optimization of warehouse operations and the reduction of human error risk.

Problem of the Study. As UAB „SEIFUVA" is one of the few companies in Lithuania engaged in the production, sale, and export of safes, it faces numerous challenges in remaining competitive and expanding its operations. The company lacks a sufficiently precise product identification and labeling system, which is essential for ensuring the efficiency of manufacturing and logistics processes, reducing the likelihood of errors, and strengthening consumer trust in the company's products.

Object of the Study – the analysis of product identification and labeling at UAB „SEIFUVA".

Aim of the Study – to examine the product identification and labeling practices at UAB „SEIFUVA"

Objectives of the Study:

1. To analyze product identification and labeling from a theoretical perspective.
2. To conduct a study on product identification and labeling at UAB „SEIFUVA"
3. To present improvement opportunities for product identification and labeling at An analysis of the scientific literature on product identification and labeling clearly reveals that it is a crucial element not only in logistics and manufacturing but also in creating value for consumers.

Clear, accurate, and consistent labeling ensures product traceability, compliance with quality standards, and enhances trust among business partners and customers. In today's market, a brand performs multiple functions—it helps identify a product, guarantees its quality, strengthens the emotional bond with consumers, and serves as a source of competitive advantage. When choosing products, consumers often rely on the emotions and value standards embodied by the brand. To improve the quality of product identification and labeling at UAB „SEIFUVA" it is essential to consider employees' insights and the shortcomings of the current labeling system revealed during the study. It is important to enhance the clarity of information, implement more innovative labeling tools, and ensure ongoing internal communication regarding sustainability and quality requirements.

Hypothesis of the Study. If a clear and accurate product identification and labeling system is implemented within the company, it contributes to the efficiency of production and logistics processes, reduces the likelihood of errors, and increases consumer trust in the company's products.

The Concept and Significance of Brand Emergence

According to J. Smith (2016), a brand is a fundamental marketing tool that enables the recognition of products in the market by distinguishing them from competitors and fostering long-term relationships with consumers. While brands initially emerged as a means for manufacturers to identify their products, they have now evolved into a crucial factor influencing consumer behavior (Johnson, 2017). The importance of brands continues to grow, as modern consumers tend to choose products not only based on functional attributes but

also on the emotional connections they associate with those brands (Martinez, 2021). Brands can be traced back to ancient Greece and Rome, where craftsmen marked their goods with unique symbols to indicate origin (Wilson, 2020). During the Middle Ages, guilds adopted such marks to ensure the quality and authenticity of their products (Rodriguez, 2016). The Industrial Revolution brought about mass production, which further promoted the organized use of branding to build consumer trust and loyalty.

Table 1

Definition of a Brand (compiled by the author of the thesis based on the sources listed in the table)

Author	Definition
J. Smith (2016)	A brand is a symbol perceived by consumers as an identifier of a product or service.
E. Johnson (2017)	A brand is not only a recognizable sign but also an emotional connection with consumers.
O. Martinez (2021)	It is a part of a company's or product's image that helps differentiate it in the market.
J. Wilson (2020)	A brand is a set of elements that create the product's value in the market.
C. Lewis (2016)	It is a long-term marketing tool that helps build consumer trust.

According to D. Turner (2015), brands not only allow products to stand out in the market, but also foster customer loyalty and encourage repeat purchases. As noted by C. Roberts (2020), the importance of branding becomes particularly evident in the context of globalization, where an increasing number of international players compete for consumer attention. D. King (2021) argues that a well-managed brand not only helps retain existing customers but also attracts new ones, thereby enhancing a company's competitive advantage. The main elements of a brand are presented in Figure 1.

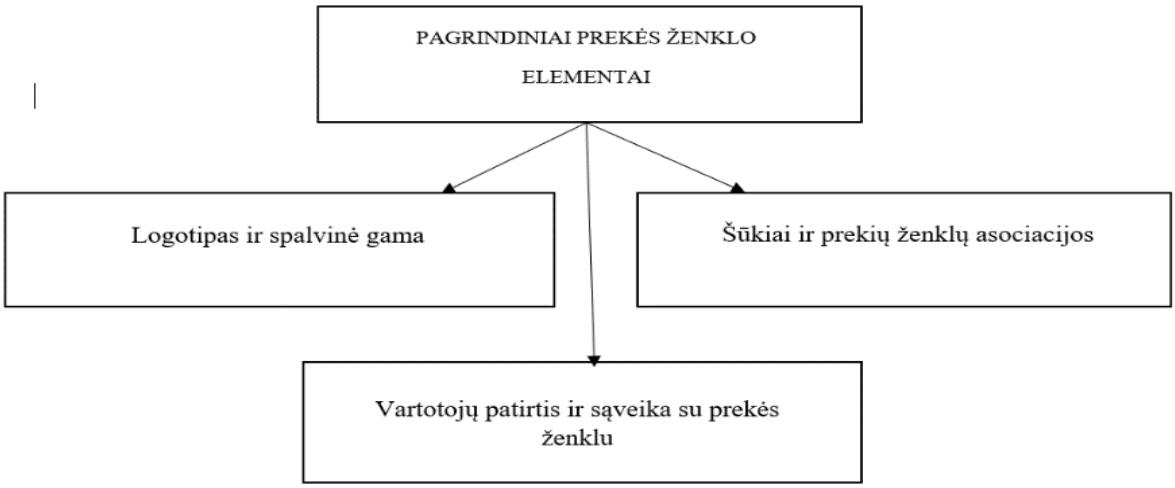


Fig. 1. Key Elements of a Brand *(compiled by the author of the thesis based on J. Carter (2019), L. Evans (2019), and E. Walker (2017)).*

According to S. Collins (2021), in today's competitive market, a strong brand provides a long-term competitive advantage and helps retain loyal customers. As consumers become increasingly demanding, companies must continuously invest in brand development and its adaptation to market changes. As noted by King (2021), the future of branding is inseparable from technological advancement; therefore, companies that implement innovative strategies will be able to compete more effectively in the market. The value of a brand will be shaped not only through visual identity but also through interactive consumer experiences (Carter, 2020).

In summary, the concept of a brand is one of the most essential elements of marketing. It not only identifies a product but also creates an emotional connection between the consumer and the brand. Over time, brands have evolved from simple marks of recognition in ancient times to complex symbols of identity, communication, reputation, and values in the modern world. In today's market, brands serve not only as tools of identification but also as sources of competitive advantage. The methods analyzed indicate that brand value determines not only profitability but also consumer perception and loyalty. A strong brand can increase the perceived value of a product. Customers are increasingly choosing products based on a sense of attachment

and the values represented by the brand. Furthermore, brand registration helps protect against unfair competition and counterfeiting. Ultimately, brand development can be considered a fundamental part of a company's business strategy.

Research at UAB "Seifuva"

Research Aim. To investigate how UAB „SEIFUVA" has implemented product identification and labeling solutions and to evaluate their effectiveness in practice.

Type of Research. A quantitative research method was chosen for this study. This approach is most suitable for conducting statistical analysis and objectively evaluating respondents' opinions and behavior related to product identification and labeling at UAB „SEIFUVA".

Data Collection Method. The required data for the study were collected using a questionnaire survey method. This approach allows for the efficient collection of standardized responses from a large number of respondents within a short period. It is a reliable method that facilitates easy and systematic data analysis.

Research Instrument. A questionnaire was developed for the study. It consists of closed-ended questions, allowing respondents to select a single answer option. The questions were designed using single-choice and scale formats, in accordance with the principles of quantitative research.

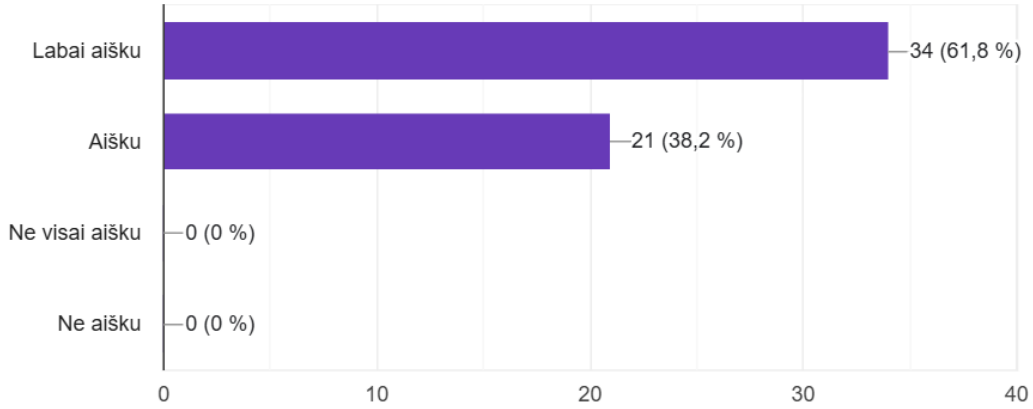


Fig. 2. UAB „Seifuva" Clarity of labeling

The data presented in Figure 2 show that as many as 61.8% of respondents evaluated the labeling of UAB „Seifuva" products as "very clear." An additional 38.2% stated that the labels were "clear" to them. There were no negative or uncertain responses (e.g., "unclear" or "somewhat unclear"), which allows us to assume that the company's labeling is clear and well understood by its employees.

Having established that product labeling is important to respondents, it is necessary to analyze which labeling tools are perceived as the most effective. The results are presented in Figure 3.

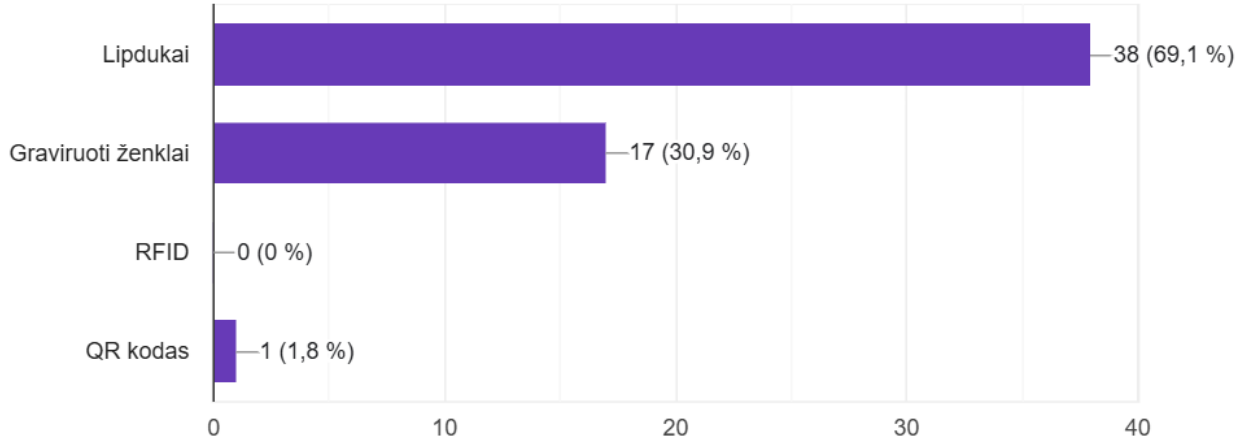


Fig. 3. UAB „Seifuva" labeling tools

The data presented in Figure 3 indicate that 69.1% of respondents at UAB „Seifuva“ consider stickers to be the most effective labeling tool. Meanwhile, 30.9% of employees identified engraved marks as the most effective. RFID and QR codes received very little support, suggesting that traditional labeling methods are currently the most highly valued within the company.

The purpose of this question was to determine how often labeling information helps UAB „Seifuva“ employees perform their daily work tasks. The results are presented in Figure 4.

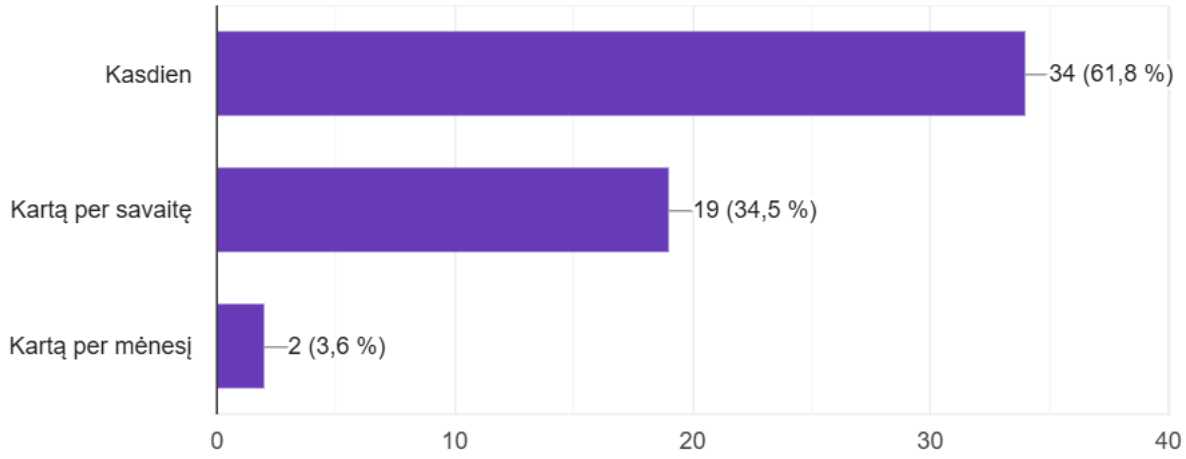


Fig. 4. UAB „Seifuva“ labeling

The aim of this question was to assess how respondents perceive the visual labeling of UAB „Seifuva“ products — including colors, symbols, and the logo. The results are presented in Figure 5

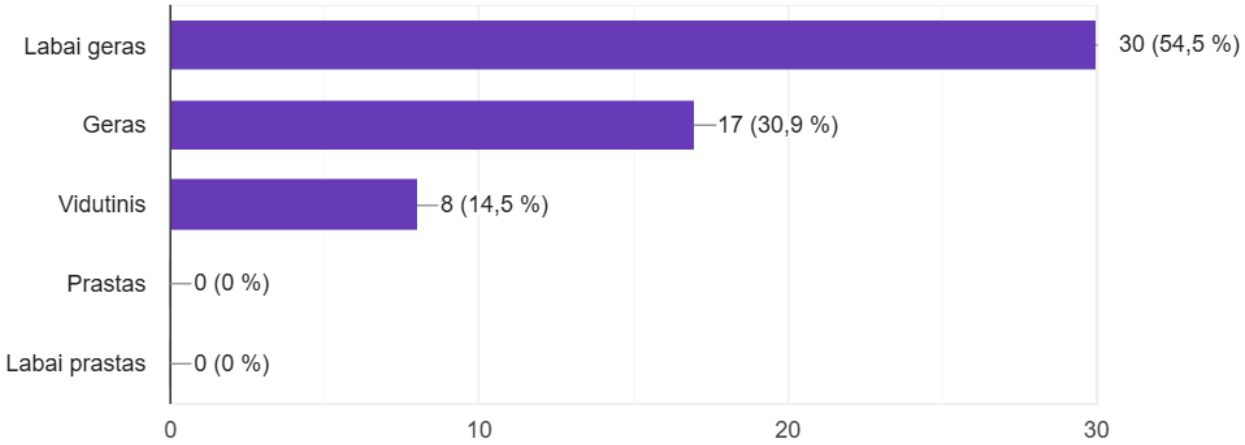


Fig. 5. UAB „Seifuva“ Visually appealing labeling

The data presented in Figure 5 show that the majority of respondents — 54.5% — rated *Seifuva*'s visual labeling as “very good,” while an additional 30.9% described it as “good.” Meanwhile, 14.5% indicated that the visual labeling was “average,” and no negative evaluations were recorded. This reflects a generally positive employee perception of the company’s visual labeling solutions.

Based on the analysis of the available results, it can be stated that the study revealed a clear trend – UAB „Seifuva“ employees perceive the labeling system as effective and beneficial. It is noteworthy that the labels are clear and easily understood, assisting employees in quickly identifying products during production and storage stages. Most employees indicated that labeling facilitates smoother work processes, reduces the likelihood of errors, and helps maintain a high level of quality. Labeling tools such as stickers and engraved logos are considered effective and reliable. Respondents emphasized that labeling serves not only as a tool for internal operations but also plays an important role in communicating with clients. Employees noted that the labels provide customers with essential information about product origin, quality, and compliance with standards. This contributes to strengthening the company’s image and increasing customer trust.

Conclusions

An analysis of the scientific literature on product identification and labeling clearly reveals that it is a crucial element not only in logistics and manufacturing but also in creating value for consumers. Clear, accurate, and consistent labeling ensures product traceability, compliance with quality standards, and enhances trust among business partners and customers. In today's market, a brand performs multiple functions—it helps identify a product, guarantees its quality, strengthens the emotional bond with consumers, and serves as a source of competitive advantage. When choosing products, consumers often rely on the emotions and value standards embodied by the brand. To improve the quality of product identification and labeling at UAB *Seifuva*, it is essential to consider employees' insights and the shortcomings of the current labeling system revealed during the study. It is important to enhance the clarity of information, implement more innovative labeling tools, and ensure ongoing internal communication regarding sustainability and quality requirements.

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DIGITAL TOOLS AS CATALYSTS FOR CREATIVE COLLABORATION IN REMOTE PROJECT MANAGEMENT IN SIA MP BŪVSERVISS

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Keywords: digital tools; project management; collaboration; remote work.

Abstract
The article explores the role of digital tools in improving creative collaboration and project coordination in remote work environments. The study is based on a case analysis of SIA "MP Būvserviss", a Latvian construction and manufacturing company. The research aimed to assess how digital platforms are currently used within the company, identify practical challenges, and propose realistic improvements. Theoretical insights were gathered from literature on digital transformation, remote communication, and project management, while empirical data were collected through surveys and interviews with company staff. Findings revealed that although digital tools like WhatsApp and Google Drive are used, their application is inconsistent, leading to communication gaps and inefficiencies. The thesis proposes a structured implementation plan involving step-by-step integration of tools like Trello and CRM systems, supported by training and gradual rollout. The hypothesis—that structured use of digital tools enhances collaboration—was confirmed. The proposed strategy aims to help the company move toward more coordinated, transparent, and creative project execution.

Introduction

As digital transformation reshapes modern business, remote project management has become essential across industries. In the construction sector, where SIA MP Būvserviss operates, efficient coordination and communication are crucial for successful project execution. Despite the availability of digital tools, many companies—including SIA MP Būvserviss—face challenges such as miscommunication and underutilized technologies. This study explores how digital tools can be more effectively used to support creative collaboration and improve remote project workflows within the company.

Data and Research

The study applied qualitative research methods, including document analysis, employee surveys, and semi-structured interviews. Three employees from different departments participated in the interviews, providing insight into current practices, tool usage, and communication challenges. The survey included ten structured questions to evaluate employees' views on project coordination, version control, digital skills, and tool suggestions.

Results

The results confirmed that digital tools are used irregularly within the company, leading to miscommunication and duplicated work. Interviewees highlighted a lack of shared systems, unclear file structures, and outdated versions causing errors. Despite these issues, all respondents were open to adopting better tools and suggested platforms like Trello and Pipedrive for clearer task management and client tracking. A gradual implementation plan was proposed based on employee feedback and organizational readiness.

Conclusions

The study concludes that structured and supported use of digital tools can improve project transparency, communication, and creative collaboration, even in smaller companies. The hypothesis was confirmed. With proper implementation, training, and support, companies like SIA "MP Būvserviss" can improve internal workflows and remote project execution.

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ANALYSIS OF LOGISTICS PROCESSES AT UAB „REHAU PRODUCTION LT"

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Keywords: logistics, production planning, customer service, warehousing, transportation, inventory control.

Abstract
This study examines the organization and efficiency of logistics processes in UAB "REHAU Production LT", a company operating in the Klaipėda Free Economic Zone. The study combines theoretical logistics principles with an empirical investigation conducted within the company, identifying major challenges and proposing process improvement solutions. The work is divided into two parts: theoretical and practical.
The theoretical part explores logistics from a systems management perspective, based on Lithuanian and foreign authors' insights. Logistics is analyzed as an integrated activity including customer service, inventory, warehousing, transportation, and production alignment (Bowersox et al., 2013; Christopher, 2016). According to Sapronienė and Paškel (2014), logistics efficiency depends on smooth coordination between material flow and information systems. Vasiliauskas (2013) emphasizes that logistics is a key factor influencing a company's operational and financial results, while Rushton et al. (2017) discuss best practices in inventory and delivery optimization.
The empirical part investigates the logistics system of UAB "REHAU Production LT" using qualitative methods – semi-structured interviews and internal document analysis. The research findings reveal major inefficiencies in the production stage, where unplanned equipment breakdowns and inconsistent production schedules cause delays in logistics operations. Inaccurate inventory data and weak coordination between production and logistics departments further hinder the effectiveness of deliveries and customer service.
The study confirms the hypothesis that improving preventive maintenance, production planning, and interdepartmental coordination would result in a smoother logistics process and increased customer satisfaction. The work concludes with practical recommendations for the company, including implementing real-time inventory tracking, enhancing preventive equipment maintenance programs, and developing standardized logistics communication protocols.

Introduction

Relevance of the topic. In modern manufacturing companies, efficient logistics processes are essential for ensuring timely deliveries and maintaining customer satisfaction. As noted by Christopher (2016), logistics adds value through the provision of time and place utility, enabling companies to deliver products quickly and efficiently. Companies that fail to align production and logistics risk increased costs, delays, and loss of competitiveness (Rushton et al., 2017).

Research ability of the topic. Logistics has been a focus of numerous academic works (Bowersox et al., 2013; Braškienė, 2009), but limited research has been conducted in the Lithuanian manufacturing sector, especially combining logistics with production coordination. This study contributes to closing that gap by exploring an in-depth case of UAB "REHAU Production LT".

Problem of the work. Uncoordinated production schedules, frequent equipment breakdowns, and inaccurate inventory data create bottlenecks in logistics operations, leading to delivery delays and dissatisfied customers.

Object of the work. Logistics processes in UAB "REHAU Production LT".

Aim of the work. To analyse the logistics system of UAB "REHAU Production LT" and propose improvement solutions.

Tasks of the work:

1. To analyse logistics processes from a theoretical perspective.
2. To identify logistics-related problems in UAB "REHAU Production LT".
3. To present recommendations for improving logistics efficiency in the company.

Research methods. Scientific literature analysis, company document analysis, and qualitative research through interviews.

Hypothesis. Improving coordination between production, logistics, and equipment maintenance processes will reduce disruptions and ensure more efficient logistics performance.

Theoretical Framework of Logistics

The logistics system is defined as a coordinated set of activities that ensure the efficient movement of goods, services, and related information from suppliers to customers (Bowersox et al., 2013). Christopher (2016) notes that modern logistics includes five key components: customer service, inventory control, warehousing, transportation, and information management. These elements are not independent but closely interconnected – delays in one area can trigger disruptions throughout the supply chain.

Vasiliauskas (2013) emphasizes that logistics is both a functional and strategic activity. Functional logistics involves operational tasks like order picking and dispatching, while strategic logistics aims at long-

term improvement of performance and cost efficiency. Sapronienė and Paškel (2014) stress the importance of integrating logistics with production processes, especially in manufacturing companies, where material flow is tightly linked to customer demand and operational scheduling.

Inventory management also plays a central role in logistics. According to Rushton et al. (2017), inventory accuracy is crucial for order fulfillment and planning, while poor inventory control can lead to excess stock or shortages, both of which increase operational costs.

Empirical Research and Findings

The empirical research was conducted in UAB "REHAU Production LT" in March 2025. The research method was qualitative – five semi-structured interviews were carried out with employees from logistics, production, and maintenance departments. Additional internal documents and performance indicators were analyzed to validate the interview data.

Key findings include:

- **Frequent equipment failures** in production lines disrupt the order preparation schedule. These failures are often due to the lack of a consistent preventive maintenance plan.
- **Inaccurate warehouse inventory data** causes delays in packaging and loading, as items must be re-checked or searched manually.
- **Lack of real-time communication** between production, warehouse, and logistics departments leads to missed deadlines and inefficient use of transportation resources.

Interview participants noted that logistics often needs to compensate for production delays, resulting in overworked logistics staff and missed customer deadlines.

These issues align with the literature, which emphasizes the importance of system integration and communication in logistics operations (Christopher, 2016; Rushton et al., 2017).

Improvement Recommendations

Based on the findings, the following solutions are proposed:

1. **Implement real-time inventory management systems** – such systems will allow warehouse and logistics departments to access up-to-date stock data, improving picking efficiency and reducing delays (Sapronienė & Paškel, 2014).
2. **Introduce a preventive maintenance program** – regular checks and servicing of production equipment will reduce unexpected breakdowns and production disruptions (Vasiliauskas, 2013).
3. **Standardize communication between departments** – structured daily coordination meetings or digital task dashboards can help synchronize production and logistics schedules, ensuring on-time order fulfillment (Christopher, 2016).

These measures are aimed at improving internal logistics efficiency, ensuring timely delivery, reducing costs, and enhancing customer satisfaction.

Conclusions

The results of the study confirmed the hypothesis. Inefficiencies in logistics processes at UAB "REHAU Production LT" are primarily caused by poor integration between production, inventory, and transportation planning. Addressing these issues through preventive maintenance, real-time inventory management, and better communication would significantly improve logistics performance. The study provides practical insights for similar manufacturing companies aiming to streamline their logistics processes.

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OPPORTUNITIES FOR IMPLEMENTING DIGITALIZED SOLUTIONS IN COMPANY "X"

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Keywords: digitalization, digitalization models, project, sustainability, green projects.

Abstract
The article outlines the possibilities for implementing digital solutions, analyses and systematizes theoretical and practical research by various Lithuanian and foreign authors, presents the concept of digitalization, models of digital solutions, their advantages and disadvantages, and evaluates the latest aspects of digitalization proposed by global researchers. It provides an in-depth analysis of theoretical scientific problems related to the implementation of digitalized solutions.
The article also includes an analysis of the legal acts of the Republic of Lithuania and the impact of digitalization on sustainability. In addition, a quantitative study was conducted in Company "X," confirming the author's hypothesis that the application of digital solution tools in process management enhances operational efficiency and optimizes processes in business management.

Introduction

Scientific research on the implementation possibilities of digitized solutions is widely discussed within the academic community. Various digital tools and the latest technologies are identified as enablers for companies to produce and sell products more efficiently. Additionally, digitized solutions are applied to better meet and satisfy consumer expectations. Organizations aim to ensure the continuity of their operations, striving to make them smarter and more value-generating. Companies integrate technologies that help reduce pollution and promote a circular economy system focused on recycling and reuse. These solutions help businesses maintain a stable market presence and promote sustainability. An analysis of academic sources on the implementation of digital solutions reveals that many scholars hold a favourable view and see numerous opportunities and advantages for businesses that digitize their operational processes. The growing academic interest in this topic is driven by the rapidly changing market conditions that push companies to remain competitive or become market leaders. For several years now, researchers have been discussing technological innovations and how they contribute to business development opportunities. In a study conducted by Milsami & Krishnan (2024), it was revealed that both large and small business enterprises must adopt digitized solutions in order to remain competitive in today's rapidly changing market. A contrasting view on digitalization was presented by Gritsenko, Aaen, & Flyvbjerg (2024) and researchers such as Vergallo, D'Alo, et al. (2024), who examined the impact of digitalization on environmental protection and climate change. According to these researchers, the rapid growth of digital technologies contributes to increasing electricity consumption. To counter these claims, one can refer to the study by Odeyemi, Usman, et al. (2024), which demonstrated that sustainable entrepreneurship is becoming a transformative approach in the implementation of innovative technologies across various industries.

Data and research

In scientific literature, the concept of digitalization is defined as a process that helps businesses connect their operational activities with systems that, once implemented, facilitate data processing, business development, and increased competitiveness. By applying this process, businesses aim to boost efficiency and effectiveness by transforming work processes. Matouškova (2022), who conducted a theoretical analysis of the digitalization process, argues that digitalization has brought about a revolution in business enterprises. Although this process is inseparable from business advancement, it can be dynamic, complex, and demand significant financial investments. According to the author, the digitalization process may also cause employee dissatisfaction, particularly among those who struggle to adapt to changes within the company or fear job loss. Companies are interested in implementing new digital technologies to increase profitability and productivity. Matouškova (2022) emphasizes that to ensure successful implementation of digital processes, companies must inform and adapt their employees to changes so they can understand the benefits of the new processes. The growing attention to digitalization indicates that its development is crucial for businesses to remain competitive in the market. Nagulevičius & Jakūbavičius (2019), in their research, revealed that the fourth industrial revolution significantly influences the business sector in Lithuania. They argue that companies must invest in digitalization projects, expand knowledge about the latest technologies, and implement innovations to stay competitive. Their study aimed to highlight Lithuania's position among EU countries in the manufacturing

sector. The researchers noted that most manufacturing companies in Lithuania use medium or low-level technologies. To adapt to rapidly changing external factors, businesses must leverage the latest technological opportunities. It is essential for companies not only to implement digital innovations to survive in the market but also to enhance competitiveness. These innovations improve operations and ensure greater profitability and efficiency. Milsami & Krishnan (2024) showed in their research that applying digitalization processes facilitates business flow. Small enterprises are also interested in adopting new technologies and innovations; however, they face financial challenges and lack of knowledge in applying digital processes. Alabi (2024) highlights several aspects of digital transformation that improve business efficiency:

1. Process automation.
2. Data analysis.
3. Customer interaction.
4. Artificial intelligence.
5. Robotic process automation.

To achieve digital transformation, businesses must use tools that support this process. It is worth noting that various authors express a similar, positive view on implementing digital models in companies. Digitized solutions are transforming businesses and making them more competitive in the market. They also reveal shifting consumer expectations and satisfaction levels. Companies can respond more quickly to market changes and address emerging problems more efficiently. The implementation of digital solutions increases productivity, improves information flow between departments, enhances customer insight, and creates demand for specialists. Despite these advantages, the implementation of digital tools can also pose cybersecurity and data leakage risks. Small businesses often lack the budget to adopt digital tools. Furthermore, manufacturing companies are rapidly automating processes, reducing the number of low-skilled workers. It is argued that digitalization contributes to pollution, as it is associated with high energy consumption, often derived from burning fossil fuels. The energy consumption of digital resources indirectly reflects environmental impact through electricity production. Emphasis is placed on the need for greater efforts toward sustainable digital solution implementation to prevent greenhouse gas emissions. Additionally, the study compared conditions before and after digitalization to assess whether it aligns with ecological transition goals. The results revealed that the application of innovative technologies can contribute to environmental protection (Vergallo, D'Alo, et al., 2024). In project development, digital tools play a crucial role. Their use has been shown to increase project success, enhance completion efficiency, and reduce resource allocation conflicts. Researchers analysing the use of digital tools in project management emphasize that technology adoption improves efficiency, collaboration, and project outcomes. It is argued that organizations capable of adapting to change by introducing new digital tools in project management will achieve significantly better results and a competitive edge. In today's business environment, project success is supported by technology integration. The authors stress that organizations successfully implementing innovative technological processes are better positioned to develop projects and manage challenges effectively. Furthermore, it is predicted that the success of digital tools will depend not only on their adoption but also on their integration into processes and effective management (Habibu & Kabiru, 2024). The implementation of digital tools is especially popular from the perspective of agile project management. Information technologies allow project managers to focus more on project goals and reduce task execution and monitoring time. They also enable faster decision-making and risk identification (Kozakiewicz, 2020).

A quantitative research approach was selected in order to reveal the possibilities for implementing digital solutions in company "X." This type of research allows for the generalization of employee opinions and the identification of key factors influencing the adoption of digital innovations within the organization. A questionnaire survey was chosen as the main research method. This method enables the collection of structured, comparable, and quantifiable data from a larger group of respondents. The object of the research consists of employees of company "X" working at the Klaipeda branch who are willing and able to express their opinions regarding the implementation of digital solutions. The research was conducted at the Klaipeda branch of company "X" during March–April 2025. The research followed the principles of research ethics: participation was voluntary, respondents were informed about the purpose of the research, and the confidentiality and anonymity of the information provided by participants were ensured. The survey was carried out using an anonymous questionnaire consisting of three main parts:

1. Introductory section (socio-demographic data of the respondent),
2. Main section (questions related to the implementation of digital solutions in the company),
3. Concluding section (respondent's personal opinions and suggestions).

According to company data, 51 employees are currently working at the Klaipeda branch, which constitutes the total population of the study. A full-population survey was conducted to avoid selection bias and to obtain the most accurate results. The collected data were analysed using statistical analysis methods, including frequency counts, percentage distribution, and visualization through charts, aiming to identify the main trends and the distribution of employee opinions.

Results

In order to identify the possibilities for implementing digital solutions in company "X", a quantitative study was conducted by surveying employees working at the Klaipeda branch. The aim of the research was to determine whether the application of digital solution tools in process management enhances operational efficiency and optimizes processes in business management.

Summarizing the results of the study, it can be stated that the majority of employees at the Klaipeda branch are between 20 and 30 years old, with an almost equal distribution between men and women. Most employees have between 1 and 5 years of work experience. Most employees understand the digitalization processes, and it was revealed that the management actively supports the implementation of digital solutions.

Table 1

Employee data (source or made by author)

Age	20 - 30	31 - 40	41 - 50	50 and more
	27	23	1	0
Sex	Male	Female	Do not specify	
	26	23	2	
Work experience in the company	1 - 5	6 - 10	11 - 20	21 and more
	28	19	3	1

However, the results show that not all employees are familiar with the company's digital transformation strategy, even though it is stated to exist. It is noteworthy that the evaluation of the effectiveness of digital solutions is carried out in the company, but not all employees are informed about it.

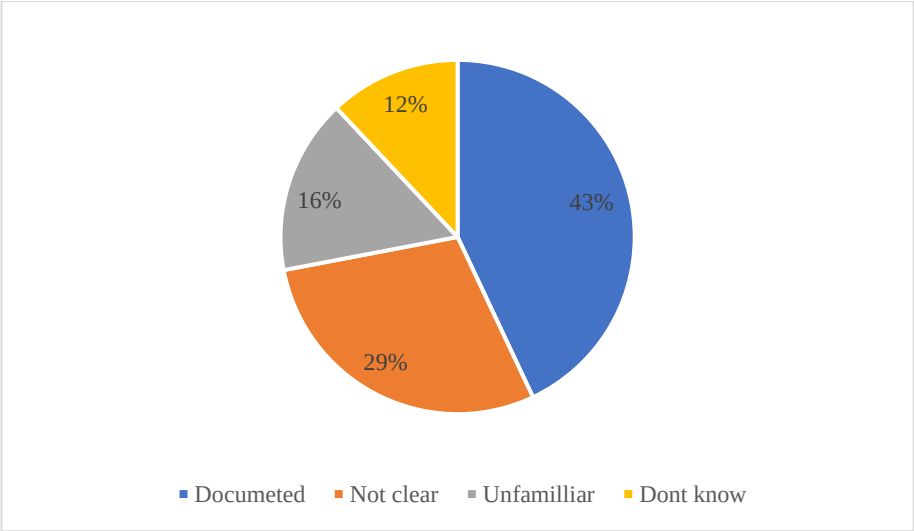


Fig. 1. Employees opinion about digital transformation strategy (source or made by author)

A large number of respondents indicated that processes in all departments are digitalized, although employees are not fully clear about system integration. Employees noted that the company takes data protection measures and regularly conducts security audits, but not all employees are aware of this.

It is worth mentioning that employees assess their digital competencies as average and express the need for additional training. Although digital system training is provided, it is infrequent. Most employees feel they are adapting to the use of digital systems, although they still indicate the need for more training.

Employees revealed that the company has a clear sustainability strategy, but not all employees have been introduced to it. According to respondents, the digital solutions used by the company contribute to enhancing sustainability, and various CO_2 emission reduction measures are being implemented.

Before conducting this study, the following hypothesis was formulated: if digital solution tools are applied in process management, they enhance operational efficiency and process optimization in business management. The research confirms this hypothesis, as digital solutions are successfully implemented and positively evaluated in company "X".

Digital solutions contribute to work optimization and increased efficiency. However, it should be noted that there is a lack of clear strategy communication, especially regarding sustainability, with employees and lower-level managers, as well as a shortage of employee training opportunities.

Conclusions

The digitalization process within the academic community is described as a value-enhancing process for a company that optimizes business management operations and increases organizational performance. In today's globalized world, it is especially important for businesses to remain competitive in the market by implementing innovative information technologies. It is observed that regular employee training in the use of digital tools often reduces resistance to the company’s digital growth. The implementation of digital solutions in companies requires significant financial and human resources. However, it has been noted that such solutions enable better real-time data analysis and accelerate daily operations. It is claimed that the adoption of digital solutions increases sales opportunities, enhances customer satisfaction, provides business development potential, and contributes to smooth internal and external communication.

Company "X" specializes in international freight transport by land, air, and sea. The company provides logistics services throughout Lithuania and abroad. It is worth noting that the company aims to maintain its competitiveness in the market by implementing new digital technologies, expanding its network of partners, and improving its services. Company "X" is focused on business development and growth, constantly creating new job opportunities and striving to attract new talent.

To determine the possibilities for implementing digital solutions in company "X", a quantitative study was conducted – an anonymous employee survey. Participants took part voluntarily and were informed about the purpose of the research. The results indicated that digital solutions contribute to work optimization and performance improvement. The improvement model for implementing digital solutions and the identified opportunities based on the research results revealed the need to strengthen internal communication. In company "X", this aspect can be improved by providing employees with more information about progress and upcoming digital changes. Furthermore, the development of digital competencies is emphasized by organizing regular training sessions that allow employees to deepen their knowledge. The implementation of digital solutions in company "X" would improve internal processes by fostering clear communication with employees and ensuring their continuous development.

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CONFLICT RESOLUTION AB „KAUNO GRŪDAI“

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Keywords: conflict, conflict resolution, organizational climate, methods

Abstract
The article formulates the problem and analyzes the solution of conflicts from a theoretical aspect, as well as the problems that cause conflicts, their resolution models and styles, and preventive measures. A model of directions for improving conflict resolution is presented. A quantitative study was conducted at AB "Kauno grūdai" company. During the study, it was determined how conflicts are resolved in the company, as well as other aspects related to conflicts. The hypothesis raised is confirmed.

Introduction

Relevance of the topic. Conflicts are an inevitable part of every organization, therefore, the larger the organization, the more likely it is that there will be greater opportunities for conflict to develop.

Researchability of the topic. Conflict resolution is a topic that has been studied quite extensively and is constantly being studied in today's informational context. Conflict management, while promoting cooperation, is discussed by V. Fang He, P. Puranam [2018].

Work problem. AB "Kauno grūdai" is one of the largest food and feed production companies in Lithuania. Smooth communication, cooperation and problem and conflict resolution in different parts of the company are necessary to maintain the company in leading positions and ensure a good overall organizational culture.

Object of the work - conflict resolution UAB "Kauno grūdai"

The purpose of the work is to investigate the aspects of conflict resolution at AB "Kauno grūdai".

Tasks: 1. To analyze conflict resolution from a theoretical perspective; 2. To conduct a study of AB "Kauno grūdai" to identify conflict resolution methods; 3. To present the possibilities of improving conflict resolution in AB "Kauno grūdai".

Working methods: review and analysis of scientific literature, examination of online sources, quantitative research method, graphic representation.

Working hypothesis - if AB "Kauno grūdai" applied more modern conflict resolution methods in conflict resolution, the number of internal conflicts in the company would decrease

Conflict resolution from a theoretical perspective

Conflict can be defined as a complex expression, often defined as a situation where two or more parties have conflicting opinions, values, or other interests. Conflict is also defined as a process in which one party claims that its interests are in conflict with the other party [Omisore, 2014]. When there is a disagreement with another, it can be difficult to reconcile all of them with the goals of the company J. Herrity, (2025) This rise is mainly determined by emotional conflicts, differences of opinion on a specific issue, and even cultural differences, as one party may have different cultural interests. Conflict is defined as a process in which a group of interests, values, or goals is determined, resulting in a result.

The essence of conflict often lies in the emotional, social, or even psychological levels, the totality of which shapes a person as a personality situation and attitude to one or another situation. Table 1 presents the concepts of conflict, which is presented in table 1.

Discussing the authors ideas presented in table 1, it can be seen that despite the fact that each of the authors has a different concept of conflict, the general mindset and understanding are similar. In summary, it can be stated that conflict, as a social phenomenon, defines a clash of two or more parties with opposing opinions, interests or even cultural differences. The process of conflict, as a concept, can be identified as a process during which the conflicting parties seek to prove the opposition that has arisen in their interests or opinions. The essence of conflict can be seen in internal processes, through emotional, psychological or even thought prisms.

Table 1

Concept of Conflict (compiled by the author of the work based on the authors of the table)

Author(-s)	Definition
C.W. Moore. (2020)	Conflict it‘s a state of incompatibility or opposite interests, values or opinions that can lead to tension and disagreement.
J.P Lederach.(2014)	Conflict is a dynamic interaction between people that reveals deeply rooted values and cultural differences.
Coleman, P. T. (2020)	Conflict is like a normal social interaction where different interests and opinions can lead to disagreements, but can create opportunities for new cooperation.
Zaph, D ir kt, [2018]	Conflict is a process between interrelated countries of conflict, causing negative emotions and occurring due to a variety of differences in disagreements or needs.
Almeida, J. (2017)	Conflict is a collision of opposite, incompatible approaches that causes strong unpleasant experiences.
Kirti, K. (2016)	Conflict is called participants' interaction process, disagreement, dispute, hostility activities. Conflict means fighting for values, resources, power status competitions.
Prause D, Mutjaba. G. [2015]	The incompatibility of individuals or groups of goals or emotions, confrontation of interests
Rothman, J. [2017]	Conflict is a potentially golden opportunity to learn, improve and change.
Phakamile, T. [2022]	The conflict arises from different opinions, beliefs and ideologies.
Pembi S, ir kt. [2023]	The conflict is a natural phenomenon in every human society

Types of conflicts and their categories

Intrapersonal conflict – arises within a personality, when different goals, values or expectations collide.

Interpersonal conflict – arises between different individuals or groups due to different opinions, incompatible goals, or different values and interests.

Intergroup conflict – arises between different groups in an organization, due to competing goals, lack of resources.

Interorganizational conflict – arises between different organizations, usually due to prevailing competition, disagreements or cultural differences.

It also occurs when a person may conflict not against himself or others, but also a person against nature or society, which is defined as conflicts with climate change and the elements of force or with acceptable and unacceptable standards of society.

In summary, it can be stated that conflict, as a complex social process, manifests itself not only in various everyday situations, but especially often as a process manifests itself in the business world in various forms. It is also worth noting that modern managers view conflict not only as a negative process, but as an action that can provoke new ideas and new solutions.

The most common causes of conflicts in an organization

Conflict, as a psychological phenomenon, is inevitable in any organization among its members. Employees usually experience high levels of stress due to various factors such as high workload, tight deadlines, high goals, nature of work, job dissatisfaction, long working hours and pressure to work.

A very important aspect is the identification of the cause of the conflict at the earliest possible stage of the conflict, since in this way it is possible to understand the cause of the conflict, clarify its type, nature, as a result of which the conflict can be managed effectively, before it reaches its highest point, and thus preserve the organizational climate of the company.

Nelson University [2025], distinguishes the most common causes of conflicts.

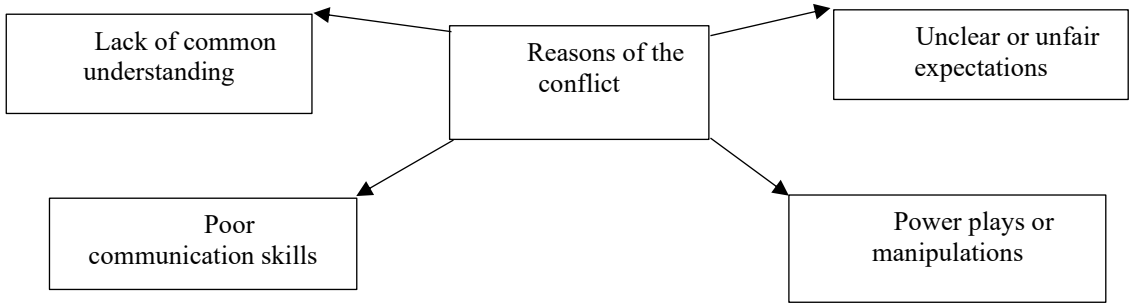


Fig. 1.. Mutual reasons of the conflict
[Nelson University, 2025]

The ability to identify the specific cause of the conflict you are facing helps you better overcome these challenges and remain effective in your organization Nelson University, [2025]. Conflict in an organization is a state of discord caused by actual or perceived contradictions in needs, values, and interests between people working together.

In summary, it can be said that in a general sense, conflicts in organizations are an inevitable psychological phenomenon that can arise for a variety of reasons. Conflicts can also arise from incompatible mutual goals, expectations, or opinions, the totality of which can cause conflict. Therefore, it can be said that it is very important to properly identify and understand the cause of the conflict in order to properly resolve it or take preventive actions to prevent it at the earliest possible stage, or to quell it before it reaches its peak, when the damage has not yet been done to the organizational climate or decision-making.

Conflict resolution methods

Conflicts are an inevitable phenomenon in the activities of every organization, since every organization employs different people, where at the same time each of them is a unique personality with their own interests, values, and beliefs. Various organizations face conflicts that need to be managed and resolved (Žukauskas, Korsakienė, 2019).

Conflict resolution, in any context, is never a pleasant process. Often in such cases, problems become more complicated than they really are, if the conflicting parties need more conflict resolution and general communication skills [Coursera, 2025]. It is acceptable to take the view that effective conflict resolution helps maintain good relations between colleagues, reduces stress, and improves the organizational climate of the company. Conflict resolution can be defined as an informal or formal process used by two or more parties to achieve a peaceful resolution of a dispute [Harvard Law School, 2024]. When conflict is not managed properly, it can cause significant damage to relationships, but when resolved in a respectful and positive manner, conflict can strengthen the bond between two or more parties. No matter what the context in which the conflict occurs, learning these skills can help you resolve disagreements in a healthy way and create stronger and more productive relationships [Jeanne, Lawrence et al., 2024].

To effectively manage conflict, you must be a skilled communicator. This includes creating an open environment within your organization by encouraging employees to talk about work-related issues. Listening to employees' concerns will help create an open environment [UC Berkeley, 2025]. Conflict resolution techniques are no less important than the concept of conflict and the ability to properly identify and recognize it, because the right conflict resolution technique prevents negative consequences that can directly affect further organizational issues, decision-making, and task performance.

Conflict resolution methods are a set of aspects without which no conflict can end, because in one way or another, conflict always has an end point, regardless of whether it arises within the organization or outside it. Conflict resolution methods and how to manage them are discussed by J. Herrity (2025), presenting seven conflict resolution methods (Table 2).

Table 2

Conflict resolution methods (Compiled by the author based on Herrity, 2025)

Conflict resolution method	**Solution describtion**
Mindfulness of own actions	When communicating with your team, try to focus on how people might perceive what you do and say. What might be a funny joke to one person might be offensive to someone else. It's important to understand what behavior is appropriate in the workplace.
Accepting uniques	Try to be open to your colleagues' ideas or opinions, and if you disagree with what they're saying, engage in a dialogue with them to understand their thought process. You'll find that when people have a chance to explain themselves, they can actually find a lot in common. Different people can learn from each other if they learn to treat each other with respect.
Team building activities	By helping your team members get to know each other better, you can improve collaboration in the workplace. Team-building activities can help colleagues get to know each other's personalities and work styles better.
Listing expectations	Clearly state your team's expectations by writing them into job descriptions. Detailed job descriptions for each person can help everyone understand their responsibilities. Managers can also meet with their team members one-on-one to help them set goals and understand their expectations moving forward.
Open communication	Miscommunication and misunderstandings are common causes of conflict in the workplace, so it can be very helpful to find ways to improve communication. It's important to set some guidelines for how you can communicate with each other about certain topics.
Being intermediary	When conflict arises, mediate the situation and try to help your team members understand each other's perspectives and emotions. Instead of jumping to conclusions, let people explain themselves and their intentions. When solving a problem, it's important to try to find solutions that work for both parties. While people may not get exactly what they want, compromise can help diffuse tension in the workplace.
Highliting responsibilities	Holding yourself accountable for your actions sets a good precedent in the workplace. Accountability ensures that everyone is held accountable for what they do at work. This type of work structure can help people understand what problems they are responsible for solving. It is also a good way for people to learn from their mistakes and not repeat them in the future.

Discussing the conflict resolution methods presented in Table 2, it can be seen that conflict resolution methods include various aspects, the common goal of which is to achieve positive results between employees. Conflict resolution is also described in terms of methods (Table 3).

Table 3

Conflict management styles (Compiled by the author, based on Poupard, 2021)

Style	Style definition
Compromise	This approach gives each person a little, but not everything they want. It is commonly called a "lose-lose" approach because neither party achieves all of their personal goals. Compromise can reduce tension between team members because each person's desires are partially met. However, it often does not offer the most effective solution to achieving the company's goals. This style may be appropriate when each party's goals are of similar importance.
Competition	Essentially, the competitive conflict management style involves satisfying the needs of one party to the exclusion of the others. You must choose a side or solution to represent and not give in to it. This approach requires assertive leaders to be flexible when dealing with unhappy participants. It is most appropriate in situations where quick and decisive action is needed to keep the project on track and moving in the right direction.
Adaptation	This is the opposite of the competitive approach mentioned above. The right conflict resolution approach accommodates the needs of others. This approach can help preserve relationships with particularly demanding employees and is often used to facilitate future team collaboration.
Avoidence	This is a method and strategy that is similar to "kicking the can down the road." This means that you avoid conflict by not advocating for your own needs or those of your employees. Avoidance is usually not an effective strategy, except in cases involving minor disputes that are unlikely to harm the company's goals.
Cooperation	The collaborative style involves working with the parties involved in the conflict to reach a mutually acceptable resolution. This "win-win" approach can improve the mood of those involved and reduce tension by emphasizing the value of each employee's perspective. Collaboration can take a lot of time and effort to achieve effective solutions, but it is known to foster innovation and produce the best long-term results.

Table 3 presents five conflict management styles, each of which is characterized by different approaches, characteristics and methods.

Summarizing the theoretical part, it can be stated that conflicts in an organization are a completely inevitable phenomenon. Since this is a process during which working people, each of whom is different as a personality and faces two and/or more different interests and opinions, conflict can be considered an inevitable process in any organization. Organizational conflict is one of the branches of conflict that arises within an organization between employees and between managers. Also, conflicts are characterized by a division into separate categories, for example: interpersonal (arising between individuals), intergroup (arising between members of individual groups), and interorganizational (arising between different organizations). Effective conflict resolution and appropriate resolution methods are an integrally important aspect in maintaining a good organizational climate in the company, good interpersonal relations between colleagues, and quality of work, because in the presence of tension and employee grievances towards each other, quality work is difficult to achieve. It is worth noting that the essence of conflict can be seen in internal processes, through emotional, psychological, or even thought-based prisms. It is worth emphasizing that sometimes modern managers see conflicts not only as a phenomenon that causes negative emotions and damage, but also as an action during which new ideas may arise, innovations are encouraged, or a new way of solving and accepting tasks is discovered.

The aim of the research is to investigate the aspects of conflict resolution in AB „Kauno grūdai“

Selection of the research. The quantitative research method chosen for the research is a questionnaire survey, which was distributed to the company's employees physically (Kardelis, 2016). In order to receive as many responses as possible, surveys were distributed to all employees by contact, since most workers do not have e-mails.

The course of the quantitative research. The study was conducted at AB "Kauno grūdai" in order to clarify the aspects of conflict resolution. Before starting the study, permission was obtained from the HR manager to conduct the survey. It was also promised that the branch management would be presented with the survey results in a separate presentation. The anonymous survey method was used during the study, which consists of several parts in order to comprehensively assess and find out the aspects of conflict resolution. The questionnaire was filled out on paper, after each employee printed and prepared it. This method was chosen because a significant part of production employees do not have e-mails, which would be difficult for them to conduct the survey electronically and thus reduce the number of responses received. A total of 290 questionnaires were filled out. Out of 432 questionnaires, 290 questionnaires were filled out.

Figure 2 shows the respondents' answers on whether the application of modern conflict resolution methods could help reduce the number of internal conflicts in the organization. The results are presented in (Figure 2).

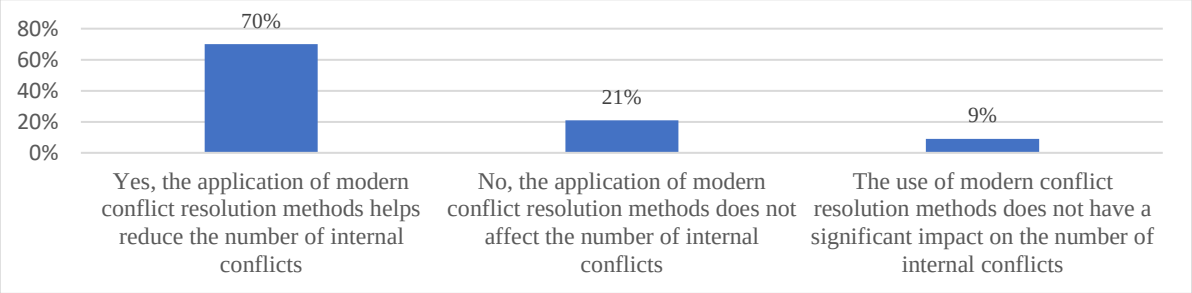


Fig. 2. Application of modern conflict resolution methods, reduced the number of internal conflicts. (Compiled by the author of the work, based on the results of the survey)

When examining the respondents' answers presented in Figure 2 regarding the application of modern conflict resolution methods in reducing the number of internal conflicts, it can be seen that the vast majority of respondents, 70 percent, believe that the application of modern conflict resolution methods would help reduce the number of internal conflicts in the organization. Meanwhile, 21 percent of respondents state the opposite, indicating that the application of modern conflict resolution methods does not affect the number of internal conflicts. Also, 9 percent of respondents expressed ambiguity, stating that the application of modern conflict resolution methods does not have a significant impact on the number of internal conflicts. Therefore, in general, it can be stated that the vast majority of respondents see a perspective in the application of modern

conflict resolution methods and believe that with their help the number of conflicts in the organization can be reduced. However, it is important to emphasize that a significant part of employees still doubt the effectiveness of these methods.

Figure 3 presents the respondents' answers on whether conflicts in the organization are resolved using modern conflict resolution methods.

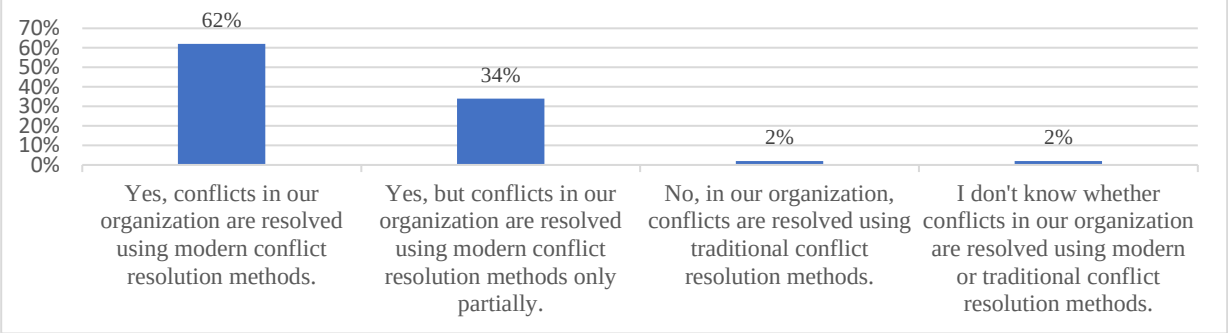


Fig. 3. Conflicts in the organization are resolved based on modern conflict resolution methods
(Compiled by the author, based on survey results)

Looking at the research data shown in Figure 3, it can be seen that the vast majority of respondents, i.e. 62 percent, claim that conflicts in the organization are resolved using modern conflict resolution methods. Also, 34 percent of respondents claim that conflicts in the organization are only partially resolved using modern conflict resolution methods. Meanwhile, 2 percent of respondents claim that conflicts are resolved using only traditional conflict resolution methods. However, 2 percent of respondents claim that they do not know whether conflicts in the organization are resolved using methods or traditional conflict resolution methods. Since the vast majority of respondents believe that conflicts in the organization are resolved using modern conflict resolution methods, it can be stated that an advanced and modern approach to conflict management and resolution has developed in the organization. However, based on the fact that a significant portion of respondents believe that conflicts are resolved only partially using current conflict resolution methods, it can be assumed that traditional conflict resolution methods may still exist in the organization, which may be less effective in conflict situations.

Figure 4 presents the respondents' answers on how much attention the organization pays to conflict resolution and prevention. The results are presented in Figure 4.

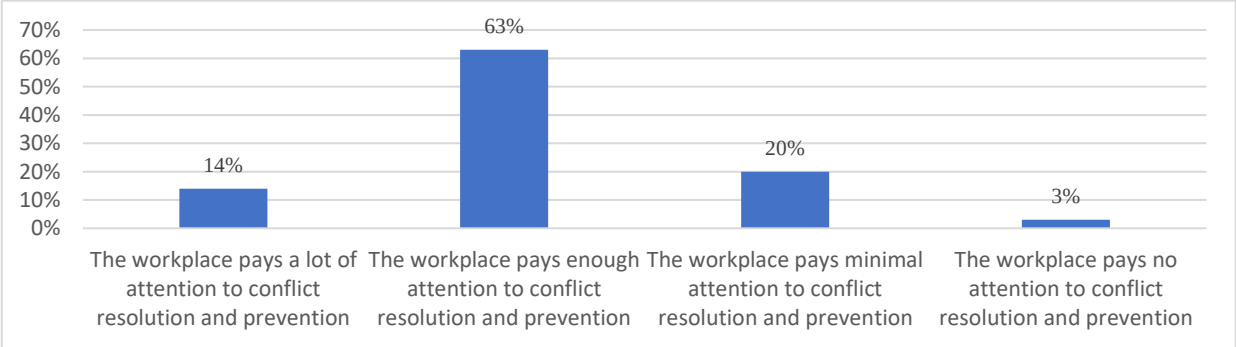


Fig. 4. Organizational focus on conflict resolution and prevention
(Compiled by the author based on survey results)

When examining the research data shown in Figure 4, it can be stated that the vast majority of respondents, i.e. 63 percent, believe that the organization pays sufficient attention to conflict resolution and prevention. Also, 14 percent of respondents believe that the organization pays a lot of attention to conflict resolution and prevention. However, 20 percent of respondents claim that the organization pays minimal attention to conflict resolution and prevention. However, 3 percent of the remaining respondents believe that the organization does not pay or make any efforts at all to conflict resolution and prevention. Overall, it can be stated that the majority of employees are satisfied with the attention paid by the organization to the aspect of conflict resolution. It is noteworthy that in the overall group, 23 percent of respondents believe that the organization makes only minimal or no efforts at all to conflict resolution and prevention, which may indicate employee dissatisfaction with this aspect and send a signal that the organization could improve in this area by making more efforts.

During the research, AB "Kauno grūdai" aimed to determine and clarify how conflicts are resolved in the company, their frequency in the company, and the conflict resolution methods applied by the company. The research data show that the vast majority of respondents positively assess the modern conflict resolution methods applied in the organization, with the help of which conflicts are resolved effectively, and the prism of mutual communication. However, the problem can be considered that a significant part of the employees have not participated in training or education programs that would talk about how to resolve or manage conflicts, although emotion management has been identified as the most common cause of conflict situations in the organization.

The hypothesis raised can only be confirmed, since modern conflict resolution methods already applied in the company directly contribute to the reduction of internal conflicts in the company, but in order to further reduce the number of internal conflicts, the company is recommended to prepare training and education programs for employees on how to correctly resolve and manage conflicts, thus contributing to their reduction and so that the lack of emotion management would no longer be the main cause of conflicts in the organization.

Conflict resolution improvement opportunities at AB „KAUNO GRŪDAI“

Effective and improved conflict resolution is one of the most important factors ensuring smooth and efficient operations of the organization and relations between employees. Each company, based on its organizational culture and other aspects significant to the organization, chooses certain conflict resolution methods.

Based on the conflict resolution aspects of AB „Kauno grūdai“, it can be stated that employees are indeed quite satisfied with the company's actions in terms of conflict resolution. However, although most employees expressed satisfaction with the latter actions, as in most companies, conflict situations could arguably arise less in AB „Kauno grūdai“ (Figure 5).

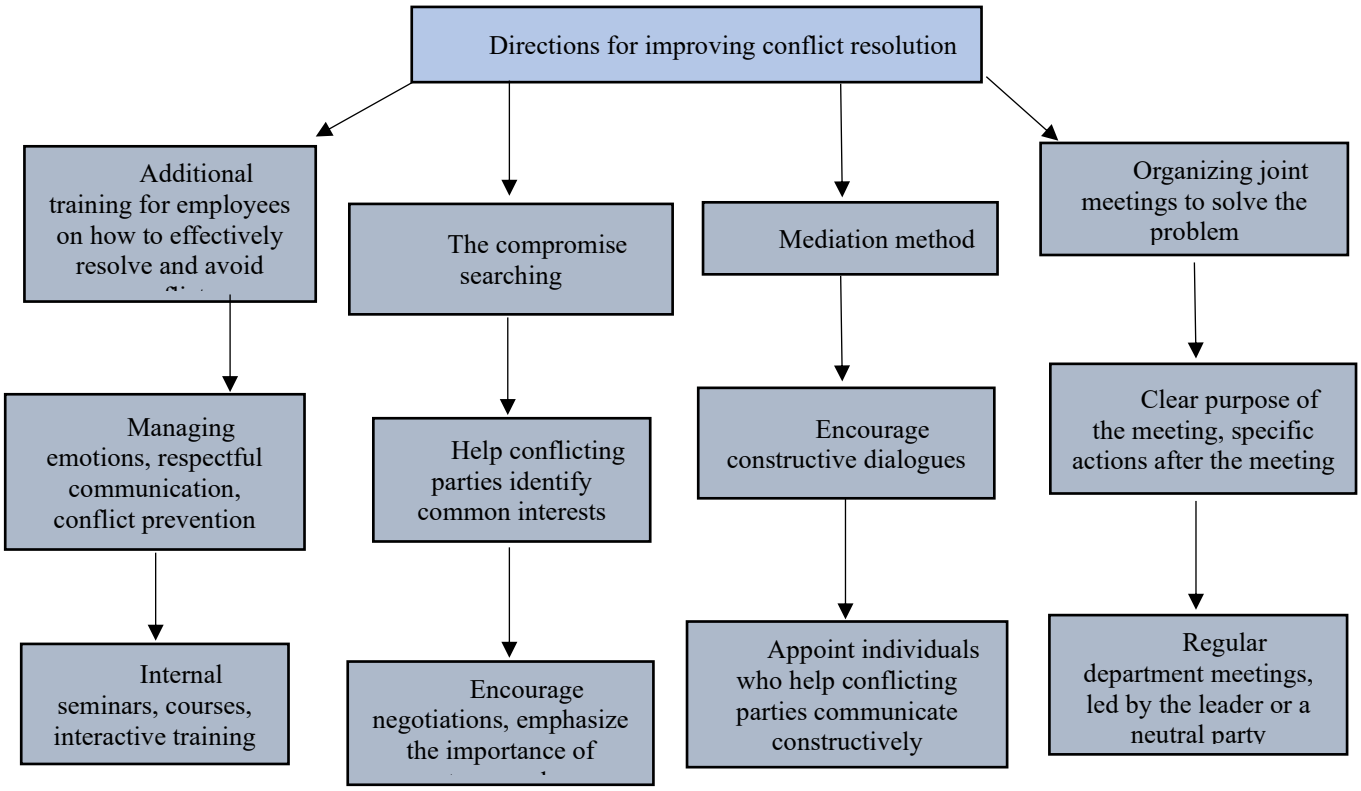


Fig. 5. Directions for improving conflict resolution in the organization
(Compiled by the author of the work)

The model which presented in Figure 5 illustrates a way to improve conflict resolution, conflict management, and reduce the number of internal conflicts in a company. The presented model emphasizes the development of employee skills, methods of mutual mediation, mediation, and joint meetings. The main goal of this model is to reduce the number of internal conflicts and effectively solve the problems that have arisen. This conflict resolution improvement model of AB "Kauno grūdai" offers targeted aspects related to the

management of conflict situations in the organization. The model is based not only on preventive measures to prevent conflict situations, but also emphasizes the need for teamwork and negotiations. Therefore, the presented model of AB "Kauno grūdai" could help reduce the frequency of conflicts, further increase mutual cooperation, and ensure a more efficient work process.

Conclusions

Having analyzed the concept of conflict from a theoretical perspective, it can be stated that conflict is defined as a natural and inevitable process arising from the confrontation of different personalities, values, opinions or even cultural differences. Properly selected methods of conflict resolution allow you to adapt to various situations, ensuring the smooth operation of the organization, and strengthening the internal climate of the organization. The ability to resolve conflicts not only reduces tension between employees, but also develops critical thinking and creativity, therefore it can be stated that the improvement of these aspects becomes a necessary part of the conflict resolution activities of a modern organization.

During the conducted research, AB "Kauno grūdai" revealed that the frequency of conflicts in the company can be considered periodic, most often occurring due to personal disagreements between employees and different approaches to assigned tasks. During the conducted research, it was determined that conflict situations in the company are most often resolved by communication and discussion, which allows us to assume that conflicts in the organization are resolved using modern conflict resolution methods and fostering the importance of mutual cooperation. The majority of employees expressed satisfaction with the fact that conflicts in the company are resolved by relying on and applying modern conflict resolution methods.

In summary, it can be stated that conflict resolution methods applied in AB "Kauno grūdai" can be considered effective, but certain areas should be improved in order to further reduce the frequency of conflicts and improve the internal climate of the organization. The presented model for improving conflict resolution is based on employee development based on mutual communication, mediation, and organizing joint meetings, and could significantly contribute to the process of improving the company's conflict resolution.

Constant attention paid to conflict prevention and effective conflict resolution would not only further help the company reduce the number of internal conflicts experienced, but would also ensure continuous internal growth of the organization.

Based on the data provided, the hypothesis raised can be confirmed. The survey shows that the majority of employees of AB "Kauno grūdai" believe that conflicts in the organization are resolved quickly and effectively and most often using communication, interaction and cooperation methods - these are modern conflict resolution methods.

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APPLYING CREATIVE PROBLEM SOLVING TO PROJECTS IN THE "BALTIC BEDDING & BIOFUELS" COMPANY

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Keywords: creative problem solving, project management, innovation.

Abstract
The article deals with how creative problem solving (CPS) is utilized in the project management of the Baltic Bedding & Biofuels company. The study attempts to enhance the project outcomes of the firm by incorporating innovative thinking tools. The study includes a literature review of creative problem-solving methods and project management techniques, and then a case study based on a real business setting. A visit to the company and an interview with the company representative provides insights into the ongoing project management techniques and issues. After reviewing the latter, a tailored improvement plan is recommended for the ease of enhanced implementation within the company.

Introduction

Project management has become a vital tool for organizations trying to realize strategic goals within dynamic circumstances. As industries grow more complicated and customer preferences shift, companies must devise not only efficient but also creative ways to complete projects. Traditional project management frameworks such as the Waterfall or Critical Path Method perform beautifully in linear, predictable environments but are less flexible in unsteady or quickly changing environments.

Creative problem-solving offers an alternative or supplementary approach by challenging teams and individuals to look at issues from many perspectives. It supports open communication, diversity of ideas, and thinking in iterations—all of which are particularly desirable on service development, customer experience, and innovation assignments.

This thesis discusses how CPS can be applied in the case of the Baltic Bedding & Biofuels Company, a local business operating in the hospitality and SPA industry. The company is Latvian-based and operates in the neighboring countries, offering wellness services, customized bedding solutions, and renewable fuel projects. Due to the nature of its operations, the company tends to initiate internal projects, such as facility enhancements, customer feedback systems, and marketing campaigns.

Even with a good project base, the company has registered a number of issues: reused ideas, workers not being engaged in planning, and resistance to unconventional solutions. This research hopes to determine the ways in which CPS methods can be used to address these problems.

Data and interviews

To achieve the research aims, the combination of primary and secondary data collection was used. The primary source was a semi-structured interview with a middle manager who oversees internal development projects at the Baltic Bedding & Biofuels Company. The interview provided qualitative data on the current project planning methods, idea generation, and openness to innovation in the firm.

The interviews were conducted in person at the company offices from April 7th through April 23rd. The interviews took between 30 to 45 minutes each.

It had open-ended questions such as:

- "How do you usually approach problems or unexpected situations in your daily work?"
- "Can you describe a recent situation where you had to solve a problem at work? What steps did you take?"
- "How often do you work together with others to solve problems? What is that experience like?"
- "In your opinion, what helps or blocks creativity in our team when solving problems?"
- "Do you feel encouraged to share creative ideas when challenges arise? Why or why not?"
- "Have you ever heard of or used any structured problem-solving methods (e.g., brainstorming, mind mapping, "how might we" questions)?"
- "When facing a difficult problem, how often do you try to look at it from different perspectives?"
- "Do you think creativity is important when solving problems in our hotel? Why?"
- "What types of problems do you think would benefit most from a creative approach in our workplace?"
- "Can you think of a time when a creative idea improved how we did something? What was it?"

- "Have you noticed any projects or ideas in our hotel that helped reduce waste, save energy, or support the environment? How did those ideas come about?"
- "In your opinion, how can we use creative problem solving to make our hotel more environmentally or socially responsible?"
- "Do you think applying creative thinking can help us save resources (like time, money, or materials) in our daily work? How?"
- "What challenges do you think we face when trying to be more sustainable at work, and how could creative problem-solving help overcome them?"
- "Do you believe using more creative methods to solve problems could help make our work more efficient or sustainable? How?"
- "Do you feel there is time and space during work to think creatively and try new ideas?"
- "What kind of support or tools would help you be more creative at work?"
- "If we wanted to use creative problem solving more in our hotel, what do you think would be the best way to start?"

The interviews revealed that project ideas are traditionally developed by management in isolated meetings with minimal input from frontline personnel. While this allows for control and efficiency, it limits the range of perspectives and creative contributions.

Secondary data included internal reports such as project evaluations, employee surveys, and summary reports. These reports helped to determine patterns of performance, employee levels of satisfaction, and common project problems.

In addition, the literature review covered theoretical models such as:

- The Osborn-Parnes CPS Model
- SCAMPER Technique
- De Bono's Six Thinking Hats

Results

Analysis of data collected revealed a series of key findings. The company's current project development process is linear and centralized. Projects are usually developed by department heads and then delegated to teams with little space for feedback or revision. As such, employees become less connected to the product, which negatively impacts motivation and innovation.

Second, while the company is technically competent and process-oriented, it is not creatively structured. There are no established procedures for capturing, analyzing, or acting on novel ideas. For instance, the interviewee mentioned that brainstorming is scarcely ever conducted, and when it is, it is informal and unstructured.

Third, the company is faced with external issues that must be met with responsive thinking. For example, the recent shift in consumer behavior due to the COVID-19 pandemic forced the company to reimagine customer experience at its wellness centers. Such challenges strengthen the necessity for a more creative approach in solving problems, especially in service design and client relations.

Conclusions

The findings of this study demonstrate that creative problem solving can be a vital component of project management practice development, particularly in those sectors where differentiation and customer engagement are paramount. The Baltic Bedding & Biofuels Company, while efficient operationally, can greatly benefit from a more open and creative approach.

The proposed CPS action plan is derived from the company's strategic goals, offering simple yet powerful modifications that stimulate innovation and employee involvement. Through regular training, structured brainstorming, and involving planning, the company can cultivate a more dynamic and forward-looking project culture.

As a next step, it is recommended that the firm pilot test this plan in one department and monitor the results for a period of six months. Future research can expand on this study by incorporating quantitative performance measures, employee satisfaction, and customer feedback after CPS implementation.

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LOGISTICS FUNCTIONS EVALUATION OF NOVATRANSA UAB

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Keywords: logistics, logistics functions, logistics function quality, dangerous goods, transport logistics.

Abstract
The article aims to investigate and evaluate logistics functions at UAB „Novatransa“. The aim is to understand the problems encountered in carrying out logistics functions and the factors that influence the quality or evaluation of the implemented logistics functions. A theoretical analysis of logistics functions was carried out, as well as observation and interview analysis. To better understand the company’s logistics functions, qualitative research was done using observation and a semi-structured interview with deputy director and logistics manager. The study found that there are several areas where performance could be improved. In the scientific literature, no specific evaluation criteria for assessing logistics functions were found; therefore, during the interview, the indicators used to evaluate logistics functions in the case of UAB "Novatransa" were identified. These indicators included on-time delivery of cargo, effective communication between the service provider and the recipient, and damage-free cargo delivery. During study it was found that logistics functions are carried out very well, although some shortcomings were recorded.
The hypothesis formulated by author was confirmed because UAB „Novatransa“ carries out its logistics functions properly, with customer service standing out as being of higher quality than the other functions and this provides the company with a competitive advantage.

Introduction

Logistics is defined as a process or a means by which companies efficiently manage the movement of resources, goods, or services. The number of companies offering similar services is steadily increasing, leading to heightened competition. To maintain a long-term market presence, companies must remain competitive. Therefore, it is essential to monitor and analyze logistics functions. Depending on the type of logistics, each category encompasses specific functions that constitute the core of a company's operations. According to Palšaitis (2010), logistics activities are classified based on their functions into primary and supporting categories. Primary logistics functions include customer service, order processing, inventory management, transportation, and warehousing. Supporting functions comprise information processing and management, demand forecasting, selection of production and warehouse locations, materials handling, procurement, spare parts supply and customer service support, packaging, management of production waste, and the handling of returned products.

To ensure that the logistics services provided by the company are of the highest quality and to facilitate the identification of the root causes of emerging business problems in the future, improvement opportunities and measures were proposed.

Date and research methodology

The research methodology includes observation and semi-structured interview, based on which the analysis and evaluation of logistics functions were conducted. This methodology was chosen in order to obtain comprehensive and accurate information. The research methodology was designed to ensure reliable results and objectivity.

The aim of the research was to evaluate the logistics functions performed by UAB "Novatransa". The study aimed to identify which logistics functions are carried out, assess their quality, understand how the company measures quality, determine the challenges faced in the execution of logistics functions, and present potential improvements. Evaluating these functions is essential for identifying the problems encountered by UAB "Novatransa" and determine improvement opportunities that could enhance the company’s competitive advantage in the market.

Research methods:

- This method was chosen to observe how logistics functions are carried out, with the aim of gaining a deeper understanding of the logistics function execution process.
- The aim of the conducted interview was to determine how the company measures the quality of its logistics functions, how these functions are performed, whether they are performed effectively, to identify their link to competitiveness, and to uncover the challenges encountered in carrying out logistics functions.

Company overview

The company's main activity is freight transportation in the Baltic States and Poland. It’s core services include the transportation of 20- and 40-foot containers, tank containers, and dangerous goods (ADR) from the Port of

Klaipėda. The types of cargo vary depending on the season. During the winter, the most frequently transported goods are chemical substances and food products. In the summer, the company primarily transports chemical substances, food products, and dangerous goods such as bitumen, which is used for road construction.

Monitoring and analysis of logistics functions processes.

Observation is a scientific research method which, according to Grigorjeva T. and Andriušytė A. (2015), is organized based on a pre-prepared plan and grounded in theory or a hypothesis. Observations can be carried out to examine how certain tasks are performed or how specific processes are implemented. According to the authors, one of the advantages of this method is that it allows for a deeper understanding of the phenomenon under investigation. Observation allows for a deeper understanding of the phenomenon under investigation. This method allows to have deeper understanding about the logistic functions carried out by UAB „Novatransa“

Qualitative research - interview with deputy director and logistics manager.

According to Grigorjeva T. and Andriušytė A. (2015), an interview is a scientific research method, the direction and purpose of which are determined by the researcher. It is defined as a conversation between two individuals during which questions related to the research problem are asked. In a semi-structured interview, the questions are planned in advance, but the sequence in which they are asked is not strictly defined, allowing for flexibility and improvisation during the conversation. The interview includes both closed-ended and open-ended questions.

Place and time of examination. Interviews with UAB „Novatransa“ deputy director and logistics manager took place in 2025 on March 19-20. The respondents answered the questions live during the interview.

Results

UAB "Novatransa" logistics functions process monitoring analysis

The analysis of the logistics function implementation process of UAB „Novatransa“ was prepared based on data collected during the observation study. The main logistics functions performed by the company are customer service, transportation, and order management. Supporting functions are not carried out, as the company's activities are focused on the provision of transport services. Customer service involves prompt and clear communication. When issues arise, the company remains transparent, informs the client, and strives to resolve problems quickly. This helps to avoid communication breakdowns between the service provider, UAB "Novatransa", and the client.

The transportation function encompasses not only the transportation process itself but also route and time planning. Depending on the type of cargo, an appropriate driver and vehicle are selected. During the observation period, 57 delivery delays and 10 damaged cargo cases were recorded. These figures were used to calculate on time delivery and damaged cargo percentages and evaluate the quality of logistics functions. These calculations are presented below.

Calculation of On-Time Delivery Percentage

The figures obtained during the observation were used to perform calculations aimed at assessing the quality of logistics functions carried out by UAB "Novatransa", based also on the interview responses received. The purpose of this calculation is to determine the percentage of shipments delivered on time.

On-time delivery percentage = (Number of on-time deliveries / Total number of deliveries) × 100 (1)

Total number of shipments delivered (January–April 2025): 1020

Shipments delivered on time: 963

Delayed shipments: 57

On-time delivery percentage = (963 / 1020) × 100 = 0.9441 × 100 = 94.41%

The result of 94.41% indicates good operational quality; however, the 5.59% of delayed deliveries shows that there is still room for improvement. It should be noted that the company cannot always control the timing of cargo receipt. As mentioned earlier, delays often occur when shipments are transported from China to the Port of Klaipėda.

Calculation of Damaged Cargo Percentage

The purpose of this calculation is to determine the percentage of damaged cargo. This helps to assess the quality of the transportation function.

Damaged cargo percentage (January–April 2025) = (Number of damaged shipments / Total number of shipments delivered) × 100 (2)

Total number of shipments delivered: 1020

Number of damaged shipments: 10

Damaged cargo percentage = (10 / 1020) × 100 = 0.0098 × 100 = 0.98%

Order management involves the entire supply chain—from order receipt and fulfillment to final delivery to the recipient. This function includes aspects of customer service and transportation, as well as documentation, insurance, permits, and cargo labeling.

Analysis and summary of the results of the interview answers

Place and time of examination. Interviews with UAB „Novatransa“ deputy director and logistics manager took place in 2025 on March 19-20. Respondents answered questions live. Interview questions and their purpose are presented in Table 1.

Table 1

Interview questions of respondents and their purpose (made by the author of the thesis)

Question	Objective
What logistics functions are performed by the company, you, represent?	To identify the specific logistics functions carried out by the company.
What types of transportation services does the company offer to clients?	To determine the modes of transport offered by the company.
What are the main types of cargo transported?	To identify the primary types of goods handled by the company.
What are the main risks associated with cargo transportation?	To identify the main challenges faced in logistics operations.
How is cargo safety ensured during transportation?	To understand the measures used to secure transported goods.
What challenges are encountered in transport logistics operations?	To uncover the main operational problems within the company.
How is timely order fulfillment ensured?	To determine how the company plans routes and optimizes operations to meet deadlines.
How is transportation time controlled?	To understand whether GPS systems, tracking tools, or real-time monitoring are used.
In your opinion, what characteristics indicate the quality of the logistics functions performed?	To identify which quality indicators are considered important by the company.
What criteria are used to measure the quality of logistics functions?	To determine the specific indicators used to assess logistics function performance.
How do you ensure the quality of the logistics functions performed?	To learn about the quality control measures applied by the company.
How important is customer service to the company?	To understand the importance the company places on client relationships and service.
How do you assess the level of customer satisfaction?	To learn how customer satisfaction is evaluated within the company.
How is high-quality customer service ensured?	To understand the processes and solutions used to maintain quality service.
Does high-quality customer service increase the company's competitiveness?	To determine whether the company sees a direct link between service quality and business growth.
How do you measure the company’s competitiveness?	To identify the indicators used to assess market competitiveness.
What importance does competitiveness hold for the company?	To understand how the company’s competitive position influences its strategy and development.
How are customer complaints regarding delivery quality or timing resolved?	To find out the company’s policy in dealing with customer issues and whether compensation is offered.
How does the company plan to adapt to market changes and improve its competitiveness in the future?	To understand what innovations, technologies, or strategies are planned for implementation.
What key logistics functions are planned to be improved in the near future? Why and how?	To learn about the priorities set for improving company performance.
How could the quality of logistics functions be improved?	To identify possible improvement measures in the logistics area.
How could employee training contribute to the quality execution of logistics functions?	To determine whether the company invests in employee development and how this impacts performance quality.

During the interview, several indicators of logistics function quality emerged, such as delivery punctuality, the condition of the delivered cargo, the clarity and speed of communication with clients. These indicators are particularly relevant to UAB "Novatransa", yet the interview revealed that a defined quality assessment system is lacking. This absence prevents the company from consistently monitoring quality or making comparisons across different time periods. The evaluation of these criteria is subjective and largely depends on employee experience or knowledge, rather than objective data or structured systems. Interview respondents emphasized that customer service is one of the most important aspects of their operations. However, customer satisfaction is measured informally based on feedback received via phone or email. Additionally, conclusions about customer satisfaction are drawn from the rate of returning clients, with long-term contracts being made with those customers, using mutually acceptable pricing terms.

To summarize the results of the interview it can be said that the company is reliable and provides high-quality logistic services. Although the research highlighted several operational challenges in providing transport services. One significant issue is the shortage of qualified drivers. Another frequent problem is the improper loading of cargo, which poses safety risks and often requires additional time for reloading. Moreover, it was identified that the company lacks a unified system for monitoring the quality indicators of its logistics functions. As a result, the interview responses varied to some extent, although several common indicators were identified. The absence of such a system limits the company's ability to assess the effectiveness of its logistics functions, track quality changes, and understand the reasons behind those changes. The overall assessment of the logistics functions carried out by the company are evaluated positively.

Conclusions

After conducting a detailed study and analysis related to the logistics functions of UAB „Novatransa", the following conclusions can be presented, based on the work tasks set:

- The main logistics functions include customer service, transportation, warehousing, inventory management, order management, and returns handling. The supporting functions are demand forecasting, packaging, spare parts supply, procurement, and materials handling. In theory, evaluating logistics functions is important because it increases customer satisfaction and provides a competitive advantage. Each function is significant, and their evaluation helps companies identify strengths and weaknesses, as well as provides clarity on where to seek improvements or make new strategic decisions.
- In UAB „Novatransa" case, the study of the logistics functions revealed that the company performs its logistics functions well, and they were evaluated very positively based on the quality indicators established by the company. However, it was observed that the company lacks a unified system for monitoring quality indicators and their changes over time and currently assesses these functions using abstract indicators. Additionally, the study revealed that the company faces a shortage of competent drivers.

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ANALYSIS OF LITHUANIAN DEFENCE BONDS

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Keywords: defence bonds, government, inflation, interest rate.

Abstract
Lithuanian Defence Bonds serve as a financial instrument aimed at strengthening national security by allowing citizens and businesses to contribute directly to defence funding. Issued with a 2 percent annual interest rate, these bonds provide a stable yet relatively low return, making them less attractive compared to inflation forecasts (2,5 – 2,6 percent for 2025 – 2026) and alternative investments. While most investors are private individuals, the total planned issuance remains undisclosed. To enhance their appeal, potential incentives such as tax exemptions, higher interest rates, pension fund integration, and loyalty bonuses have been proposed. Ultimately, Lithuanian Defence Bonds function more as a symbol of civic engagement and patriotism rather than a competitive financial investment.

Introduction

Defence bonds are increasingly relevant in today's geopolitical and economic environment, where countries are seeking to ensure their security and stability. As military conflicts and global tensions escalate, countries are looking for ways to finance defence spending, and one of the most effective instruments is defence bonds. They allow governments to raise funds to modernize weapons, strengthen infrastructure and ensure national security, while giving investors the opportunity to contribute to a country's defence system and earn a financial return. The relevance of these bonds is particularly pronounced in periods of economic uncertainty, when traditional investment vehicles become riskier, while government-backed securities provide stability and confidence.

The object of the article is defence bonds.

The aim of the article is to analyze the issuance, characteristics, and financial viability of Lithuanian defence bonds.

Objectives:

1. Describe the definition of a defence bonds.
2. Analyze the attractiveness of investing in defence bonds.

Methods of research: literature review, document analysis,

Definition and purpose of defence bonds

Government bonds are one of the most traditional financial instruments used by states to raise funds for various public expenditures. Typically, these bonds are issued to finance infrastructure projects, social programs, or cover budget deficits. However, in times of geopolitical instability and rising defence needs, governments may introduce specialized securities known as defence bonds.

Defence bonds belong to the category of sovereign debt instruments but are distinct in their purpose. While traditional government bonds serve general fiscal needs, defence bonds are explicitly designed to finance military and security-related expenditures. They provide an alternative mechanism for governments to raise funds without immediately increasing taxes or reallocating resources from other sectors.

Explaining the origin of defence bonds, Finance Minister G. Skaistė said that the purpose of the instrument is not primarily to make money. "This instrument is designed to allow people and businesses to contribute to the financing of defence. If we want to earn the maximum, there are obviously other investment instruments that are more attractive. Politicians expressed the need for this in the spring discussions and a 2% rate was proposed". It is expected that interest in defence bonds will also depend on the publicity campaign.

S. De Lemos Peixoto, G. Loi, and R. Mazzocchi say that defence bonds should be considered as a way to finance major military investments in advance. They also suggest that unused "coronabonds" originally issued to support pandemic recovery could potentially be repurposed for defense-related instruments. Their statement highlights the idea of leveraging existing or new financial tools to ensure timely and sufficient funding for defense initiatives in a changing geopolitical landscape.

Table 1

Definition of Defence Bonds

Author	Definition
G. Skaistė	It is another tool for the public or business to contribute to the security of the country. During the discussions, it was suggested that people and businesses could borrow for national defence needs at a lower cost than the Lithuanian state borrows on the markets, thus contributing to national security.
S. De Lemos Peixoto, G. Loi, R. Mazzocchi (2025)	Defence bonds to be explored for financing large-scale military investments up front as well as "the use of unused „coronabonds" for defence instruments to be explored".
A. Gupta (2025)	Defence Bonds - the successful pandemic response fund. A cost-effective financing mechanism for war bonds is the choice of the optimal tenor of the debt instrument. In the days of world wars.
W. Szkutnik, T. Wyluda (2022)	War bonds cause civilians to not immediately feel the cost of armed conflicts. That allows postponing some negative financial consequences over time.

A. Gupta says that Defence Bonds can mirror the success of pandemic response funds by serving as a cost-effective way to finance military needs. He emphasizes that selecting the optimal tenor—or duration—of the debt instrument is key to ensuring their efficiency. Drawing on historical examples from the world wars, Gupta implies that careful design of war bonds can make them both financially viable and strategically useful for modern defense funding.

W. Szkutnik and T. Wyluda say that war bonds help delay the financial burden of armed conflicts for civilians. By spreading out the cost over time, these bonds prevent people from immediately feeling the economic impact of war. This approach allows governments to manage public finances more flexibly while still securing the necessary resources for military efforts.

Historically, defence bonds have been used during wartime or in periods of heightened security concerns. For instance, during World War II, countries such as the United States, the United Kingdom, and Canada issued war bonds, which played a crucial role in funding military operations. These instruments were often promoted as a patriotic duty rather than purely financial investments, with governments encouraging citizens to contribute to national security.

In contemporary settings, defence bonds serve a similar function but within a more structured financial environment. Investors, whether individuals or institutions, are offered fixed-income securities that typically provide a modest return while contributing to national defence efforts. However, the attractiveness of these bonds depends on factors such as interest rates, inflation expectations, and overall investor sentiment.

The issuance of defence bonds in Lithuania represents a novel approach in the country's financial landscape. By offering these bonds to the public, the government aims to create an additional funding channel for military infrastructure and strategic defence initiatives. However, the success of such instruments depends not only on their financial viability but also on public perception, investor incentives, and the broader macroeconomic environment.

Table 2

Lithuanian Defence Bonds characteristics and terms of issue

ISIN code	Indicator	Value
LT0000133845 (2025-05-05) LT0000133597 (2025-04-07) LT0000133357 (2025-03-03) LT0000133332 (2025-02-03) LT0000811390 (2025-01-06) LT0000811382 (2024-12-02) LT0000811374 (2024-11-04) LT0000811366 (2024-10-10)	Type of securities	Government savings certificates
	Issue volume	Unlimited
	Nominal value per defence bond	EUR 100
	Duration of the Defence Bonds in days	365
	Annual interest rate of Defence Bonds	2,0 per cent.
	Redemption price of the Defence Bond	EUR 100,00
	Number of coupon payments per year	1

**Source: compiled by the authors, based on Lietuvos Respublikos finansų ministerija, 2025.*

As can see from the table, Defence Bonds can be redeemed early on the last working day of each month at their nominal value plus accrued interest, with adjustments if interest was already paid. Early redemption is not allowed less than one month before final redemption. Investors must submit a request to the Distributor

between the 1st and 15th of the month they wish to redeem, and it cannot be withdrawn after the last business day of that month. Anyone wishing to purchase defence bonds can do so via Swedbank and SEB's online bank, as well as at SEB Bank branches.

Table 3

Authors view on Lithuanian Defence Bonds

Author	Definition
E. Džiugytė (2024)	From the air, I don't see any other argument. Someone had a dream, the number 2 looked nice, let's put 2. I haven't heard a single argument.
D. Šakalienė (2024)	It seems that the government is not very keen on people buying them, as the terms offered are almost half as bad as standard bonds.
M. Janavičius (2024)	Whether the voucher is 0, 1 or 2 percent should not have a direct impact, as patriotism is encouraged here.

**Source: compiled by the authors, based on LRT, 2024.*

The Ministry of Finance commented that when the distribution of MTOs to individuals started in August last year, the demand for the first few issues was quite high but then dropped significantly. Eglė Džiugytė, Head of the Financial Markets Department of Šiaulių Bankas, criticises the decision on the 2 percent voucher, claiming that it is unjustified and adopted without clear arguments. Dovilė Šakalienė, Member of the Seimas Committee on National Security and Defence, believes that the government does not want to encourage people to invest in bonds because their conditions are much less favourable than those of standard bonds. Mantas Janavičius, Member of the Board of the Investors' Association, argues that the size of the coupon (0, 1 or 2 percent) should not be a key factor, as these bonds are designed to promote patriotism, not financial returns.

The Defence Fund will be used for the acquisition of weapons, equipment and ammunition needed to develop the capability of a divisional level military unit, the development of the infrastructure required for the German Brigade in Lithuania, the acquisition and development of counter-mobility assets, military mobility and dual-purpose (civilian and military) transport infrastructure projects, and the strengthening and development of civil protection as provided for in the Law on Crisis Management and Civil Protection.

Traditionally, banks Swedbank and SEB have played central roles in Lithuania's financial landscape, offering a wide array of banking services to individuals and businesses. Their appointment as the exclusive distributors of Defence Bonds signified an expansion of their operational scope into the realm of government securities tailored for national defence.

During the initial issuance phase from October 10 to 28, 2024, Swedbank facilitated 823 transactions amounting to 6,5 million EUR, while SEB managed 523 transactions totalling 2,5 million EUR. This collective effort resulted in a total of 9 million EUR raised for the procurement of critical anti-drone systems for the Ministry of National Defence.

The introduction of Defence Bonds presented both opportunities and challenges for Swedbank and SEB. Engaging in the distribution of government securities specifically earmarked for defence purposes required these banks to adapt their existing frameworks to accommodate the unique aspects of such instruments. This included educating clients about the bonds' objectives, managing the subscription processes, and addressing any concerns regarding the bonds' returns and associated risks.

Despite the relatively modest annual interest rate of 2 percent, the banks observed a noteworthy level of interest from individual investors. Approximately 99 percent of the transactions were conducted by private individuals, underscoring a strong public inclination to contribute to national security initiatives.

According to the Lithuanian Ministry of Finance, Defence Bonds serve as an innovative financial instrument aimed at strengthening national defence capabilities while offering citizens an opportunity to invest directly in the country's security. The Ministry highlights that such bonds not only raise funds for critical defence projects but also foster a sense of civic responsibility and engagement among the population.

The chart below shows the change in the annual interest rate (percent) by the issue date of government savings certificates from August 2023 to October 2024. Initially, interest rates fluctuated around 3,7 – 3,8 percent but started to decrease from December 2023. In the first half of 2024, the interest rate remained at around 3 percent, before decreasing markedly from 3 percent in September to 2 percent in October.

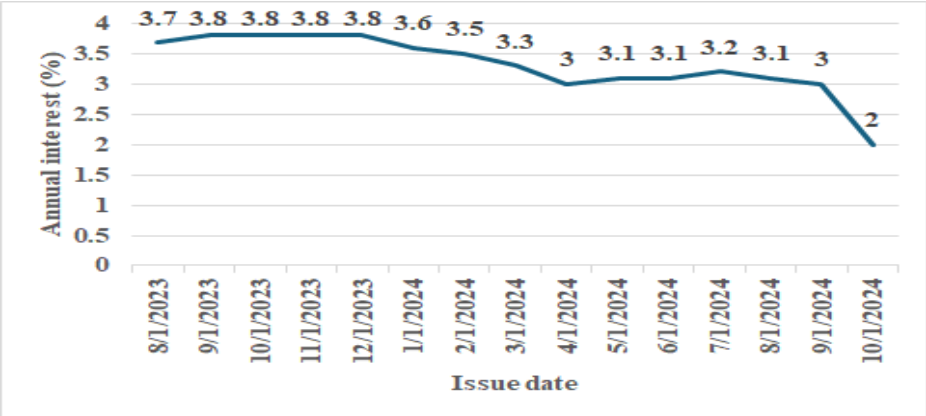


Fig. 1. Government savings certificates and interest on deposits

**Source: made by authors, based on* Delfi. (2024).

The 2 percent interest rate on defence bonds becomes less attractive compared to inflation forecasts. If average annual inflation reaches 2,1 percent in 2024, the real return on the bonds will be positive (around 1 percent). However, already in 2025, when inflation is projected at 2,5 percent, the real return will turn negative, with investors losing around 0,5 percent of the purchasing power of their investments. In 2026, when inflation rises to 2,6 percent, this gap will widen further, with a real loss of around 0,6 percent. This situation shows that, with interest rates below inflation, defence bonds are not an attractive option for investors, especially when compared to other investment options such as EURIBOR-linked instruments or higher return deposits). Against this backdrop, average annual inflation is projected at 3.3% this year, before declining next year to 2.6% in both 2026 and 2027

The 2 percent interest rate on Lithuanian defence bonds looks unattractive compared to Ukraine's military bonds, which offer as much as 11 percent interest. This means that Ukrainian investors are getting more than five times the return on their money than Lithuanian defence bond buyers. While this difference can be explained by the different risks - Ukraine is currently at war and its financial situation is more complex, so investors demand a higher reward for the risk they take - even taking this factor into account, the 2 percent interest rate offered in Lithuania is low. Moreover, given inflation forecasts (2,5 - 2.6 percent for 2025 - 2026), Lithuanian defence bonds may even lose value in real terms, while Ukrainian bonds offer a tangible return to investors, despite the risks.

To increase the attractiveness of Lithuanian defence bonds and to encourage investors to contribute to the financing of the country's defence, a number of incentive measures should be considered:

1. Income tax relief - exempting investors from the 15 percent income tax on bond interest, or at least reducing the tax burden, as is done in some other countries.
2. Raising interest rates - in view of inflation forecasts (2,5 – 2,6 percent for 2025 - 2026), it would be appropriate to revise the interest rate so that it not only preserves the purchasing power of investors but also provides an attractive return.
3. Inclusion of defence bonds in Tier III pension provision - to allow citizens to invest in defence bonds through a self-sustaining pension scheme with an additional government incentive or tax relief.
4. Early redemption of bonds - to create a mechanism to allow investors to redeem bonds early if needed, for example through the secondary market or with certain conditions from the state.
5. Loyalty bonus for long-term investors - to encourage longer investment periods, for example by providing additional bonuses or higher interest rates for those who hold the bonds to maturity.
6. Use of bonds as collateral for loans - to allow defence bonds to be used as collateral for loans from banks or credit institutions, thereby increasing their liquidity and attractiveness to investors.

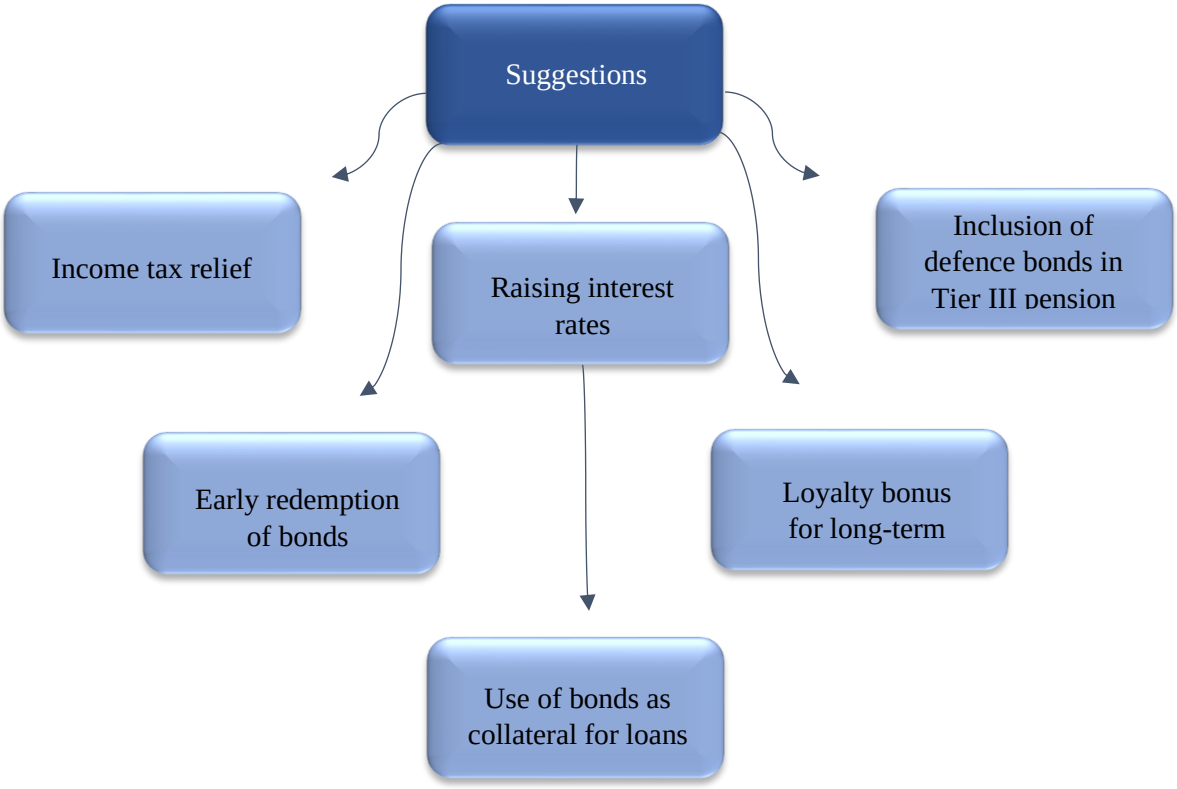


Fig. 2. Suggestions to encourage the purchase of defence bonds
**Source: made by the authors.*

The exact amount of the planned National Defence Bonds is not publicly disclosed, but 20,4 million EUR has been raised so far. Defence Bonds are special government savings bonds that are used to finance national defence.



Fig. 3. National Defence Fund Contributions
**Source: made by the authors, based on Krašto apsaugos ministerija, 2025.*

Several issues have been issued so far: the first in October 2024, the second in December 2024, the third in March 2025, and a new issue is planned for April 2025. All issues are redeemable after one year, with interest at 2 percent per annum. It is stated that with the funds raised, the Ministry of National Defence would consider purchasing different anti-drone systems with a value ranging from approximately 20 to 100 thousand euros per unit. According to the Ministry, this could include various types of systems: portable handheld anti-drones, drone detection systems and mobile drone detection systems. (Lietuvos rytas, 2025)

Conclusions

Lithuanian Defence Bonds are a new financial instrument for financing the country's defence, allowing citizens and businesses to contribute directly to strengthening national security. Although the bonds carry an annual interest rate of 2 percent, this return is not competitive with inflation forecasts (2,5 - 2,6 percent for 2025 - 2026) and other investment alternatives, resulting in a negative real return on investment. SEB and Swedbank are participating in the bond placement and most investors are individuals. So far, the Defence Bond has raised 20,4 million EUR, but the planned total amount is not publicly disclosed in either MoD or MoF

sources. To increase the attractiveness of these bonds, it is proposed to apply income tax exemptions, to increase interest rates, to include them in the tier III pension scheme or to apply loyalty bonuses to long-term investors. Defence bonds are more a symbol of civic engagement and patriotism than a financially attractive investment.

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THEORETICAL ASPECTS OF SMALL AND MEDIUM-SIZED BUSINESS PERFORMANCE ANALYSIS

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Keywords: small and medium business; activity; business promotion; regional development.

Abstract
The article analyses the significance of small and medium-sized enterprises (SMEs) for the economy, with a particular focus on the Lithuanian and European Union context. It presents the concept of SMEs, legal regulation, the structure of the sector and its contribution to gross domestic product (GDP), employment, innovation and regional development. Based on an analysis of statistical data, it examines the main trends in SME activity in Lithuania over the period 2019-2024: growth in the number of enterprises, increase in turnover and exports, and changes in the number of employees. It also looks at the key challenges facing the SME sector - access to finance, bureaucratic constraints and competitive pressures. Finally, it looks at the factors that can ensure the sustainable development and competitiveness of SMEs.

Introduction

Small and medium-sized enterprises (SMEs) are an essential part of the economy, contributing to job creation, fostering innovation and boosting gross domestic product (GDP). It is the sector that accounts for the vast majority of businesses in Lithuania and the European Union. The success of SMEs is determined by many factors, such as access to finance, the competitive environment, public policies and technological change. Taking these aspects into account, it is important to assess the situation of SMEs and identify the main challenges and opportunities.

SMEs not only contribute to economic growth, but are also a major source of employment and social welfare. Small and medium enterprises, however, are prone to issues, i.e., limited financing facilities, too much bureaucracy or the complexity of implementing technological advancements. Analyzing these will lead to an improved understanding of how SMEs can be made more conducive and attain sustainable development. The economic function of small and medium-sized businesses (SMEs) is extensively studied in scientific literature, but they primarily concern themselves with their contribution in general to employment, innovation and economic development. D. J. Storey (2016) emphasized that small and medium-sized enterprises are more flexible than large companies and thus this industry is particularly useful during times of economic crises. M. Dumičić (2016) focused on financial stability indicators affecting the long-term viability of small businesses.

Although the role of SMEs in the economy has been extensively researched, there is still a lack of studies comparing the situation of SMEs in Lithuania and other EU countries. Moreover, there is little research on the main challenges hampering the growth and competitiveness of SMEs. B. Kusi, A. Forson and E. Agbloyor (2022) highlighted that the global financial crises have had a significant impact on the development of the SME sector, but there is insufficient evidence on the financing constraints faced by small enterprises in Lithuania. R. Horváth and D. Vaško (2016) analysed the impact of financing policies on financial stability, but there has been little research on the competitiveness of SMEs in the Baltic countries.

Another area that has not been fully analysed is SME innovation and technological competitiveness. C. Aymanns et al. (2018) looked at models of financial stability, but their study did not reveal how small firms in different countries adapt to technological change. Gambetta, García-Benau and Zorio-Grima (2019) assessed the macroeconomic challenges for the European SME sector, but their analysis of the Baltic region was insufficient.

The object of this paper is the activities of small and medium – sized businesses.

The aim of the work is to analyse the peculiarities of small and medium-sized business activity, to identify the main challenges and to assess the prospects for the development of this sector in Lithuania.

Tasks of this paper:

1. Examine the concept of SMEs activity.
2. Define the role of SMEs in the national economy.
3. To describe the opportunities for promoting SMEs in Lithuania.
4. Identify trends in SMEs in Lithuania.

Research methods used. The research is based on academic literature, statistics, benchmarking and company case studies. In addition, graphical representations are used to visually interpret changes and trends in SME performance indicators.

Concept of small and medium-sized business activity

SMEs are one of the key economic sectors, providing both economic growth and stability in the labour market. Their flexibility and ability to react quickly to market changes gives SMEs an important position both nationally and internationally. Many SMEs focus on specific market segments where they can compete with large corporations by offering personalised services or products. It is also observed that these enterprises often become a source of innovation, as they are the ones where new solutions are born and tested that can change market dynamics (Venckevičiūtė, Subačienė, 2014).

The importance of SMEs is particularly evident in the labour market, where they account for a large share of the total number of active businesses, and the employment relationships they create are important both for the regions and for the country's overall economic development. As the majority of SMEs are oriented towards local markets, they are better able to adapt to the specific needs of consumers and to provide products or services that meet their expectations.

SMEs are one of the most important segments of the economy for job creation, regional economic development and innovation. SMEs account for more than 99% of all enterprises and their activities contribute directly to economic growth and job creation (M. Robu, 2013). The importance of this business sector is enormous, as it comprises the majority of operating enterprises and contributes to the growth of gross domestic product (GDP). Small and medium-sized enterprises generate more than 60% of the country's total value added, indicating their direct impact on GDP growth (Liustrovaitė, Martinkutė-Kaulienė, 2015). SMEs not only enable the development of small business ideas, but also stimulate the dynamism of the economy, the creation of new products and services and the competitiveness of the local market.

In addition, SMEs can adapt to changing market conditions more quickly and innovate more efficiently and quickly than large firms (D'Angelo, Majocchi and Buck, 2016).

In Lithuania and the EU, SMEs are classified on the basis of several key criteria: number of employees, annual turnover and book value of assets. According to the Law on the Development of Small and Medium-Sized Enterprises of the Republic of Lithuania (1998, with a new wording as of 01.06.2024), an SME can be classified into one of three categories: micro, small or medium-sized enterprises. This classification is crucial both for economic analysis and for the enterprises' access to state or EU financial support.

SMEs' flexibility and ability to adapt quickly to market changes allow them to remain an important economic engine. SMEs' flexibility and adaptability to market conditions make them an essential economic stabiliser (M. Robu, 2013). SMEs are able to respond quickly to consumer demand, introduce new products and services and ensure business sustainability even in an uncertain economic environment. SMEs are key innovators as they are able to respond flexibly to consumer demand and develop new products (D'Angelo, Majocchi and Buck, 2016). The sector also has an important social dimension, as a large share of jobs are created in SMEs, which contributes to regional development and reduces social disparities between urban and rural areas. The SME sector accounts for around 75% of new jobs and therefore contributes directly to regional development [Official Statistics Department, 2022].

According to the Law on the Development of Small and Medium-sized Businesses of the Republic of Lithuania, the latest version of which entered into force on 1 June 2024, an entrepreneur is considered a small or medium-sized business entity if the number of its employees, calculated in accordance with the provisions of the law, does not exceed 250 people, and the financial indicators meet at least one of the following criteria:

- annual revenue does not exceed €50 million;
- the value of assets on the balance sheet does not exceed €43 million.

The table below (see Table 1) details the criteria for classifying enterprises as micro, small/small or medium-sized.

Table 1

Medium, small and micro enterprises

Type of company	Number of employees	Annual revenue (EUR million)	Carrying amount of assets (EUR million)
Medium	< 250	50	43
Small	< 50	10	10
Very small	< 10	2	2

**Source: Law on the development of small and medium – sized enterprises of the Republic of Lithuania 2024.*

Table 2 below shows the criteria for SMEs in the European Union, the United Kingdom and Australia.

Table 2

Criteria for medium, small and micro enterprises

Country of origin of the definition	Criteria for identifying SMEs		
	Very small enterprise	**Small enterprise**	**Medium enterprise**
European Union	Number of employees up to 10, annual revenue up to EUR 2 million, book value of assets up to EUR 2 million.	Number of employees up to 50, annual revenue up to €10 million, book value of assets up to €10 million.	Number of employees up to 250, annual revenue up to €50 million, book value of assets up to €43 million.
United Kingdom	Number of employees up to 10, annual revenue up to £632 000 and book value of assets up to £316 000.	Number of employees up to 50, annual revenue up to £10.2 million, book value of assets up to £5.1 million.	Number of employees up to 250, annual revenue up to £36 million, book value of assets up to £18 million.
Australia	Number of employees up to 5.	Number of employees up to 20.	Number of employees up to 199.

**Source: European Commission - SME Definition 2024, UK Government - SME Definition 2024 , Gilmore et al (2013), M. Senderovitz 2009.*

Briefly, small and medium enterprises (SMEs) are characterized by three main parameters: number of employees, revenue and book value of assets in a given year. The definition provides a sharp cut-out size of companies and is used as a reason for regulating their business and providing aid. The Republic of Lithuania Law on Small and Medium-Sized Enterprises and European Union legislation set some quantitative thresholds to demarcate micro, small and medium-sized enterprises. This not only is necessary for statistics but also in terms of regulating the business environment as well as economic policy. As SMEs make up a large segment of the business world and are the main driving force of the economy, clear-cut criteria help guarantee that this sector is adequately provided with and encouraged to grow.

The role of small and medium – sized enterprises in the national economy

SMEs are one of the key segments of the economy, making a significant contribution to both economic growth and social well-being. In the academic literature, SMEs are defined as a business model that not only contributes to job creation and innovation, but also ensures market competitiveness and economic stability (Robu, 2013). The importance of SMEs is particularly pronounced in countries with market-based economies, as it allows for greater economic flexibility and resilience to external crises (Storey, 2016).

The economic importance of SMEs is mainly linked to their contribution to gross domestic product (GDP), investment promotion and export development. Businesses in this sector are often the engine of economic growth, as their activities range from traditional services and trade to the technology sector (D'Angelo, Majocchi and Buck, 2016). Small enterprises are also important at the regional level, as they provide opportunities for local entrepreneurs to realise their ideas and promote decentralised economic growth (Liustrovaitė, Martinkutė-Kaulienė, 2015). Research shows that SMEs are a key factor in increasing a country's competitiveness in the international market, as small enterprises often operate in niche markets where they can offer high added-value products (Lundström, Stevenson, 2005). From a social perspective, the role of SMEs is manifested through job creation, reducing social exclusion and promoting entrepreneurship. The sector is one of the largest employers in many parts of the world, especially in developing economies where large corporations have limited presence (Davulis, 2015). According to N. Slavinskaitė, R. Koniuhovaitė and E. Stanislovaitytė (2017), SMEs foster social inclusion by allowing different groups in society - young people, women, older people - to participate actively in economic activities. Moreover, SMEs are also directly linked with the growth of local communities, as firms belonging to this category are locally rooted and respond to specific consumer needs (Gibb, 2000). SMEs are also at the core of innovation creation. Small firms, since they are flexible and less bureaucratically regulated, are likely to innovate faster and adapt their business models based on market needs (Gilmore et al., 2013). Studies indicate that small businesses are usually the drivers of innovation since they are capable of responding more rapidly to market shifts and can partner with research organizations (Zahra, Wright, 2011).

Despite the importance of SMEs, the sector faces a number of challenges. One of the most important factors limiting the development of SMEs is the availability of finance. Research shows that SMEs often face difficulties in accessing bank loans or attracting investment, which limits their growth potential

(Harel,Kaufmann, 2016). In addition, bureaucratic constraints and regulatory complexity can act as a barrier to start-ups and business expansion (Abraham, Schmukler, 2017). This is particularly true in developing economies, where SMEs face higher taxes, administrative requirements and competitive challenges (Beck, Demirgüç-Kunt, 2006).

Table 3

Aspects of the role of SMEs in the economy

Aspects	Description
Economic importance	Contributes to GDP, investment and export growth.
Social value	It creates jobs, reduces social exclusion and boosts entrepreneurship.
Innovative value	Deploying new technologies, adapting to market changes and cooperating with research institutions.

**Source: G. Davulis, 2015.*

Table 3 shows the main aspects of the sector's importance, highlighting its impact on the economy, social welfare and innovation development. SMEs stimulate investment, increase employment, help reduce social exclusion and provide opportunities for entrepreneurial initiatives. It is also a key innovator, as smaller firms are often quicker to adapt to new market conditions and technological change.

Table 4

Strengths and challenges for SMEs

Strengths	Challenges
Flexibility and rapid adaptation to the market	Problems of access to funding
Innovation and technological progress	Bureaucratic constraints and regulatory complexity
Job creation	Competitive challenges, especially with large corporations

**Source: F. Abraham, S. L. Schmukler, 2017.*

Despite their significant contribution to the economy, SMEs face a number of challenges. One of the main advantages that SMEs have is their ability to react quickly to market changes and adapt to consumer needs. However, their development is often constrained by a lack of financing, lack of knowledge and access to information on financing options, complex bureaucratic procedures and competition with large corporations. Table 3 below shows the main advantages and challenges for SMEs. It shows that the sector is distinguished by its flexibility and innovation potential, but also faces financing problems and administrative constraints. Small enterprises often do not have sufficient resources to invest in new projects or to expand internationally, and therefore need a more favourable environment for growth and development.

Table 5

The impact of SMEs on regional development

Regions	Importance of SMEs	Authors
Big cities	Here, SMEs are most concerned with innovation, technological development and the growth of the start-up ecosystem. Cities attract more foreign investment and have strong business communities that contribute to the creation of high value-added products. In addition, digital transformation enables small businesses to compete in a global market.	M. Robu (2013), A. D'Angelo, A. Majocchi, T. Buck (2016), European Commission (2020)
Smaller cities	In these regions, SMEs boost local economic growth, diversify businesses and help create jobs. Small business development strengthens the service sector, transport and trade networks. In addition, medium-sized towns often provide an alternative to business centres, as entrepreneurs can avoid competition from large cities and high operating costs.	M. Civelek et al. (2016), Beck, Demirgüç-Kunt (2006), D. J Storey (2016)
Rural areas	SMEs are the main drivers of economic activity in regions where there is a lower concentration of large companies. Traditional businesses such as agriculture, crafts and ecotourism are particularly important in these areas. In addition, small businesses help to reduce social exclusion, promote self-sufficiency of local communities and preserve cultural heritage.	Girdvainienė, Budrevičienė (2009), L. Laeven, F. Valencia (2020), L. Švažinskienė (2008), S. A. Zahra, M. Wright (2011)

**Source: made by author*

SMEs are also an important contributor to regional development. Table 4 elaborates the manner in which these enterprises drive economic development of different regions across the country. In large cities, SMEs are mostly occupied with the industry of technology, finance and start-up, thereby offering scope for innovation and generation of employment opportunities. In smaller cities, this segment of industry is of the most critical importance to the regional economy, generating scope for upholding small industry, trade and services. SMEs also counter regional inequalities by providing employment to those who do not wish or are unable to move to big cities. In the rural areas, the industry is largely associated with agriculture, tourism and local crafts, which guarantee economic viability even in remote areas. Thus, SMEs do not only cause economic growth, but also enable the establishment of powerful local communities and enable more balanced regional development.

In summary, SMEs are a key driver of economic growth, social cohesion and innovation. It contributes to labour market stability, entrepreneurial development and technological progress. However, in order to ensure the sustainable development of SMEs, it is necessary to reduce administrative burdens, improve access to finance and promote innovation in order to keep this business segment competitive in a constantly changing economic environment.

Financing instruments and opportunities for small and medium – sized enterprises in Lithuania

SMEs are one of the main drivers of economic development and job creation. As a result, governments and international organisations in many countries are implementing a range of support programmes to increase the competitiveness of the sector, promote innovation and improve access to finance. As D. B. Audretsch and A.N. Link (2019) point out, small enterprises are often a source of innovation, but resource constraints prevent them from investing in R&D, making public support in this area crucial. The main support measures include financial assistance, reduction of administrative barriers, promotion of innovation and entrepreneurship education.

Lack of finance is one of the biggest problems facing SMEs. Commercial banks are often sceptical of small businesses because of the increased risk and limited collateral available. As a result, various governments and international organisations are developing specialised financial assistance instruments. For example, the Organisation for Economic Co-operation and Development (OECD, 2020) stresses that SMEs should have access to soft loans, venture capital funds and state guarantees. The European Union's COSME programme aims to facilitate SME financing, especially for start-ups and high-growth companies (European Commission, 2021). Paul and Gupta (2019) note that SMEs often lack knowledge of alternative sources of finance, such as crowdfunding or business angel investments, and therefore additional guidance and information dissemination is important.

In addition to financial support, improving the regulatory environment plays an important role. Excessive bureaucracy and administrative burdens can hinder the creation of new businesses and the growth of existing ones. The European Commission (2021) stresses the need to follow the “Think Small First” principle, so that all new legislation is assessed in the interests of SMEs. Studies show that in countries where business registration and licensing are simplified and digitised, the SME sector develops faster (Nabi, Liñán, 2021).

Another important aspect of SME support is the promotion of innovation. Limited resources often prevent small businesses from investing in the development of new technologies, which is why many countries and international organisations have put in place measures to promote innovation. For example, Horizon 2020 is one of the European Commission's flagship initiatives to promote the development of new technologies in small enterprises (European Commission, 2020). D. B. Audretsch and A. N. Link (2019) argue that innovation policies should be tailored to the specificities of SMEs, as this sector is often the birthplace of new ideas. By promoting innovation, SMEs can become more competitive in both domestic and international markets.

Entrepreneurship education is also important to help SMEs improve their management processes and competitiveness. The European Commission's Erasmus for Young Entrepreneurs programme gives budding entrepreneurs the opportunity to learn from more experienced colleagues in other countries (European Commission, 2021). G. Nabi and F. Liñán (2021) note that entrepreneurship training programmes significantly increase the likelihood of success for SMEs by providing the practical skills needed for business development.

Tax incentives also help SMEs reduce their operating costs. Article 5(2) of the Law on Corporate Income Tax of the Republic of Lithuania stipulates that the taxable profit of entities (except non-profit entities) with an average number of listed employees not exceeding 10 people and with a revenue for the taxable period not exceeding EUR 300 000 shall be taxed at a tax rate of 5 per cent. Other units are taxed at the standard rate of 15 per cent (Infolex, 2024).

Reducing the administrative burden is an important factor for SME growth, which is why the State aims to simplify procedures for setting up and regulating businesses. "Versli Lietuva and the Lithuanian Innovation Centre provide free consultations, training and help to find business partners in international markets (Versli Lietuva, 2023). Promoting SME innovation is also one of the priority areas of state policy. Research and experimental development (R&D) activities benefit from tax incentives and subsidies. Under the 'Innovation Incentive Measure', companies investing in research can recover up to 300 % of the costs incurred through tax deductions (Lithuanian Innovation Centre, 2023).

In summary, SME promotion is a multifaceted process, involving the provision of financial assistance, improving the regulatory environment, promoting innovation and fostering entrepreneurship. The role of governments and international organisations in this area is particularly important as the SME sector is one of the main sources of economic growth and employment. Consistently improving support mechanisms and reducing administrative barriers can help to accelerate the development and competitiveness of the SME sector, both locally and internationally

Trends in small and medium – sized enterprises in Lithuania

SMEs are one of the most important segments of the Lithuanian economy, making a significant contribution to the country's economic growth, innovation and labour market. Monitoring the dynamics of this sector allows to assess both short-term economic changes and long-term trends. In this context, this chapter examines the main indicators of SME activity - the number of enterprises, changes in the number of employees, turnover, profitability and exports - for the period from 2019 to 2022.

According to the Official Statistics Portal, the number of small and medium-sized enterprises (SMEs) in Lithuania grew steadily between 2019 and 2022, increasing by 0.4% in 2019, 6.1% in 2021 and a further 2.3% in 2022. The number of persons employed in SMEs showed mixed trends, increasing by 2.2% in 2019, decreasing by 0.9% in 2021 and increasing again by 2.5% in 2022. Business turnover grew significantly over the years, from €64.3 billion in 2019 to €96.2 billion in 2022, with medium and small enterprises accounting for the largest share of the increase. Net profit ratios also increased significantly, from €3.3 billion in 2019 to €6.6 billion in 2022, although net profitability in 2022 decreased from 30.1% to 26.6% compared to 2021. Exports of SMEs have grown steadily over the period, from €11.4 billion in 2019 to €17.6 billion in 2022, with the highest growth (26.1%) recorded in 2022, reflecting the increasing importance of the SME sector in the national economy (Official Statistics Portal, 2023).

These trends are particularly evident when looking at the evolution of the number of active enterprises over the last decade (see figure 1).

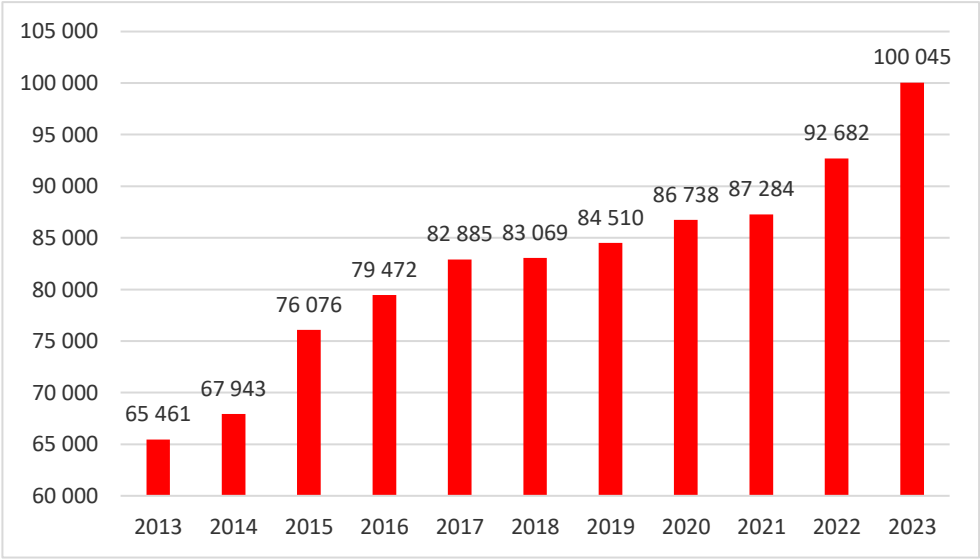


Fig. 1. Number of SMEs in operation at the start of the year
**Source: made by author, based on data from the Department of Official Statistics of the Republic of Lithuania*

Based on the information collected (see Figure 1), it can be seen that at the beginning of 2013, there were 65 461 small and medium-sized enterprises (SMEs) operating in Lithuania, and by the beginning of 2023, this number will have increased to 100 045. This growth shows that the number of SMEs has increased by 52.83% over the decade. Particularly rapid growth has been recorded in recent years, with the number of SMEs increasing by 8.01% between 2022 and 2023, i.e. 7 417 new enterprises were established in one year. Naturally, the growing number of SMEs has a direct impact on the structure of the country's Gross Domestic Product (GDP). The next part of the analysis shows how the contribution of SMEs and large enterprises to the country's economic growth has evolved over the years (see figure 2).

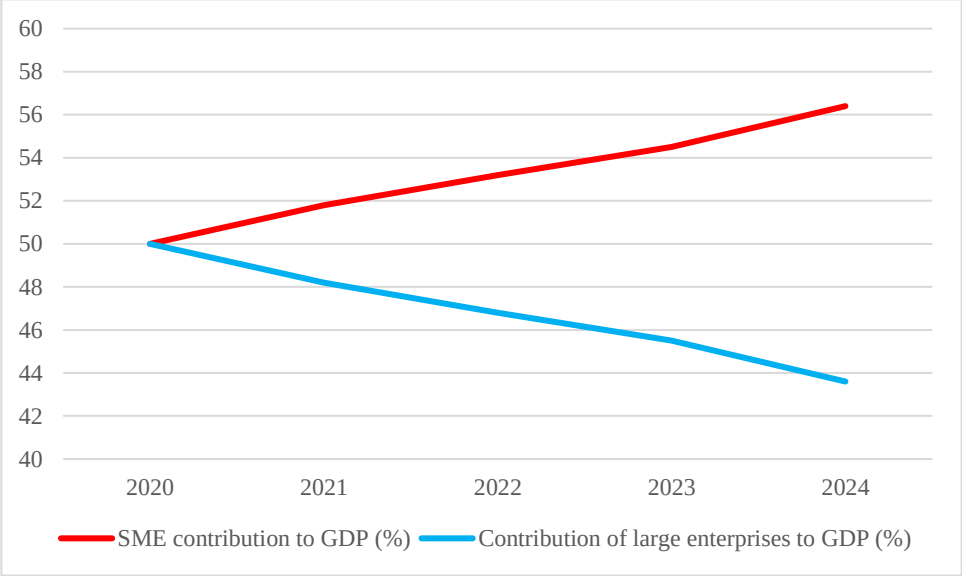


Fig. 2. Contribution of SMEs and large enterprises to GDP (2020- 2024)
**Source: made by author, based on data from the Department of Official Statistics of the Republic of Lithuania*

The importance of small and medium-sized enterprises in the Lithuanian economy has grown significantly in recent years. While in 2020 SMEs contributed to half of the country's GDP, by 2024 this figure will have risen to more than 56%. Meanwhile, the share of large enterprises has been steadily declining, from 50% to just over 43%. This shows that smaller companies are not only strengthening their market position, but are also becoming an increasingly important economic engine. This growth is hardly surprising - the SME sector is more flexible, adapts more quickly to market changes and is often more responsive to innovation or consumer demand. In addition, this year has seen a number of SMEs benefiting from various business incentive programmes, investing in digitalisation and new technologies, which has helped them not only to survive but also to grow. Finally, more and more people are choosing to set up their own business, both because of the desire to be independent and because of the growing opportunities in various fields, especially in the services and technology sectors.

This trend shows that SMEs in Lithuania not only have a strong base, but also a real potential to contribute even more to the economy. The graph clearly illustrates how the country's business structure is changing, with smaller companies gradually taking on greater responsibility for economic prosperity. The growing contribution of SMEs to GDP is also closely linked to the sector's capacity to create jobs. The contribution of SMEs to the country's labour market and the evolution of the number of employed people over the period 2020-2024 are therefore analysed below (see figure 3).

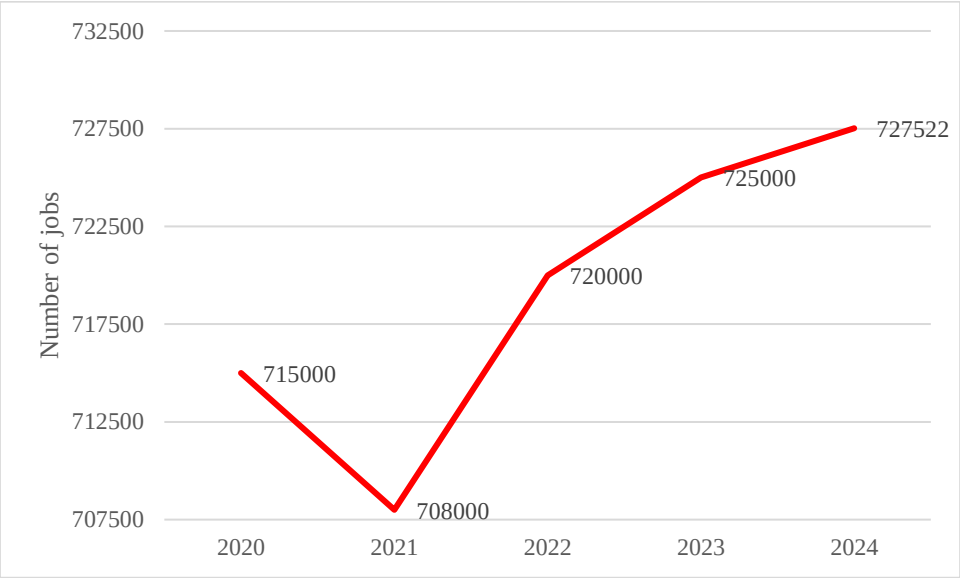


Fig. 3. Jobs created by SMEs
**Source: made by author, based on data from the Department of Official Statistics of the Republic of Lithuania*

Over the last five years, small and medium-sized enterprises (SMEs) in Lithuania have maintained a key role in the labour market. In 2020, around 715,000 people will be employed in the SME sector, but a slight drop will be recorded in 2021. At that time, business was still suffering from the effects of the pandemic, with some companies having to downsize or even temporarily stop work, and therefore the number of employees also fell slightly. However, by 2022, the situation had already started to change for the better, with businesses starting to grow again and take on more people. In 2023, the number of people employed in the SME sector again approached pandemic levels, peaking in 2024 at more than 727,000 employees. This shows that the SME sector has not only recovered, but has become even stronger, able to adapt to challenges and provide stable jobs for thousands of people in the country.

In summary, Lithuania's small and medium-sized businesses have been significantly strengthening in recent years, with a growing number of enterprises, improved financial performance, increased exports and job creation. SMEs are increasingly contributing to the country's economic growth and their share in the GDP structure is steadily increasing. This shows that this business sector is becoming an increasingly important economic engine, able to adapt quickly to change and create value for both business and society.

Conclusions

Theoretical material suggests that small and medium-sized enterprises (SMEs) are one of the most important parts of the modern economy. They not only contribute to the growth of gross domestic product, but also have a significant impact on the labour market, regional development and the diffusion of innovation. SMEs are often closer to the consumer, able to respond more quickly to their needs, and their flexibility allows them to adapt to a constantly changing economic environment. This helps to understand why this sector is considered to be of key importance both economically and socially.

The analysis of the situation of SMEs in Lithuania shows that the sector has grown strongly in recent years. Not only the number of enterprises has increased, but also their turnover, exports and profits. Although there have been slight fluctuations in some years (especially during the pandemic period), the overall trend is clearly positive. It has also been observed that more and more people are choosing to set up their own business, which reflects the increasing level of entrepreneurship in the country. These developments suggest that SMEs in Lithuania are becoming an increasingly important and influential economic sector.

While SMEs have many advantages, they still face a number of challenges. One of the main challenges is limited access to finance, especially at the start-up stage. Excessive bureaucracy, complex procedures and a lack of information on the availability of support are also common. All this hinders business growth and expansion. Therefore, in addition to financial support, a clearer, business-friendly environment that encourages start-ups and expansion is needed to help SMEs.

An analysis of recent trends in SMEs in Lithuania shows that the sector is not only recovering from the pandemic, but is also growing rapidly. The number of enterprises is increasing year on year and their contribution to GDP shows that SMEs are becoming an increasingly important economic engine. It is also clear that more and more people are deciding to start their own businesses, which means that entrepreneurship in Lithuania is on the rise. Given these trends, it can be assumed that the SME sector has a solid foundation and a high potential for future growth, provided that the conditions are favourable.

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RETROSPECTIVE OF GREEN FINANCE IN THE BALTIC STATES FROM 2007 TO 2025

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Keywords: Green finance; Sustainable development; Green bonds; Baltic States.

Abstract
Green finance is a financial activity that supports projects benefiting the environment and climate, such as those focused on environmental protection, climate change, and the circular economy. Green finance in Europe, developed from 2007 to 2025, is key in addressing climate change and building a sustainable economy. The EU prioritizes green finance, investing in eco-friendly technologies and projects, with instruments like green bonds, loans, and funds driving sustainable development. The European Investment Bank issued the first green bonds in 2007, sparking the growth of the green bond market. Baltic states have made varying progress, with Lithuania leading in renewable energy. Green finance contributes to climate change mitigation and sustainable economic structures, playing a vital role in achieving EU environmental goals. The development of green finance also contributes to greater public and industry awareness of environmental protection and climate change issues.

Introduction

Relevance of the topic. Climate change is one of the biggest problems of the modern world, affecting nature and human life. "The average global temperature is about 1.1 °C higher than it was before the industrial revolution and the warmest in 100,000 years." (A. V. Valiulis, 2024, p. 362). In 1700, the concentration of carbon dioxide in the atmosphere was approximately 225 ppm; by 1950, it had increased to 320 ppm, and today it has already reached 411 ppm. (Škiudas et al., 2020, p. 7). "The year 2024 was the warmest in two centuries and even exceeded the pre-industrial norm (1850–1900) by 1.6 °C." (Ignitis, 2025). Human activity has a major influence on the climate. "… a quarter of greenhouse gas emissions come from electricity and heat production (25%), agriculture, fisheries, and forestry (24%), industry (21%), transport (14%), fuel extraction, processing and transportation (10%), construction (6%)." (Climate Change, 2020). "… from 1901 to 2018, the average global sea level rose by 15–25 cm …" (Copernicus Marine Service, 2025). "… 1,677 out of 15,060 assessed European species are threatened with extinction. …" (European Parliament, 2021). "In 2022, there were 421 natural disasters in the world, and the total damage is calculated at 313 billion USD …" (AON, 2023). The fight against climate change and the transition to a sustainable economy has become one of the European Union's most important strategic goals. "On 11 December 2019, the Commission proposed the European Green Deal …" (European Commission, 2019). "… adopted a package of proposals aimed at reforming climate, energy, transport and tax policy to achieve the goal of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels." (Official Website of the European Union, 2025). "… committed to becoming the first climate-neutral bloc in the world by 2050." (Official Website of the European Union, 2020). The European Union has taken not only regulatory measures but also financial instruments – one of the main tools became green finance.

The problem of the research – to tackle climate change and reduce greenhouse gas emissions, countries must shift towards sustainable development, supported by green finance. It remains unclear how green finance contributes to these goals in the Baltic States, whether these countries have a well-established green finance market, what instruments are used, and how each country addresses these environmental challenges individually.

The purpose of the article - analyze the development of green finance in the Baltic countries from 2007 year to 2025 year.

Article task:

1. To observe the principles of green finance and its importance for sustainable development.
2. To review the role and share of green finance instruments – such as green bonds and corporate green bonds – in the green finance market of the Baltic States, and to outline the position of each country within the regional green finance market.
3. To analyze the development and expansion of green finance in Lithuania, Latvia, and Estonia from 2007 to 2025.

Research method - analysis of scientific theoretical literature and other sources, statistical analysis, document analysis, study includes review of diagrams, tables, and comparative data to illustrate trends and developments in the green finance sector.

Green finance

Lore Climate change and environmental issues are increasingly driving the search for sustainable economic solutions. Investments in eco-friendly technologies, renewable energy, and sustainable business practices are becoming not only a responsible choice but also long-term economic benefits. “The green economy is a relatively new field of economics that is rapidly entering all aspects of our lives. Increasingly, there is discussion about concepts such as “green jobs,” “green finance,” “eco-investment,” and “eco-innovation.” The green economy is often referred to as the future of the world — not merely as a new branch of economics, but as the dominant economic model that every country is expected to follow in the future.’’ (Pavilavičiūtė, 2020, p. 12). „In 1972, the first UN conference on human environment issues was held. <…> A lot of attention was given to environmental issues and reliable environmental management principles were adopted, including the Stockholm Declaration and the Human Environment Action Plan.” (Facts about the European Union Summaries, 2025). The conference marked the beginning of environmental awareness. “In 1987, the Brundtland Commission formulated the current concept of sustainable development.” (Lithuanian Courts, 2022). This document laid the foundation for later international environmental policies. “In 2015, governments agreed to make collective efforts to limit global warming and reduce its impact. The Paris Agreement – the signing countries are legally obligated to act against climate change.” (European Council, 2024). The agreement paved the way for more ambitious international climate policy initiatives. “In 2018, the European Commission launched the Sustainable Finance Action Plan to unlock the potential of the financial sector and contribute to the goals of the Paris Agreement, which aims to strengthen the global response to the threat of climate change and the achievement of the United Nations Sustainable Development Goals (SDGs).” (BNP Paribas, 2019). This promoted the rapid development of green finance. “In 2020, MEPs approved the EU taxonomy rules – a classification system that defines which activities are considered sustainable. The system provides companies and investors with the ability to identify which economic activities can be considered sustainable and encourages private sector financing for the transition to climate neutrality.’’ (European Parliament, 2020). The aim is to provide clarity and transparency and make well-grounded decisions. By 2025, interest and investments in green finance continue to grow.

“Green finance is a financial activity aimed at making a positive impact on the environment and climate by financing environmental, circular economy, climate change mitigation, and adaptation projects.” (Bank of Lithuania, 2024). „Sustainability and social responsibility are concepts that are inseparable from green finance. Already at the end of the 20th century, the financial markets began discussing investment approaches that would not harm the environment and would contribute to improving quality of life.’’ (Kazilionienė. 2023, p. 12). “Green finance connects the financial and business worlds with environmentally friendly behavior. <…> It includes public and private green investments, financing of green public policies, and green financial resources. <…> Investments in environmental goods and services and prevention, reduction, and compensation of environmental and climate damage.” (Universal Lithuanian Encyclopedia, 2025). Green finance has become an inseparable part of the financial market, helping to align economic goals with environmental protection. “The main financial instruments are green bonds, stocks, indices, loans, environmental protection funds, green venture funds, weather derivatives, green insurance instruments, state-owned green funds, grants, and pollution permits.” (Universal Lithuanian Encyclopedia, 2025). These instruments help reduce greenhouse gas emissions and protect ecosystems during the transition to a sustainable economy. “One of the most popular instruments is green bonds. According to the Climate Bonds Initiative (2021), in the second quarter of 2020, green bonds were issued for 258.9 billion US dollars. <…> More than 87% of investments were allocated to energy, building renovation, and the transport sector. In Europe, green bonds account for more than half (55%) of the total global green bond issuance.” (Universal Lithuanian Encyclopedia, 2025). „The first 5-year Climate Awareness Bonds (CABs) were issued in 2007 by the European Investment Bank (EIB) to finance energy efficiency improvements and the development of renewable energy sources. The European Investment Bank was not only the first institution to issue this type of bond but also remained the largest green bond issuer, accounting for nearly 8 percent of the global green bond market.’’ (Daunaravičiūtė, 2021, p. 15). Europe holds a dominant position in the market, promoting sustainable

investments worldwide. Green finance is becoming increasingly important in achieving sustainable economic and environmental goals.

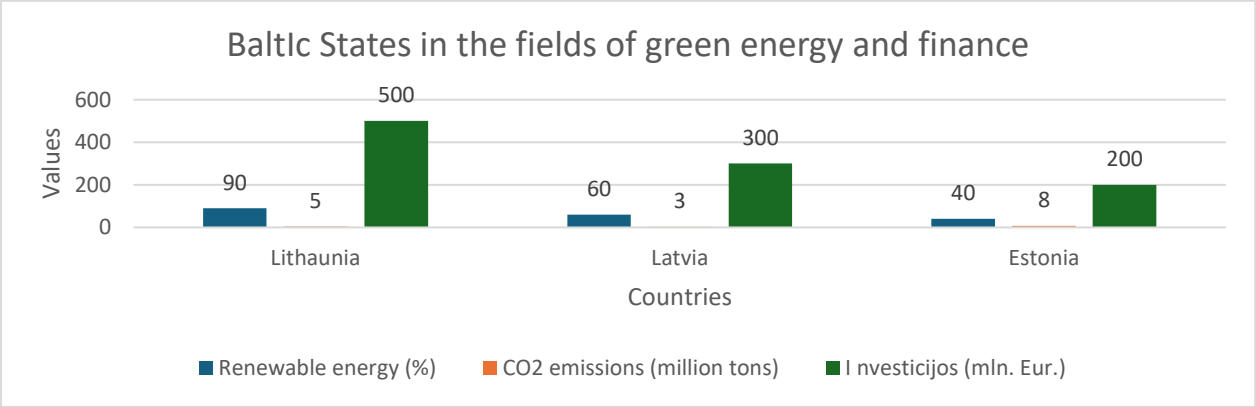


Fig. 1. Progress of the Baltic States in the fields of green energy and finance. Source:
**Source made by the author based on: European Bank for Reconstruction and Development, 2023.*

Lithuania leads in renewable energy (90%) and investments (€500 million). Latvia achieves average indicators (60% renewable energy and €300 million in investments) with the lowest emissions (3 million tons). Estonia lags both in renewable energy (only 40%) and investments (only €200 million), as well as having the highest emissions (8 million tons).

Green finance promotes sustainable development through investments in eco-friendly technologies and climate change mitigation projects. Key instruments: green bonds, loans, and funds contribute to reducing greenhouse gas emissions and protecting ecosystems. Europe dominates this market with increasing investments. The Baltic States are showing positive progress. Lithuania leads in renewable energy and investment indicators. Latvia has the lowest CO2 emissions indicator. Compared to the others, Estonia still lags. Green finance is becoming increasingly important in achieving sustainable economic goals.

Green Finance Instruments

Traditional financing models often do not sufficiently encourage environmentally friendly initiatives, so special tools aimed at a sustainable economy are needed. Green finance instruments provide businesses and institutions with the opportunity to invest in low-carbon technologies and contribute to mitigating climate change. “Among sustainable investment products, green loans are a rapidly growing segment. The financial sector, influenced by ever-stricter requirements, is adjusting existing processes and creating new management tools to align with the changing environmental landscape.” (Lapinskienė et al., 2024). Green loans allow businesses and individuals to directly contribute to achieving environmental and sustainability goals. “… loans contribute to positive impacts on the environment and climate, e.g., loans for installing solar and wind power plants, or for purchasing or renovating homes with higher energy efficiency standards.” (Bank of Lithuania, 2024). Green housing loans promote sustainability in the real estate sector, the acquisition or renovation of energy-efficient homes. “Green housing loans are designed for homes that meet higher energy efficiency standards or will meet them after renovation, for purchasing or renovating.” (Bank of Lithuania, 2024). Choosing green housing loans is not only a financing tool but also an investment. “… after renovating or purchasing an energy-efficient home, energy consumption, heating, and electricity bills are reduced… GHG emissions and the negative impact on climate change are reduced… over time, the market value of the home will be higher than that of a similar but less energy-efficient home.” (Bank of Lithuania, 2024). Green leasing options also help consumers contribute to a greener economy. “Green leasing - leasing contracts for acquiring eco-friendly vehicles or other equipment.” (Bank of Lithuania, 2024). This is one of the green investment areas that allows investors to direct capital to sustainable initiatives. “Green investments – investments in various financial instruments that aim to have a positive impact on the environment and climate. According to EU legislation, green investment products can pursue environmental goals such as climate change mitigation, adaptation to climate change, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.” (Bank of Lithuania, 2024). One of the most important green investment instruments is green

bonds, which help realize climate change mitigation. “Green bonds are debt securities, where the raised funds are used to finance environmental and climate change-related projects.” (Bank of Lithuania, 2024). Positive investments in climate change mitigation are receiving increasing attention, as well as financing opportunities. “Favorable financing conditions are expected due to growing demand.” (Bank of Lithuania, 2024). They are characterized by transparency. “Regular disclosure of information on the environmental impact of the funds used.” (Bank of Lithuania, 2024). To ensure transparency and reliability, the European Green Bond Standards have been developed. “To call bonds green, from the end of 2024, they must comply with the European Green Bond Standard – a regulation that sets strict requirements for fund usage, transparency, and accountability.” (Bank of Lithuania, 2024). Green loans, investments, and bonds are key factors in financing sustainable initiatives and contributing to climate change mitigation while ensuring the sustainability of the economy and ecological responsibility.

Table 1

Table of the Green, Sovereign, and Corporate Bond Markets in the Baltic States.

Category	Latvia	Lithuania	Estonia
Total Bond Amount (mln. EUR)	750 mln.	1,300 mln.	1,800 mln.
Dominant Bond Type	Sovereign (750 mln. EUR)	Sovereign (1,300 mln. EUR.)	Corporate (1,800 mln. EUR)
Corporate Bonds	100 mln. EUR (80 psc)	100 mln. EUR (6 psc)	1,800 mln. EUR (75 psc)
Sovereign Bonds	750 mln. EUR (20 psc)	1,300 mln. EUR (68 PSC)	-
Green Bonds	2 psc	1 psc	1 psc
Municipal Bonds	-	-	11 psc
Bonds in EUR (mln. EUR)	750 mln. (72 psc)	1,300 mln. (70 psc)	1,800 mln. (82 psc)
Bonds in USD (mln. EUR)	250 mln. (30 psc)	250 mln. (4 psc)	Mažai (1 psc)
Bonds in Other Currencies	-	-	3 psc

**Made by the author based on: Climate Bonds Initiative, 2018; Ministry of Finance of the Republic of Lithuania, 2022. Nasdaq Baltic, 2025.*

Baltic sovereign green bonds are “debt securities issued by the government to raise funds for its operations…” (Investopedia, 2024), while corporate green bonds are “debt securities issued by companies to raise funds for business expansion…” (Investopedia, 2024). The bond market differs in terms of issuance volumes and bond types. Lithuania stands out with the largest sovereign bond issuance of EUR 1.3 billion, while Latvia issues EUR 750 million. Estonia mostly issues corporate bonds amounting to EUR 1.8 billion. The amount of municipal bonds, “debt securities issued by local, county, and state governments…” (Investopedia, 2025), is only known n Estonia. The green financing sector in the Baltic bond market is showing growth. Lithuania dominates, but the volume of green bonds remains relatively small in all three countries.

Green financing instruments include green loans, housing loans with high energy efficiency standards, green bonds, and investments, which promote sustainable technologies and climate change mitigation by ensuring funding for environmentally friendly projects in line with European standards. The green financing sector in the Baltic States is showing growth. Lithuania dominates with EUR 1.3 billion in sovereign green bond issuance, Latvia reaches EUR 750 million, and Estonia mostly issues corporate bonds (EUR 1.8 billion). Although Lithuania leads in the green financing market, the volumes remain small across all Baltic countries. The increasing market growth shows more focus on environmental protection and sustainability goals.

Green financing

Green financing includes financial instruments and strategies promoting a sustainable economy and environmental goals. These instruments help invest in projects that reduce the negative impact on the environment and climate change. After the COVID-19 pandemic, the importance of green financing increased. "In response to the economic and social impacts of COVID-19, the European Commission introduced the Economic Recovery and Resilience Facility in 2020… to finance economic recovery, the EU will borrow funds on favorable terms… and redistribute these funds to member states" (Ministry of Finance of the Republic of Lithuania, 2024). This is the largest economic recovery measure to date, aimed at accelerating sustainable recovery and green transformation in Europe. "The EU's long-term budget, together with the 'Next Generation EU' initiative—a temporary measure aimed at promoting economic recovery—represents the largest collection of stimulus measures financed by the EU budget" (Ministry of Finance of the Republic of Lithuania, 2024). Member states will be able to invest in key structural reforms to achieve sustainable and resilient economic goals in the future. "EUR 1.8 trillion to restore the European economy. EGADP is the main part of the 'Next Generation EU' temporary economic recovery package worth EUR 750 billion" (Ministry of Finance of the Republic of Lithuania, 2024). These funds will be directed toward green investments and the modernization of key sectors to ensure long-term economic sustainability. "Next Generation EU" distribution: The Economic Recovery and Resilience Facility EUR 672.5 billion, of which EUR 360 billion are loans, and EUR 312.5 billion are grants" (Ministry of Finance of the Republic of Lithuania, 2024). Loans and grants will allow funds to be directed toward green projects across the European Union, benefiting all member states. "Green transformation and digital transformation are EU-wide priorities, and each member state must allocate at least 37% and 20%, respectively, of EGADP funds… EGADP funds must promote economic recovery through structural reforms in green and digital transformation areas" (Ministry of Finance of the Republic of Lithuania, 2024).

According to the Economic Recovery and Resilience Facility, funds allocated to Lithuania include advance financing. "The Commission made an advance payment of EUR… to Lithuania and EUR 171.08 million" (European Commission, 2023). First payment: "The Commission made the first EUR 542 million payment to Lithuania…" (European Commission, 2023). "The Commission allocated EUR 14.9 million to Lithuania" (European Commission, 2024). Second payment: "The Commission made the second EUR 360 million payment to Lithuania…" (European Commission, 2024). These funds were used for healthcare development (infectious disease clusters, competence platforms, sustainability technology laboratories), energy storage devices, and public information technology management transformation (Official European Union Website, 2024).

Funds allocated to Latvia include advance financing. "The European Commission made an advance payment of EUR 237 million to Latvia" (European Commission, 2021). First payment: "… EUR 201 million was paid to Latvia" (European Commission, 2022). Second payment: "The Commission made the second EUR 336 million payment to Latvia…" (European Commission, 2024). These funds were allocated to healthcare sustainability and management strengthening, budget increases for the health sector, genome data references, and oncology management. Integrated healthcare systems for sustainability and resilience (Official European Union Website, 2024).

Funds allocated to Estonia include advance financing. "The European Commission made an advance payment of EUR 126 million to Estonia…" (European Commission, 2021). First payment: "The Commission made the first EUR 238.5 million payment to Estonia under the Recovery and Resilience Facility" (European Commission, 2023). Second payment: "The Commission approved the second EUR 122.3 million payment request for Estonia…" (European Commission, 2024). Third payment: "The European Commission approved a positive assessment of Estonia's payment request for EUR 122.3 million in grants…" (European Commission, 2025). These funds were allocated for the construction of a new healthcare center, digital transformation, data management, and the development of green technologies, sustainable investments, and digital solutions (network, document, business model modernization). They also support renovation and energy storage initiatives (Official European Union Website, 2024).

Table 2

Table of Funding received under the Economic Recovery and Resilience Facility in the Baltic States.

	Lithuania	Latvia	Estonia
Advance financing	EUR 171,08 million	EUR 237 million	EUR 126 million
First payment	EUR 542 million, EUR 14,9 million	EUR 201 million	EUR 238,5 million
Second payment	EUR 360 million	EUR 336 million	EUR 122,3 million
Third payment	-	-	EUR 122,3 million
Total	EUR 1,087,98 million	EUR 774 million	EUR 609,1 million

**Made by the author based on: European Commission, 2023; European Commission, 2023; European Commission, 2024; European Commission, 2024; European Commission, 2021; European Commission, 2022; European Commission, 2024; European Commission, 2021; European Commission, 2023; European Commission, 2024; European Commission, 2025.*

The table shows the funding received in the Baltic States under the Economic Recovery and Resilience Facility. The highest amount of advance financing went to Latvia (EUR 237 million). During the first payment, Lithuania received the highest sum (EUR 542 million and EUR 14.9 million). During the second payment, Lithuania also received the largest amount (EUR 360 million). So far, only Estonia has received the third payment (EUR 122.3 million). In total, Lithuania received the most funding (EUR 1,087.98 million).

Green finance refers to financial activities aimed at having a positive impact on the environment and climate by funding sustainable projects related to climate change mitigation and eco-friendly technologies. Key instruments such as green bonds, loans, and investments promote the transition to sustainable development. The European Union and the world are increasingly focusing on the development of green finance to meet the goals of the Paris Agreement and contribute to the United Nations Sustainable Development Goals. The Baltic States are showing positive progress, with Lithuania leading in renewable energy and investments. Lithuania also dominates in green bond issuances, although the scale of these measures remains small across the region. Green finance instruments such as housing loans and green investments contribute to sustainability and environmental goals. The growing market indicates increasing attention to climate change and environmental protection initiatives.

Conclusions

1. Finance promotes sustainable development by reducing greenhouse gas emissions and supporting investments in eco-friendly technologies. The European Union and international initiatives help ensure their development. The analysis of the Baltic States shows that Lithuania leads in investments, while Estonia is still facing challenges in transitioning to a more sustainable economy.
2. Green finance instruments promote sustainable investments and environmentally friendly technologies. In the Baltic States, Lithuania leads in sovereign bond issuances, while Estonia leads in corporate bonds. Although green bonds constitute a small share of the market, their growth indicates an increasing focus on sustainability goals.
3. Green finance has become a key aspect of the European Union’s economic recovery, driving sustainable recovery after the COVID-19 pandemic. Lithuania secured the largest funding in the Baltic States, with other countries receiving smaller amounts, but all nations are strengthening their commitments to the green transition.

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AB "LIFOSA" ACCOUNTING AND THE RESPONSIBILITY OF THE MANAGER AND THE PERSON HANDLING THE ACCOUNTING

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Abstract
The article analyzes the distribution of responsibilities between the manager and the accountant in the context of accounting organization, based on a case study of AB "Lifosa." The relevance of the topic is determined by the amendments to the Law on Financial Accounting of the Republic of Lithuania that came into force in 2022, which clarified these responsibilities and their implementation in practice. The research problem is related to the lack of clear boundaries and competence definitions in business operations. The applied research methods include the analysis of primary and secondary sources, legal documents, and the company's financial statements. It was found that AB "Lifosa" has a well-regulated accounting system; however, it faces challenges due to outdated accounting processes and deteriorating financial results. Clearly defined responsibilities between the manager and the chief accountant ensure the reliability of accounting, but the insufficient modernization of processes may pose operational risks. The analysis of financial indicators revealed a significant decline in profitability and changes in capital structure. Based on the research findings, recommendations are provided for improving financial control and strengthening the implementation of responsibilities.

Introduction

Relevance of the Topic. The field of corporate accounting at the national level has undergone significant changes in recent years. These changes have impacted the distribution of responsibilities between managers and those handling accounting, which are regulated by the amendment to the Law on Financial Accounting of the Republic of Lithuania No. IX-574, effective from May 1, 2022. This legal act more clearly defines the manager's duties in the area of accounting organization.

Changes were made regarding the accuracy and reliability of financial information, the procedure for registering and evaluating economic transactions, and internal control measures. The new standards help to better separate the functions of the manager and the accounting personnel, as well as establish mechanisms for error prevention and the avoidance of redundant information (Law on Financial Accounting of the Republic of Lithuania No. IX-574 Amendment, 2022).

Markevičienė (2022) notes that, along with these amendments, the prohibition for company managers to personally handle financial accounting was lifted. As a result, the managers of smaller companies now have more flexibility in managing the company's financial matters, but this requires specific knowledge and skills. If a company's manager decides to handle the financial accounting personally, they assume responsibility for any potential accounting errors. Without acquiring sufficient competence and managing the company's accounting on their own initiative, it may be difficult to avoid tax-related issues.

Another important aspect is the professional ethics of managers and accounting personnel. The International Federation of Accountants (IFAC) states that those handling accounting must ensure fair, objective, and reliable representation of financial data. However, according to Kalčinskas (2022), there are cases where company managers, by requesting or pressuring the accounting personnel, manipulate financial indicators in an attempt to avoid or reduce certain taxes, which can lead to serious legal consequences and harm to the state. For this reason, the responsibilities of managers and accounting personnel are crucial for the transparent financial reporting of companies and the overall welfare of the state.

It is also important to note that the responsibility of managers and accounting personnel for transparent financial reporting in Lithuania is shaped by the Law on Financial Accounting of the Republic of Lithuania, the Lithuanian Financial Reporting Standards, and international accounting standards. Since accounting is increasingly digitized internationally, this creates new challenges regarding data protection, cybersecurity attack prevention, and the smooth integration of automated accounting systems into the company's accounting processes. Technological development fundamentally changes the boundaries of responsibility for managers and those handling accounting. Company managers are responsible for selecting and integrating appropriate technologies into the company's accounting processes, while accounting personnel must adapt to these changes and take responsibility for the accuracy of the data presented, manage software settings, and address any technological issues that arise.

All of these factors highlight the relevance of the responsibilities of managers and accounting personnel in the current perspective and emphasize their significance for the efficiency of company operations and the stability of the overall economic system.

Research on the Topic. There is a lack of scientific research analyzing the responsibilities of company managers and accounting personnel after the enactment of the amendment to the Law on Financial

Accounting of the Republic of Lithuania No. IX-574 in 2022. Most of the attention given to this topic focuses on legal regulations, but there is a lack of economic insights. Therefore, it is relevant to investigate the distribution of responsibilities between the manager and the accounting personnel in the context of a real case.

Problem of the Thesis. Despite the enactment of the amendment to the Law on Financial Accounting of the Republic of Lithuania No. IX-574 in 2022, which more clearly defines the distribution of responsibilities between the manager and the accounting personnel, uncertainties remain in practice regarding the scope of their functions, legal responsibilities, and the need for competencies. In the absence of empirical studies on the distribution of these responsibilities in real companies, the question arises as to how these responsibilities are implemented in the case of AB "Lifosa."

Object of the Thesis - AB "Lifosa" accounting and the responsibilities of the manager and the accounting personnel.

Objective of the Thesis - To investigate AB "Lifosa" accounting and the distribution of responsibilities between the manager and the accounting personnel.

Tasks of the Thesis:

1. To review the concept, evolution, and role of accounting in an organization and theoretical directions;
2. To present the aspects of legal responsibility of the person handling accounting at the national level;
3. To analyze AB "Lifosa" accounting and the responsibilities of the manager and the accounting personnel.

Research Methods. In order to analyze AB "Lifosa" accounting and the responsibilities of the manager and the accounting personnel, a primary and secondary data analysis method was chosen. The method of analyzing scientific articles and legal documents was applied, as well as case analysis - studying the company's financial statements and internal accounting documents.

Structure of the Thesis. The thesis consists of three chapters. The first chapter presents the concept, evolution, and role of accounting in an organization, international financial reporting standards (IFRS), Lithuanian financial reporting standards (LFAS), and the legal responsibility of the person handling accounting at the national level, as well as theoretical directions of accounting. The second chapter presents the research methodology and analysis of AB "Lifosa" accounting and the responsibilities of the manager and the accounting personnel. The third chapter covers AB "Lifosa" accounting for the years 2019-2023 and recommendations for improving the situation. At the end of the thesis, conclusions are provided.

The project includes 67 pages, 13 tables, and 9 figures. A total of 75 sources of scientific literature, legal acts, and data sources were used.

Data and…..

Document Analysis – The financial statements of AB "Lifosa" for 2021–2023 and internal documents (accounting policy, accounting regulations) were systematically reviewed to assess the organization of the company's accounting.

Financial Ratio Analysis – A relative ratio analysis was applied to evaluate changes in profitability, solvency, and efficiency. The data was additionally analyzed vertically and horizontally to identify financial risks.

Comparative Analysis – An analysis of changes in financial ratios over the period 2021–2023 was performed to identify growth or decline trends and to interpret them quantitatively.

Legal Acts Analysis – Lithuanian legal acts (Corporate Income Tax, VAT, Civil Code, etc.) were examined to assess the legal basis for the responsibilities of managers and accountants.

These accounts are selected according to the Lithuanian General Chart of Accounts. Each of them reflects the essence of a specific economic transaction. For example, when raw materials are purchased, the account 20100 is debited – this is the company's asset that increases, and on the credit side, account 44300 is used because there is a debt to the supplier. We also see payroll, social security, cost of goods sold, or depreciation expenses, which are debited as they are company expenses. On the credit side, there are payable amounts, such as liabilities to employees or the state. All accounts are selected to accurately reflect accounting principles and comply with legal requirements.

2023 AB "Lifosa" Accounting Entries of Economic Operations According to Debit and Credit Accounts

Economic Operation	D Class (Debit)	Amount (EUR)	K Class (Credit)	Amount (EUR)
Purchase of goods and raw materials	20100 Raw materials and components	24,507,000	44300 Liabilities to suppliers for raw materials	24,507,000
Accrued wages	61000 Employee wages	11,353,000	44800 Payable wages	11,353,000
Social security contributions	61200 Social insurance expenses	527,000	44810 Payable social security contributions	527,000
Income tax refund	44830 Income tax liabilities	11,476,000	63900 Tax expenses / refunds	11,476,000
Depreciation of fixed assets	63000 Depreciation expenses	17,144,000	12xxx Accumulated depreciation	17,144,000
Cost of goods sold	60000 Cost of sales	191,624,000	20200 Produced goods	191,624,000
VAT offset	44820 Payable VAT	Not indicated	13400 VAT deduction	Not indicated

Comparison of the Responsibilities of the CEO and the Chief Accountant According to Internal Documents The Chief Accountant is responsible for organizing the accounting department, managing daily accounting operations, overseeing subordinate employees, and providing financial information to the management. The CEO approves the accounting policy, ensures its implementation, is responsible for disclosing significant information in the financial statements, and for the distribution of internal responsibilities. This division of responsibilities allows for a clear distinction between operational and strategic financial management functions within the company. However, it is worth noting that these responsibilities were last updated in the company in 2010.

The financial results of AB "Lifosa" significantly deteriorated during the period of 2021–2023. Sales revenue decreased by as much as 75% over two years, and in 2023, the cost of goods sold exceeded the revenue, resulting in operational losses for the company. The gross profit shifted from positive to negative, and the profit before tax turned into a significant loss. This clearly indicates a critical decline in profitability indicators.

The analysis of the balance sheet data shows a decrease in both long-term and, particularly, short- term assets, which may pose a liquidity risk. Equity also decreased in 2023, and the decrease in receivables may indicate stricter control over payments. The liabilities structure shows a consistent increase in subsidies and provisions, while the value of short-term payables is decreasing, indicating structural changes in the company's financial obligations.

Analyzing AB "Lifosa" profitability and efficiency indicators, a clear declining trend is observed. In 2021, the company operated profitably—both net and gross profitability were high. However, in 2022, these indicators dropped, and in 2023, they became negative. This means the company incurred losses even before accounting for operating expenses. The return on assets and asset turnover also decreased, indicating that the company is finding it increasingly difficult to generate revenue from its available resources. The exception is inventory turnover, which significantly improved in 2023. This may indicate that the company has taken steps to manage its stock and production more efficiently. However, overall, the company's profitability situation in 2023 was critical.

Although the company's profitability indicators have declined, the solvency and liquidity areas show the opposite trend. Overall solvency steadily improved—by 2023, assets were sufficient to cover liabilities four times over. The debt-to-equity ratio decreased, meaning the company became less reliant on borrowed funds. Particularly positive changes were seen in the quick ratio and cash ratio. While in 2021 the company barely had any cash, by 2023, it was able to cover almost all of its short-term liabilities with cash alone. This

indicates that, despite the losses, the company managed to significantly improve its liquidity position and reduce financial risks.

Results

Table 1

AB "Lifosa" Profit (Loss) and Balance Analysis (2021–2023) (made by author)

Indicator	2021	2022	2023	Change 2021–2023
Sales revenue, thousand EUR	526,031	274,559	133,615	–392,416 (–74.6%)
Cost of sales, % of revenue	72.66%	80.83%	143.29%	+70.63 percentage points
Gross profit, %	27.18%	19.12%	–43.39%	–70.57 percentage points
Profit before tax, thousand EUR	142,096	37,673	–64,245	–206,341
Net profit, trend	Profit	Profit	Loss	Worsening

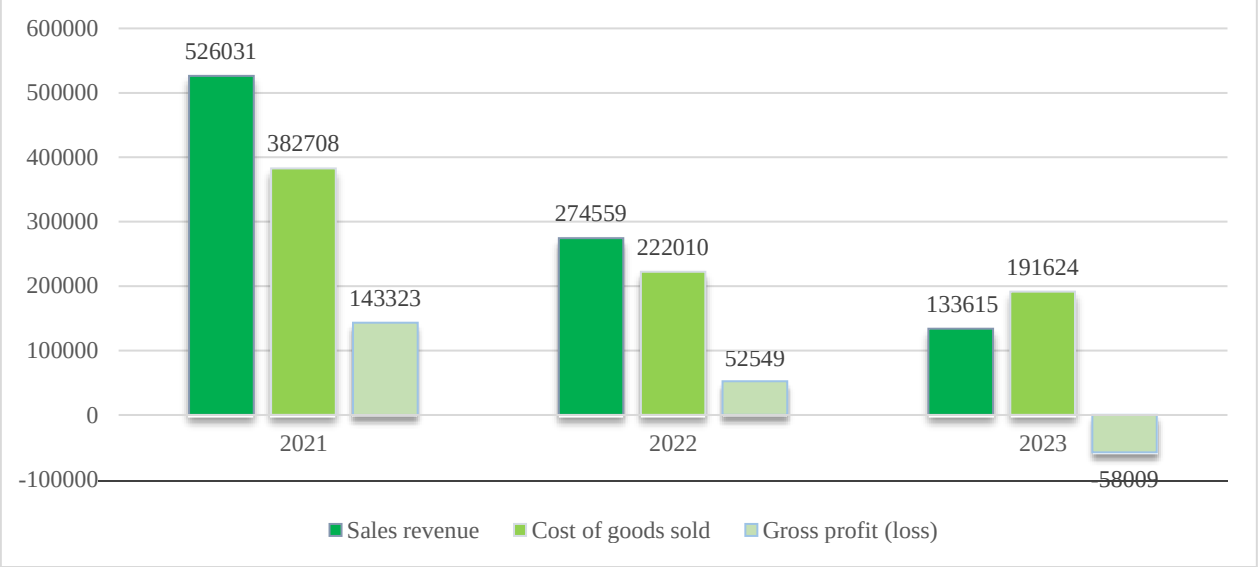


Fig. 1. The dynamics of AB 'Lifosa' sales revenue, cost of sales, and gross profit (loss) for the years 2021– 2023, in thousand EUR (Title made by author, 2025)

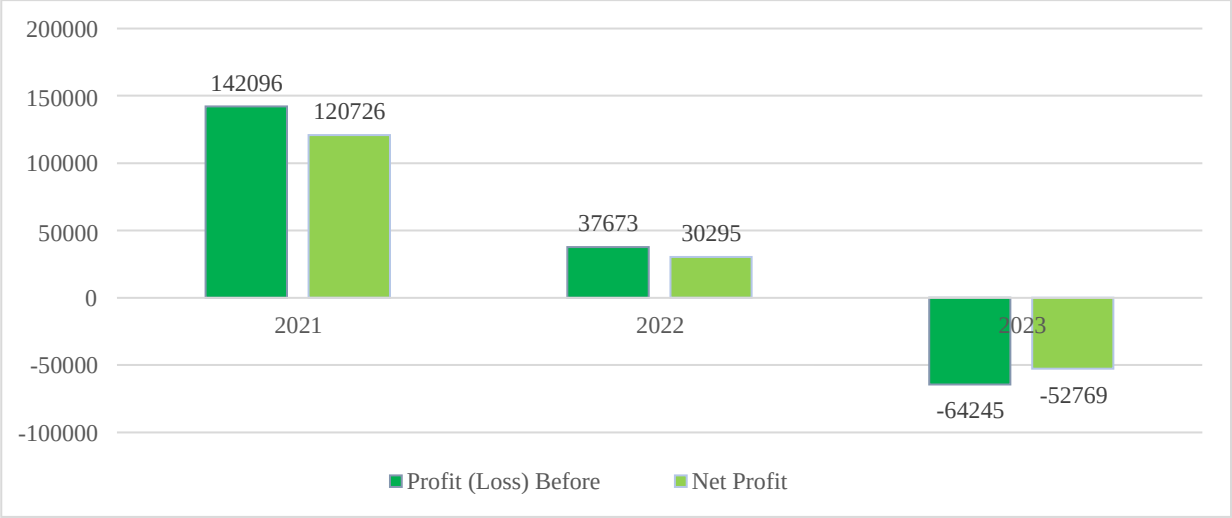


Fig. 2. The dynamics of AB "Lifosa" profit (loss) before tax and net profit (loss) for the years 2021–2023, in thousand EUR (Title made by author, 2025)

Table 2

Structural Balance Analysis and Liabilities of AB 'Lifosa' (2021-2023)Conclusions (made by author)

Indicator	2021	2022	2023	Comment
Non-current assets, thousand EUR	158,401	145,514	137,513	Gradual decrease (–13.2%)
Current assets, thousand EUR	241,025	161,364	90,177	Decreased by 62.6%
Equity, thousand EUR	204,875	235,170	182,401	Decreased by 22.4% in 2023
Receivables (% of revenue)	29.9%	16.3%	15.0%	Decreasing dependence on debtors
Subsidies (% of liabilities)	0.44%	0.99%	1.25%	Increasing support from funds
Provisions (% of liabilities)	2.01%	6.69%	13.41%	Indicates higher uncertainty
Payables and other liabilities	97.56%	92.32%	85.34%	Importance of short-term debts is decreasing

Table 3

Profitability and Efficiency Analysis of AB "Lifosa" (2021 - 2023) (made by author)

Indikator	2021	2022	2023	Trend
Total profitability%	27	19	-43	Sharp increase
Net profit	23	11	-39	Loss-making result
(ROA) Return on Assets	30	10	-23	Decline
(ROE) Return on Equity	59	-	-	Slump
Total Asset Turnover	1,32	0,89	0,59	Decreasing efficiency
Inventory Turnover	4,67	2,00	5,80	Improvement in 2023

Table 4

AB "Lifosa" Solvency and Liquidity Ratios (2021 - 2023) (made by author)

Indikator	2021	2022	2023	Assessment
Overall solvency	1,05	3,28	4,03	Improving, above 1.
Debt-to-equity ratio	0,95	0,30	0,27	Decreasing, reduced dependence on debt.
Quick ratio	0,84	0,78	1,46	Excellent in 2023
Cash coverage ratio	0,01	0,10	0,95	Strong growth
Current liquidity ratio	1,27	2,44	2,31	Consistently good.

Conclusions

The Concept, Evolution, and Role of Accounting in an Organization by reviewing the theoretical aspects of the concept, evolution, and role of accounting in an organization, it can be concluded that accounting has evolved from an information recording system into a complex and dynamic process that plays a crucial role in an organization’s financial control, strategic decision- making, and compliance with legal regulations. Over

the past two decades, the accounting system in Lithuania has undergone significant structural and technological changes—ranging from national reforms in the public sector to the digitalization of accounting and its integration with international accounting standards. This development reveals that accounting in modern organizations not only performs informational and control functions but has also become a strategic tool for managing resources, optimizing operations, and ensuring transparency for both internal and external stakeholders.

There are two main theoretical approaches in accounting—positive and normative accounting theories—while there are also two modern complementary theoretical approaches: critical and interpretative accounting theories.

Legal Responsibility of the Person Managing Accounting by examining the legal responsibility of the person managing accounting at the national level, it can be concluded that the responsibility of the person managing accounting in Lithuania is clearly defined and multi-layered. It includes administrative, civil, criminal, and professional liability. National legal acts, such as the Lithuanian Financial Accounting Law, the Lithuanian Administrative Offenses Code (ANK), the Lithuanian Civil Code (CK), and the Lithuanian Criminal Code (BK), establish both qualification requirements and forms of responsibility for improper accounting practices, including negligence, fraud, or harm to the company. In practice, this means that the individual responsible for accounting can be held liable for failing to comply with legal regulations not only legally but also professionally. Proper adherence to these norms is a necessary condition for ensuring financial transparency and the legitimacy of the organization's operations.

Analysis of AB "Lifosa" Accounting and Responsibilities of the Management and Accounting Personnel upon analyzing the accounting practices at AB "Lifosa" and the responsibilities of the management and accounting personnel, it can be concluded that the company's accounting system is strictly regulated by both external legal acts and internal documents, ensuring transparency, compliance with IFRS, and business continuity. The company uses advanced information systems (such as "Oracle eBusiness Suite" and "Paskata") for accounting, and the responsibility for the accuracy of accounting and reporting is clearly divided between the manager and the chief accountant. The manager is responsible for organizing accounting, approving policies, and submitting documents, while the chief accountant is responsible for data registration, preparing financial reports, and ensuring the accuracy of tax declarations.

Legal acts provide both civil and criminal liabilities, as well as administrative responsibility for both parties if accounting is managed improperly. This distribution of responsibilities allows for effective financial process management, ensuring the quality of financial reports and protecting the company from legal and reputational risks.

The analysis revealed that AB "Lifosa" still uses outdated accounting practices, which need to be updated to comply with new regulatory requirements and increase accounting automation. The financial performance analysis of AB "Lifosa" shows not only increasing inefficiency in operations but also the need to more carefully assess the responsibilities of the management and accounting personnel in ensuring the timely and reliable presentation of financial information, especially when there are significant negative changes in the company's operations.

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PAYROLL ACCOUNTING AT UAB „JONIŠKIO AUDRUVIS“

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Lect. Ilona Šumskaitė
Keywords: payroll, payroll accounting, payroll indicators.

Abstract
The article analyzes the organization of payroll calculation and accounting from a theoretical perspective and presents an analysis of payroll indicators at UAB "Joniškio Audruvis". The study examines the concept of payroll, outlines various payroll forms and systems, and discusses employment-related obligations, their accounting, and legal regulation. The theoretical part concludes with a review of payroll indicators in the Republic of Lithuania and their changes during the period of 2022–2024.
The practical-analytical part provides an overview of the accounting policy of UAB "Joniškio Audruvis" and includes an analysis of key financial indicators. In the conceptual part, horizontal and vertical analysis methods are applied to compare payroll expenses with the company's total costs and sales revenue, aiming to reveal payroll growth trends and their impact on the company’s finansial and operating results. The analysis showed that payroll expenses comprise a significant share of total costs and may affect operational outcomes. Based on the findings, recommendations are provided to optimize work schedules and implement digital technologies.

Introduction

Accurate payroll accounting is important not only for employees but also for the company itself. Incorrect payroll records can affect the accuracy of financial statements. In addition, properly calculated wages and their associated costs can have a significant impact on business finansial and operating results. The aim of this bachelor’s thesis is to examine payroll accounting and determine the effect of wage-related expenses on the company's financial indicators.

Data and analysis

In the practical part of this bachelor’s thesis, payroll indicators and the company’s financial indicators were analyzed. Vertical and horizontal analysis methods were used to assess changes over time and to evaluate the relationship between payroll expenses and the company’s financial results. In addition, a comparative analysis was conducted by comparing the company's payroll indicators with the average wages in the same service sector within the region where the company operates.

Results

1 table

Average Gross and Net Wages of UAB “Joniškio Audruvis” for 2022-2024
(Compiled by the author, based on the payroll accounting documents of UAB “Joniškio Audruvis” for 2022–2024)

	Bruto vidutinis darbo užmokestis (eur)						
	2022 m.	Pokytis (eur.)	Pokytis (proc.)	2023 m.	Pokytis (eur.)	Pokytis (proc.)	2024 m.
Administracija	918	114	11	1032	164	14	1196
Aptarnaujantis personalas	718	86	11	804	103	11	907
	Neto vidutinis darbo užmokestis (eur)						
Administracija	655	65	9	720	119	14	839
Aptarnaujantis personalas	533	55	9	588	86	13	674

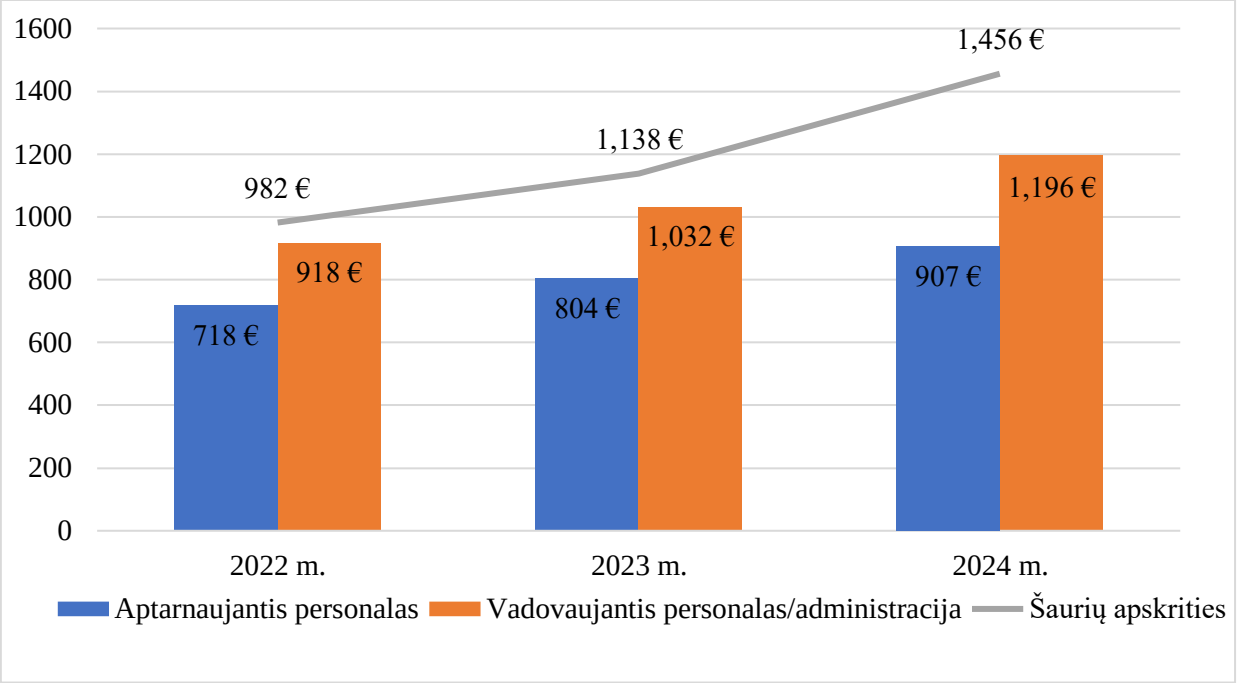


Fig. 1. Average Gross Wages of UAB "Joniškio Audruvis" and Employees in the Accommodation and Food Services Sector of Šiauliai District for 2022-2024

(Compiled by the author, based on the payroll accounting documents of UAB "Joniškio Audruvis" and data from the Official Statistics Portal, 2025)

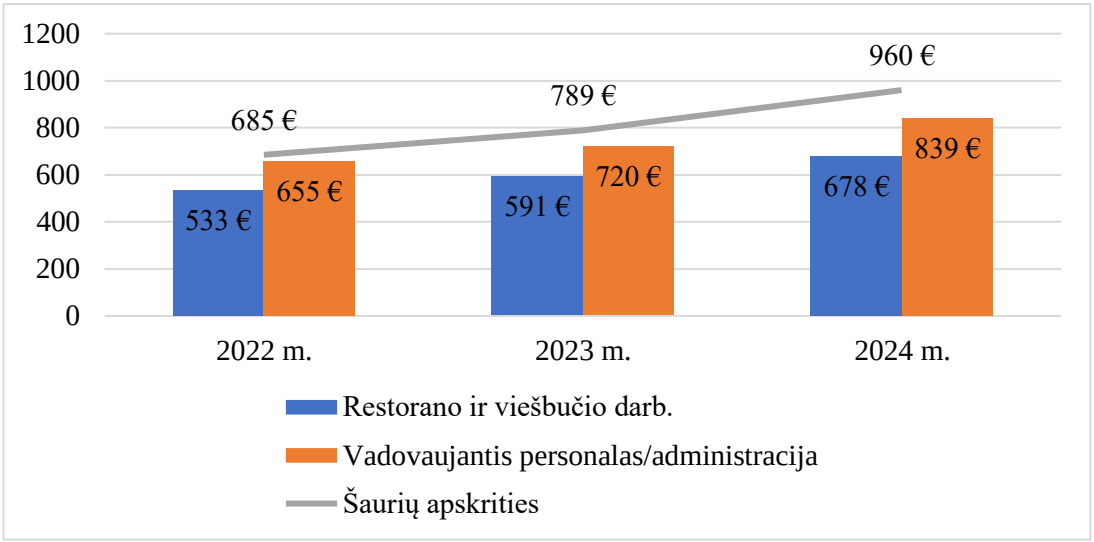


Fig. 2. Average Net Wages of UAB "Joniškio Audruvis" and Employees in the Accommodation and Food Services Sector in Šiauliai District for 2022-2024

(Compiled by the author, based on the payroll accounting documents of UAB "Joniškio Audruvis" and data from the Official Statistics Portal, 2025)

Main Conclusions

The analysis of UAB "Joniškio Audruvis" payroll accounting revealed that accurate wage calculation and proper documentation are essential for both financial reporting and employee satisfaction. Although the number of employees decreased in 2024, wage expenses remained high due to rising average salaries. The company's average wages were consistently lower than the sector average in Šiauliai district, and this gap increased over time. Wage costs had a growing impact on the company's overall expenses but did not lead to increased revenue, highlighting the need for better efficiency and payroll cost management.

ACCOUNTING OF CURRENT ASSETS OF THE BUDGETARY INSTITUTION "SKAITLIS"

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Lect. Ilona Šumskaitė

Keywords: budgetary institution, current assets, asset accounting, VSAFAS, financial reporting, inventories, receivables, prepayments, analysis.

Abstract
The article analyses the accounting of current assets of the budgetary institution "Skaitlis" in accordance with the public sector accounting and financial reporting standards (VSAFAS). The theoretical part discusses the specific features of accounting for current assets - inventories, prepayments, receivables and cash and cash equivalents - based on Lithuanian and foreign literature.
The practical part analyses the institution's financial statements for the period 2021-2023, vertical and horizontal analysis of current assets and liquidity ratios. The accuracy of asset accounting is assessed, the main weaknesses are identified and recommendations are made to improve accounting. Summary conclusions are presented (Pileikienė, 2025).

Introduction

Accounting for current assets in budgetary institutions is an important part of effective financial management as it ensures transparency and proper use of budgetary funds. Although accounting for current assets is essential to improve performance, it often faces practical difficulties. It is therefore important not only to comply with legal requirements but also to analyse the composition of the assets and their impact on the institution's operations in order to improve efficiency and the quality of accounting.

Results

Current assets of "Skaitlis" consist of prepayments, receivables within one year and cash and cash equivalents. The analysis of the institution's assets shows that the majority of the assets in the period under consideration were current assets in 2023. On average, current assets accounted for 98,88 per cent. The comparative weighting of current assets over the three-year period was extremely high at over 95 per cent. The largest part of current assets was cash and cash equivalents, which accounted for 88.97 per cent of total current assets in 2023. The value of current assets amounted to around eur 4.46 million in 2021 and increased to eur 5.97 million in 2023, i.e. An increase of almost 34% over three years. This shows an improvement in the financial situation. Liquidity ratios were above or equal to 1.00 in all years, indicating that current assets are sufficient to cover current liabilities. However, in 2023, the ratio has fallen to the critical threshold of 1.00, indicating that the institution has no contingency reserves. The analysis of the current assets shows that the budgetary authority has maintained liquidity stability. It is recommended to strengthen the liquidity buffers in the future and to ensure that short-term assets are effectively managed (Pileikienė, 2025).

Table 1

BĮ „Skaitlis" Vertical analysis of assets calculated from the financial statements
(Compiled by the author based on the results obtained in the thesis).

Indicator	Formula	Calculation			Comparative weight (%)			Changes		
		2021	2022	2023	2021	2022	2023	2021	2022	2023
Fixed assets	IT/T* 100	204787,45	199061,04	67576,84	4,39	3,95	1,12	0,67	-0,44	-2,84
Current assets	TT/T* 100	4455680,62	4834989,72	5969166,37	95,61	96,05	98,88	-0,67	0,44	2,83
Prepayments	IA/TT* 100	41444,19	10298,52	17116,99	0,93	0,21	0,29	0,89	-0,72	0,07
Receivables within one year	GSĮ/TT*100	651580,95	641911,30	641551,97	14,62	13,28	10,75	-8,26	-1,35	-2,53
Cash and cash equivalents	P/TT* 100	3762655,48	4182779,90	5310497,41	84,45	86,51	88,97	7,36	2,06	2,45
Assets (total)	T/T*100	4660468,07	5034050,76	6036743,21	100	100	100			

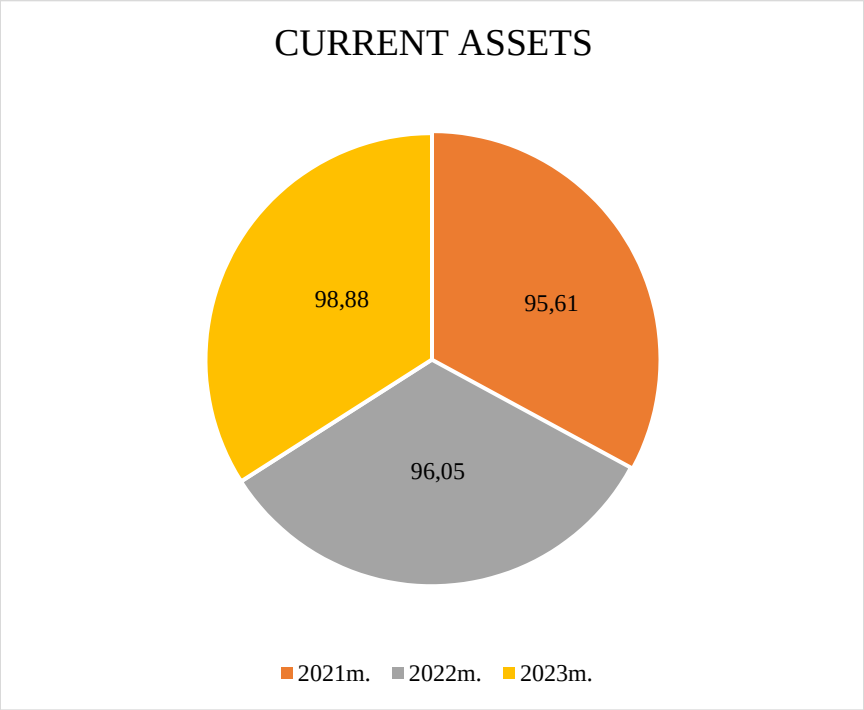


Fig. 1. BĮ „Skaitlis“ dynamics of current assets 2021-2023
Compiled by the author on the basis of the financial statements of the BĮ Skaitlis for 2021-2023

Conclusions

While “Skaitlis” managed its current assets reasonably efficiently, the analysis of liquidity ratios showed a deteriorating trend, with the general and critical liquidity ratios decreasing from 1.12 (2021) to 1.00 (2023). Although the ratios remained adequate, the threshold reached in the last year indicates that the institution has a limited financial buffer to cover contingent liabilities.

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DYNAMICS OF REVENUE AND EXPENDITURE OF KLAIPĖDA CITY MUNICIPALITY

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Keywords: Municipality; Budget revenue; Budget expenditure; Dynamics.

Abstract
To better understand the revenue redistribution mechanism, the article begins by analysing municipal revenues and expenditures starting from the level of the central government budget. It systematizes information from various Lithuanian and foreign sources on the state budget and its structure, and then gradually transitions to decentralized revenues and expenditures. The work discusses the structure of municipal revenues, the redistribution mechanism, the formation and allocation of expenditures, as well as the key factors influencing the dynamics of municipal revenue and expenditure.
The study provides an analysis of the revenue and expenditure dynamics of Klaipėda City Municipality over the period 2015–2024. The hypothesis is confirmed that a higher collection of the municipality's own revenues is positively and statistically significantly correlated with an increase in total municipal budget expenditure.

Introduction

A budget is more than just an annual plan of revenues and expenditures; it's also a crucial tool that reflects a city's priorities, future vision, and commitment to its residents (Sudavičius, 2022). Lithuania and other democratic countries create state and municipal revenue and expenditure plans based on international principles established in national laws. However, there is currently no single official document that defines all the principles of budget formulation (Melnikas et al., 2020). To ensure effective local government functioning, the transfer of responsibility occurs simultaneously with the mobilization of local revenues (Amoako et al., 2024). Over the past ten years, between 13% and 46% of revenues from donor municipalities have been redistributed to other municipalities. This revenue redistribution aims to equalize lower-tier budget revenues and eliminate obstacles for sustainable social and economic development caused by shortcomings in the tax system (Rudytė et al., 2018; Skauronė et al., 2020). With the goal of improving the standards of living and long-term economic growth, municipalities plan expenditures, and the chosen functional area of spending reflects local government policy (Jonek-Kowalska, Kaźmierczak, 2020). Own revenues constitute the largest portion of municipal financial autonomy, making the ability of local authorities to influence their revenues a crucial condition for their effective operation (Vilka et al., 2016). An empirical study has shown a connection between Klaipėda City Municipality's budget revenues and expenditures**,** highlighting the critical importance of responsibly planning priority areas for local government spending so that these investments create greater added value in the future.

Data and methodology

For the empirical study, 2015-2023 budget execution reports of Klaipėda City Municipality were used, and the results were compared with demographic, social, and economic data from the official statistics portal.

Structural analysis methods are used to conduct the study: dispersion, average square deviation and variation coefficient, which allow to determine the components and fluctuations of budget revenue and expenditure. In order to investigate the dynamics of the revenue and expenditure of Klaipeda City Municipality, absolute, basic and chain pace will be calculated. This work will detail the calculated correlations of municipal budget revenues and expenditures with the primary macroeconomic indicators driving them (each analyzed individually**).** Furthermore, it will establish the dependence on key factors**,** the strength of the connection, and its character**.**

Results

Summarizing the results of pairwise correlation, it can be stated that the dynamics of revenue was more influenced by the generated gross domestic product (GDP), and the dynamics of expenses was influenced by the collected municipal revenues. It was also noted that foreign direct investment (FDI) equally affected the municipal revenues and expenses. Thus, Klaipėda city Municipality, considering the fact that macroeconomics is complex, i.e., it affects many factors at the same time, should continue to focus on economic development, which determines the economic wellbeing and own revenue of the municipality to the national GDP. This analysis revealed and confirmed strong statistical correlations, analyzed in the scientific literature, about bidirectional causal relationships between municipal budget revenues and expenses. Economic growth, the main indicator of which is GDP, directly correlates with the financial condition of the municipality. The

empirical study revealed that increasing municipal own – source revenues are strongly related to the municipality's ability to plan and increase its expenditures more flexibly, investing in priority areas and improving the quality of life in the local community. The results of this correlation analysis clearly emphasize that municipal revenues are very sensitive to the general economic situation (GDP) and specific economic development measures, such as attracting FDI and promoting entrepreneurship. These three factors show a very strong and statistically significant positive relationship with municipal revenues, indicating that investments in these areas yield tangible financial returns.

Table 1

Pairwise correlation of Klaipėda city municipality budget expenditures with indicators affecting them
(made by author)

Correlation	Linear correlation coefficient	Connection strength	Significance of correlation	Coefficient of determination
Population / Expenditures	0,27	Weak	Insignificant	0,07
Registered unemployed / Expenditures	0,28	Weak	Insignificant	0,08
Inflation / Expenditures	0,46	Medium	Insignificant	0,21
FDI / Expenditures	0,92	Very strong	Significant	0,85
Entrepreneurship / Expenditures	0,86	Strong	Significant	0,74
Own revenue / Expenditures	0,97	Very strong	Significant	0,94

Table 2

Pairwise correlation of Klaipėda city municipality budget revenues with indicators affecting them
(made by author)

Correlation	Linear correlation coefficient	Connection strength	Significance of correlation	Coefficient of determination
Number of employed population / Revenue	0,17	Weak	Insignificant	0,03
FDI / Revenue	0,92	Very strong	Significant	0,85
Fixed investment / Revenue	0,40	Medium	Insignificant	0,17
Entrepreneurship / Revenue	0,85	Strong	Significant	0,72
GDP / Revenue	0,99	Very strong	Significant	0,98

Conclusions

After conducting a structural analysis of the revenue and expenditure of Klaipėda City Municipality for 2015–2024, it was determined that during the analyzed period, the largest part of the municipality's revenue was accounted for by tax revenues, the structural share of which ranged from 47.05% to 58.34%. The largest part of tax revenues is income tax, the collection of which to the municipal budget more than threefold over the past decade. Grants take second place in the structure of revenues, which during the analyzed period amounted to 30.13% – 43.64%. It has been observed that as the municipality's tax and non-tax revenues decrease, state grants increase. In recent years, the structural share of grants in all revenues has remained higher due to EU-funded programs. Non-tax revenues are the smallest and most unstable part of the revenue structure, which during the analyzed period amounted to 6.67% – 11.56%. Revenue from goods and services is the main tax that influences the growth of non-tax revenue. Non-tax revenue is more volatile than tax revenue because it is not systematically collected from a permanent base.

The pairwise correlation analysis revealed that the revenues of the Klaipėda city municipality in 2015–2023 were most strongly related to the gross domestic product generated. Budget expenditures had a very strong relationship with the municipality's own revenues. The analysis confirmed the working hypothesis that there is a strong positive relationship between municipal revenues and expenditures: the higher the level of municipal autonomy, i.e. the higher the collected own revenues, the higher the municipal budget expenditures. It is also worth noting that both municipal budget revenues and expenditures had an equally strong relationship

with foreign direct investment. This indicates that with the growth of foreign direct investment, a greater need may arise at the same time for certain expenditures, for example, infrastructure development, since higher budget revenues allow financing more investments. Increasing municipal entrepreneurship indicators correlate with business development in the municipality, while contributing to the collection of higher revenues to the municipal budget from income tax and local taxes paid by business entities. Therefore, it is beneficial for the municipality to allocate more funds to the functional areas of economy and recreation, culture and religion, as the latter area has a positive correlation with entrepreneurship and can create a more favorable environment for business development in the long term.

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ACCOUNTING POLICY AND PREPARATION OF FINANCIAL AND TAX REPORTS IN UAB "AUTOBANGA"

Ilian Cokov
Lect. Ilona Šumskaitė
Keywords: accounting policy; financial statements; tax reporting; financial analysis; UAB "Autobanga".

Abstract
The article analyzes the accounting policy applied in the company UAB "Autobanga" and the preparation of its financial and tax reports. The aim of the work is to evaluate the influenceof the accounting policy on the company's financial results and reporting quality, as well as to assess the compliance of the reporting process with legal requirements and financial accounting standards. The theoretical part presents the essence and significance of accounting policies, applicable legislation, and regulatory frameworks in Lithuania. The analytical part is based on the 2022 and 2023 financial statements of UAB "Autobanga", where horizontal analysis and relative financial indicators were used. Based on this, financial performance trends were identified, changes in revenue and profitability were evaluated, and the company's liquidity and capital structure were analyzed. The applied accounting principles and methods were assessed in terms of their transparency, consistency, and tax implications. The final part of the study provides conclusions and recommendations for improving accounting policy and enhancing the quality of financial and tax reporting.
The study revealed that despite stable operations and profitability, there are areas for improvement in reporting transparency and short-term asset management.

Introduction

Accounting policy plays a critical role in ensuring the transparency, comparability, and accuracy of financial and tax reporting in business entities. Properly chosen accounting principles influence financial outcomes, tax obligations, and stakeholder decisions. In this thesis, UAB "Autobanga" was selected as a case study to examine the accounting policy in practice and how it reflects in financial and tax reports. The relevance of the topic is supported by the increasing demand for financial transparency and adherence to international and national accounting standards (Bagdonienė et al., 2020). The introduction provides an overview of the problem, the object, aim, and objectives of the research.

Data and Research Methodology

The study used a combination of qualitative and quantitative methods. Theoretical insights were gathered from scientific literature, legal acts, and Lithuanian Business Accounting Standards (BAS). Financial data from UAB "Autobanga" 2022–2023 annual financial reports were analyzed using horizontal analysis and financial ratios to assess trends and structural changes.

The methodology also involved an evaluation of accounting policies applied in practice and their compliance with legal requirements. The work was supported by secondary sources, including public financial documents and databases (LDB, 2024).

Results

The financial analysis showed that in 2023, UAB "Autobanga" experienced a decrease in total assets and equity, while maintaining a positive net profit. The revenue declined by 10.84%, indicating a potential drop in demand or market competition. Liquidity ratios weakened slightly, suggesting a need for more efficient management of current assets. Despite these factors, profitability indicators remained acceptable, and the capital structure was primarily based on equity, which indicates moderate financial risk. The company's accounting policy was generally consistent with legal norms but could benefit from enhanced clarity regarding depreciation methods and cost classification.

Table 1

Financial Indicators of UAB "Autobanga" (source: compiled by author)

Year	Revenue (EUR)	Net Profit (EUR)	Equity Ratio (%)	Current Ratio
2022	1,200,000	48,000	63.4%	1.48
2023	1,070,000	41,730	60.4%	1.25

Conclusions

The analysis confirmed that UAB "Autobanga" maintains a functional accounting system and applies a consistent accounting policy. The financial statements are generally reliable and compliant with Lithuanian accounting standards, yet some adjustments could improve internal reporting and decision-making. The observed decline in revenue and equity calls for attention to market strategy and internal efficiency. Recommendations include revising the cost accounting approach, strengthening liquidity management, and improving depreciation policy documentation. The findings of this thesis can serve as a practical reference for similar companies in adjusting their accounting policies to improve reporting quality and financial sustainability.

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ANALYSIS OF THE RESULTS OF THE ACTIVITIES OF ŠILUTĖ CREDIT UNION IN TERMS OF TAX CHANGES

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Keywords: credit union, analysis of performance results, taxes.

Abstract
In this article, an analysis of the results of the activities of Šilutė Credit Union under the conditions of tax changes was performed, and the analysis of credit unions from a theoretical aspect to analyze scientific literature is performed. Analyze performance evaluation indicators and tax system analysis. Analysis of the activities of Šilutė Credit Union of 2020-2024. The Credit Union Activity Assessment indicators were calculated on the basis of the analysis.

Introduction

In recent years, Lithuania's financial sector has faced significant challenges and transformations driven by economic, geopolitical, and European Union regulatory factors. These changes have a direct impact on credit unions, especially through shifts in tax policy. Regional credit unions, such as the Šilutė Credit Union, play a vital role in providing financial services to local communities, fostering entrepreneurship, and ensuring financial stability. In light of new taxation and regulatory developments, it is essential to analyze how these changes affect the performance, profitability, and operational efficiency of specific credit unions.

Theoretical aspects

Credit unions originated from the idea of cooperation and throughout the 20th century became important providers of financial services in many countries worldwide. These organizations operate on a member basis – profits are not distributed to shareholders but are reinvested into members' welfare and service development. In Lithuania, the activities of credit unions are strictly regulated – services are provided only to members, and membership is restricted by certain criteria. The management of credit unions is based on democratic principles – key decisions are made at the general meeting of members. They ensure financial accessibility for local communities and provide an alternative to commercial banks, especially in regional areas.

The financial evaluation of credit unions relies on key indicators – liquidity, capital adequacy, profitability, efficiency, and financial leverage. Adequate liquidity standards indicate that the union can meet short-term obligations; however, excessively high levels may suggest inefficient use of funds. The capital adequacy ratio helps assess how well the union's capital covers risky assets – the higher it is, the safer the financial position. Profitability indicators (ROA, ROE) reveal how efficiently the credit union uses its assets and capital to generate profit. Efficiency indicators show how the union manages its expenses and risks – lower costs lead to higher operational efficiency. Financial leverage ratios help evaluate the balance between loans and deposits and the risk of bad loans – important for ensuring financial sustainability.

Data

Liquidity and capital adequacy ratios remained above the required norms throughout all analyzed years, indicating financial stability and resilience to risks. However, an excessively high liquidity level may suggest that some available funds are not being used efficiently, limiting opportunities to increase profitability.

Profitability indicators—return on assets, return on equity, and net profit margin—declined each year, reflecting decreasing operational efficiency and pressure on profits. This may be related both to rising costs and slower revenue growth. The increase in operating expenses, particularly the rise in interest expenses, significantly contributed to the decline in profitability. In 2024, interest expenses more than doubled, reducing overall financial results despite the growing loan portfolio. The quality of the loan portfolio improved, with a decrease in bad loans and related provisioning needs. However, a low ratio of provisions to bad loans may indicate that risk reserves are still insufficient to cover potential losses. The loan-to-deposit ratio showed more efficient use of funds, but it is necessary to maintain a balance between risk-taking and caution, especially amid declining profitability. Although the credit union remains financially stable,

declining profitability and rising operating costs create a need to review operational efficiency, management decisions, and optimize fund utilization to ensure long-term sustainability.

Results

Social insurance contributions increased significantly during the analyzed period (83.8%), reflecting wage growth and rising tax rates, which constitute the largest portion of the credit union's tax payments. Corporate income tax nearly doubled but fluctuated depending on the credit union's profitability and loan issuance volumes. Real estate tax decreased due to a large portion of premises being rented, which reduced the tax burden on the credit union. Although the environmental pollution tax accounts for a small share, it grew by as much as 437.5%, indicating increasing environmental requirements and tax rates. Growth in deposits and loans issued (42.3% and 45.7% respectively) was strongly linked to rising employment and wages in the Šilutė district, improving the credit union's financial position. Share capital grew slightly (5.38%), but the number of members decreased by nearly 8.4%, which may signal challenges in attracting new members or retaining existing ones. Overall growth in financial indicators shows that the credit union is steadily expanding, but rising tax and social expenses put pressure on efficiency and encourage seeking ways to maintain membership numbers and improve financial performance.

Conclusions

The conclusions of the thesis confirm the hypothesis that changes in the tax burden directly affect the performance of the credit union. Although the analysis of Šilutė Credit Union shows it is financially fairly stable, the credit union should address the issues of rising expenses and the decreasing number of members.

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VALUE ADDED TAX ACCOUNTING AND CONTROL IN THE COMPANY UAB "NORKESTA"

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Keywords: value added tax; VAT accounting; VAT control; tax compliance.

Abstract
This article analyzes the accounting and control processes of Value Added Tax (VAT) in the Lithuanian company UAB "Norkesta." The research addresses the issue of whether the VAT accounting and control practices in the company ensure effective tax administration and compliance with legal regulations. The theoretical part explores the legal framework of VAT in Lithuania, applicable accounting methods, and control mechanisms. The practical section includes an in-depth analysis of the company's VAT processes, identification of key issues, and suggestions for improvement.
The applied research methods include the analysis of legal acts and scientific literature (Bikas, 2023; Balkevičius, 2017; Bird & Gendron, 2015), semi-structured interviews with the company's finance specialist, and document review. The study revealed process inaccuracies, leading to the need for declaration adjustments. Recommendations are presented to improve VAT accounting and control processes through the adoption of digital solutions (Valstybinė mokesčių inspekcija, 2024) and enhanced internal control procedures.

Introduction

VAT is one of the main sources of state budget revenue in Lithuania, representing about one-third of total income (Valstybinė mokesčių inspekcija, 2024). Despite the growing VAT revenues, Lithuania still struggles with the "VAT gap," where around 12–13% of expected VAT income is not collected (Lietuvos Respublikos finansų ministerija, 2023). This indicates significant losses due to tax evasion, accounting errors, and shadow economy transactions. Therefore, it is crucial to enhance VAT control mechanisms and implement digital systems such as i.SAF and i.VAZ to increase transparency (VMI, 2023; Europos Komisija, 2023). In UAB "Norkesta," efficient VAT management is essential not only for legal compliance but also to avoid financial penalties and support transparent financial practices.

Data and methods

The study uses qualitative research methods: content analysis of legal acts, literature review, and semi-structured interviews with a finance professional. Additionally, primary company documents and electronic tax systems (i.SAF and EDS) were analyzed to identify inconsistencies and their causes. The objective was to assess the effectiveness of the company's VAT accounting and control systems and propose ways to optimize them.

Results

The research revealed that UAB "Norkesta" uses the invoice-based VAT accounting method, which requires precise issuance of invoices and accurate recording of VAT for each transaction period. However, the company faces certain procedural inaccuracies, including delayed or incorrect declarations, which increase the risk of administrative sanctions and create inefficiencies. An analysis of the company's VAT practices showed a need for better integration of automated systems to minimize manual data entry errors and improve declaration timeliness. Interviews with the company's finance specialists confirmed that some discrepancies stem from late invoice processing and inconsistent application of internal control procedures.

Table 1

VAT Accounting Problems and Solutions at UAB "Norkesta" (made by author)

Problema	Sprendimo būdai	Rezultatai
Galimi netikslumai PVM apskaitoje dėl: Teisės aktų pokyčių	Teisinės atitikties užtikrinimas -VMI konsultacijos (telefonu, raštu, „Mano VMI") -nuolatinis teisės aktų stebėjimas	-Mažesnė klaidų tikimybė -Efektyvesnė apskaita -Greitas reagavimas į pokyčius -Geriau veikianti kontrolės sistema
Galimi netikslumai PVM apskaitoje dėl: Žmogiškojo faktoriaus	Apskaitos programos „Rivilė" tobulinimas -reguliarūs atnaujinimai -PVM apskaitos funkcijų pritaikymas teisės mokyčiams	
Galimi netikslumai PVM apskaitoje dėl: Technologinių ribotumų	Technologinių inovacijų svarstymas -dirbtinis intelektas -kryžminė duomenų analizė	

These insights demonstrate that even with structured procedures, constant adaptation and investment in both human and technical resources are needed. For instance, regular consultations with the State Tax Inspectorate (VMI) via the "Mano VMI" platform enable the company to respond to regulatory changes more quickly. Similarly, enhancing "Rivilė" software helps align VAT functions with the latest compliance needs.

Moreover, the study emphasizes the potential of AI-based solutions and cross-data analytics in improving VAT accuracy. While not yet implemented, these innovations are seen as key to ensuring sustainable and scalable VAT management practices.

Overall, the evaluation indicates that while UAB "Norkesta" adheres to regulatory standards, systematic improvement of internal processes and technology usage is essential for mitigating VAT accounting errors and strengthening fiscal control mechanisms.

Conclusions

The study concludes that VAT accounting and control at UAB "Norkesta" require optimization to ensure full legal compliance and administrative efficiency. Proposed improvements include the integration of automated systems, ongoing staff training, and enhanced oversight procedures. These measures would contribute to reducing VAT discrepancies and supporting sustainable financial management.

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ACCOUNTING OF EQUITY AND LIABILITIES IN UAB "KPMG BALTICS"

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Keywords: Equity, liabilities, accounting standards, financial reporting, KPMG Baltics, VAS, IFRS.

Abstract
The present article provides an in-depth review of the equity and liability accounting system implemented in UAB "KPMG Baltics." Given the company's international scope and the high requirements for transparency in public interest entities, proper accounting of these financial categories is essential to ensure the accuracy of reporting and support responsible business decisions.
The objective of this study is to examine how equity and liabilities are recorded and managed within the company, assess compliance with regulatory frameworks, and offer insights for enhancing the efficiency of accounting procedures.
Main goals of the research:
1. To describe the conceptual and legal basis of equity and liability accounting.
2. To investigate how accounting standards are applied in the practical context of UAB "KPMG Baltics."
3. To analyze financial data related to equity and liabilities, and to provide suggestions for improvement.

Introduction

Both equity and liabilities form the core of a company's capital structure. Equity reveals the ownership interest in assets, while liabilities represent obligations to external parties. The ratio and management of these components significantly affect a firm's financial sustainability and creditworthiness. Due to its integration in the global KPMG network, UAB "KPMG Baltics" adheres to rigorous standards and thus provides an appropriate environment for analyzing these accounting practices.

Scope and Methods

The research focuses on the internal financial statements and accounting policies of the selected company. Methods used include content analysis, comparative review, financial indicators analysis, and qualitative assessment of accounting procedures.

Literature Review

The theoretical background includes a discussion on Business Accounting Standards (VAS) and International Financial Reporting Standards (IFRS), alongside an interpretation of accounting principles such as accrual, prudence, going concern, and consistency. The analysis is supported by academic perspectives, notably those of Vaičiulytė and Rudžionienė (2014), who underline the importance of economic reasoning in capital formation, and Subačienė and the others (2015), who emphasize the application of standards in daily accounting practice.

Empirical Analysis

Financial reports from 2022 and 2023 were reviewed to identify the structure, variation, and management of equity and liabilities. The thesis applies horizontal and vertical analysis techniques to monitor capital composition, reserve trends, and changes in obligations. Key indicators such as leverage ratios and liquidity levels are assessed.

Key Findings and Recommendations

The findings show that the accounting process at UAB "KPMG Baltics" aligns with the prescribed legal and professional standards. Nonetheless, some opportunities for improvement were noted: enhancing the documentation of reserve creation, refining long-term liability tracking, and aligning reporting procedures more closely with international frameworks.

Hypothesis Evaluation

The assumption that optimized equity and liability accounting can strengthen financial reporting quality and long-term financial management was supported by the findings.

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TAX ACCOUNTING AND ANALYSIS LLC "LANKSMAS"

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Keywords: taxes, tax accounting, taxation.

Abstract
The study examines the concept and essence of tax accounting, tax classification and regulation, taxation principles and assessment criteria, taxes paid and declared by business enterprises.The thesis analyzes the tax accounting policy of LLC "Lanksmas", tax declaration, structure of paid taxes, dynamics of changes in paid taxes in 2022-2024, and presents tax reduction opportunities.

Introduction

Tax accounting is an integral area of corporate financial activities, helping companies ensure proper fulfillment of tax obligations. In the modern business environment, the tax legal framework is constantly changing, so companies face challenges in calculating taxes and reducing the tax burden. A responsible and correctly performed tax accounting process is considered important for the transparency and continuity of the company's activities.

This paper analyzes the tax accounting of the private limited liability company (LLC) "Lanksmas", located in the city of Mažeikiai, whose activities include demolition of structures and preparation of construction sites. An analysis of the accounting and declaration of taxes paid by LLC "Lanksmas", tax accounting policy, tax declaration, comparative and structural analysis of taxes paid in 2022 - 2024, will help to find out how LLC "Lanksmas" performs tax accounting, what difficulties it faces and what solutions can help reduce the company's tax burden.

Objectives of the thesis:

1. To analyze the taxes paid by business enterprises in Lithuania.
2. To analyze the taxes paid by LLC "Lanksmas" and their accounting.
3. To perform a comparative analysis of the taxes paid by LLC "Lanksmas"

Data and methods

Analysis of scientific literature; Analysis of documents (tax accounting documents);Comparative analysis; Synthesis and generalization.

Results

After analyzing the structure of all taxes paid by LLC "Lanksmas" in 2022 - 2024, it can be stated that the largest share of taxes paid by the company consists of mineral tax and contributions to the Social Insurance Institution, in the period 2022 - 2024, the mineral tax accounted for (40.7 percent, 48.6 percent and 26.1 percent), contributions to the Social Insurance Institution (26 percent, 22.5 percent and 27.9 percent), respectively. When these two taxes are added together, they account for about 70 percent of all taxes paid by the company. All remaining taxes account for only about 30 percent of the amount of taxes paid. A significant share is also accounted for by VAT payments, in 2022 their share reached 14.1 percent, in 2023 24.3 percent and in 2024 23.7 percent. A large percentage of all taxes fall on Sodra contributions, as they are calculated from employees' wages, and a significant increase is visible in 2023, which is due to increased salaries for employees. In 2022, the largest share of tax contributions was made up of the tax on useful minerals (40.7%) and contributions to Sodra (26%). VAT accounted for 14.1%, GPM - 9.4%, and the tax on environmental pollution - 7.3%. This indicates more active mineral extraction activities. After analyzing the structure of taxes included in expenses of LLC "Lanksmas" in 2022-2024, it can be stated that the largest part of them is made up of taxes paid for useful minerals. In 2022, taxes on useful minerals accounted for 54.8 percent of all taxes included in expenses, in 2023 - 67.7 percent of all taxes included in expenses, and in 2024 - 47.7 percent of all taxes included in expenses. The second place in the structure of taxes included in expenses is occupied by contributions to Social Security. In 2022, they accounted for 35.1 percent of all taxes included in expenses, in 2023 - 31.3 percent of all taxes included in expenses, and in 2024 - 50.8 percent of all taxes included in expenses.

Conclusions

The main taxes paid by business enterprises in Lithuania are corporate income tax, VAT, GPM, NTM and land tax. Each tax has its own tax declaration forms and submission deadlines. The corporate income tax declaration period is the tax year, and the annual corporate income tax declaration is submitted, and the tax is paid after the end of the tax period by the fifteenth day of the sixth month of the next tax period. A closed joint-stock company, a small partnership must submit the annual corporate income tax declaration form PLN204, an individual enterprise, a real economic and limited partnership – form PLN204A, a non-profit organization – form PLN204N. The GPM declaration depends on what benefits the company paid to the resident, classified as class A income or class B income. When declaring income classified as class A income, companies submit monthly (GPM313) and annual (GPM312) income tax returns. When declaring income classified as class B income, a (GPM312) return is submitted. Legal entities that are VAT payers must submit VAT returns in the form (FR0600). The VAT return for the tax period must be submitted: for a calendar month
– by the 25th day of the following month; for a calendar quarter – by the 25th day of the first month of the following quarter. NTM is calculated, declared in the declaration form KIT711 and paid after the end of the tax period (calendar year), by February 15 of the following year. Land tax is calculated by the State Tax Inspectorate and completed land tax calculation returns are submitted to taxpayers by November 1 of the current tax period, and the tax must be paid by November 15 of the current tax period. LCC “Lanksmas” adheres to a comprehensive accounting policy framework to ensure that its financial reporting is accurate and complies with the relevant Lithuanian accounting standards and regulations.

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ANALYSIS OF RISK AND PROFITABILITY MANAGEMENT IN UAB „PLUNGĖS KOOPERATINĖ PREKYBA“

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Keywords: profitability, financial analysis, risk management, SWOT analysis.

Abstract
This paper examines the interaction between profitability and risk management in UAB „Plungės kooperatinė prekyba“ , which specializes in the production of fish and surimi products. The thesis combines a theoretical analysis of the concepts of risk and profitability with an empirical assessment of the company‘s financial performance for 2020-2024. The main methods are comparative literature analysis, financial indicator assessment and SWOT analysis. The findings reveal challenges such as dependence on imported raw materials and increasing competition, as well as opportunities to expand into new markets. Recommendations include investments in innovation, diversification of supply chains and increased digitalization to reduce risk and also increase profitability.

Introduction

Profitability and risk management is crucial for business sustainability, especially in dynamic, everchanging sectors such as retail. This thesis focuses on UAB „Plungės kooperatinė prekyba“ analyzing its strategies for balancing risk and profitability in the face of external factors such as geopolitical instability and market competition. The aim is to identify the main risk factors affecting profitability and propose effective solutions.

Data and methodology

Methods used in this thesis:

Theorical analysis: literature review on risk concept, types (systematic, unsystematic) and profitability indicators (ROA, ROE).

SWOT analysis assessing internal strengths and weaknesse and also external opportunities, threats.
Empirical analysis: 2020-2024 financial data, including sales revenue, net profit and leverages ratios. Results:

ROA increased from 6.52% in 2020 to 21.70% 2024 year, driven by cost optimization and debt reduction. High dependency on imported raw materials about 94% of inputs and energy costs impacted margins in 2022 years.

Table 1

Key financial indicators 2020-2024 years

Indicator	2020	2021	2022	2023	2024
ROA, %	6,52	8,90	5,89	10,43	21,70
Net profit, eur.	3950	7216	3693	6361	13368
Financial leverage	1,45	1,56	2,18	1,34	0,56

Conclusion

The analysis confirms that effective risk management, such as supply chain diversification, etc. Measures, directly

increase profitability. UAB "Plungės kooperatinė prekyba" should reduce its dependence on imports: cooperate with local suppliers and apply JIT inventory systems. Invest in innovations, such as developing plant-based product lines to enter growing markets, as well as strengthening e-commerce using platforms such as "Barbora" to reach a wider audience.

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THE SIGNIFICANCE OF AUDIT FOR OPERATIONAL QUALITY IN UAB „RM TOOLS"

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Keywords: audit, internal control, performance quality, audit risks, organizational governance.

Abstract
The article examines the significance of audit and internal control systems in ensuring organizational performance quality, based on a case study of UAB „RM Tools". The aim of the research is to assess the effectiveness of the company's internal control framework, identify practical issues, and provide recommendations for the improvement of audit-related processes. The theoretical part of the study reviews types of audits, the interaction between auditing and control functions, audit risks, and the role of control within corporate governance. The empirical part applies document analysis, a qualitative research methodology, and internal process evaluation, which enabled the identification of key weaknesses in the internal control system, such as procedural formalism, inconsistency in information flows, and lack of integration of audit activities into strategic planning. The findings reveal that a well-structured and actively implemented internal audit system significantly contributes to operational transparency, effective risk management, and long-term organizational competitiveness. The practical recommendations provided can be applied not only to the company under investigation but also to other organizations of a similar profile seeking to strengthen their internal governance mechanisms.

Introduction

In a modern business environment, internal audit and control serve as vital components of sustainable management. These processes support risk prevention, regulatory compliance, and operational efficiency. The audit function, when strategically implemented, contributes to increased trust among stakeholders and supports organizational development. UAB "RM Tools", operating in the field of professional tools distribution, requires robust audit and control systems to ensure quality and adaptability in a competitive market. The relevance of the research lies in the increasing need for companies to not only comply with external audit requirements, but also to strengthen internal systems that ensure continuous improvement.

Data and…..

The study employed a combination of theoretical and empirical research methods. The theoretical framework was constructed using national and international academic sources focusing on audit theory, control systems, audit standards, and risk analysis. The empirical section involved the analysis of internal company documentation and operational processes, based on qualitative methods.

Information was gathered through:

- analysis of internal control procedures,
- assessment of audit implementation,
- synthesis of practical findings and theoretical models.

This approach allowed the identification of key process weaknesses and the development of tailored recommendations for the company.

Results

The research revealed that UAB "RM Tools" possesses the foundational elements of an internal control system; however, several issues persist. These include fragmented implementation of audit procedures, low accountability for corrective actions, and the absence of systematic monitoring tools. Audit recommendations are often not translated into practice, and the role of internal audit is perceived as procedural rather than strategic. The findings show that integrating audit recommendations into operational planning and reinforcing employee responsibility can significantly strengthen the control environment. Moreover, the lack of standardized documentation and follow-up mechanisms limits the effectiveness of the entire audit cycle. A strategic approach to audit, including PDCA (Plan–Do–Check–Act) cycles, should be adopted to transform auditing from a corrective to a preventive function.

Conclusions

Audit and internal control should be understood not only as technical processes but also as components of organizational awareness and quality culture. The case of UAB "RM Tools" demonstrates that an audit system has value when actively applied, followed up, and continuously improved. Internal control should

function as a living system, aligned with strategic objectives, not limited to compliance checks.

This study confirms that enhancing internal control requires:

- establishing a strong internal audit culture;
- integrating audit findings into strategic decision-making;
- increasing accountability and role clarity;
- utilizing control models like COSO and audit risk assessment tools.

These measures support sustainable quality, risk mitigation, and competitiveness not only for UAB “RM Tools” but also for other enterprises striving for operational excellence.

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ANALYSIS OF THE PERSPECTIVES OF THE KAUNAS ALEKSOTAS FUNICULAR EMPLOYEES ON THE PROSPECTS OF TOURISM DEVELOPMENT AND THEIR ADAPTATION TO THE CHANGE PROCESS

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Keywords: The Kaunas Aleksotas Funicular; tourism development; employees' perspective; adaptation to change; change management; tourism sector.

Abstract

This article analyzes the perspectives of the employees of the Kaunas Aleksotas Funicular regarding the prospects of tourism development and their adaptation processes. The study was conducted using a qualitative method - focus group discussions. The main objective of the research is to evaluate the employees' perspectives on potential directions for tourism development and their readiness to adapt to the changing demands of the tourism sector. The article presents findings that may be valuable not only to the Kaunas Aleksotas Funicular but also to the managers of other historical sites in the city and policymakers in the tourism sector.

Introduction

Relevance of the Article. The Kaunas Aleksotas Funicular is a unique mode of transport and an important element of the city's infrastructure, and in some cases, a part of the tourism attraction. As a historical and technical object, the Kaunas Aleksotas Funicular plays a significant role in the development of the city's tourism. Research by S. J. Page and J. Connell (2020), T. Ambrose and C. Paine (2022), Z. Mingaleva et al. (2022), D. Liutikas et al. (2023), and S. Horner and J. Swarbrooke (2020) has explored changes, transformations, and processes within tourism organizations. However, the perspectives of the Kaunas Aleksotas Funicular's employees on the impact of these changes on their work environment and the prospects for tourism development have been underexplored, despite the recent increase in tourist traffic. Therefore, it is essential to evaluate how the employees of this facility perceive the potential for tourism development and the challenges they identify. The main hypothesis of this study is that employees' attitudes toward tourism development can significantly influence the success of the facility and its ability to adapt to changes in the tourism industry. Issues related to tourism development have become an important research focus globally. Many studies emphasize that sustainable tourism and the involvement of local residents and employees in the processes are crucial components for achieving long-term positive impacts. D. Liutikas (2023) argues that tourism development is influenced by social factors (lifestyle, behavioral changes, urbanization), economic factors (increasing standard of living), technological factors (the development of transport modes, digitalization), and environmental changes (climate change, sustainability). The combination of services creates a comprehensive tourist experience, including emotional aspects for potential clients, and the employees' attitudes toward development may directly impact the organization's success.

Problem of the Article - the perspective of the Kaunas Aleksotas Funicular employees regarding tourism development prospects and their adaptation process in today's tourism industry is a crucial research subject, as it allows for evaluating how employees perceive and respond to changing tourism trends, innovations, and the effectiveness of organizational adaptation. The primary issue arises from the fact that, although the Aleksotas Funicular is a significant tourist attraction in Kaunas, there is a lack of studies examining the involvement of employees in the formation of tourism development strategies, their preparedness to adapt to changes, and the optimization of work processes to maintain competitiveness and attract more tourists. T. Ambrose and C. Paine (2022) highlight factors that influence visitors' experiences, such as the infrastructure and service elements of the site. According to the authors, all of these elements should be carefully considered and implemented in a way that demonstrates the site's openness to all visitors. Furthermore, the tourism industry is constantly evolving and must adapt to new technologies, environmental regulations, and social changes. K. Lewin (1940) was one of the first to emphasize the benefits of implementing changes in conjunction with successful transformations (Lewin, (Lewin) as cited in Huarng & Mas-Tur, 2016), suggesting that employees' readiness for change can impact the successful management of the facility. Such a study could reveal the influence of employees' perspectives on organizational decisions, improve the quality and sustainability of tourism services, and provide valuable insights not only for the development of the Kaunas Aleksotas Funicular but also for other similar tourism sites and the adaptation processes of their employees.

Object of the Article - the object of the article is the perspectives of the Kaunas Aleksotas Funicular employees on tourism development prospects and their adaptation process to changes.

Aim of the Article - the aim of the article is to examine the perspectives of the Kaunas Aleksotas Funicular employees regarding tourism development prospects and their adaptation process to changes.

Objectives of the Article:

1. To analyze the theoretical aspects of tourism development prospects, employees' perspectives on development, and the processes of employee adaptation to change.
2. To evaluate the Kaunas Aleksotas Funicular employees' perspectives on tourism development opportunities.
3. To propose opportunities for improving employee adaptation to changes and enhancing the attractiveness of the Kaunas Aleksotas Funicular for tourists.

Research Methods - the research methods include a review and analysis of scientific literature, analysis of online sources, and the creation and analysis of graphical representations. A qualitative method is applied in the study, which allowed for an in-depth analysis of employees' perspectives. The research is conducted using focus group discussions, which provided a deeper understanding of employees' views on tourism development issues and highlighted their experiences and challenges. The focus group consisted of 8 employees who work directly at the Kaunas Aleksotas Funicular.

Tourism Development Prospects

Tourism development is a global process that encompasses economic, social, and cultural aspects. The World Tourism Organization (UNWTO) highlights that the tourism sector is one of the fastest-growing industries worldwide, and this growth not only drives economic recovery but also necessitates cultural and infrastructural changes (UNWTO, 2020). O. Pavlova (2020) argues that the concept of organizational development involves efforts to encourage the people working within it to be more open, share experiences, and act independently in pursuit of organizational goals. In such a rapidly changing environment, modern organizations can manage change, and it is important for employees to feel valued and reliable. The scholar emphasizes that employees within an organization should understand the importance of collaboration, openness, and initiative, as these factors shape the attitude that working together leads to more efficient achievement of both personal and organizational goals (Pavlova, 2020). Organizational development involves the integration of knowledge and experience, which strengthens both organizational performance and individual development, viewing the organization and its employees as separate systems existing within the broader system.

Contemporary studies analyzing tourist behavior indicate that tourists increasingly choose authentic, historical, and cultural sites due to their uniqueness and the interesting experiences they offer (Dudareva, 2014). The role of funicular systems, including the Kaunas Aleksotas Funicular, in the tourism sector is multifaceted. The Kaunas Aleksotas Funicular, which began operation on December 6, 1935 (Juozapavičius, 1981) and has become one of the symbols of Kaunas, is not only a convenient means of transport but also a tourist attraction offering the opportunity to explore the city's history and architecture. E. Conti et al. (2017) emphasize the importance of the desired experience dimensions at cultural sites. Based on five dimensions of expected experiences identified in the scientific literature (aesthetics, learning, entertainment, avoidance and socialization), the authors distinguish between visitor groups: casual visitors (those who come occasionally and are unlikely to become regular visitors), aesthetes and routine-breaking visitors (those who perceive and experience the visit in an innovative way), global experience seekers (those looking for all types of experiences), and aesthetically learning visitors ("true visitors," cultured individuals with higher education, not expecting entertainment or socialization) (Conti et al., 2017). N. Dudareva (2014), citing the research of other scholars, asserts that practical aspects such as the location of the site, price, and the quality of guides' materials significantly contribute to overall satisfaction.

The employees' perspective on tourist traffic and their adaptability may influence not only the quality of their work but also the satisfaction of tourists.

Figure 1 shows that when applying the model proposed by scholars to the Kaunas Aleksotas Funicular, all elements are important and contribute to visitor satisfaction with the service. V. Grigaliūnaitė and L. Pilelienė (2014) emphasize the importance of the role of service personnel in the consumer satisfaction process, making the funicular employees a crucial part of the tourism experience.

In summary of the analyzed scientific literature, it can be stated that proper communication between the organization and its employees, along with an understanding of the organization's development opportunities, fosters employee loyalty and engagement, improves work processes, reduces the likelihood of misunderstandings, and enhances the efficiency of operations and development.



Fig. 1. Visitor satisfaction with the service scheme
**Source: compiled by the author based Dudareva, N. (2014)*

Employees' Attitude Towards Development

Employees' perspectives on the impact of tourism development may vary depending on various factors such as the nature of the work, the social environment, and personal experience. S. H. Schwartz and S. M. Davis (1981) argue that even an organization's culture, encompassing values, beliefs, behavioral norms, and work style, has a significant impact on the company's ability to achieve its strategic goals (Schwartz (Schwartz) & Davis (Davis), as cited in Blomksvit, 2025).

Studies analyzing organizational issues and strategies show that they can have both positive and negative effects (Guiso et al., 2015). Positive perspectives are often related to economic benefits, such as job creation and higher wages. However, employees may also experience negative pressure due to worsening working conditions, increasing workloads, and challenges in communication with clients (Valiūnas & Drejeris, 2019).

S. P. Robins (2003) emphasizes the importance of job satisfaction, which also reflects an individual's overall attitude towards the work they perform (Robins, (Robins) as cited in Valiūnas & Drejeris, 2019). A satisfied employee will not only feel happy internally, but their attitude will also be reflected positively. If dissatisfied with their work, their perspective will be negative (Valiūnas & Drejeris, 2019). In general, when discussing employees' attitudes, the significance of job satisfaction is highlighted. S. P. Robbins (2003) identifies several key aspects of organizational development and alignment with employees (Table 1).

Table 1

Aspects of Organizational Development and Alignment with Employees

Concept	Explanation
Respect for people	People are considered responsible, diligent, and attentive. Therefore, they should be treated with dignity and respect.
Trust and support	An effective and healthy organization is characterized by a climate of trust, certainty, openness, and support.
Power equalization	In effective organizations, hierarchy and control are minimized.
Confrontation	Problems should not be swept under the rug. They should be confronted openly.
Participation	The more people who will be affected by changes are involved in the decision-making process that drives those changes, the more committed they will be to implementing those decisions.

**Source: compiled by the author based Robins (Robins) as cited in Valiūnas & Drejeris (2019)*

Table 1 shows that the aspects of respect for people, trust and support, power equalization, confrontation, and participation are distinguished. By applying the aspects mentioned by the scholars and implementing their adherence, it would be possible to encourage employees to better evaluate the tourism development prospects of the Kaunas Aleksotas Funicular and reduce negative perceptions.

The specific context of the Kaunas Aleksotas Funicular, as a historical site, presents a unique situation that may reflect employees' perspectives on tourism development. Like many other tourist sites, employees of the Kaunas Aleksotas Funicular face challenges related to the increasing tourist flow, service quality, and the adaptation to the constantly changing needs of tourists.

Based on previous studies on employee perspectives, it can be argued that the employees of the Kaunas Aleksotas Funicular may have different views on the impact of tourism development. Some employees may

perceive it as an opportunity to improve their working conditions and contribute to the city's image-building, while others may feel fatigued by the increased tourist flow and workload.

Employees Adaptation to Change Processes

Adaptation processes related to tourism development are also crucial, as they enable employees to effectively respond to changes in the work environment. These processes include training, employee integration into the tourism sector, and their ability to work with tourists who may have diverse expectations and needs. Moreover, employee adaptation can be essential in maintaining high service quality and ensuring a positive tourist experience (Dudareva, 2014). J. Tidd and J. R. Bessant (2014) argue that adapting to change requires abandoning an inert approach and establishing innovative goals to alter established traditional management and operational determinants. Changes in the innovation space can be identified through several key positions (Tidd & Bessant, 2014) (Figure 2).

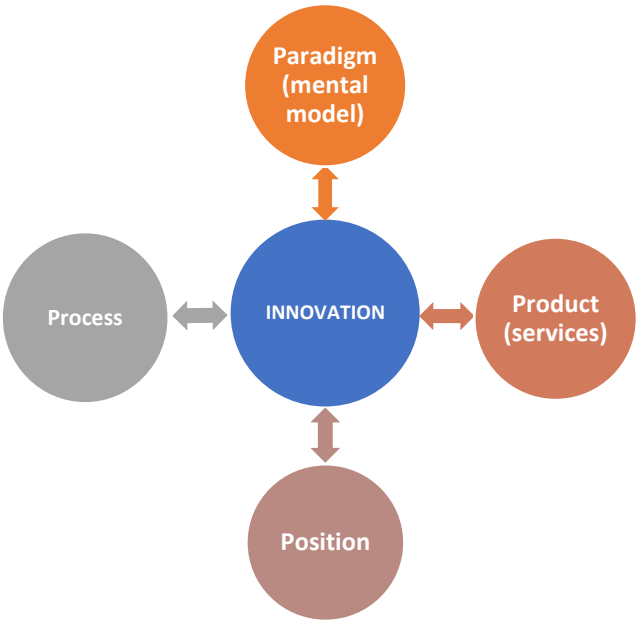


Fig. 2. Innovative Approach to Change

**Source: compiled by the author based Tidd, J. & Bessant, J. R. (2014)*

J. Tidd and J. R. Bessant (2014) explain that in an innovative approach to change are:

a) **Paradigm** refers to a shift in the way an organization perceives its operations;

b) **Product** or services represent changes in the results of an organization's core activities;

c) **Position** is the environment in which the product or service is introduced, within the context of change;

d) **Process** involves changes in the methods through which an organization operates when delivering its products or services.

Changes are used to explain causes and effects and to make sense of one’s experience, making it crucial for employees to understand the change process and its significance (Tidd and Bessant, 2014). The literature also highlights an opposing view of the change process, suggesting that changes can be managed. S. Onimole (2017) argues that for organizations to achieve their goals and overcome resistance to change, people must be informed in advance about the anticipated changes. Without this knowledge, individuals will resist change. They need to understand the importance of the changes, the consequences, and recognize that these changes will be beneficial and necessary. Furthermore, adaptation processes, such as specialized training and ensuring the quality of tourism services, become essential in minimizing potential work-related discomforts and improving the overall service experience.

According to change management researchers, changes in organizations do not occur easily, as there are many circumstances that disrupt the successful implementation or execution process (Yue et al., 2019). Once the organization identifies its internal processes, the primary goal is to create a flexible, open organization that

can easily adapt to changes, with individuals recognizing the need for change and accepting it (Yue et al., 2019). J. Walinga and W. Rowe (2013) based their study on the transaction model of stress and coping, using it as a guiding framework for their research. The authors state that in stressful work situations, a stress transformation response occurs. Although the stress transformation response is not common, insights were gained about personal and organizational factors that contribute to the stress transformation response. Figure 3 illustrates the key factors and their role in the stress transformation response: the stressor causes an emotional/physiological response, leading to a cognitive appraisal influenced by social and organizational factors, which is then addressed using communication and problem-solving strategies, ultimately leading to health outcomes. The authors claim that one can "enter this cycle" at any point to facilitate the stress transformation response. J. Walinga and W. Rowe (2013) mention that power points lie in the following areas:

• Training cognitive appraisal can help individuals recognize and view what they cannot control, allowing the problem to be perceived in a more systemic and inclusive way;

• Social and organizational factors that support open communication, psychological safety, and the ability to delve into the core issue and identify sources of power are essential to support problem-solving, communication, and reflection necessary for thriving in stressful situations;

• Communication and problem-solving strategies can be developed and refined through training focused on communication planning, structures, mechanisms, and systems for both problem-solving and decision implementation processes.

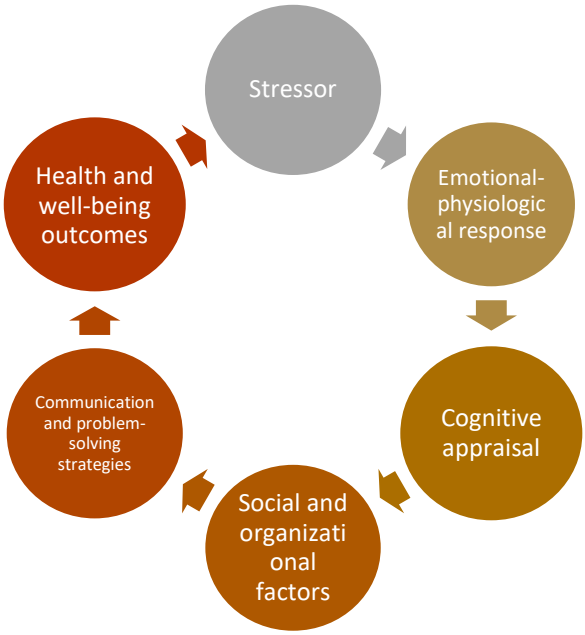


Fig. 3. Relationships Among Stressor, Response, Appraisal, Factors, Strategies and Outcomes

**Source: compiled by the author based Walinga, J., and Rowe, W.* (2013)

The model presented in Figure 3 by J. Walinga and W. Rowe (2013) is multidimensional and asserts that adaptation to stressful events involves dispositions, cognitive appraisals, and coping responses, which subsequently affect an individual's focus of attention and may even influence their health (Figure 3). The application of coping strategies addresses core issues in a sustainable and inclusive manner; it is not merely a quick problem-solving method aimed at eliminating stress. Positive outcomes, which contribute to organizational and personal sustainability and growth, require the activation and achievement of each of the aforementioned capabilities (Walinga & Rowe, 2013). The proposed process-oriented approach defines coping as specific thoughts, feelings, and actions; it is assessed in relation to a particular source of stress and analyzed over time to observe how thoughts, feelings, and actions change as situational demands evolve.

Based on the scientific literature, it can be asserted that tourism development processes and employees' perspectives on these changes are closely related to the characteristics of the site, the work environment, and employees' abilities to adapt. The Kaunas Aleksotas Funicular, as a tourism object, faces challenges and opportunities that require continuous adaptation both from the employees' side and from the management of

the object. This requires not only structural changes but also a transformation in employees' attitudes and preparation for new tourism challenges.

Research Methodology

The analysis of the Kaunas Aleksotas Funicular employees' perspectives on tourism development prospects and their adaptation to the change process was conducted through qualitative research, involving interviews with the employees of the Kaunas Aleksotas Funicular. A focus group discussion was held in March 2025, with the timing coordinated with the participants. The discussion aimed to explore the perspectives on tourism development, assess the employees' preparedness to adapt to these changes, and identify the challenges they face while working in the tourism sector.

During the focus group discussion, the following questions were posed:

1. What are the main challenges you face in your daily work at the Kaunas Aleksotas Funicular?
2. How do you assess the future of the Kaunas Aleksotas Funicular as a tourist attraction?
3. What opportunities do you see for tourism development at the moment?
4. What changes do you believe are necessary to attract more tourists?
5. Do you think you are sufficiently prepared to adapt to the changing needs of the tourism sector?

In the qualitative analysis, a qualitative (content) analysis method was applied. Performing qualitative content analysis facilitates the understanding of the meaning within the text. The creation of categories is a key feature of qualitative content analysis. The research questions of the qualitative study are based on the theoretical analysis of employees' perspectives on tourism development prospects and their adaptation to the change process. The focus group interview method was chosen for the qualitative research. The informants' discussion was recorded, the collected data was analyzed, and conclusions were drawn. Ethical considerations of qualitative research were adhered to during the discussion, as ethical issues are crucial in this type of study. The empirical research was be conducted without violating the rights of the participants and in accordance with the principles of research ethics (Žydžiūnaitė, 2017): confidentiality, voluntariness, informing the informants about the content of the study, ensuring fairness, and guaranteeing that the research results would only present anonymized data. Eight informants participated in the study. The informants who took part in the study were assigned codes from R1 to R8.

Results

The qualitative study involved 8 employees of the Kaunas Aleksotas Funicular: 3 women and 5 men, aged between 28 and 62 years, with work experience in the company ranging from 1 to 20 years.

Table 2 presents the statements of the informants regarding the challenges faced by the employees of the Kaunas Aleksotas Funicular in their work and daily activities.

Table 2

Challenges in the Work and Daily Activities of the Kaunas Aleksotas Funicular Employees

Category	Subcategories	Evidential statements
Work Challenges and Daily Activities	**Challenges in the Work Environment**	"In winter, it is very cold because, due to the characteristics of the facility, additional heaters cannot be installed" (R1). "The funicular infrastructure is not fully adapted to handle large tourist flows. This creates stress for both employees and tourists" (R5). "In winter, it is very difficult to ensure the safe and comfortable operation of the funicular, as the cable mechanism often needs lubrication" (R6). "There are difficulties for tourists with disabilities and cyclists, as the cabins and infrastructure are not adapted for them" (R8).
	Customer Service Difficulties	"Sometimes it is difficult to explain to tourists how the funicular works, as not everyone speaks Lithuanian"(R2). "City residents' transport tickets are not valid for the funicular, even though it is part of the city's transport system"(R4). "Passengers cannot pay by card; only cash is accepted" (R7). "Sometimes there is dissatisfaction because passengers cannot board immediately and have to wait for the operator's permission" (R8).
	Equipment and Technology Challenges	"The technology of the funicular is outdated, and some system components often break down" (R3). "Sometimes we have to stop the funicular for technical inspections or repairs" (R4). "Equipment malfunctions sometimes occur in the middle of the working day, and we need to react quickly..." (R7).

**Source: compiled by the author based on the results of the study*

The research data presented in Table 2 indicate that employees highlighted several challenges related to the work environment that affect their daily tasks. One common issue was extreme cold in the winter, which made it difficult to ensure comfortable working conditions. As noted by informant R1, additional heating could not be installed due to the nature of the funicular. Informant R5 also pointed out that the infrastructure is not fully adapted to accommodate large tourist flows, which creates stress for both employees and visitors. Similarly, informant R6 described how winter conditions complicate the maintenance of the funicular, requiring frequent lubrication of the cable mechanism. Another issue raised by informant R8 was the difficulty in accommodating tourists with disabilities or cyclists, as the transport vehicles and infrastructure are not adapted for these groups of tourists.

Employees also faced several customer service challenges, particularly in communication with tourists. A common issue was the language barrier, as some tourists do not speak Lithuanian, making it difficult to explain how the funicular operates, as mentioned by informant R2. Additionally, informant R4 highlighted confusion regarding transport tickets for city residents, as these tickets are not valid for the funicular, even though it is part of the city's transport system. Another problem raised by informant R7 was the payment system, as tourists can only pay in cash and not by card, which causes frustration. Informant R8 shared that passengers sometimes express dissatisfaction because they cannot board immediately and have to wait for the operator's approval.

Technological and equipment-related challenges also emerged as significant difficulties. Informant R3 emphasized that the technology of the funicular is outdated, and some system components frequently break down. This issue was also confirmed by informant R4, who mentioned that the funicular's operation sometimes needs to be halted for technical inspections or repairs. Informant R7 added that equipment malfunctions sometimes occur during working hours, requiring employees to react quickly in order to resolve the issue and minimize disruptions.

The results of the study indicate that employees face various challenges in their daily activities and work environment at the Kaunas Aleksotas Funicular. These challenges include extreme weather conditions in winter, inadequate infrastructure to handle large tourist flows, difficulties in accommodating tourists with disabilities or tourist with bicycles, and outdated equipment that frequently malfunctions. Additionally, customer service challenges, including language barriers, payment issues, and ticketing confusion, further complicate the employees' ability to provide a smooth tourist experience.

Table 3 presents the informants' statements regarding their views on the future of the Kaunas Aleksotas funicular as a tourist attraction.

Table 3

The Future of the Kaunas Aleksotas Funicular as a Tourist Attraction

Category	Subcategories	Evidential statements
The Future of the Tourist Attraction	**Optimistic Perspective**	"In the future, it is certainly possible to attract more tourists if a souvenir shop for Kaunas Aleksotas Funicular is established" (R1). "I believe that Aleksotas Funicular has great potential to become a prominent tourist attraction, especially if the infrastructure is updated and additional services such as cafes are created" (R4). "The funicular offers unique scenic views in Kaunas, so I believe that tourist traffic will only increase in the future" (R5). "In the future, we can expect more international tourists if advertising is strengthened and more attention is given to the uniqueness of the attraction" (R7). "There should be a direct transport route between the city center of Kaunas and the Aleksotas Funicular" (R8).
	Pessimistic Perspective	"Currently, the infrastructure is not attractive enough to tourists, and there is also a lack of information about this attraction" (R2). "Although the Aleksotas Funicular is a beautiful attraction, if we don't receive additional investments and advertising, it will remain poorly known and only visited by locals" (R6).

**Source: compiled by the author based on the results of the study*

The research data presented in Table 3 indicate that employees, when evaluating the potential of the Kaunas Aleksotas Funicular to become an important tourist attraction, expressed positive sentiments regarding the future of the object. Many informants emphasized that with certain investments and infrastructure updates, the funicular has the potential to become a prominent tourist center. Informant R1 mentioned that a souvenir shop could attract additional tourists, while informant R4 was confident that by updating the infrastructure and

offering additional services, such as cafes, the funicular could become popular among tourists. Informant R5 emphasized the unique scenic views offered by the funicular, which could contribute to an increase in tourist traffic in the future. Furthermore, informant R7 noted that by strengthening advertising campaigns and focusing on the attraction's uniqueness, more international tourists could be expected. Informant R8 suggested creating a direct transport route between the city center of Kaunas and the Kaunas Aleksotas Funicular, which would further facilitate tourist access.

On the other hand, some employees expressed pessimistic opinions about the future of the Kaunas Aleksotas Funicular, pointing to certain barriers and limitations. Informant R2 noted that the current infrastructure is not attractive enough to tourists, and there is a lack of information about the attraction, which could limit its appeal. Informant R6 expressed concerns that without additional investments and advertising, the funicular could remain poorly known and primarily visited by locals, thus not fully exploiting the tourism potential of the attraction.

The results of the study indicate that employees hold both optimistic and pessimistic views regarding the future of the Kaunas Aleksotas Funicular as a tourist attraction. While there is significant potential for attracting more tourists with proper investments and advertising, there are still certain limitations that could hinder this process, particularly due to the lack of infrastructure and information about the attraction.

Table 4 presents the informants' statements regarding the development opportunities for tourism at the Kaunas Aleksotas Funicular.

Table 4

Opportunities for the Tourism Development of the Kaunas Aleksotas Funicular

Category	Subcategories	Evidential statements
Opportunities for Tourism Development	**Infrastructure Development**	"If more cafes and souvenir shops were built, definitely more people would visit" (R2). "To attract a larger tourist flow, it is necessary to update the funicular stations and improve the ticket sales system to make the visit more convenient" (R5).
	Marketing and Advertising Opportunities	"There should be more advertising abroad, perhaps even joint advertising with other tourist sites in Kaunas" (R1). "The Aleksotas Funicular should be more heavily marketed abroad, especially in European countries that have closer ties to Lithuania" (R3). "We should create online tourism packages with other Kaunas attractions so that tourists can buy a single ticket for several tourist sites" (R6). "We need to start social media campaigns where we can showcase not only the Aleksotas Funicular's scenic views but also its history and uniqueness in Kaunas" (R8).

**Source: compiled by the author based on the results of the study*

The research data presented in Table 4 indicate that the majority of informants highlighted that infrastructure improvements could significantly contribute to the development of the Kaunas Aleksotas Funicular as a tourist attraction. Informant R2 suggested that additional cafes and souvenir shops could help increase tourist numbers and enhance the visitor experience. Informant R5 emphasized the need to update the funicular stations and improve the ticket sales system to make visits more convenient and attractive. This suggests that enhancing infrastructure could not only improve the customer experience but also boost the object's popularity among tourists.

Many informants pointed out marketing and advertising opportunities that could greatly improve the visibility of the Kaunas Aleksotas Funicular both within Lithuania and internationally. Informant R1 proposed more advertising abroad, possibly by linking the Kaunas Aleksotas Funicular with other tourist sites in Kaunas in a joint advertising campaign. Informant R3 highlighted that it would be beneficial to advertise the Kaunas Aleksotas Funicular in European countries that have closer ties to Lithuania, thereby increasing the tourist flow from these regions. Informant R6 suggested creating online tourism packages with other Kaunas attractions, allowing tourists to purchase one ticket for multiple destinations. This could help attract more tourists and ensure greater footfall at the site. Informant R8 added that social media campaigns, showcasing not only the scenic views and uniqueness of the funicular but also its history, could help attract a broader audience and increase awareness of the attraction.

Based on the responses from the informants, the Kaunas Aleksotas Funicular has significant opportunities to expand its tourism potential. Key opportunities include improving infrastructure, such as adding services like cafes and souvenir shops, as well as technical upgrades to ensure a convenient and attractive visit. Furthermore, marketing strategies, such as advertising abroad, online tourism packages, and social media campaigns, could significantly increase the Kaunas Aleksotas Funicular's visibility and attract more tourists from both Lithuania and abroad.

Table 5 presents the informants' statements regarding the necessary changes to attract more tourists to the Kaunas Aleksotas Funicular.

Table 5

Changes Required to Attract More Tourists

Category	Subcategories	Evidential statements
Changes Needed to Attract More Tourists	**Service Diversification**	"We could offer special tours, such as night rides or themed events" (R1). "We should offer different types of tickets, such as family tickets" (R3).
	Technological Innovations	"We could implement virtual reality so that tourists can learn more about the city's history and the significance of the Aleksotas funicular" (R1). "We could create an interactive mobile app, where tourists could scan a QR code and receive additional information about the Aleksotas funicular and its surroundings" (R2). "…integrating modern ticket vending machine solutions so tourists can purchase tickets more quickly and avoid queues" (R3).
	Improving the Tourist Experience	"Tourists often don't understand how to reach the funicular from the city center, so clear signs and information are needed"(R3). "Tourists need more services, like free Wi-Fi and better access to information about Kaunas" (R4).

**Source: compiled by the author based on the results of the study*

The data presented in Table 5 indicates that the informants proposed several service diversification opportunities that could attract more tourists. Informant R1 mentioned that offering special tours, such as night rides or themed events, would appeal to tourists seeking unique experiences. Informant R3 added that introducing different types of tickets, such as family tickets, could attract a wider range of tourist groups and improve their visit experience. Such additions could help attract a broader audience and provide visitors with more choices.

Technological innovations were identified as a key factor that could improve the tourism experience at the Kaunas Aleksotas Funicular. Informant R1 proposed implementing virtual reality so that tourists could gain more information about the city's history and the significance of the Kaunas Aleksotas Funicular. Informant R2 suggested creating an interactive mobile app with QR codes, allowing tourists to easily access additional information about the funicular and its surroundings. Informant R3 also highlighted that modern ticket vending machine solutions could improve the tourist experience by allowing quicker ticket purchases and reducing waiting times. These technological innovations could enhance convenience for tourists and increase the object's attractiveness.

Most informants emphasized the importance of improving the tourist experience. Informant R3 noted that tourists often struggle to find the way to the Kaunas Aleksotas Funicular from the city center, so clear signage and route information would be beneficial. Informant R4 added that tourists need more services, such as free Wi-Fi and better access to information about Kaunas, to make their visit more comfortable and enjoyable. Such changes could help tourists feel more informed and navigate the city more easily.

Based on the responses, the main changes that could help attract more tourists to the Kaunas Aleksotas Funicular include service diversification (special tours, family tickets), technological innovations (virtual reality, interactive mobile apps, modern ticket vending solutions), and improving the tourist experience (clear signage, free Wi-Fi, better access to information). These changes could significantly enhance the visitor experience and attract more tourists, increasing the Kaunas Aleksotas Funicular's appeal and visibility.

Table 6 presents the informants' statements regarding the preparedness of the Kaunas Aleksotas Funicular employees to adapt to the changing needs of the tourism sector.

Table 6

Employee Preparedness to Adapt to Changing Tourism Sector Needs

Category	Subcategories	Evidential statements
Adaptation to Changing Tourism Sector Needs	**Skills and Competence Development**	"…we feel unprepared to handle large tourist flows" (R2). "Continuous training is needed so we can better adapt to new tourist needs, especially when it comes to language barriers" (R3). "…I believe we are not ready to serve a large number of foreign tourists…" (R6).
	Need for Flexibility	"…we need to respond quickly to seasonality, but often there is a lack of workforce…" (R4). "If there were more flexibility in work schedules, we could better respond to increased tourist flows during holidays or peak seasons" (R5). "Sometimes we have to adapt to unexpectedly changed tourist preferences, such as when weather conditions change and tourists want to use services earlier" (R7).

**Source: compiled by the author based on the results of the study*

The data presented in Table 6 indicates that the informants emphasized that employees lack certain skills and knowledge necessary for fully adapting to the changing demands of the tourism sector. Informant R2 stated that employees feel unprepared to handle large tourist flows, and Informant R6 noted that they are not ready to serve many foreign tourists. Most informants agreed that continuous training and the acquisition of new skills, particularly language skills, are essential for employees to effectively adapt to the growing needs of tourists. Informant R3 emphasized that ongoing training would be beneficial, especially in overcoming language barriers to better serve tourists from various countries.

Employees also pointed out the need for flexibility in order to adapt more effectively to changing work conditions and tourist demands. Informant R4 noted the necessity of quickly responding to seasonality, but often the workforce is insufficient. Informant R5 mentioned that more flexibility in work schedules would allow employees to better handle increased tourist flows during holidays or peak seasons. Informant R7 added that sometimes employees have to adapt to unexpectedly changed tourist preferences, such as when weather conditions cause tourists to use services earlier than planned. This suggests that employees need more flexibility both in work schedules and in their ability to respond to dynamic and often unpredictable tourist expectations.

Based on the responses, employees' preparedness to adapt to the changing demands of the tourism sector depends on their ability to acquire new skills and ensure flexibility in the work environment. Informants emphasized the need to improve language skills and other competencies to better manage the growing influx of tourists, particularly from abroad. The importance of providing greater flexibility in work schedules was also highlighted, allowing employees to quickly respond to seasonal changes and unexpected tourist needs. These changes could help employees better adapt to the evolving requirements of the tourism sector and ensure a higher level of service quality.

Conclusions

Based on the theoretical analysis of employees' attitudes toward the prospects of tourism development and their adaptation to change processes, it can be stated that employee engagement and attitudes toward tourism development opportunities play a crucial role in both the success of the object and the tourist experience. Employees who understand the significance of change and are ready to adapt to new requirements in the tourism sector can contribute to the organization's growth and competitiveness. The review of scientific literature also revealed that different employee attitudes may depend on personal experiences and working conditions, highlighting the importance of encouraging open communication, involving employees in the formulation of development strategies, and providing necessary training and support to ensure sustainable and effective implementation of changes. This approach can help optimize the quality of services at the Kaunas Aleksotas Funicular, attract more tourists, and improve overall organizational performance.

The employees' attitudes toward tourism development at the Kaunas Aleksotas Funicular are critical for both the success of the object and the assurance of service quality. The research results indicate that employees' views on the opportunities for tourism development are ambivalent. Some employees perceive tourism development as an opportunity to improve working conditions, receive higher compensation, and contribute to the city's image-building, while others may feel negative impacts due to the increasing flow of tourists, higher workloads, and greater communication challenges with tourists. To ensure a positive attitude, it is necessary to encourage employee engagement in the development processes and acknowledge their importance in this transformation.

Key factors influencing the adaptation of the Kaunas Aleksotas Funicular employees to tourism development changes include continuous training, encouraging employee involvement in the change processes, and promoting open communication. The study found that employees' adaptation to change processes is essential for maintaining high service quality and ensuring a positive tourist experience. Employees who are well-prepared to adopt new technologies and services contribute to the effectiveness of the object. However, to ensure successful adaptation, special training and preparation for working with tourists, considering their various needs and expectations, are necessary. Furthermore, the ability of employees to adapt to the constantly changing needs of tourists depends on the flexibility of the organization's structure, the ability to respond to changes, and the recognition that change can create new opportunities. Effective change management and employee involvement in strategic planning can reduce resistance to change.

Opportunities to improve employee adaptation to change and increase the attractiveness of the Kaunas Aleksotas Funicular to tourists include: a) organizing continuous training to help employees better understand tourist expectations and improve their service delivery skills; b) encouraging employees to actively participate in the organization's development processes by granting them more autonomy and responsibility; c) conducting regular employee opinion surveys to identify issues and suggestions that would improve both service quality and the overall working environment; d) investing in the improvement of the object's infrastructure to ensure a better tourist experience and service appeal.

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FACTORS INFLUENCING BEACH TOURISM: A COMPARATIVE STUDY OF PALANGA BEACH, LITHUANIA AND COX'S BAZAR BEACH, BANGLADESH

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Keywords: Palanga beach; Cox's Bazar beach; beach tourism.

Abstract
Object of the article - factors influencing beach tourism. The aim of the article is to analyze the factors influencing beach tourism at Palanga (Lithuania) and Cox's Bazar (Bangladesh) and to identify the differences. This article examines the factors influencing tourist destination choice at Palanga and Cox's Bazar, exploring the relative importance of various attributes such as natural resources, infrastructure and services, price, safety, and accessibility. The comparative approach highlights similarities and differences between these two distinct beach destinations. The main methods used in the preparation of the paper are: analysis of scientific literature and other sources and a questionnaire survey. The study is original and new, as the two these beaches have never been compared and the factors influencing beach tourism have never been analyzed.

Introduction

Beach tourism is very popular among the tourists today. Tourists of all age groups, backgrounds, cultures and countries enjoy this tourism product.

Beaches are one of the most popular recreational destinations, which provide visitors with a variety of experiences, including contact with nature (sea, sun, and sand) and socio-cultural features (landscapes, culture, and traditions), as well as specific facilities, infrastructure, and services. Due to this, beach tourism is one of the world's most important economic activities. (Pereira et al., 2024).

Beach tourism is one of the best types of tourism because it gives high income to the place and it attracts more visitors. In recent years' beaches are the main attraction of tourism and those have become indispensable part of contemporary tourism. Every year a large number of visitors from home and abroad come to visit different beaches of our country.

Beach tourism is a significant component of global travel, offering economic and cultural benefits to many countries. Palanga Beach, located on the Baltic Sea coast in Lithuania, and Cox's Bazar, recognized as the longest unbroken sandy beach in the world, serve as major tourist destinations in their respective regions.

Bangladeshi researchers are focusing on tourist surveys at Cox's Bazar beach. Tourists' attitudes towards beach tourism in Cox's Bazar have been analyzed by Kamrul, H. (2014), while students' attitudes have been analyzed by Sadar and Rekha (2016). Sahabuddin et al. (2021) studied tourists' eco-responsible behaviour and satisfaction, Rahman et al. (2023), Hossain et al, (2013) studied factors influencing repeat tourist visits, etc. However, there is very little research on tourists on Palanga beach. Timonina-Mickevičienė (2023) examined the attractiveness of sustainable sailing tourism services in Klaipėda region, Skaržauskienė et al. (2022) to identified the main components of marina services that are relevant for different visitor groups in sustainable water and coastal tourism. Sokaitė, Parišauskienė (2019) investigated wellness tourism in Palanga resort, Dalinkevičiūtė, Kažys (2018) investigated the climatic conditions of warm season (May-September) tourism in Lithuanian seaside. It was noted that the scientific articles paid more attention to hydrodynamic, sedimentation, erosion and pollution studies on the beach in Palanga. Tourism in the Lithuanian (Palanga) seaside was more studied in the context of students' works. Thus, there are hardly any studies on the factors influencing beach tourism in Lithuania, which makes this study very relevant.

This study is original and novel because these two beaches Palanga and Cox's Bazar have never been compared, and the factors influencing beach tourism have never been analyzed.

This paper examines the factors influencing tourist satisfaction in Palanga and Cox's Bazar by analyzing the factors of natural features, infrastructure and services, price, safety and accessibility. The paper compares the respondents' satisfaction with these factors on the beaches. Such analysis provides valuable information for tourism operators, authorities and service planners. Knowing what is important to tourists allows investments to be made to improve these aspects in order to attract more visitors and to target marketing campaigns more effectively. Analyzing the factors influencing beach tourism is important for the sustainable, competitive and beneficial development of this important tourism sector. Beaches are the biggest attractions in countries, so it is necessary to study the needs of tourists and their satisfaction with the services.

The aim of the paper is to find out what factors are most important for tourists when choosing beaches in Palanga and Cox's Bazar. **The problem question is:** Are natural resources, infrastructure and services, price, safety and accessibility equally important for tourists when choosing beaches in Palanga and Cox's Bazar? If

not, what are the significant differences? Identifying the most important factors would help to take them into account when developing beach tourism.

Object of the article - factors influencing beach tourism.

The aim of the article is to analyze the factors influencing beach tourism at Palanga (Lithuania) and Cox's Bazar (Bangladesh).

Objectives:

1. To analyze the factors influencing beach tourism on theoretical aspect;
2. To describe Cox's Bazar and Palanga beaches for a touristic perspective;
3. To investigate and compare the factors influencing beach tourism in Palanga and Cox's Bazar

Methodology. The main methods used in the preparation of the paper are: analysis of scientific literature and other sources and a questionnaire survey (exploratory research). The study examined the scientific literature of Lithuanian and foreign authors, the material available on the Internet, legislation, tourism development programs, strategic action plans, and analyzed beach tourism from a theoretical point of view, and described the peculiarities of the beaches of Palanga and Cox's Bazar.

In order to investigate the factors influencing beach tourism on the beaches of Palanga and Cox's Bazar, respondents from Lithuania and Bangladesh were interviewed. The survey was carried out between 1 February 2025 and 1 March 2025. The survey questionnaire (consisting of 11 questions) was prepared at https://www.qualtrics.com. The questionnaire link was distributed via email and social networks.

Sample of respondents. An exploratory study was carried out with a targeted sample of respondents. According to Bekele and Ago (2022), a sample size of at least 30-50 is recommended for such studies. So, the sample size for this study was not calculated. The study aimed to interview at least 50 respondents. Furthermore, the study aimed to have a similar number of respondents from both Lithuania and Bangladesh. The questionnaire was completed by 106 target respondents: 54 from Lithuania and 52 from Bangladesh. Only respondents who had visited the researched beaches answered the questionnaire.

The aim of this exploratory study was twofold: firstly, to determine whether it is possible to compare the factors influencing tourism on these beaches, and secondly, to identify any necessary changes to the questionnaire and to identify any other shortcomings in the survey so as to allow for a more detailed study in the future.

In order to compare the factors influencing beach tourism at the study beaches, the following statistic indices were calculated: maximum and minimum values, mean, median, standard deviation. The data of the study are presented in graphs and tables, analyzed and summarized. Based upon the results of this study, several recommendations have been made concerning the tourists' choice and satisfaction with Palanga and Cox's Bazar beach tourism. The results of the study were processed with the Microsoft Excel computer software and presented in graphs and tables.

The factors influencing beach tourism

Before investigating the factors influencing beach tourism on the beaches of Palanga and Cox's Bazar, it was important to analyze what beach tourism is, what factors influence beach tourism and to describe the beaches under study.

Generally, a *beach* means afloat, sloping area of sand or small stones beside the sea. Broader sense covers the area of beach - where the natural waves of water floating the bank of a certain area. (Sadar, Rekha, 2016). Tourist beaches are a socioecological resource located mainly on coastal destinations, which is developed and managed for the primary purpose of attracting tourists interested in sun, sea, and sand activities. (Botero et al., 2018). Beaches, as precious nature resources, represent a dynamic interface between land and sea, subject to natural threats by climate change such as sea-level rise and storms. Beaches, as valuable natural assets, can make a significant contribution to a nation's economy and enhance human welfare. (Cai et al., 2024).

So, a beach is defined as a strip of sand or small stones beside the sea, while a broader definition encompasses the area where the natural waves of water wash the shore. Tourist beaches are important socio-ecological resources that attract tourists interested in sun, sea, and sand activities. Beaches are valuable natural resources, but they are threatened by climate change hazards such as sea-level rise and storms. They can also significantly contribute to a nation's economy and enhance human well-being

Beach tourism means travelling in the beach area for recreation, leisure or for business purpose. People who want a clear blue vision of the ocean visit different beach areas. (Sadar, Rekha, 2016). For the many countries that offer "sun, sea and sand" tourism, beach tourism accounts for a significant amount of their total

national revenue. (Zielinski, Botero, 2020). Tourism beaches can manifest at a variety of scales. Depending on the visitor's perception, they can draw people locally, regionally, nationally, and internationally. (Botero et al., 2018).

The researchers (Karim et al., 2024) investigated the factors influencing travelers' behavioral intentions regarding beach destinations in Bangladesh. The study also examines how destination experience and satisfaction mediate the nexus between destination service factors and travelers' behavioral intentions. Das, Bhattacharya (2021) analyzed four factors of beach tourism: beach safety and security (e.g., patrolling across the beach); beach typology (sandy or rocky beach, stretch of the beach); beach scenery (cleanliness and beauty); beach amenities (e.g., distance from the hotels). Zuhra et al. (2024) measured the strength of visitors' feelings when in the beach area and identify the factors shaping those feelings. The primary factors influencing the sense of place in the beach area are place identity and place dependence, safety and comfort.

The attitude of the tourists depends on the number of factors related to the destinations. The important factors are related to attractiveness, climate, geographical location, accommodation, communication, hostility, security, promotion, assistance program of the tourism, price and cost of accommodation and communication, supportive benefit etc. (Kamrul, 2014). An attraction is any place that consists of artificial as well as natural features that geographically draws people to provide them with a recreational experience and is composed of various components including tourism activities, local scenery, and services expand that classification including natural beauty and climate; culture and social characteristics; sport, recreation, and educational facilities; shopping and commercial facilities; infrastructure; price levels; attitudes toward tourists; and accessibility. (Botero et al., 2018). Factors that impact costal tourism include infrastructure, safety and security, environmental quality, regulatory framework, marketing and promotion, cultural and heritage attractions, accessibility, tourist facilities, political stability, and economic factors. (Cyprain, Ali, 2024).

In summary, research indicates that the attractiveness of beach tourism and travelers' behavior are influenced by various interconnected factors, encompassing the physical characteristics of the beaches, amenities, safety, emotional aspects, infrastructure, and the overall appeal of the destination.

The authors of this paper have analyzed various sources of scientific literature (Sadar, Rekha, 2016; Friedrich et al., 2020; Kamrul, 2014; Botero et al., 2018; Zielinski, Botero, 2020; Dey et al., 2013) dealing with beach tourism and have identified the following main factors that influence the development of beach tourism and the satisfaction of holidaymakers. The factors influencing beach tourism are shown in Figure 1.

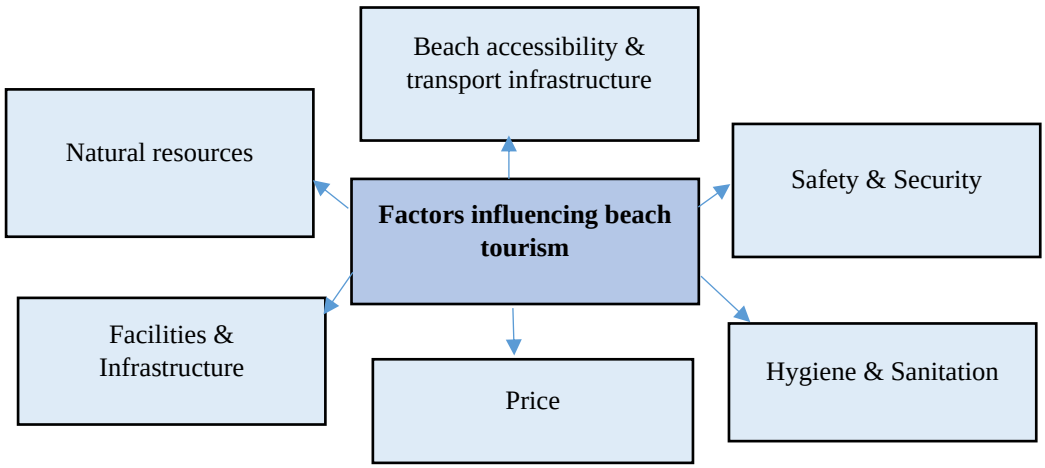


Fig. 1. Factors influencing beach tourism
**Source: made by authors on the basis of Sadar, Rekha, 2016; Friedrich et al., 2020; Kamrul, 2014; Botero et al., 2018; Zielinski, Botero, 2020; Dey et al., 2013*

Natural resources. This attribute is used in different studies by numerous researchers. It is known as the most attractive attribute which represents the overall natural environment of beaches. It ensures the visitors' physiological comfort-ability. The attribute consists of five sub-attributes: Natural Attractions, Comfortable Sunbathing, Noise free Environment, Amazing Waves and Free Walkway on the Sand. (Sadar, Rekha, 2016). Beach and coastal tourism belong to the outdoor tourism sector and are strongly dependent on climate and weather. (Friedrich et al., 2020). The basic importance of beaches is that they provide aesthetic and environmental value of the beach such as beautiful natural scenery with golden sands, lush green vegetation

and right blue sky. The water should be clear, free of currents and underwater rocks. (Kamrul, 2014). Marasabessy (2025) stated that the beauty of nature has a significant impact on visitor satisfaction at a tourist spot. The Aesthetic Theory of Landscape argues that the beauty of natural landscapes directly influences the positive emotions and satisfaction of tourists (Lothian, 2019).

Facilities and Infrastructure. Beach tourism activities include water and land resource use. The water usage involves swimming, surfing, sailing, wind surfing, water scootering, para-sailing, motorboat rides, etc. The land usage has multi facts like sunbathing, recreational areas for tourists (parks, playgrounds, clubs, theatre, amusement parks, casinos, cultural museums, etc.), accommodation facilities (hotels, cottages, villas, camping sites, etc.), car and bus parking areas, entertainment and shopping complexes, access roads and transportation network. (Kamrul, 2014). Facilities and infrastructure on beaches are diverse initially, any tourist beach must have sanitary facilities, such as toilets or showers, which are open for free or at a low cost for visitors who need to use them during their stay on the beach. If pets and other kinds of animals are allowed on the beach, a dog's area is highly recommended. At beaches with an interest in universal accessibility, it is relevant to install ramps, wood-paths, and signage for disabled people, in addition to elements such as floatable wheelchairs. On urban beaches with a high number of visitors and built environment, the presence of pedestrian crossings, sidewalks, and signage are also necessary to allow a safe experience for tourists and locals. In terms of safety, lifeguard towers are the most common facilities, although they can vary from a small chair on the sand to high towers to oversee the whole beach. Finally, there are several private facilities on beaches, which are related to food and beverages (bars, restaurants), recreation (sport areas, children's parks, a library) or sunbathing (chairs, umbrellas); all of them occupy a place on the beach and must be carefully planned and designed to reduce conflicts with other users on the beach. (Botero et al., 2018).

This attribute is related with five different services attributes which act as supportive tools for visiting different beaches and destinations. The attributes include guide facilities, shopping facility, banking facility. (Sadar, Rekha, 2016).

Price. The most sensitive and considerable attribute that tourist' consider visiting the sea beaches is price. (Dey et al., 2013). The attribute consists of different service attributes like affordable price for food and beverage, service charge at accommodation, charges for enjoying natural sight, reasonable charges for shopping and normal price for transportation. Demand and supply influence prices for different services. Besides, price also varies on the basis of geographical location, availability of products or services. So, visitors evaluate both of the beaches differently. (Sadar, Rekha, 2016).

Hygiene &Sanitation. The attribute is widely used in different beach related studies. (Dey et al., 2013). It is related with five other service attributes like hygiene and quality food restaurants, available sea foods, enough washroom facilities and considerable waste disposal facility. Hygiene and sanitation condition influence visitors to visit a destination. Nobody wants to visit a dirty place. (Sadar, Rekha, 2016). The former is in charge of maintaining the beach litter-free, with a focus on sand surfaces. Cleaning the beaches is a service usually done by local municipalities, although it should be reinforced with the tourism brokers located on the beach (e.g., restaurants, stores, shade tent/parasol providers). This cleaning service could be done through manual or mechanical methods, although it is recommended to mix both techniques. (Botero et al., 2018). The only beach cleaning methods that are recommended are the aeration of sand to allow the UV light to act as a natural disinfectant or the adding of ozone to mechanical beach cleaners to protect the sand from bacteria and viruses (Zielinski, Botero, 2020).

Safety & Security. It consists of five service attributes like safety at hotel, safety in beach, sufficient emergency service such as life-boat and medical, safety at internal transportation and cordial behavior of local people. (Sadar, Rekha, 2016). On the other side, safety service is composed of three elements: lifesaving, first-aid assistance, and hazard signage. In several cases, voluntary organizations such as the International Red Cross or the Surf Riders are in charge of lifeguard and medical assistance. In other cases, municipalities or resorts contract private lifeguards and medical personnel on their own. (Botero et al., 2018).

Transportation. Transportation is one of the main attributes to visiting a place because we cannot think of taking a single step without transportation. This attribute consists of five sub attributes such as enough public transportation facility, available road transportation, available water transportation at beach, internal transportation in beach and enough parking facility. (Sadar, Rekha, 2016). Potential tourists tend to choose destinations that are close and easy to access. This is particularly true for Gen Z, who see travel as a way to relieve stress but often find the planning process itself stressful. (Marasabessy, 2025).

Beach tourism means travelling in the beach area for recreation, leisure or for business purpose. The key factors influencing beach tourism are natural resources, facilities and infrastructure, price, hygiene and sanitation, safety and security, and transportation.

Cox's Bazar and Palanga beaches descriptions

Cox's Bazar is located in the South-East part of Bangladesh and about 396 km from the Capital Dhaka. The small beach town is famous for its' nice beaches from long time. Located at a distance of 152 km south of Chittagong, Cox's Bazar is the tourist capital of Bangladesh. (Rahman et al., 2023).

Cox's Bazar Beach is the world's longest unbroken sandy beach which is situated in Bangladesh. The beach is 120 km long and it slopes gently down to the blue waters of the Bay of Bengal next to the scenic backdrop of a sequence of hills covered with deep green forests (Rahman et al., 2023).

Miles of golden sands, towering cliffs, surfing waves, rare conch shells, colorful pagodas, Buddhist temples and tribes, delightful sea food - this is Cox's Bazaar, the tourist capital of Bangladesh. The beach is good for bathing, sunbathing and swimming. This sea is warm, nice and safe for swimming for the whole day. Tourists can enjoy numerous sea fresh sea fish from the road side eateries. (Kamrul, 2014).

As the longest sea beach of the world, Cox's Bazar beach is experiencing huge growth in tourism since past. During the peak season some millions of tourists visit Cox's Bazar and all hotels, motels and guest houses are totally filled up and even some tourists spend their night inside the vehicle because of the unavailability of the seats in the hotels. From general observation it is understood that tourism has brought a big change in this area. Local community people are seemingly benefited from tourism and its economy is quite good compared to other backward area. (Kamrul, 2014).

Late November to February - this is the peak tourist season, characterized by cooler temperatures and minimal rainfall, making it ideal for sunbathing, swimming, and exploring the beaches. Typical air temperature in tourist season from 25°C to 30°C, water temperature - from 25°C to 30°C. According to a survey of Bangladesh Bureau of Statistics in December 2021, each year roughly 3 million tourists visit Cox's Bazar. However, the number of trips to Cox's Bazar beach is declining due to various issues. (Rahman et al., 2023).

Cox's Bazar has developed better road network with the main city Chittagong that could be an important indicator of a socio-economic development to the region. This implies that this area has the ease of transportation facilities required to support international tourist demand. (Kalam, Hossen, 2018).

Table 1

A comparison between Palanga beach and Cox's Bazar beach

	Cox's Bazar Beach	Palanga Beach
Length of beach	120 km	25 km
Accessibility (within the country)	Road, rail, air	Road, rail
Distance from capital	396 km from the capital Dhaka	332 km from capital Vilnius
The peak tourist season	November to February, with cooler temperatures and minimal rainfall	June to August, when temperatures are warm
Typical air temperature in tourist season	From 25°C to 30°C	From 20°C to 25°C
Typical water temperature in tourist season	From 23°C to 25°C	From 18°C to 23°C
Beach activities	Surfing waves, bathing, sunbathing, swimming, boating, water sports	Bathing, sunbathing, swimming, boating, water sports
Resort activities	Restaurants, bars, hotels, seafood, local cultural attractions like temples and tribal communities, others.	Restaurants, bars, hotels, attractions like an observation wheel, Basanavičius Street, others.

**Source: made by authors*

The **Palanga Beach** is located in the northern part of the Lithuanian seashore. Palanga is one of the most popular Lithuanian seaside resorts, which has previously been valued for its wide beaches composed of light-yellow fine-grained quartz sand. (Jurkus a al., 2021).

Palanga, a charming resort nestled within Lithuania's picturesque summer cottage territory, boasts an impressive 25 km expanse along the Baltic Sea's serene shores. This destination is renowned for its extraordinary and breathtaking landscapes, which include lush pine groves, pristine snow-white dunes, verdant mixed forests, and the invigorating freshness of the sea breeze. Palanga is accessible by car and is located approximately 20 kilometers (12 miles) north of Klaipėda. There is parking available near the beach, but it can get crowded during the summer season. Public Transportation: you can reach Palanga by taking a bus from

Klaipėda or other major Lithuanian cities. Once in Palanga, the beach is within walking distance from the town center. The distance between Palanga and Vilnius is 332 km.

The best time to visit Lithuania for a beach vacation is during the summer months, when the weather is most favorable for enjoying the country's beautiful coastline. June to August: This is the peak season for beachgoers. The air temperatures are warm, typically ranging from 20°C to 25°C which is ideal for sunbathing, swimming, and water sports (water temperature – from 18°C to 23°C) (Palanga beach. Internet site: https://1001beach.com).

Palanga Beach is a renowned seaside destination located in the resort town of Palanga, Lithuania, along the Baltic Sea coastline. It is one of the most popular and beautiful beaches in the country, known for its sandy shores, scenic dunes, and vibrant summer atmosphere. Palanga Beach offers a wide range of recreational activities, making it a favorite destination for both locals and tourists.

In the summer, many tourists come to visit and stay in Palanga, both for its beaches and to enjoy the maritime atmosphere. There is a Jonas Basanavičius Street, which is a pedestrian-only thoroughfare during the high season and there are dozens of restaurants, bars, rides, and other forms of entertainment. A new observation wheel opened in ~2021 scaling 40 meters. It is claimed its to be the tallest wheel in all of the Baltic states.

To summarize (Table 1), Cox's Bazar is notable for being the world's longest unbroken sandy beach, stretching 120 km along the Bay of Bengal in Bangladesh, while Palanga extends for 25 km along the Baltic Sea in Lithuania. Both beaches are suitable for bathing and sunbathing. Cox's Bazar also offers opportunities for enjoying seafood and exploring local cultural attractions like temples and tribal communities. Palanga has a lively summer atmosphere with restaurants, bars, and attractions like a large observation wheel. The peak tourist season for Cox's Bazar is from late November to February, with cooler temperatures and minimal rainfall. Palanga's peak season is during the summer months (June to August), when temperatures are warm.

Results of the research

The number of tourists will depend on better understanding of their behavior, available facilities to serve them and sufficiency of existing facilities to satisfy tourists' need. What they need, what are their wants and what are their perceptions towards the facilities are to be measured. If we know the tourists' need, want, demand and their perceptions towards the existing facilities and services, and how present facilities and services are being evaluated by them, then we will be able to provided suggestions to concerned authority to take necessary action in this regard.

Table 2

Demographic data of respondents

	Palanga Beach	**Cox's Basar Beach**
Number of respondents	51 %	49 %
Respondents age group		
Under 18	5 %	-
18-24	10 %	60 %
25-34	20 %	30 %
35-44	15 %	5 %
45-54	15 %	5 %
55-64	30 %	-
65 and above	5 %	-
Respondents gender:		
Male	10 %	100 %
Female	90 %	0

**Source: made by authors*

The result of the study stated that the visitors identified six factors, which are "natural beauty and restful atmosphere" "hygiene and sanitation" "security and accommodation quality" "hospitality and information" "emergency and caring facility" and "shopping facility". Multiple regression analysis is conducted and the results reveal that hygiene and sanitation, and accommodation and security are important that influenced overall tourist image towards Cox's Bazar beach. (Kamrul, 2014).

The study included 54 respondents (51% of all respondents) from Lithuania who visited Palanga beach and 52 respondents (49%) from Bangladesh who visited Cox's Bazar beach. (Table 2). The majority of respondents in the 55-64 age group (30%) and the 25-34 age group (20%), the majority of whom were women

(90%), responded about Palanga beach. The respondents from Bangladesh aged 18-24 (60%) and 25-34 (30%) were all male.

Respondents were asked how often you visit this beach, and the results of the survey showed that Lithuanians visit Palanga beach once a year and less than once a year (40%), while 20% of the respondents indicated that they visit more than once a year (Fig 2). Respondents from Bangladesh go to Cox's Bazar beach once a year (40%) and 40% have been several times. Thus, Lithuanians go to Palanga more often and this is probably due to the shorter distances in Lithuania and better accessibility.

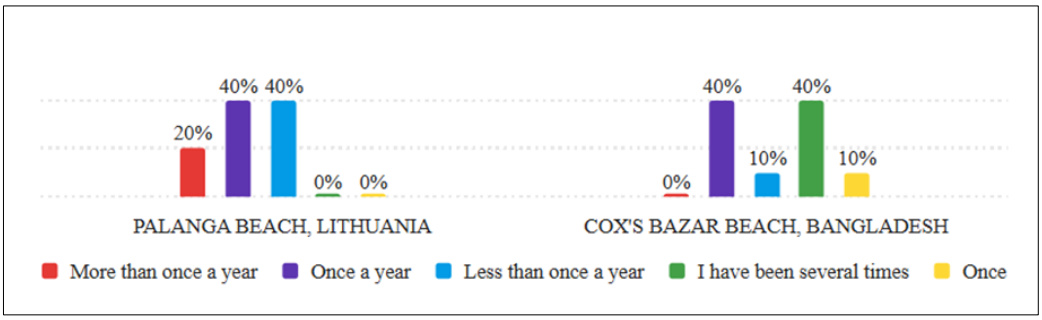


Fig. 2. Frequency of respondents visiting beaches

**Source: made by authors*

When asked how long are you usually stay at this beach, respondents usually spend about 2-3 days (60%), 4-7 days (20%) and 4-7 days (50%) and 2-3 days (30%) at Cox's Bazar. Thus, although respondents go to Cox's Bazar less frequently, they spend more time in the resort (Fig 3).

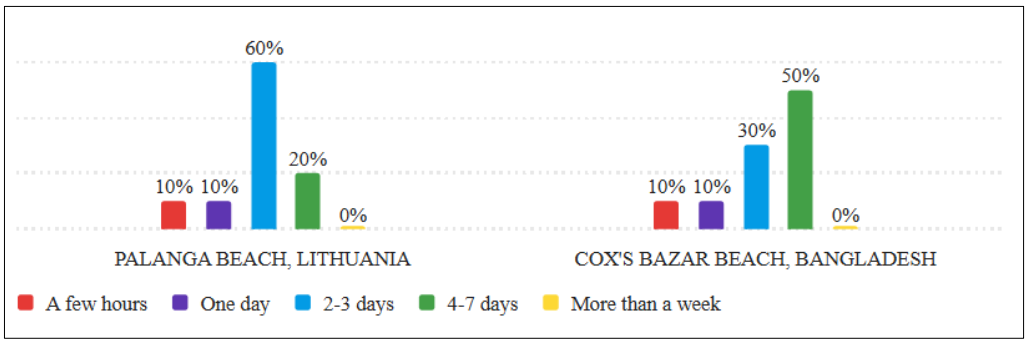


Fig. 3. Duration of respondents' visits to beaches

**Source: made by authors*

When asked with whom they usually go to the study beaches, respondents go to Palanga beach with family (40%), friends and couple (30% each). The most frequent trips to Cox's Bazar beach are with friends (70%) and family (20%) (Fig 4). This distribution of responses at the latter beach is because most of the Bangladeshi respondents were young people aged 18-24 (60%).

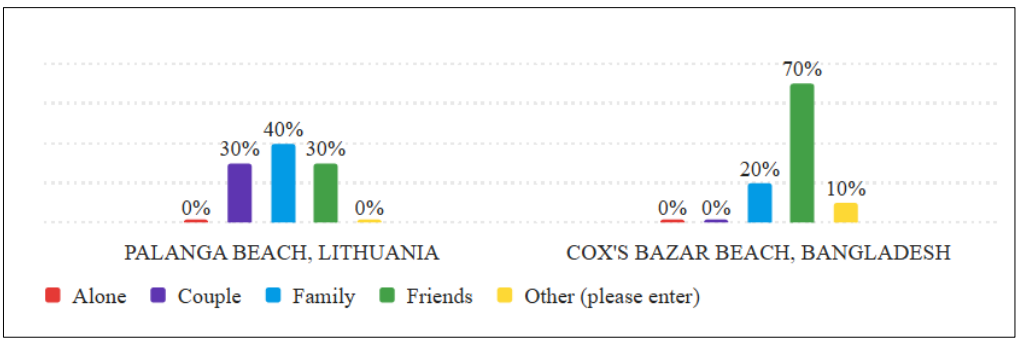


Fig. 4. Who do respondents go to the beaches with most often

**Source: made by authors*

One important factor is the accessibility of the beach by various means of transport from other cities and regions and countries. Almost all respondents (90%) travel to Palanga beach by car, while Cox's Bazar beach is accessible by bus (50%), car and train (30% each) (Fig 5).

You can reach Palanga through various transportation options. Palanga International Airport, the third largest in Lithuania, connects to several European cities, including Copenhagen, Oslo, and London. It's particularly busy during summer due to increased tourist traffic. If you're traveling from within Lithuania, regular bus services run from major cities like Vilnius, Kaunas, and Klaipėda. The nearest train stations are in Kretinga (12 km away) and Klaipėda (25 km away), with bus connections to Palanga. (Palanga beach. Internet site: https://1001beach.com.)

This moment Cox's Bazar you can access by airplane or bus as public transportation and the other option is private vehicle. By airplane it takes only one hour to reach Cox's Bazar and 8-10 hours by Bus from the capital of the country. The city's airport, Cox's Bazar Airport (CXB), operates domestic flights from major cities of the country. But train is the most popular transport in this country. From Dhaka there is an option by train that reaches to Dohazari, Chittagong, but rest of the way is by road. (Talukder, 2021).

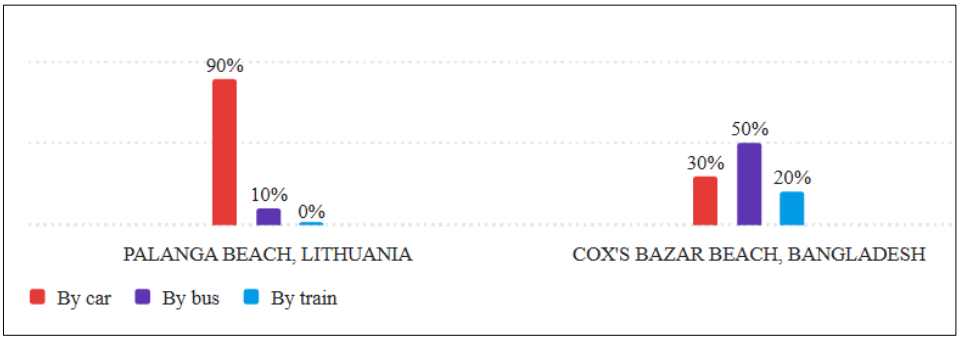


Fig. 5. Most common means of transport used to go to the beaches

**Source: made by authors*

In summary, Lithuanians visit Palanga beach more often, mostly by car, usually with family or friends, and spend 2-3 days. Bangladeshi residents visit Cox's Bazar beach less frequently, mainly by bus, with friends, and spend a longer time, 4-7 days. The differences are due to distances, accessibility, and demographic factors.

Beach rating

Respondents rated the natural and other factors of beach attractiveness on a scale of 1 (very bad) to 5 (very good). *The following statistical indicators were used to assess each factor:*

Min: Minimum rating - indicator shows the lowest rating given by visitors for a given factor. If Min is very low (1), it indicates that some respondents found the facilities very unsatisfactory.

Max: Maximum rating - this indicator shows the highest rating given by visitors for a given factor. This indicates that some visitors are very satisfied with the service provided.

Aver: Average - this indicator shows the average rating given by visitors for a given factor. If the average rating is high, it indicates that the majority of visitors are satisfied with the factor. This indicator is useful for comparing different beaches.

Median: Median (middle number) - this indicator shows the average rating when all ratings are ranked in ascending order. The median is less sensitive to extreme ratings than the mean. For example, if there are a number of very low or very high ratings, the median will better reflect typical visitor satisfaction.

St.dev: Standard deviation - indicator shows how respondents' opinions differ on a given factor. The higher the standard deviation, the greater the diversity of opinions.

These statistical indicators provide detailed information on visitor satisfaction with various aspects of beach tourism. They help to identify strengths and weaknesses, to understand the diversity of visitor opinions and to make informed decisions on tourism development.

The table 3 shows the scores of the five natural attractiveness factors (beach cleanliness, water quality, water temperature, weather and natural beauty) for two beaches - Palanga (P) and Cox's Bazar (C).

- *Beach cleanliness*. Cox's Bazar beach is rated better than Palanga, with a higher mean of 3.9 and median of 4 (Palanga's 3.4 and 3.5 respectively). However, Cox's Bazar Beach has a higher standard deviation, indicating a greater diversity of opinions, with some respondents giving the cleanliness the highest score (5) and some the lowest (1).

- *Water quality*. Cox's Bazar (3.78) is again rated slightly higher than Palanga (3.7), but the median score for both is 4, which means that the ratings are very similar.
- *Water temperature*. Cox's Bazar has a much higher water temperature, which is why respondents rate this factor much higher (4.1) than Palanga (2.56).
- *Weather*. The weather in Cox's Bazar is rated higher (4.3) than in Palanga (2.9). Respondents rated the weather on a scale of 3 to 5 for this beach and 1 to 4 for Palanga.
- *Natural beauty*. Cox's Bazar's natural beauty is rated slightly better than Palanga's (5 and 4.5 respectively). It should be noted that all respondents' ratings of Cox's Bazar Beach are exactly the same (standard deviation 0), which indicates a complete agreement on natural beauty.

Table 3

Natural attractiveness factors of beaches (P - Palanga and C - Cox's Bazar)

Factors	Min		Max		Aver		Median		St.dev.	
	P	C	P	C	P	C	P	C	P	C
Beach cleanliness	2	1	4	5	3.40	3.9	3.5	4	0.66	1.14
Water quality	3	3	4	5	3.70	3.8	4	4	0.46	0.6
Water temperature	2	3	4	5	2.56	4.1	2	4	0.68	0.7
Weather	1	3	4	5	2.90	4.3	3	4.5	0.83	0.78
Natural beauty	3	5	5	5	4.50	5	5	5	0.67	0

**Source: made by authors*

In summary, the table shows that Cox's Bazar beach is considered to be more attractive from a natural point of view than Palanga's beach, especially due to its warmer water, better weather and impressive natural beauty. Cox's Bazar beach has a high standard deviation in the beach cleanliness category, indicating a greater diversity of opinions on this issue.

Table 4

Factors of beaches amenities (P - Palanga and C - Cox's Bazar)

Factors	Min		Max		Aver		Median		St.dev.	
	P	C	P	C	P	C	P	C	P	C
Infrastructure (toilets, showers, changing rooms)	1	1	4	5	2.7	3.8	3	4	0.9	1.25
Quality of services (restaurants, cafes, shops)	3	3	5	5	3.8	4.4	4	4.5	0.4	0.66
Security	3	3	5	5	3.9	4.1	4	4	0.7	0.7
Accessibility (transport, parking)	2	3	5	5	3.6	4.2	4	4	0.92	0.6
Entertainment	2	4	5	5	3.4	4.4	3	4	0.8	0.49
Cost (services, entertainment)	2	3	4	5	3	3.9	3	4	0.89	0.83
Pet-friendly	2	1	5	5	3.11	3.5	3	4	0.87	1.02

**Source: made by authors*

Cox's Bazar has better infrastructure than Palanga (average 3.8 vs. 2.7), indicating that respondents consider it to have more and better facilities for visitors (table 4). The higher standard deviation in Cox's Bazar indicates that there is a wide range of opinions about the infrastructure, with some visitors rating it as excellent and others as poor. This may be related to the different facilities or their condition.

Cox's Bazar has a higher quality of service. Similarly, to infrastructure, Cox's Bazar shows a greater diversity of opinions, which may be related to the diversity of services and the different perceptions of their quality. Cox's Bazar scores slightly higher in terms of safety at 4.1 and Palanga at 3.9, but the difference is not significant. Both beaches have similar views on safety, which indicates that this aspect is quite stable

Cox's Bazar has a higher accessibility score of 4.2 and Palanga's 3.6, which can be attributed to the better transport infrastructure and the fact that many respondents usually travel to the beach by bus. The high standard deviation in Palanga indicates that accessibility is very mixed. Perhaps accessibility is good in some places, such as parking, and poor in others. Respondents have a better perception of the entertainment facilities in Cox's Bazar (4.4). As with accessibility, the high standard deviation in Palanga shows that there is a wide range of opinions on entertainment options.

Cox's Bazar is rated more favorably (average 3.9), which may be due to the lower prices for services and entertainment. Both beaches have a similar spread of opinions on prices, suggesting that this aspect is quite similar. Cox's Bazar is slightly more animal-friendly, but the difference is not significant. The high standard deviation for Cox's Bazar indicates that there is a wide range of opinions on animal friendliness here.

The table 3 shows that Cox's Bazar offers better infrastructure, quality of services, accessibility, entertainment options and better prices compared to Palanga. However, Palanga has a wider range of opinions on some aspects, which suggests that some visitors may find better facilities or services in Palanga than others.

An open-ended question asked respondents "What did you like best about this beach?" Respondents highlighted natural elements about Palanga beach, especially the sea, dunes and sunsets. This shows that Palanga beach is appreciated for its natural beauty. Cox's Bazar beach is appreciated for its natural beauty, long sandy shoreline, beautiful sunrises and sunsets, fresh sea food and relaxing atmosphere. It is attractive because it offers a wide range of activities and attractions which attract a wide variety of visitors

An open-ended question asked respondents "What did you like least about this beach?" Palanga beach has disadvantages related to natural factors (weather) and man-made inconveniences (prices, crowds). Visitors to Cox's Bazar beach in Bangladesh most often complain about the large number of people, especially in high season, the litter and pollution that spoils the natural beauty, the intrusive vendors, the transport problems, the limited nightlife, the strong currents and security problems, the high prices in the tourist areas and the lack of infrastructure.

"Would you recommend this beach to others?" While 80 percent of respondents would recommend Palanga beach, an impressive 100 percent would recommend Cox's Bazar. This suggests that while both beaches have their strengths, Cox's Bazar, despite its challenges, leaves a very positive overall impression on its visitors.

Limitations of the study. The analysis of the survey results shows that young respondents answered about Cox's Bazar beach, and therefore probably answered more positively than Lithuanians who answered about Palanga beach. Lithuanians were more critical. The Bangladeshis, in response to an open-ended question about the disadvantages of the beach, listed a number of disadvantages that are often mentioned in other research. It is therefore considered that the results of the survey are not very representative and only preliminary conclusions can be drawn. However, this study was only an exploratory study in order to explore its limitations and possibilities. In future, the study will be further developed by increasing the number of respondents, selecting respondents from different demographic criteria for the study, and making the factors assessed more detailed.

Conclusions

1. Beach tourism means travelling in the beach area for recreation, leisure or for business purpose. The key factors influencing beach tourism are natural resources, facilities and infrastructure, price, hygiene and sanitation, safety and security, and transportation (accessibility).
2. Cox's Bazar is notable for being the world's longest unbroken sandy beach, stretching 120 km along the Bay of Bengal in Bangladesh, while Palanga extends for 25 km along the Baltic Sea in Lithuania. Both beaches are suitable for bathing and sunbathing. Cox's Bazar also offers opportunities for enjoying seafood and exploring local cultural attractions like temples and tribal communities. Palanga has a lively summer atmosphere with restaurants, bars, and attractions like a large observation wheel. The peak tourist season for Cox's Bazar is from late November to February, with cooler temperatures and minimal rainfall. Palanga's peak season is during the summer months (June to August), when temperatures are warm.
3. Cox's Bazar beach is considered more attractive from a natural point of view than Palanga beach, mainly due to its warmer water, better weather and natural beauty. Respondents rate accessibility, entertainment options and prices better in Cox's Bazar Beach. In Palanga, there is a wider range of opinions, which indicates that there is a wide range of facilities and services in terms of quality and development. Cox's Bazar beach has a higher diversity of opinions in the category of beach cleanliness and infrastructure, which means that beach cleanliness and infrastructure improvements need to be taken into account. Although both beaches have their strengths, Cox's Bazar beach, despite its challenges, leaves a very positive overall impression on visitors.

In answering the problem question, the factors are not equally important. Cox's Bazar attracts tourists with its stronger natural and price advantages, while Palanga's attractiveness is more related to a wider range of services and better infrastructure and beach cleanliness.

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SWOT ANALYSIS OF TIGER TOURISM DEVELOPMENT IN THE SUNDARBANS REGION, BANGLADESH

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Keywords: Tiger tourism, SWOT analysis, Sundarbans, Bangladesh.

Abstract
Tiger tourism in the Sundarbans, Bangladesh, has gained significant attention due to its unique biodiversity and the presence of the majestic Bengal tiger (*Panthera tigris*). This study aims - analyze the tiger tourism development in the Sundarbans and to identify strengths, weaknesses, threats and opportunities for development. The research tasks are: to characterize the key components and processes of the Sundarbans ecosystem; to analyze the population dynamics of *Panthera tigris* within the Sundarbans; to evaluate the socio-economic and environmental impacts of tiger tourism on the Sundarbans; to assess the potential for tiger tourism development in the Sundarbans, utilizing a SWOT analysis framework. The study is based on the information from scientific literature and secondary data sources.

Introduction

The tiger, one of the most iconic animals on Earth, has been a major focus of conservation efforts over the past few decades. As Bangladesh's national animal, the tiger holds a special place in Heritage. Tigers are hold a deep cultural significance, with numerous myths and legends associated with them. (Bangladesh Forest Department..., 2024).

The Sundarbans, the world's largest mangrove forest, spanning Bangladesh and India, is a UNESCO World Heritage Site and home to the critically important Bengal tiger population. With increasing global interest in wildlife tourism, the Sundarbans have emerged as a key destination for nature lovers and adventure seekers. Tiger tourism, when managed responsibly, can contribute to conservation efforts and support local livelihoods. However, unregulated tourism can threaten the delicate ecosystem.

Tiger tourism in the Sundarbans offers a thrilling opportunity to witness these magnificent creatures in their natural environment While the excitement of a tiger safari is undeniable, it is crucial to understand the delicate balance between providing visitors with a memorable experience and safeguarding the conservation of these endangered creatures and their habitats.

Khanom and Buckley (2015) research results show that tiger-based tourism in the Bangladesh Sundarbans, and its contributions to local economies, communities and conservation, does not currently fulfill its potential. There are highly successful boat-based tourism industries in other tropical forests, and many wildlife tours worldwide which rely on skilled guides to find icon species. The Sundarbans have a large tiger population, and many other natural and cultural attractions. The Sundarbans tiger tourism industry could copy international approaches, with corresponding economic, social and environmental gains.

A SWOT analysis of Sundarbans tourism and ecotourism has been prepared by authors such as Karim (2019), Zahin, & Shammi (2024), Islam & Akteruzzaman (2021), Ashikur & Rupom (2022) and others, but there is a lack of a SWOT analysis for tiger tourism that is relevant to the realities of today.

The object of the article – tiger tourism development.

The purpose of the article is to analyze the tiger tourism development in the Sundarbans and to identify strengths, weaknesses, threats and opportunities for development.

The article tasks are:

1. To characterize the key components and processes of the Sundarbans ecosystem.
2. To analyze the population dynamics of *Panthera tigris* within the Sundarbans;
3. To evaluate the socio-economic and environmental impacts of tiger tourism on the Sundarbans;
4. To assess the potential for tiger tourism development in the Sundarbans, utilizing a SWOT analysis framework.

Methodology. The study is based on the information from scientific literature and secondary data sources. The secondary data were collected from published books, different published research paper, reports of various government and non-government authorities, conservation plan, tourism board websites, tiger reserve websites, internet, etc. in order to assess the potential for tiger tourism development in the Sundarbans.

A descriptive approach, an inductive research method, was employed. All the data obtained from secondary sources are considered for draw a conclusion. Furthermore, some suggestions are prescribed for the betterment of the tiger tourism development in the Sundarbans.

This article uses SWOT analysis. *SWOT analysis* was first used in the 1970s as a tool for business management (Porter, Harvard University). This analytical approach assesses the Strengths (S), Weaknesses (W), Opportunities (O), and Threats (T) of an organization, industry, company, sector or ecosystem. It is used to evaluate internal (Strengths and Weaknesses) and external (Opportunities and Threats) factors allowing better guidance and identification of the current and future potential. (Nezha et al., 2021). The study does SWOT analysis of tiger tourism development in the study area through literature review and personal observations on Internet sites of *Eco-tourism Sundarbans, Sundarbans Tiger Roar resort, Tour De Sundarbans, Sundarbans wildlife tourism* and others.

Overview of the Sundarbans ecosystem

The name Sundarbans literally means “beautiful forest” and in all likelihood is named after the “Sundari” trees (Heritiera fomes) found in these mangroves (Jhala et al., 2016). The Sundarbans are the largest littoral mangrove belt in the world, stretching 80 km into the Bangladesh hinterland from the coast. (Md. Uddin et al., 2007). The forests aren't just mangrove swamps though; they include some of the last remaining stands of the mighty jungles which once covered the Gangetic plain. The Sundarbans cover an area of 38,500 sq. km, of which about one-third is covered in water. Since 1966 the Sundarbans have been a wildlife sanctuary. (Md. Uddin et al., 2007). Sundarbans is a UNSECO’s World Heritage Site in both India (NP: 1330.10 km2; 1987) and Bangladesh (1395 km2; 1997) and a Ramsar site in both the countries (Bangladesh No.560; 6017 km2, 1992; India No.2370; 4230 km2, 2019). (Mallick, 2023). The Sundarbans, consisting of some 102 islands, are a unique and very fragile ecosystem. They are the world´s biggest river delta formed by some of the major rivers of South Asia. (Bauer, 2006). The Sundarbans is bordered on the south by the Bay of Bengal and on the north and east sides by a landmass dominated by human settlements. Most of the Sundarbans is less than 1 m above the sea level, and consists of vegetated islands that are inundated regularly by two high and low tides, each day with a mean amplitude of 3-4 m. (Aziz, 2023). Bangladesh Sundarbans represents 44% of the total forested area in the country. Fifty percent of the total forest revenue is generated from this landscape, in the form of tourism, fishing, honey collection, nipa (*Nypa fruticans*) leaves for thatching, etc. (Jhala et al., 2016).

The Sundarbans experience a tropical monsoon climate, characterized by high temperatures, humidity, and abundant rainfall throughout the year. The average temperature ranges from 25°C to 35°C during the summer months. In winter, temperatures can drop to around 10°C to 20°C. The annual rainfall ranges from 1,500 to 2,500 mm, with the highest precipitation occurring during the monsoon season. (Aziz, 2023).

The Bangladesh Sundarbans is home to a wide variety of species of mammals, reptiles, birds, amphibians, insects, crustaceans, and a range of aquatic lifeforms. The Sundarbans is one of the most biologically diverse mangrove forests in the world, supporting 528 species of vascular plants, 322 species of fishes, 8 species of amphibians, 35 species of reptiles, over 315 species of birds, and 42 species of mammals. Distribution of plant species and their composition in pure or mixed patches is highly influenced by salinity in waters. (Aziz, 2023).

In summary, the Sundarbans represent a globally significant and exceptionally fragile ecosystem. This the world's largest littoral mangrove belt is a critical wildlife sanctuary. Recognized by UNESCO and Ramsar, its unique territory, characterized by a network of islands and diverse array of flora and fauna. However, the Sundarbans face increasing pressure from human and the encroaching effects of climate change. Despite its ecological and economic importance, generating substantial revenue for Bangladesh, the continued preservation of this irreplaceable ecosystem requires sustained conservation efforts and careful management to balance human activity with the delicate natural balance of this ‘beautiful forest.

The Sundarbans Tiger: A Population in Flux

Tigers (*Panthera tigris*) are the largest cat species in Asia. Tiger populations have declined by 98% within last 100 years and within three of the nine sub-species (Bali tiger, Javan tiger, and Caspian tiger) are extinct. Additionally, tiger habitats have declined to 7% of the original range (Goodrich et al. 2015).

Currently, fewer than 6,000 tigers remain, distributed across 10 tiger range countries: Bangladesh, Bhutan, China, India, Indonesia, Malaysia, Myanmar, Nepal, Russia, and Thailand. In recent decades, Vietnam, Lao PDR, and Cambodia have lost their last tigers (GTF, 2023).

In 1972 the "Project Tiger" task force took a nation-wide tiger census which found a total population of 1827 animals in Bangladesh. The task force initiated a conservation programmer called the ecosystem approach. (Chakrabarti, 2009). Following independence in 1971 the Bangladesh Wildlife (Preservation) (Amendment) Act, 1974 banned tiger killing in Bangladesh for the first time. But poaching continued surreptitiously in the village as well as the forests. In 2012 the new Wildlife (Preservation & Protection) Act of Bangladesh introduced tougher punishments for tiger killing (7 years' imprisonment); however, this law is not sufficient to combat poaching without effective enforcement measures. (Mallick, 2023).

The tiger population is facing various challenges and threats. Aziz (2023) wrote that Sundarbans, like other tiger habitats, faces serious threats, including poaching, retaliatory killings, and the human consumption of prey animals. The increasing demand for natural resources has led to severe habitat degradation, extensive infrastructure development, and the negative impacts of human-induced climate change. These factors have placed unprecedented pressure on biodiversity, particularly affecting the already declining tiger population. (Bangladesh Forest Department..., 2024).

The mangrove tigers, being completely isolated in the island habitats, do not follow the same natural rules by which the mainland tigers govern their lives because in the Sundarbans ecosystem, the iconic big tigers have to face constant challenges, continuously adjust to new environmental conditions and struggle regularly for survival i.e., to live, hunt and breed. The islander tigers in the Sundarbans mangroves suffer due to muddy terrain, unstable soil, and pneumatophores that stick out of the muddy ground like spikes at a height of 20–30 cm above soil to make hunting very difficult (about 20% success-rate), lack of sweet drinking water and habitat fragmentation, which are severely interfering into tiger's life cycle. (Mallick, 2023).

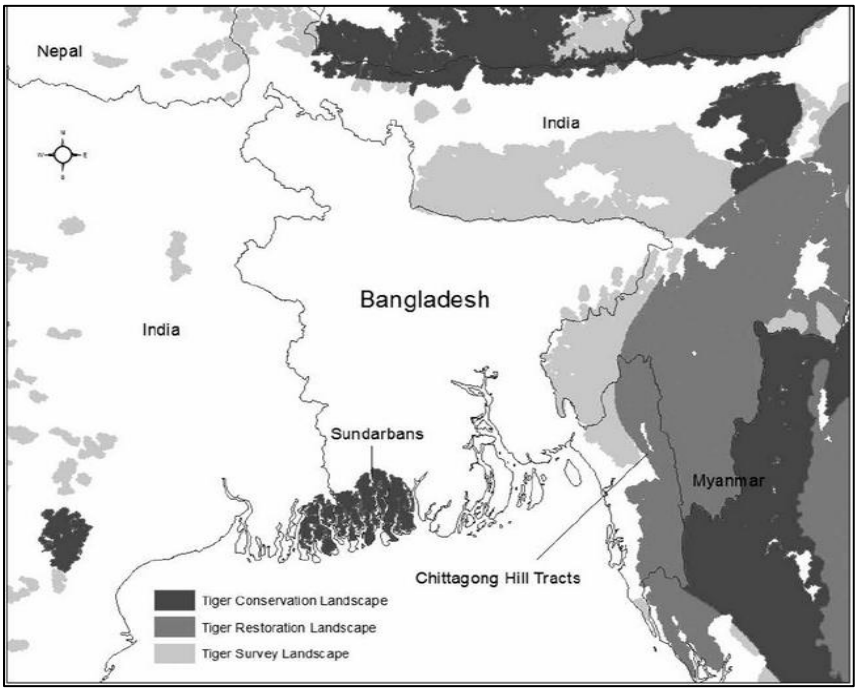


Fig. 1. Tiger Conservation Landscapes in and around Bangladesh
Source: Bangladesh Forest Department..., 2024.

The problem of tiger-human conflict in the Sundarbans remains. The conflict between humans and tigers in the Sundarbans is rooted in the socio-economic condition of the local people and the tigers' man-eating habits. The per capita income in the Sundarbans is estimated at less than half the state average. In their struggle for survival thousands of people enter the forest braving the crocodiles, sharks and tigers in order to gather honey, cut wood and catch fish. This brings them face to face with the tigers. (Chakrabarti, 2009). In Sundarbans, human-tiger conflicts are more frequent than in any other tiger habitat of the world. It has been estimated that on an average 36 people in Indian Sundarbans and 22 people in Bangladesh Sundarbans are killed each year. (Barlow et al. 2013).

The Sundarbans landscape has been facing severe climatic events, including increasingly intense cyclones and tropical storms, which have led to extensive inundation of forest floors. These conditions have had serious repercussions for wildlife, particularly concerning the recent deaths of hundreds of spotted deer—tigers' primary prey - caused by cyclone Remal in 2024. Tigers themselves may also have faced life-threatening risks due to the high-water levels during the cyclone. (Bangladesh Forest Department..., 2024).

From 2015 to 2024, there has been a general rise in tiger density, indicating a positive trend over time. This trend suggests that tiger populations may be recovering. The earlier decline was attributed to poaching activities that occurred prior to or during the first phase of tiger assessments in 2015. (Bangladesh Forest Department..., 2024).

In summary, the Sundarbans, a globally significant mangrove ecosystem and UNESCO World Heritage Site, harbors a critical population of *Panthera tigris*, a species experiencing substantial global decline. Despite conservation efforts, including legal protections and project-based initiatives, the Sundarbans tiger population faces multifaceted threats. These include habitat degradation due to anthropogenic pressures, such as infrastructure development and resource exploitation, and the exacerbating effects of climate change, exemplified by increased cyclonic activity and subsequent ecological disruptions. Recent data indicate a positive trend in tiger density from 2015 to 2024, suggesting potential recovery following earlier periods of decline attributed to poaching. However, the efficacy of current conservation measures is contingent upon robust enforcement of legal protections and a comprehensive approach to mitigating both anthropogenic and climate-related threats.

Tiger tourism in the Sundarbans

Tourism is industry which is coming up quite rapidly in the area. The unique mangrove tiger land of Sundarbans crisscrossed by a network of streams and creeks is always fascinating to the visitors for its scenic beauty and thrill of sighting the "Royal Bengal Tiger". Since inception of Tiger Reserve, craze for visit to Sundarbans gradually increased and these had been sharp rise in the tourist flow in Sundarbans. (Mallick, 2020). Table 1 clearly states that tourist inflow continuously increases in last year which have created huge pressure on Biodiversity.

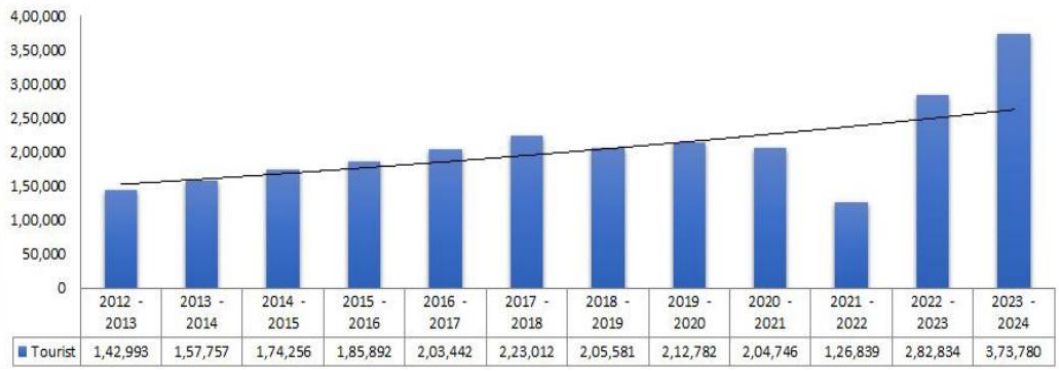


Fig. 2. Tourist arrivals 2012 - 2024 in Sundarbans
Source: Sundarbans Tiger Reserve Annual Report, 2025

The entry of the tourists is however, restricted only within the specified Ecotourism zone on realization of entry fees. The Reserve is open for tourists throughout the year. Entry within the core area which is also a National

Park is strictly prohibited for the outsiders except for scientific research and Officials on duty with, prior permission of Chief Wildlife Warden and/ Field Director. (Mallick, 2020).

Many tourists are attracted to the Sundarbans because they want to see tigers. Tigers are used widely in tourism advertising. Reports on TripAdvisor indicate that some tourists do see tiger, and others see footprints and hear tiger at a distance. Khanom and Buckley (2015) researched respondents were keen to see tigers, but none had done so. There are several reasons why tourists in the Sundarbans rarely see tigers. The boats are in the water, the tigers on islands. Tour boats travel mainly by day, whereas tigers are more active at dawn, dusk and night. Commercial tourists are accompanied by armed rangers (Khanom, Buckley, 2015).

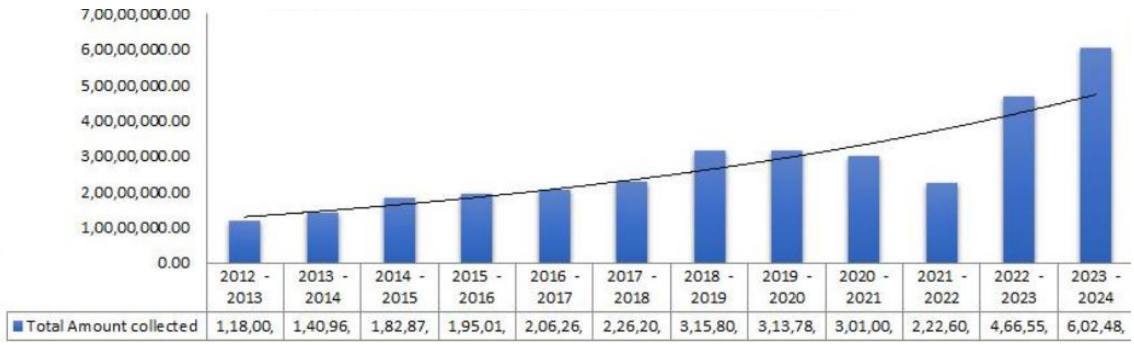


Fig. 3. Revenue collected for ecotourism in Sundarbans
Source: Sundarbans Tiger Reserve Annual Report, 2025

Tiger tourism has the potential to drive conservation initiatives while providing economic benefits to local communities. Tourists visiting the Sundarbans contribute to the local economy through lodging, guided tours, and park fees. Revenue generated from tourism helps fund conservation projects, such as anti-poaching initiatives and habitat preservation programs (Bhattacharya, 2018).

Additionally, increased tourism brings global attention to the plight of the Bengal tiger, encouraging stricter conservation policies. The local people are trained and engaged as guides. The fishermen are hired for trip of tourists into mangrove creeks on country boats. (Bhattacharyya et al., 2018). Figure 2 shows that tourism receipts are steadily increasing.

Tiger tourism in the Sundarbans is largely a seasonal activity due to a combination of factors related to weather, wildlife behavior, and safety. The dry season, particularly from October to February, offers more favorable conditions. Water levels are lower, making it easier for tigers to move and hunt, increasing the chances of sightings.

The positive impacts of tiger tourism on Sundarbans are manifold and include (Bhattacharyya et al., 2018): a) a large number of local and foreign tourists visiting the area, which generates income; b) the creation of tourism infrastructure; c) the offering of a range of tourism products such as accommodation on local boats, boating, etc., (d) Sundarbans and their tigers are a great advertisement for tourism in Bangladesh as a whole.

Increasing tourist flows also create problems. However, there are a number of attendant issues related to tourism like improper disposal of garbage, oil pollution, sound pollution crowding at tourist spots need to be addressed at the earliest otherwise these will adversely impact the visitor experience to the area. Infrastructure like roads, electricity, drinking water, jetties also has to be developed to achieve the actual tourist potential of the area. (Mallick, 2020). The negative impacts of tiger tourism on the Sundarbans are (Karim, 2019): a) lack of coordination among the local people; b) low involvement of local people in tourism; c) negative environmental impacts; d) pollution by sewage, dumping of waste into the river; e) lack of proper management, which has negative impacts on the fragile ecosystem.

The strategies / action to be taken for mitigation of negative effects of tourism: placement of dustbins in tourist spots for collection of solid waste; collection of plastic bottles from river and forest; regular checking and raids in the lodges and boats for plastic; creation of pay and use toilets for the tourists; no loud speaker (music) is allowed on the boats while entering the forest areas. (Mallick, 2020).

One of the stated goals of the management of the Tiger Reserve has been to promote ecotourism with a view to encourage nature education, interpretation thereby creating nature awareness for tiger and mangrove

conservation. In addition, it has also been the endeavour of the Tiger Reserve to enlist support and collaboration from voluntary organizations/associations in awareness building and participatory management for evolving effective conservation strategy. (Mallick, 2020).

Tiger tourism in the Sundarbans presents a complex interplay of economic benefits and ecological challenges. While it generates significant income, fosters infrastructure development, and promotes regional tourism, it also contributes to environmental degradation through pollution and inadequate waste management. Addressing these negative impacts through strategic interventions, such as improved waste disposal, pollution control, and enhanced community involvement, is crucial. Moreover, fostering ecotourism initiatives that prioritize nature education and collaborative conservation efforts is essential for ensuring the long-term sustainability of both tourism and the fragile Sundarbans ecosystem.

SWOT analysis of tiger tourism

The SWOT analysis generally investigates the strengths and weaknesses inside the system, as well as the opportunities and threats from the external environment to facilitate the decision makers find out the best strategy, thus to maximize the strengths of the system itself and minimize the weaknesses of the system and threats from outside (Nezha et al., 2021). The study does SWOT analysis of tiger tourism development in the study area through literature review and personal observations on Internet sites of Eco-tourism Sundarbans, Sundarbans Tiger Roar resort, Tour De Sundarbans, Sundarbans wildlife tourism and others.

Table 1

SWOT analysis of tiger tourism development in Sundarbans

Strength	**Weakness**
A World Heritage Site and a globally recognized Biosphere Reserve; Mangrove forest in the world supporting tiger population; Provides unique way to tour tiger reserve, through river boat; Not expensive destination for experiencing tiger tourism.	Inadequate number of trained tourist guides; Low tiger spotting; Tiger tourism in the Sundarbans is largely a seasonal activity due to a combination of factors related to weather, wildlife behavior, and safety; Tigers can pose a threat to the safety of tourists; Lack of Sustainable Tourism Practices;
Opportunities	**Threats**
Attracting more numbers of foreign tourists; Alluring domestic tourists from different parts of Bangladesh; Promoting river cruising in the reserve; Increasing funding for tiger tourism; Strict Regulation of Tourist Activities; Community Involvement; Infrastructure Development; Education and Awareness Campaigns;	Siltation of river channels; Global warming and rise in sea levels is a looming threat; The area is prone to cyclonic surges and storms; Tiger population decline;

Source: made of authors

Strength:

- A World Heritage Site and a globally recognized Biosphere Reserve (Jhala et al., 2016). The Sundarbans' status as a UNESCO World Heritage Site and a Biosphere Reserve gives it exceptional value and international recognition. This status attracts environmental and cultural heritage tourists seeking authentic and protected areas. It also increases the area's visibility globally, promotes responsible tourism, and attracts funding from international organizations.
- Mangrove forest in the world supporting tiger population. (Bangladesh Forest Department..., 2024). The Sundarbans' mangrove forests are a unique and vital ecosystem supporting the world's largest population of Bengal tigers. This ecosystem provides tigers with suitable habitat, food sources, and protection.

Tourists visiting the Sundarbans have the opportunity to see tigers in their natural environment, an invaluable experience.

- Provides unique way to tour tiger reserve, through river boat (Mallick, 2020). The Sundarbans' river network allows tourists to explore the tiger reserve in a unique way - by boat. This method not only minimizes the impact on the terrestrial ecosystem but also provides opportunities to see tigers and other animals up close in their natural habitat. This creates an exceptional and memorable tourism experience.
- Not expensive destination for experiencing tiger tourism. (Bangladesh Forest Department..., 2024). Compared to some other tiger tourism destinations, the Sundarbans offer relatively affordable prices for tours, accommodation, and other tourism services. This attracts a broader range of tourists, including those seeking budget-friendly adventures.

Weakness:

- Inadequate number of trained tourist guides (Bhattacharyya et al., 2018). Limited availability of qualified guides hampers tourism quality and safety.
- Low tiger spotting. (Khanom, Buckley, 2015). Infrequent tiger sightings can disappoint tourists and diminish the area's appeal.
- Seasonal activity. Tourism is subject to seasonal fluctuations due to weather, wildlife behavior, and safety concerns, leading to income instability.
- Tiger safety threat. (Barlow et al. 2013). Tigers pose a potential safety risk to tourists, necessitating stringent safety measures.
- Lack of Sustainable Tourism Practices (Bhattacharyya et al., 2018). Insufficient sustainable tourism practices can negatively impact the ecosystem.

Despite its benefits, tiger tourism in the Sundarbans faces several challenges (**threats**):

- Habitat Disturbance. Unregulated boat tours and human activity can disrupt wildlife behavior and degrade habitats (Ghosh et al., 2020).
- Human-Wildlife Conflict. As tourism expands, the risk of tiger-human encounters increases, leading to potential conflicts (Rahman & Dutta, 2019).
- Climate Change and Natural Disasters. Rising sea levels and cyclones threaten the Sundarbans, impacting both tigers and tourism infrastructure (Das et al., 2021).
- Lack of Sustainable Tourism Practices. Overcrowding and inadequate waste management pose risks to the environment (Islam & Sato, 2022).

To ensure long-term benefits, sustainable tourism strategies must be implemented, including (**opportunities**):

- Strict Regulation of Tourist Activities. Limiting the number of visitors and enforcing eco-friendly tour practices.
- Community Involvement. Engaging local communities in tourism-related jobs to create a sense of ownership and responsibility for conservation (Roy et al., 2020).
- Infrastructure Development. Establishing eco-friendly accommodations and waste management systems to minimize environmental impact.
- Education and Awareness Campaigns. Raising awareness among tourists about responsible wildlife tourism to ensure minimal disturbance to the ecosystem.

Tiger tourism in the Sundarbans, despite its strengths like global recognition and unique experiences, faces significant weaknesses, including a lack of guides, rare tiger sightings, and safety risks. To ensure sustainability and long-term benefits, strict tourism regulation, community involvement, eco-friendly infrastructure development, and educational campaigns are essential.

Conclusions

1. As Bangladesh’s national animal, the tiger holds a special place in Heritage. Tigers are hold a deep cultural significance, with numerous myths and legends associated with them. The Sundarbans support a population of *Panthera tigris*, which faces diverse challenges from both natural disasters, influenced by climate change, and anthropogenic activities. Recent data, indicating an increase in tiger density from

2015 to 2024, suggests a potential recovery from earlier declines associated with poaching. This recovery is of significant importance to tiger tourism in the region.

2. The Sundarbans as the world's largest littoral mangrove forest, it serves as a critical wildlife habitat. Designated as both a UNESCO World Heritage Site and a Ramsar Wetland of International Importance, this unique biogeographical region is characterized by an intricate network of islands and a rich assemblage of flora and fauna. Nevertheless, the Sundarbans are experiencing escalating anthropogenic pressures and the increasingly pronounced impacts of climate change.
3. The Sundarbans' allure, particularly its potential for *Panthera tigris* sightings, draws a substantial influx of tourists. Existing infrastructure, including accommodations, catering services, and aquatic tour operations, facilitates this tourism. Local communities contribute to the sector by providing guide services. However, the seasonal nature of tiger tourism, influenced by weather, wildlife behavioral patterns, and safety considerations, presents operational constraints. Concomitantly, the increasing tourist volume is generating environmental challenges, notably noise and pollution, which necessitate careful management to preserve the ecological integrity of the region.
4. SWOT analysis provides an overview of strengths, weaknesses, opportunities and threats of tourism tiger tourism development in the Sundarbans. Tiger tourism in the Sundarbans, despite its strengths like global recognition and unique experiences, faces significant weaknesses, including a lack of guides, rare tiger sightings, and safety risks. To ensure sustainability and long-term benefits, strict tourism regulation, community involvement, eco-friendly infrastructure development, and educational campaigns are essential.

Recommendations

The following recommendations must be ensured for the development of tiger tourism in the Sundarbans:

1. Establish a policy to promote tiger tourism in the Sundarbans.
2. Establishment of an environmentally friendly water transport route.
3. Ensure the availability of tourist guides.
4. Reduce negative environmental impacts through measures such as better waste collection, plastic reduction, noise reduction.

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NATURAL RESOURCE ANALYSIS FROM A SUSTAINABILITY PERSPECTIVE IN COX'S BAZAR, BANGLADESH

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Keywords: Natural resources, sustainable tourism development, sustainable coastal zone, ecotourism, coastal tourism, environmental impact, Cox's Bazar, Bangladesh.

Abstract
Bangladesh's coastline is lined with mangrove swamps and coral reefs. Tourism is considered to be the largest and fastest growing industry in the modern economy. However, the tourism industry is directly linked to the environment. The quality of the environment, both natural and man-made, is very important to tourism. The negative impacts of tourism development can lead to the gradual destruction of environmental resources, such as the loss of marine resources due to the destruction of coral reefs, over-pollution of marine and freshwater resources, soil degradation and loss of land resources, air pollution, natural hazards, and sea level rise and climate change. Environmental education must be developed from the roots to the last day of life in order to reap the best fruits of sustainable development. This study focuses on guidelines for the nature and content of environmental education at different levels. An environmentally educated society can carry out sustainable tourism development in coastal Bangladesh.

Introduction

Due to the influence of economic, social and political globalization processes tourism has become one of the leading industries in many countries. According to the data of United Nation World Tourism Organisation (UN WTO), tourism, which has a direct and indirect impact on economics, on a global scale creates 9% GDP, 1 in 11 jobs, 6% of the world's exports, and forecasts an increase of international tourists up to 1.8 billion for 2030 (www.unwto.org). International tourism continues to grow, putting pressure on the remaining natural habitats that often support tourism. Sustainable tourism destinations have many responsibilities as they strive to reduce the negative impacts of tourism on their communities. Among other things, efforts can be made to better inform tourists and tour operators about destinations and to reduce negative impacts. The UN WTO defines tourists as people who "travel and stay for not more than one consecutive year for leisure, business and other purposes not related to paid activities in the place visited". Globalisation has contributed to new trends in tourism, with tourists increasingly interested in remote and exotic destinations. In response to this growing demand, many destinations in Asia have revamped their tourism sectors to attract this segment of tourists.

Topic relevance. Tourism is one of the most important ways of preserving and developing the natural and cultural identity and uniqueness of countries. The competitiveness and popularity of tourism regions among tourists depends not only on tourism infrastructure, but also on the wealth of tourism resources. Natural, cultural and social resources that make up tourism resources create centres of tourist attraction, create conditions for leisure activities, and the events organised in them increase the tourist attractiveness of Bangladesh, shape tourist flows, i.e. influence the development of tourism. Tourism resources are one of the factors of competitiveness of tourism (M. Porter, 2002).

Research problem: Scientific literature, feasibility studies and other documents often analyse tourism resources, the condition and attractiveness of tourism resources and the possibilities of attracting tourist flows, but the context of sustainable development is forgotten.

The main goal of this study is to perform analysis of the natural resources of the tourism development in Cox's Bazar, Bangladesh.

Objectives of the Study:

1. To perform analysis of the natural resources of the tourism development by theoretical aspect.
2. Carry out a SWOT analysis of the tourism resources in Cox's Bazar, Bangladesh in the context of sustainable development.

Research methodology. Working methods: analysis of scientific literature, SWOT analysis and generalization. The article analyses various scientific literature by Lithuanian and foreign authors: Baležentis A. and Žuromskaitė B., Grecevičius P. et al., Vaitiekūnas S. and Povilanskas R., Vitkienė E., Porter M., Charles R. Goeldner, J. R. Brent Ritchie, Cole S., Becken, and others. Various documents are analysed. SWOT analysis is a simple and very effective tool for conducting resource analysis in the context of sustainable development. Data analysis, comparison, synthesis and generalisation were also used.

1. Review of Scientific Literature:

The UN WTO defines tourism as a type of travel, tour, when a person leaves his job and place of residence for more than one day and less than 12 months, and the aim of the trip is not recruitment or paid activities (www.unwto.org). For all countries welcoming tourists one of the most important conditions is to preserve and develop their national identity. Tourism development is understanding as the physical changes caused increasing tourist interest in the area and this expression of interest in performance - increasing incoming traffic.

Tourism resources are defined as objects or areas of tourist interest. According to the Law on Tourism of the Republic of Lithuania (2024), tourism resources are objects or areas of interest to tourists or intended for their needs, and recreational resources are natural and cultural environmental features suitable for organizing full-fledged physical and spiritual recreation for people. Several types of recreational tourism resources are distinguished in scientific literature and legal acts. Baležentis A. and Žuromskaitė B. (2012) distinguish natural (climate, landscape, ecosystem), cultural (urban heritage, artistic and archaeological values, traditions, scientific values, folk crafts) and social (potential tourism developers with socio-demographic characteristics, skills, financial capital, knowledge, health-environmental-tourist protection systems, interests of the local community) tourism resources. The Law on Tourism of the Republic of Lithuania (2011) classifies recreational tourism resources as natural recreational resources, cultural heritage, social environment phenomena, complex tourist attraction areas (resorts and resort territories, protected areas, other territories intended for recreation), tourism and recreation infrastructure objects, and natural health factors. Vaitekūnas S. and Povilanskas R. (2011) distinguish natural, geographical and artificial tourism recreation resources (Table 1).

Table 1

Tourism and recreation resources

Natural resources	Geographical location	Artificial resources
Climate	Distance	Heritage
Shores	Swarms (clusters)	Resorts
Waters	Transport	Entertainment centers
Snowfields and glaciers		Events
Landscape		Parks
Flora and fauna		Infrastructure

(Source: according to Vaitekūnas S., Povilanskas R., 2011)

It can be seen that tourism resources include a wide range of tangible and intangible resources. All these resources are combined in a common system to satisfy the needs of tourists. Natural and cultural resources are very important in Lithuania, as they create favourable conditions for the creation of attractive tourist products. Natural recreational resources are important because "they are the characteristics of the natural environment that create the conditions for full physical and mental recreation of people".

Vitkienė states that "recreational natural resources are trees, springs, forests, lakes, rivers, streams, the sea, sand dunes and landscapes that are special and outstanding in some way". According to P. Grecevičius (2002), the most important natural resources for tourism are climate and microclimate, lower atmosphere, recreational waters, recreational vegetation, attractive fauna and relief. P. Grecevičius et al. (2002) distinguish the following recreational uses of natural resources for tourism: 1) Recreational waters; 2) Recreational forests, forest parks, parks, squares; 3) Beaches; 4) Tourist roads, paths.

Tourist resources that attract tourists bring financial benefits to the tourism industry. Both the number of tourists and tourism business depend on them. Tourism is not possible without sufficiently high quality and unique resources. Therefore, it is important to have cultural resources as well as natural resources.

It is now generally accepted that tourism development can have significant impacts on the local environment - tourism can lead to direct changes in land cover, land, water and energy use, increased biotic exchange (including disease), disturbance of wild species and changes in the host community's perception of the environment. In regions and countries where tourism is developing, there are significant impacts on natural resources, consumption patterns, social systems and increased pollution (Becken et al., 2002). The tourism sector needs to change its development direction: not only to develop rapidly and create added value, but also to take responsibility for society and the natural environment.

Foreign and Lithuanian researchers (Agyeiwaah et al., 2017; Pjerotic et al., 2017; Kangwa, 2017;

Waseema, 2017; Mihalič et al., 2016; Štreimikienė and Bilanas, 2015; Fayos-Solà et al., 2014; Waligo, 2013; Jasinskas and Simanavičienė, 2009; Smagurauskienė, 2009 and others) have tried to answer the question of how to ensure a more successful and sustainable development of the tourism sector in their research. According to the World Tourism Organisation, "sustainable tourism development meets the needs of tourists and host regions today, while protecting and enhancing their opportunities for the future. Such development should result in the management of all resources in a way that meets economic, social and aesthetic needs, while preserving cultural integrity, essential ecological processes, biological diversity and life support systems". Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Traditionally, the concept of sustainable development encompasses economic, environmental and social aspects of sustainability and seeks to create not only greater economic benefits but also better living conditions for members of society. Sustainable tourism must maintain a high level of satisfaction of tourists' needs, ensure a meaningful experience for tourists, raise their awareness of sustainability issues and promote sustainable tourism practices among them.

Sustainable development is only possible if the quantity and quality of tourism resources (natural, cultural and human) are maintained at a constant level. Sustainable tourism management is linked to the control of tourism resources, which must ensure that future generations are provided with the same and no lower quality resources. All stakeholders must therefore ensure that resources are not wasted, tourists are not cheated and local people are not exploited. Sustainable regional development is part of global sustainable development. Sustainable development is the development of society that makes it possible to achieve universal well-being for present and future generations, combining the environmental, economic and social goals of society and not exceeding the permissible limits of environmental impact. Sustainable development is one of the components of regional success. According to M. Porter, the competitiveness of a region and its strategic development opportunities depend on the development resources and the environment in which service providers compete. The main development resources that determine the competitiveness of tourism are natural resources, skilled labour, financial resources and infrastructure. *In summary, sustainable tourism development is one of the factors of regional development and its competitiveness.*

Ahammed (2010) in his article on the impact of tourism in Cox's Bazar, Bangladesh, found that from an environmental point of view, residents did not mention any significant positive aspects, but did report some negative aspects such as hill cutting, deforestation and unplanned growth of buildings on the beach. Almost two million people visit Cox's Bazar during the season from November to March. Visitors are mainly Bangladeshi nationals and come from all parts of Bangladesh. The main purpose of the visitors is to stroll along the beach, 'swim in the sea' and shop at the stalls in Rakhaine. The most popular beaches are Shoibal, Labonee, Shugondha, Himchari and Innani. Labonee beach is reported to be one of the most visited tourist destinations in the country, with a peak of up to 30,000 visitors per day (The Daily Star, 30 September 2009).

Alam (2012) conducted a study on tourism as a development strategy: focusing on marine tourism in Bangladesh. Another study was conducted to observe the effective and efficient use of strategic management in the tourism sector to increase gross domestic product, Ali and Parvin (2010). Islam and Islam (2004) conducted a study to investigate the main reasons for the arrival of foreign tourists in Bangladesh. Hassan (2000) argues that tourism has become sensitive and dependent on a high quality sustainable environment. Therefore, tourism marketing in the future needs to focus on forms of tourism that are sensitive to maintaining the environmental integrity of natural and cultural heritage resources. Hunter (2002) states that "for sustainable tourism to take place, it must be closely integrated with all other activities taking place in the host region". This statement implies that the responsibility lies with the industry as well as with powerful organisations in the destination. Governance and control therefore seem to be essential for integrating sustainability into tourism development. Swarbrooke (1999) concluded in his previous study that tourism can be seen as an economic activity with many positive and negative impacts. However, sustainable tourism aims to achieve the best balance between economic benefits and social and environmental costs. In order to plan and develop tourism successfully, the economic, environmental and social aspects of tourism need to be well understood.

2. Methodology of the Study:

This research paper is a descriptive nature of study. Here secondary data are used to address the objective of the study. The necessary data from secondary sources were collected through document analysis. For this purpose, a thorough literature survey has been conducted. In order to obtain the reliable secondary data various journals, periodicals, books, acts, regulations, policies of Bangladesh, websites, annual reports, papers of different agencies were consulted carefully.

3. General Discursion:

Launched in 2007, the Beautiful Bangladesh campaign aims to promote Bangladesh as a tourism destination to the global market and reach out to tourists through electronic, print and online media. Due to the recent increase in tourist arrivals to Bangladesh and the country's unique and immense potential, the World Travel and Tourism Council has declared Bangladesh as one of the world's biggest growth centres for the next decade. In the last six years of the Five Year Plan (2011-2015), the government has adopted the following development strategies and policies:

- Develop tourism infrastructure through public-private partnership investments;
- Develop a positive image of Bangladesh abroad;
- Organise various sightseeing programmes, provide tourist information services;
- Simplify visa procedures;
- Create awareness about tourism development;
- Develop human resources for tourism through special academic and training programmes;
- Identify and promote new tourism products for Bangladesh.

There is growing concern that the negative impacts of tourism on the natural environment could ultimately destroy the tourism industry itself. The likely impacts of sea-level rise and coastal flooding on small islands and some coastal areas would include: a) increased coastal erosion; b) loss of land and property, including tourist attractions; c) displacement of people; d) increased risk of storm surges; d) saltwater intrusion into limited freshwater resources; and e) significant financial costs associated with attempts to respond and adapt to these changes. Significant negative impacts on coastal ecosystems, such as bleaching of coral reefs and loss of mangroves, are also expected to threaten tourism in many places around the world. Indeed, global warming is expected to significantly disrupt tourism activities not only in coastal areas and small islands, but also in mountainous regions, as snow conditions in ski resorts are expected to become less reliable. Table 2 presents the SWOT Analysis of Sustainable Tourism in Cox’s Bazar, Bangladesh.

Table 2

SWOT Analysis of Sustainable Tourism in Cox’s Bazar, Bangladesh

Strengths	Weaknesses
• **Natural attractions:** Home to the world's longest uninterrupted sandy beach (155km), coral reefs (St Martin's Island), mangrove forests, cliffs and diverse biodiversity. • **Cultural and religious value:** Presence of Buddhist temples, tribal culture and pilgrimage sites (e.g. Kuakata). • **Growing infrastructure:** Improved road and domestic air connectivity; Chittagong and Cox's Bazar airports improve accessibility. • **Local economic boost:** Tourism supports local businesses, handicrafts and food industries; promotes employment and income at community level. • **Government initiatives:** National tourism campaigns (e.g. Beautiful Bangladesh), investment in infrastructure and policy developments such as the establishment of the Cox's Bazar Development Authority.	• **Environmental degradation:** Deforestation, haphazard, development, pollution, coral reef degradation and beach litter are major threats to natural beauty. • **Overcrowding and pollution:** Beaches are overcrowded, especially during the high season, and waste management systems cannot keep up. • **Inadequate infrastructure:** Poor quality accommodation, lack of international standard restaurants and beach activities; inefficient transport for international visitors. • **Lack of skilled labour:** Lack of trained personnel for tourism management, marketing and hospitality services. • **Policy gaps:** Weak coordination among stakeholders, lack of comprehensive tourism master plans and inconsistent political commitment.

Opportunities:	Threats
• **Ecotourism and heritage tourism:** Potential for developing environmentally friendly tourism and promoting unique cultural heritage. • **Foreign investment and international tourists:** Attracting tourists from abroad can improve foreign exchange earnings and global image. • **Community-based tourism:** Empowering local people to control and manage tourism for long-term sustainable benefits. • **Education and awareness:** Strengthening environmental education and awareness for both tourists and locals to support sustainability. • **Policy reform and monitoring:** Scope to implement stricter environmental regulations, waste management systems and coastal zone monitoring	• **Climate change:** Rising sea levels, coastal erosion and saltwater intrusion could significantly affect tourism areas. • **Unsustainable practices:** Overtourism, poor planning and exploitation of resources by foreign investors could lead to irreversible environmental damage. • **Natural disasters:** Cox's Bazar is vulnerable to cyclones, tidal surges and flooding. • **Negative tourist behaviour:** Littering, disrespect for local culture or overuse of resources can diminish the tourist experience and local sentiment. • **Loss of biodiversity:** Continued neglect of the environment can lead to the loss of key attractions such as coral reefs and mangrove forests.

(Source: composed by the author)

Cox's Bazar holds strong potential for sustainable tourism development due to its natural attractions, cultural richness, and growing infrastructure. However, weaknesses such as environmental degradation, insufficient infrastructure, and lack of skilled workforce hinder progress. Opportunities lie in ecotourism, foreign investment, and community engagement, while threats from climate change, natural disasters, and unsustainable practices pose significant risks. Balancing development with environmental protection and strategic policy reforms is essential for ensuring long-term tourism sustainability in the region.

Coastal tourist attractions:

- **Cox's Bazar:** the world's longest uninterrupted sandy beach, Cox's Bazar, the tourist capital of Bangladesh, is an amalgamation of miles of golden sand, high cliffs, surfing waves, rare shells, colourful pagodas, Buddhist temples, tribes, and amazing seafood. The shark-free beach is good for swimming; baking and swimming. Attractions around Cox's Bazar include Ramu, Moheshkhali, Sonadia, Teknaf and St. John's Church.Martin's Island.

- **Inani** is a quiet tourist hideaway set in an abundance of nature.

- **Himchhari** is a beautiful place in the solitude of the sea and hills. It is located approximately four and a half km south-east of Cox's Bazaar along the beach.

- **St. Martin's Island:** Forty-eight km. from Teknaf, St. Martin's Island. St. Martin is the country's only coral island and an unspoilt paradise with friendly people. Named Narikel Jinjira (Coconut Island) by the locals, the dumbbell-shaped St. Martin's Island is the perfect place to visit. St. Martin occupies only eight square kilometres, between one and four metres above sea level at low tide.

- **Kuakata:** Kuakata is a place of rare scenic beauty at the southernmost tip of Bangladesh, in the Patuakhali district. It has a wide sandy beach from where you can get a unique view of the sunrise and sunset. It is a pilgrimage site for the Hindu and Buddhist communities during the Rush Purnima and Maghi Purnima festival. On these occasions, they bathe in a sacred bath and traditional fairs are held here.

The specific situation of Bangladesh's coastal zones:

Bangladesh is located at the head of the Bay of Bengal and has a coastline of approximately 710 km. The coastal zone policy considers three indicators to determine the land boundary of Bangladesh's coastal zone: tidal influence, salinity intrusion and cyclones/storm waves (Ministry of Water Resources, 2005). In policy terms, the EEZ is considered to be the coastal zone of the sea. In Bangladesh, the Cox's Bazar sea beach is the largest sea beach in the world with a total length of 155 km. Coastal zones are transitional areas between land and sea with very high biodiversity and contain some of the world's richest and most fragile ecosystems, such as mangroves and coral reefs. At the same time, coastal zones are under severe population pressure due to rapid urbanisation. More than half of the world's population now lives on the coast (within 60 km of the sea) and this number is growing. In addition, coastal areas are the most visited by tourists of any part of the world,

and in many coastal areas tourism is the main economic activity. In the Mediterranean, for example, tourism is the main economic activity on islands such as Cyprus, Malta, the Balearic Islands and Sicily.

Sustainable Tourism at Cox's Bazar

Tourism development can have both positive and negative impacts on travel. Sustainable tourism development seeks to balance these impacts to create a better quality of life for the host community and the destination. In our view, sustainable tourism is a way of conserving nature, benefiting the community and generating economic generation by providing a quality experience for visitors, while improving the quality of life of the host community and protecting the quality of the environment, ensuring the continuity of the natural resources on which it is based and the culture of the host community, with a satisfying experience for the community, while maintaining a balance between the needs of the local tourism industry, the local environment and the needs of those who support it. According to Choiand Sirakaya (2005), "sustainable tourism is defined as an alternative form of tourism that enhances the quality of life of the host community, while providing a high quality experience for visitors and maintaining the quality of the environment on which both the host community and visitors depend". a) be environmentally sustainable, economically viable and ethically and socially equitable for the local community. b) be integrated with the natural, cultural and human environment. c) consider its impact on the cultural heritage and traditional elements, activities and dynamics of each local community. d) Encourage the involvement of all actors, both public and private, and should be based on effective cooperation mechanisms at all levels: local, national, regional and international. e) Promote measures that allow a fairer distribution of benefits and burdens. f) Support quality criteria for the preservation of the tourist destination and the ability to satisfy tourists.

Coastal tourism zone in Bangladesh:

The coastal areas of Bangladesh can be broadly divided into the following three regions on the basis of geomorphological features:

Eastern Region: Morphologically, the eastern coast of Bangladesh, from the great Feni River to Badar Mokam (southern end of the continent) along Chittagong, can be classified as a 'Pacific-type' coastline running parallel to young (Tertiary) folded hill ranges.

Central region: This region extends from the Tebegins of the Tetulia River to the mouth of the great Feni River, including the mouth of the Meghna River to the confluence of the Padma (Ganges-Brahmaputra) and Meghna Rivers at Chadpur.

Western Region: The Western Region includes the coastline west of the Tetulia River to the international border (India) at Hariabangha. The region is mainly covered by dense mangrove forests with deeply incised tidal channels covering the abandoned Ganges delta.

Sustainable Tourism Problems:

There are many different ways of defining sustainable tourism. To make it easier for the reader to understand how the researchers of this study defines the term the definition of Choi & Sirakaya (2005) has been chosen to be used throughout this research study. According to Choi & Sirakaya "Sustainable tourism is defined as an alternative tourism form that improves the quality of life of the host community, provides a high quality of experience for the visitors and maintains the quality of the environment on which both the host community and the visitor depend." The National Tourism Policy of Bangladesh declared in 1992 have the objectives to preserve, protect, develop and maintain tourism resources, so that it helps to alleviate poverty by providing employment opportunities; which suggests the National Tourism Policy adopted the strategy of sustainable tourism. Infrastructure facilities are not adequate for the tourism sector in Bangladesh. Infrastructure, such as accommodation facilities are not satisfactory at different tourism spots in Bangladesh. Some accommodations are highly expensive and are not affordable by average domestic and international tourists and some are in poor condition. Transportation linkage to different tourism spots by road, rail, air and water is not efficient. A master plan of national transportation network is seemingly not in place supporting the national tourism policy and existing tourism attractions of the country. The success of tourism sector cannot be imagined without an effective policy of advertisement, marketing and public relations. Bangladesh lacks in skilled manpower and technical expertise to formulate policy guidelines for advertisement, marketing and as well as for building public relations. Unplanned development beside the tourism spots affects the physical environment of the spots. It destroys the natural scenic beauty of the sites. For example, at Cox's bazaar sea beach and Saint Martin Islands, development of many unplanned commercial establishments, such as hotel, motel and shopping centers disturbs the tourists and as well as

spoils the environment. Tourism development requires a huge infrastructure development that cannot be ensured without physical plans. Finally, political vision is a prerequisite for the development of sustainable tourism in the country. Unfortunately, the lack of political will is commonly observed in such efforts. There is also lack of effective coordination among various organizations, which are directly or indirectly involved in tourism sector. As a result, the current policy is not adequate for flourishing this sector in the country successfully.

- **Development of Infrastructure:** Cox's Bazar has developed better road network with the main city Chittagong that could be an important indicator of a socio-economic development to the region. This implies that this area has the ease of transportation facilities required to support international tourist demand.
- **Development of Chittagong Airport:** Besides being a busy seaport, Chittagong also developed an international airport. This development of air transport in this region also benefited locals since social services are quicker. Cox's Bazar have its own airport for domestic flights called Shah Amanat Ali airport, this further suggests most required basic infrastructure was created to develop tourism and attract international visitors by the government.
- **Local Business Development:** Due to presence of tourists in this region, a number of wholesale and retail traders in Cox's Bazar and Chittagong provide a variety of product and services to local and foreign tourists. This includes all types of food in the hotels and restaurants, handcrafts, other entertainments etc. This requires higher involvement of both locals and government in the decision making process that benefits and strengthens local economy.
- **Control of Resources:** Tourism control power lies with locals and Bangladesh government, which is deemed as a positive progress for implementing sustainable tourism strategies in the region. Mbaiwa (2005) states dominance of the industry by foreign investors and non- local investment can lead to reduced control over local resources. The loss of local control on resources could be considered as one of the most negative long-term effects of tourism as the locals suffers a sense of loss of place and develop negative attitude towards tourists. The tendency of foreign investor is to maximize profit in the shortest possible period; even at the cost of degradation of local environment, culture and social aspect due to their profit maximizing strategies (Mbaiwa, 2005). Therefore, it is very important for Bangladesh government and locals to dominate major controlling power to prevent any step not in line with the concept of sustainable tourism development.

Prospect of Sustainable Tourism in Bangladesh:

The tourism sector in Bangladesh is a potential sector that can make a huge contribution to the economy of Bangladesh. If properly developed, this sector can earn a huge amount of foreign exchange which will contribute to the economic growth of the country. It provides sufficient employment opportunities to the people who are directly or indirectly involved in this sector. It is a service sector. This sector will help to increase the household income at the community level and the government revenue. It will also help to reduce the economic gap between the rich and poor people of the country. People coming from developed countries are different in their lifestyle, background and income level from developing countries like Bangladesh. The people of Bangladesh can compare their lifestyle with the people of other developed countries. It may be possible to introduce Bangladesh to the rest of the world through the tourism sector. It can also be beneficial to create a better image to foreign nations by properly managing sustainable tourism activities. If the sector can be properly managed and can attract people from different regions of the country and international sources to visit the tourist attractions of Bangladesh, it will create goodwill for the country. Tourism can also play an important role in social and cultural development through cultural exchange and contact between people of different races and nationalities. The sector also has an educational dimension. By sharing knowledge with tourists from different national and international backgrounds, the people of the country can learn a lot. It also creates opportunities for investment in the tourism sector and the development of tourism businesses for coastal purposes in Bangladesh. Master plans are being prepared for the development of Cox's Bazar to Teknaf, St Martin's Island and the Kuakata area. The formation of the Cox's Bazar Development Authority and the declaration of Kuakata as a municipality are underway to implement these plans.

Findings of the Study:

The tourism industry is increasingly concerned about the environmental, social and cultural issues associated with unsustainable tourism. As a result, there is now a growing consensus on the need to promote sustainable tourism development in order to reduce its environmental impact and maximise its socio-economic benefits in tourist destinations. In terms of the potential future direction of tourism research, it is also important

to ensure that the current fragmentation and potential lack of comparability of tourism literature is improved rather than exacerbated. The site-specific nature of tourism impacts makes case studies an important element of tourism research. The lessons of sustainable tourism in relation to tourism research also suggest that natural scientists, economists, social scientists and policy makers need to work together to develop comprehensive and interdisciplinary studies that reflect the complexity and multifaceted nature of tourism itself.

The following are the main findings of the study, which aimed to analyse the perceptions of local and international visitors to Cox's Bazar and assess the negative impacts of tourism in the area:

- **Frequency of visit:** 76% of locals have visited Cox's Bazar more than twice, indicating loyalty to the destination or a lack of alternative seaside leisure options in Bangladesh.
- **Purpose of visit:** 89% of people visit Cox's Bazar for sightseeing, business, honeymoon or other leisure purposes.
- **Cox's Bazar, an element of interest:** More than 72% of respondents agreed with the statement that Cox's Bazar offers a lot of entertainment at the world's largest beach in Bangladesh. Most visitors come to the area to enjoy the beach.
- **Hotels in Cox's Bazar:** More than 84% of respondents are satisfied with the accommodation facilities in Cox's Bazar, although they do not meet international standards (Shamsuddoha, 2011).
- **Restaurants in Cox's Bazar:** More than 81% of the visitors find the restaurants in Cox's Bazar satisfactory due to the hospitality and hotel management system. However, the restaurants meet the local expectations of the required standard, but they are not international quality restaurants.
- **Beach area**: More than 89% of respondents felt that the sea beach area was overcrowded, while more than 57% of respondents felt that the sea beach area was relatively dirty and littered.
- **Safety in Cox's Bazar:** More than 53% of the respondents said that the tourist destination Cox's Bazar is a safe place to visit, 28% of the respondents were undecided and another 31% of the respondents felt that the tourist area is unsafe.
- **Transport system:** More than 80% of respondents said that transport to and from Cox's Bazar is satisfactory. Cox's Bazar is well connected to Chittagong by road and air, and Chittagong is accessible by air, rail and road from all parts of the country. Current transport is satisfactory for local tourists, but lacks the quality to meet international standards.
- **Provide available facilities:** Most people would like to see more beach activities like parasailing, surfing, speed boating, diving, food festivals (especially local and seafood), cultural performances, etc. This suggests that there is a need for more beach entertainment. To improve the travel cycle, it is important to create new attractions or find untapped natural resources (Anguilo, 2005). New entertainment in the nearby beach areas of Chittagong will provide more jobs and income and reduce the pressure on the sea beach in Cox's Bazar.

Conclusions

1. Tourism can be considered as an economic activity with many positive and negative impacts. However, the aim of sustainable tourism is to achieve the best balance between economic benefits and social and environmental costs. In order to plan and develop tourism successfully, the economic, environmental and social aspects of tourism need to be well understood.

2. Bangladesh has great potential for tourism development. It has many natural attractions and many interesting social and cultural events. If these are properly developed and marketed, the tourism industry can attract more international tourists and contribute to the growth of tourism in the country. The seasonal nature of tourism has led to fluctuations in employment and income, especially in the small sector and among unskilled workers; there has been no clear and strong policy on tourism; most decisions have been taken on an ad hoc basis; and policy initiatives that have been launched have not taken into account local problems. Cox’s Bazar holds strong potential for sustainable tourism development due to its natural attractions, cultural richness, and growing infrastructure. However, weaknesses such as environmental degradation, insufficient infrastructure, and lack of skilled workforce hinder progress. Opportunities lie in ecotourism, foreign investment, and community engagement, while threats from climate change, natural disasters, and unsustainable practices pose significant risks. Balancing development with environmental protection and strategic policy reforms is essential for ensuring long-term tourism sustainability in the region.

Recommendations

Sustainable tourism in Bangladesh can be used to promote national strategies for decentralisation of sustainable tourism, to support conscious and community-based ingenuity, and to promote sustainable tourism at the international level. It should be clear by now that even ecotourism activities can have negative environmental impacts, especially if they are not properly managed or if the number of tourists exceeds local capacity. Action is needed by tourism operators, local governments, tourism organisations, community groups, park managers, local communities or businesses, regional development organisations, interpreters and all stakeholders. Sustainable tourism initiatives that contribute directly to the protection of key natural and cultural heritage sites. This recommendation for strengthening sustainable tourism in coastal Bangladesh; - The impact of tourism on the local community should be assessed to assess the vulnerability of the surrounding community.

- The causes of mangrove deforestation, land reclamation and siltation. It is clear that the short-term economic benefits of developing these areas are being prioritised over the long-term benefits of preserving the ecology.
- Water sports, beach driving and beach accommodation also pose serious problems for both the natural environment and tourism and should be discouraged.
- Beach litter, including plastic and other waste, is a very serious problem and an urgent action plan is needed immediately.
- A monitoring system to ensure the effectiveness of coastal and environmental regulations.
- The disposal of solid, semi-solid and non-biodegradable waste is a serious problem and education is needed to raise environmental awareness and use recycling technologies.
- Waste from tourist resorts should be disposed of in a way that does not harm the environment. All waste thrown into the sea should be taken as far out to sea as possible so that it does not drift to islands.

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IMPROVING THE PUBLICITY SOLUTIONS FOR THE ACTIVITIES OF THE "DRUSKININKAI TOURISM AND BUSINESS INFORMATION CENTRE" IN THE CONTEXT OF COMMUNICATION CAMPAIGNS

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Abstract
In order to successfully improve the "Druskininkai Tourism and Business Information Centre's communication" in social networks, we need to be more active and look for ways to stand out from other resorts. The study discusses how clear, transparent and targeted communication would help to strengthen the city as a resort for longevity. The research methods used in this paper were: qualitative and quantitative social network analysis, document analysis, statistical data analysis and website analysis.

Introduction

Relevance - resorts promoting wellness or other areas are finding it difficult to differentiate themselves from their competitors due to the abundance of existing services and competitive environment. This topic is relevant for those who want to learn more about building an organisation's image, adapting marketing strategies and developing a campaign (Krupskyi et al., 2023).

Research problem - different Lithuanian resorts offer very similar services, which reduces the number of authentic, region-specific features and services that attract tourists. How to create a desirable image of Druskininkai that would make it stand out from other resorts? (Druskininkų savivaldybė, 2022)

Aim of the study - provide suggestions for improving the communication of "Druskininkai Tourism and Business Information Centre".

Object of the study - the communication of the Public Institution "Druskininkai Tourism and Business Information Centre" (hereinafter referred to as TVIC)

Objectives of the study:

1. Describe the organisation of communication in a theoretical aspect.
2. To analyse the communication of "Druskininkai Tourism and Business Information Centre".
3. To develop a communication campaign to promote Druskininkai as a "longevity" city.

Research methodology: qualitative and quantitative social network analysis, document analysis, statistical data analysis, website analysis.

Organisational communication in theory

Communication and marketing are among the most important aspects of reaching the target audience and all consumers (Daujotaitė, Zikienė, 2021). The image of an organisation depends on how effectively it communicates with the public. A clear, transparent, engaging and consistent communication can have a positive impact on an organisation's image.

In the 21st century, it is almost impossible to avoid a communication campaign and social networks are a big reason for this (Matusitz, 2022). A campaign is used to shape people's perception of a particular company or organisation. A campaign can even cause a person to change his or her habits, for example: a person sees a campaign with an educational message about the importance of sorting and decides to sort his or her rubbish. Designing and executing a communication project is a complex process as it involves many areas: purifying objectives, identifying the target audience, creating content, planning the dissemination of advertising, etc. The targeted execution of the defined plan guarantees greater success and better results (Regional Educational Laboratory (REL) Southwest, 2022). The first step is to set an objective, which should answer the questions: what do you want to achieve through communication? What results do you expect? The objective must be well thought out and analysed in a S.M.A.R.T. way. Each letter of the word has a hidden message: S - Specific, the objective must be clear, short; M - Measurable, the objective must be defined and measurable; A - Achievable, the objective must be realistic, possible to achieve; R - Relevant, the objective must be related to the company's activities and to the problem at hand; T - Time-bound, the objective must have a deadline for the work to be done (Martinez, 2024). This method helps to clarify the objective, which is important for the next steps in the communication plan. The target audience can be segmented by demographic (age, gender, race, religion) or

psychographic (personal characteristics, life style, behaviour) characteristics. For this purpose, it is even possible to make a map of the buyer's empathy, which helps to understand the target audience, their expectations, their financial possibilities, their needs. Knowing the buyers can help to select advertising channels and tools (Ravi et al., 2024). The key message is the information that customers hear and understand, so the message needs to be short, understandable and creative so that customers remember it (U.S. Department of Health and Human Services, 2016). It is important to choose an advertising strategy that is appropriate for the target audience. Understanding the lifestyle characteristics of the target audience helps identify which channels they use more often. Each message can be targeted for different social media. Once the audience has been assessed, it is worth keeping in mind the other possible channels of communication: television, radio, newspapers, leaflets, posters. Knowing what kind of message you want to convey is an important part of the communication plan. Understanding this helps to consider the best form (text, audio or visual) in which to present information to the customer. Collaborating with opinion leaders, celebrity athletes or comedians can increase the reach of the advertisement, which will attract more potential customers (Regional Educational Laboratory (REL) Southwest, 2022). This crucial step makes it possible to evaluate the benefits of all the work that has been done. The analysis of the results shows whether the campaign has been successful. This can be measured in terms of the increase in the number of followers on social media, the increase in sales or mentions in the press and on TV. The analysis of results is important for future projects, as the advantages and disadvantages of the strategy used are already known and could be avoided next time.

One clear example of how effective communication can strengthen a tourism destination is the case of Curug Putri Palutungan in Indonesia. Although the site had strong tourism potential, it was not widely recognized. Local authorities implemented a comprehensive marketing communication strategy that combined multiple advertisement (billboards, newspapers, radio), digital marketing (social media, websites), direct communication (travel fairs, guide training), promotional offers (discounts, events), and public relations (community engagement and partnerships). These efforts significantly increased the site's visibility and tourist flow, stimulated infrastructure development (hotels, restaurants, information centers), and encouraged local community involvement (Priansah et al., 2019). This case illustrates how strategic, consistent communication not only improves a destination’s image but also brings tangible economic and social benefits, serving as a strong example of international best practice in destination marketing.

One of the important elements of organisational communication is risk and crisis communication, as any organisation can face unforeseen situations that can threaten its performance and reputation (Che et al., 2022). Properly managed crisis communication aims to minimise the damaging effects and quickly restore trust. Well-organised crisis communication not only minimises the immediate damage, but also helps to restore and strengthen the brand's reputation in the long term (Klenauskaitė, 2006). Using different communication tools, such as social networks, press releases or the company website, you can reach a wide audience and ensure that the message is well understood. This allows control over the information and reduces the risk of misinterpretation and speculation.

Analysis of "Druskininkai Tourism and Business Information Centre"

"Druskininkai Tourism and Business Information Centre" is an institution responsible for promoting tourism and popularising the town both in Lithuania and abroad. "Druskininkai is the capital of health, recreation, active lifestyle and exceptional entertainment all year round. Everyone knows that it combines centuries-old health traditions and the latest technologies, as well as relaxation and entertainment. And do you know the strength and power of Druskininkai nature? The four special elements of nature are a unique gift and therapy for you!" (Druskininkai Tourism and Business Information Centre, 2025), which is how Druskininkai is presented on the TVIC website.

Strengths:

1. Druskininkai is well known for its natural mineral waters, treatments and wonderful natural resources, which attract tourists looking for wellness services.
2. Druskininkai is easily accessible from Lithuanian cities and neighbouring countries such as Poland, which facilitates the flow of tourists from the region.
3. The website of the "Druskininkai Tourism and Business Information Centre" provides a wealth of useful information in a variety of languages.

Weakness:

1. A weak marketing strategy targeting foreign markets and limited content in different languages reduce the engagement of foreign tourists.
2. Lack of structured content planning leads to inconsistent posting. This leads to irregular communication with the audience, reduced follower engagement and low reach.
3. The organisation does not carry out surveys to gather audience needs and feedback. As a result, the content published may not be in line with the wishes of the community, which weakens follower engagement and reduces the relevance of content.

Opportunities:

1. The increase in domestic tourism during the pandemic provides an opportunity to further expand and develop services for the Lithuanian population and encourage locals to travel around their country.
2. Digital technologies and the development of social media communication provide an opportunity to attract international tourists more effectively, especially young people and travellers from new markets.
3. Druskininkai has the opportunity to become a centre for sustainable tourism by introducing eco-friendly solutions and conservation of natural resources, which can attract tourists looking for sustainable travel options.

Threats:

1. Nearby resorts, both in Lithuania and abroad, can offer similar health services and attract potential tourists. By promoting various spa treatments but not differentiating them from competitors, Druskininkai loses its advantage.
2. In the event of a pandemic or economic crisis, such as the COVID-19, health requirements may limit the provision of services and the flow of tourists, which has a direct impact on the tourism sector.
3. If the main target audience is the elderly, demographic changes and decreasing numbers of this group may reduce tourist flows, making it necessary to attract more diverse groups.

We conducted a content analysis of the websites of Druskininkai, Birštonas and Palanga. This research method was chosen to find out how the cities present themselves on the website, what services they offer to tourists and how the information is structured.

Research method - a qualitative analysis of the website content.

Aim of the study - to evaluate quality and content of the websites of Druskininkai, Birštonas and Palanga, to analyse how the cities are presented, what services are provided and what images of the cities are formed.

Object of the study - the websites of Druskininkai, Birštonas and Palanga.

Research objectives:

1. To examine the content available on websites.
2. To analyse what images of cities are being created.

Criteria - whether the information is clear, interesting and comprehensible, whether there are visual elements, and whether the information is relevant to tourists and city residents.

We have chosen to analyse the most popular tourism centres in three Lithuanian resorts - Druskininkai, Palanga and Birštonas. The analysis will help to find out what services are provided by each of the resorts in their tourism and information centres and how they differ from each other.

News, accommodation, catering, leisure and business, these are the sections that can be found on the "Druskininkai Tourism and Business Information Centre" website. In the "news" section you can find all the information you need about events, attractions and exhibitions taking place in the town. The "accommodation" section provides information on where to stay in Druskininkai. A list of hotels, sanatoriums and spa centres, guesthouses and holiday homes, farmhouses and campsites, where everyone will find a place to stay. The "Dining" section offers recommendations for tasty places to eat. A list of different restaurants, cafés, bars and bakeries makes it easier for every tourist to choose. Before you go out to eat, you can read about each establishment and choose the one you like best. The "Leisure" section offers a wide range of services in the city. Druskininkai Aquapark, Snow Arena, cable car and many others. There is also information on what to do in the city: events, sightseeing, active leisure, sightseeing tours, family and children's activities and nightlife offers. The city's websites are informative, comprehensive and attractive, providing visitors with all the information they need. The posts and messages on the website introduce people to the city itself and its

services. The image is built up with a variety of content, dissemination of information on the site and cooperation with other companies. Visual content is also used, but to a lesser extent rather than on social media.

The website of the "Palanga Tourism and Information Centre" has sections on what to see, what to do, where to stay, where to eat and how to get to Palanga. The website provides information on the history of the city, places of interest, attractions, entertainment and places to help tourists plan their visits or day trips. The city presents itself as a dynamic seaside resort with active recreation, seaside activities and events as its main features. A separate section with dates and descriptions of upcoming events, excursions and educational activities, wellness and spa services. An amusement section with suggestions for meaningful activities for your family or friends: water park, children's play parks, swimming pool, orienteering, rides and many more. A wide range of accommodation is provided to suit every traveller's wishes and needs, from 5-star hotels to rehabilitation centres and sanatoriums. Lists of places to go and recommendations for tasty meals: "Palanga Recommends", restaurants, cafes, bars, canteens, pizzerias. Suggestions for easy and comfortable access to the seaside: by plane, train, bus, sea route. Information on transport in the city, intercity bus timetables, taxi services, rental points. Car parking in the city and prices. The website also has a shop offering energy containers, mugs with Palanga lettering, shopping bags, travel mugs and many other accessories. You can also find information about the Palanga Card, fees and taxes, beaches and bathing areas, weather conditions in the city, guide services and databases. There is also information on preventing corruption. The page is available in Lithuanian, English and Russian.

The "Birštonas Tourism Information Centre" website offers information such as news, things to do, places to eat, places to stay, services in the town and the SPA. It presents itself as a peaceful wellness resort that focuses on natural relaxation, healing and wellness services. The emphasis is on natural beauty, tranquillity and wellness. The "Things to do" section provides all the latest information on events, all the activities available in the city, a list of places to visit, excursions, educations, and information on the mobile app. "Where to eat?" The section lists restaurants, gastrobars, cafés, cafés, snack bars, eateries and tasting places where it is recommended to visit for a tasty meal or a bite to eat. The section "Where to stay" offers hotels, wellness centres, holiday homes, farmhouses, campsites and apartments for accommodation in Birštonas. The 'Services' section lists all the services available in the city: pharmacy listings, petrol stations, electric car charging stations, car rental links, ATMs and many more. The "Birštonas Tourist Information Centre" has its own mobile app, which recommends residents and tourists to download from its website. There are also routes, such as the "Mineral Water Route" and the "Sunny Afternoon Route", which the "Tourist Information Centre" recommends for those who like to take a walk in the fresh air. "On the water" services: passenger ferry, pleasure boat, kayak hire, Viking boats and water trampoline parks. The website is available in Latvian, Polish, English, Russian, German and Lithuanian.

All tourism and information centres' websites provide clear information that is relevant and relevant to everyone who plans to visit them. From recommended places to eat to accommodation offers. Publishing services and recommendations of things to do in each resort.

Analysed *Facebook* and *Instagram* content of Druskininkai, Palanga and Birštonas tourism centres. This research method was chosen in order to find out how the "Druskininkai Tourism and Business Information Centre" and its competitors communicate in social networks and to identify the weaknesses and strengths of their communication.

Research method - quantitative analysis of the content for "Druskininkai", "Visit Palanga" and "Birštonas tourism center" social media accounts on *Facebook* and *Instagram*.

Date of the research - from 2024-06-01 to 2024-08-31.

Aim of the study - to analyse the frequency of TVIC's communication and audience reach.

Object of the study - *Facebook* and *Instagram* accounts of Druskininkai, Palanga and Birštonas tourism centres.

Objectives of the study:

1. Examine how frequently "Druskininkai" publishes information on the social networks *Facebook* and *Instagram*.
2. Compare the communication of Druskininkai, Palanga and Birštonas tourism centres on *Facebook* and *Instagram*.

Criteria - number of posts in 3 months, average number of posts per week/month, number of likes, number of comments, number of shares.

Table 1

Analysis of different tourism centres in *Facebook* social network on selected period of time (from 2024-06-01 to 2024-08-31)

	"Druskininkai" *Facebook* page	"Visit Palanga" *Facebook* page	"Birštonas tourism information" *Facebook* page
Total posts uploaded	64	137	45
Average per month	21,3	45,6	15
Average per week	4,9	10,5	3,5
Average number of likes per post	116	60,9	48,4
Average number of comments per post	14	1,4	1,2
Average number of shares per post	17	4,2	2,4

*Source: made by authors

The results of the analysis presented in the table below clearly show that TVIC's communication on Facebook is good. The number of posts during the selected period (2024-06-01 to 2024-08-31) is lower than the "Visit Palanga" page, but higher than Birštonas Tourism Information page. The TVIC's communication is commendable in that it attracts more audience interest, outperforming other tourism centres in the average number of likes, comments and shares per post.

Table 2

Analysis of the different tourism centers in *Instagram* social network for the selected period of time (from 2024-06-01 to 2024-09-01)

	"Druskininkai" *Instagram* page	"Visit Palanga" *Instagram* page	"Birštonas tourism information" *Instagram* page
Total posts uploaded	19	62	25
Average per month	6,3	17	8,3
Average per week	1,5	5,75	1,92
Average number of likes per post	97	83	Information classified
Average number of comments per post	1,2	1,08	Information classified
Average number of shares per post	1,1	2,19	Information classified

*Source: made by authors

The analysis of Instagram accounts for "Druskininkai", "Visit Palanga" and "Birštonas tourism information" (2024-06-01 – 2024-09-01) shows that the most active account was "Visit Palanga" with 62 posts

(on average 17 posts per month), while "Birštonas turizmo informacija" posted 25 posts, and the least active account was "Druskininkai" with 19 posts. "Druskininkai" received the most likes (97 per post), "Visit Palanga" - 83, but the content of the account was the most shared (2.19 shares per post). The number of comments was low on all accounts. In summary, Visit Palanga stood out in terms of activity and sharing, while "Druskininkai" had higher engagement through likes.

We conducted a qualitative analysis for the social media content of Druskininkai, Palanga and Birštonas tourism centres on Facebook and Instagram. This research method was chosen in order to find out how the "Druskininkai Tourism and Business Information Centre" communicates on social networks, their communication weaknesses and strengths.

Research method – qualitative analysis for the content of "Druskininkai", "Visit Palanga" and "Birštonas tourism center" social media accounts on *Facebook* and *Instagram*.

Date of the research – from 2024-06-01 to 2024-08-31.

Aim of the study – to analyse the subject matter of TVIC's posts and the information published.

Object of the study – *Facebook* and *Instagram* accounts of Druskininkai, Palanga and Birštonas tourism centres.

Objectives of the study:

1. Examine what information Druskininkai publishes on the social networks *Facebook* and *Instagram*.
2. Compare the communication of Druskininkai, Palanga and Birštonas tourism centres on the social networks *Facebook* and *Instagram*.

Criteria – relevance of the research topic, what kind of tone is used in the communication, are the posts more static or dynamic, are the themes that emerge in the posts consistent, what are the themes of the posts that attract the most engagement.

For the image analysis, we chose the "Druskininkai Tourism and Business Information Centre's" *Facebook* and *Instagram* accounts. We chose the period from 2024-06-01 to 2024-08-31 as the beginning of June is considered to be the opening of the summer season in Druskininkai, when all kinds of events, festivals and other activities start, and the town becomes one of the most visited tourist destinations. Data, such as the number of followers, is recorded on 2024-04-01.

On the *Facebook* platform, Druskininkai tourism page has 40 thousand followers and 37 thousand likes. Their website page builds an image as a lively, cultured, naturally beautiful and tourist-friendly city that promotes community and healthy living. Druskininkai aims to present itself as a city with a wide range of events, where everyone is actively invited to participate. To create this image, the website uses visual content, photos and videos to show what activities there are at the events. The "Druskininkai Tourism and Business Information Centre's" Facebook page is dominated by static visuals, with only 9 out of 64 dynamic posts. The posts contain short text encouraging people to save the dates of the events in their calendars to attract the attention of the audience. On social media *Facebook*, Druskininkai presents itself not only as the most beautiful resort in Lithuania, but also as the capital of wellness, which gives the impression that the city presents itself as a natural health oasis. According to the local tourism survey carried out by Keliauk Lietuvoje (2024), Druskininkai was ranked as the most family-friendly city. The image of Druskininkai as the friendliest destination in Lithuania for travelling with children is being created. The page is also full of competitions and giveaways for followers. From discounts to concerts to prizes for those who enter competitions. In this way, Druskininkai strives to establish a positive and strong relationship with its audience and to get to know them. It can be said that Druskininkai uses mainly visual content to shape its image on *Facebook*. Each post is accompanied by photos or videos showing the natural beauty of the city, photos of places of interest and videos showing the services provided in Druskininkai.

The picture below (Figure 1) shows the *Facebook* post "Druskininkai" that received the most likes. This reels-type video received 701 likes, 8 comments and 31 shares. The video shows the attractions and unique experiences available in Druskininkai during the summer. It also creates an identity for Druskininkai by presenting itself as a "resort surrounded by forests". Everyone is welcome to try the water activities and create an unforgettable impression.

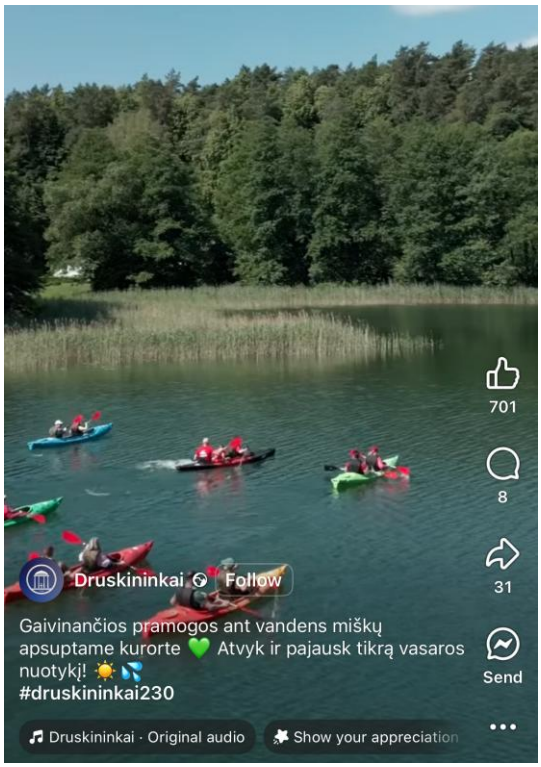


Fig. 1. "Druskininkai" most liked post on *Facebook* platform
*Source: "Druskininkai" *Facebook* page

"druskininkai.lt" *Instagram* has fewer fans than on *Facebook*, with only 4,665 followers. The content on this website is more focused on wellness, fresh air and therapeutic treatments, suggesting that Druskininkai is shaping its image as a city that needs to offer more health services and draw attention to natural beauty. It also shares the events taking place in Druskininkai. The Instagram account also shows more sharing from visitors who share their leisure time in Druskininkai. This way, they convey a close and strong connection with tourists in the town. Although the number of uploads on Druskininkai's *Instagram* platform is significantly lower than on *Facebook*, it is still possible to get the impression that the city is shaping its image through wellness centres, inviting people to spend time actively and sharing the beauty of the natural scenery.

On *Facebook* "Visit Palanga" page has 12 thousand likes and 16 thousand followers. During the selected period, the page had the highest number of posts, 137, of which only 9 were dynamic and the rest static. There are several themes that dominate Visit Palanga's communication. "This week in Palanga" is a section presenting the events and activities of the upcoming week. This promotes business in Palanga and helps tourists to easily find activities of interest. Another feature called "Do you know Palanga well?" aims to get followers to click on the link in the post title and take a short quiz to test their knowledge of the resort of Palanga. The analysis shows that the communication on the Visit Palanga page uses a friendly tone, encouraging people to try out activities taking place in Palanga. Most of the posts are about events, entertainment or new spaces in Palanga.

"Visit Palanga" has 5 203 followers on *Instagram*. In total, 12 dynamic visuals have been uploaded and 50 static. The Instagram account features posts dominated by summer, warm colours, creating a holiday mood. Regular posts are published, such as weekly activities and events in Palanga, as well as sharing nature views and recommendations for massages and places to relax. Polls are set up, allowing followers to contribute to improving the city. The tone of communication is friendly, engaging and positive, emphasising a sense of calm and relaxation. The account creates an attractive and welcoming image of Palanga, encouraging both locals and tourists to take an active part in the city's life.

"Birštonas Tourism information" has 19,000 followers on *Facebook*. The analysis shows that during the selected study period, out of 45 posts, only 3 are dynamic, while the remaining 42 are static. The main content topics are photos from various events that have taken place, with a large part of the content being announcements of upcoming events, concerts and events posted to make it easy for people to find out what is happening in the city. The tone of the communication is businesslike and friendly, encouraging participation in all events taking place in Birštonas. There is an interesting tendation, that 4 posts are shared from other

websites, media portals, which write about the locals or the city of Birštonas. All posts involving real experiences are among the most engaged posts. The post that got the most attention on "Birštonas Tourism information" *Facebook* page was about a woman that lives in Birštonas and her tasty homemade cheese (Fig. 2).



Fig. 2. "Birštono Tourism Information" most liked post on *Facebook* platform
*Source: "Birštono Tourism Information" *Facebook* page

"birstono kurortas" page on *Instagram* has 2,587 followers. During the selected period, 25 communications were made, 8 of which are dynamic and the rest are static. The content of the posts is similar to the communication on *Facebook*. As the number of likes, comments and shares on the *Instagram* page of "Birštonas Resort" is classified (only the administrators of the page can see the number of likes), it is not possible to compare the number of reactions with other cities. The page is dominated by shares of upcoming events, organised camps and festivals. The emphasis is on the beauty of nature and thus hopes to catch the eye of the follower.

Results

The results of the quantitative analysis showed that "Druskininkai Business and Tourism Information Centre", compared to the selected tourism centres in Palanga and Birštonas, receives a significant amount of interest on the social network Facebook, but there is significantly less communication on the social network Instagram, so the reach of the audience is lower. The analysis of the websites of Druskininkai, Palanga and Birštonas Tourism and Information Centres shows that each city emphasises its own unique features: Druskininkai offers a variety of wellness and entertainment services, Palanga focuses on active recreation and seaside activities, and Birštonas presents a peaceful wellness resort with natural healing services. According to the results of the qualitative analysis, all tourism centres have similar content on social media, inviting people to participate in events, share beautiful images of the town, aim to bring the community together and position themselves as the best resort in Lithuania.

Integrated communication campaign "DruskINinkai"

In order to distinguish Druskininkai from other resorts, here is a campaign prepared for the "Druskininkai Tourism and Business Information Centre". This part describes the issues, the idea of the communication campaign "DruskINinkai" and how the project will improve the image of the TVIC.

Druskininkai, with its long spa tradition and the therapeutic properties of its mineral waters, aims to create a unique image of the resort that reflects the concept of "longevity". Although the town is a popular holiday resort, its current image is not designed to distinguish Druskininkai as a wellness town. Currently, most tourists see Druskininkai as a spa and recreation resort, but do not fully understand the potential for long-term health and well-being. To create an appropriate image, a distinctive and strategically designed communication project is needed to highlight the city's longevity values related to health and quality of life.

The proposed idea is the "DruskINinkai" festival with the slogan "DruskINk to Druskininkai - take part in the longevity festival!" The theme of the festival would be the benefits of Druskininkai mineral water. The main focus of this event would be Druskininkai's distinctive mineral water, one of the 4 natural goods described by TVIC. The festival and the entertainment it provides in the town would contribute to the image of a health resort. The opening of the festival would be marked with an unprecedented spraying of mineral water in a champagne bottle, which would put the guests in a positive mood for the evening concert. The lectures planned for the beginning of the festival will take place in a specially equipped conference room, where everyone can sit down, drink mineral-rich water and listen to useful information or ask the speakers questions. The selected influencers are Orijus Gasanovas and Rimvydas Širvinskas (Makalius), who will help us announce the festival to the public. During the festival, in the evening, there will be a concert with Monika Liu and Linas Adomaitis. Both singers speak on health topics and their light-hearted songs are suitable for both target and secondary audiences.

Media portals such as "15min.lt", "Delfi.lt", "Lrytas.lt" would be commissioned to write articles and thus spread the word about the festival. To reach a wider audience, advertising would be bought on the TV channel "TV3". The advertisement would feature the activities and services of the "DruskINinkai" festival, together with selected influencers.

Proper planning ensures that human, financial and technological resources are preserved. Optimal use of resources avoids potential threats from budget cuts or the emergence of new risks. This section describes the preliminary budget required for the event.

Human resources: project manager, event coordinators, marketing team, technical staff, volunteers.

Musical groups and performers: Monika Liu (around 5000€) and Linas Adomaitis (around 8000€). Preliminary amount: 13,000€. Stage and sound equipment: sound systems, lighting, stage structure and technical support. Preliminary amount: 20 000€.

Marketing and advertising: according to the information on the "infliuenceriai.lt" website, advertising on social networks (*Facebook* and *Instagram*) for mega influencers (who have 100 thousand followers and more) one piece of content can cost between 700€ and 4000€. For our selected well-known Lithuanian travellers, Orijus Gasanovas (212 thousand followers on *Instagram*, 77 thousand followers on *Facebook*) and Rimvydas Širvinskas (Makalius) (105 thousand followers on *Instagram*, 4.9 thousand followers on *Facebook*), the cost of advertising would be around 10,000€ for the two influencers. Advertising on "TV3" 1s - 17,90€, our ad will be shown in the evening time, 30s video footage. The total is 537€. A video on the "Youtube" platform on the "Delfi" channel, which has 152 thousand followers, would cost 2500€. On "Lrytas.lt", the advertising would cost about 100€. In total, we would spend about 14 000€ on marketing and advertising.

Infrastructure and logistics. Preliminary amount: 10 000€. Food and beverages. Preliminary amount: 3000€. Security and first aid. Preliminary amount: 7000€. Total preliminary budget: 67 000€. Possible sponsors and partners. Participation of local businesses: during the "DruskINinkai Festival", it is possible to conclude contracts with local businesses for sales outlets or advertising. This would help to increase their brand awareness and generate profits for the organisers.

Targeted communication is one of the most important elements that shape the image of an organisation. This can include advertising campaigns, public relations activities, the use of social networks. Based on the results of the quantitative and qualitative analysis and the SWOT analysis, the following are some of the ways to improve TVIC's communication on social networks *Instagram* and *Facebook*.

1. Share "behind-the-scenes" on social media to get them interested and encouraged to be part of the event. Giving people the opportunity to find out how the preparations for the festival are going, to talk to the organisers about the festival, what inspired them to organise it and what they expect from it. This will create a sense of closeness and allow them to contribute to the preparation of the event.

2. We will post short videos about the city of Druskininkai and how the festival works, the attractions and why you should take part. Provide intriguing details about what to expect at the event, participants or event partners.
3. To attract travellers from abroad, post on *Instagram* and *Facebook* not only in Lithuanian but also in English.
4. Based on the results of the competitor analysis, it can be said that people are most interested in posts that mention the inhabitants of the city and their stories. In order to increase people's interest in the event, it would be useful to share the posts with local residents who tell us what they find most fascinating about Druskininkai, what makes it unique and special. Tell them about the festival and how it will be unique.
5. A preliminary communication plan should be drawn up to make communication smoother. This plan could be adjusted and completed even as the communication is ongoing. This preparation would ensure consistency and allow the use of a wider range of communication channels and tools.

Methods for evaluating the effectiveness of the project's intended outcomes are crucial to objectively assess the success of the Druskininkai image campaign and to identify strengths and areas for improvement. Key indicators of the social media campaign will include follower reach, engagement and reactions to festival content (e.g. number of likes, comments, shares). We will evaluate the results of the tasks provided by the influencers, and monitor how many new followers and event participants came to see the posts shared by the influencers on their social networks. This will help us to assess how effectively the selected celebrities, Orijus Gasanovas and Rimvydas Širvinskas (Makalius), contributed to the campaign's objectives. We will conduct pre- and post-campaign surveys to measure how the target audience's perception of Druskininkai has changed. The surveys will include an assessment of Druskininkai visibility and image. We will organise small group discussions with the target and secondary audiences. This method will help to assess their perception of Druskininkai and the festival and provide deeper insights into the effectiveness of the campaign. We will compare the actual number of festival participants with the pre-defined targets. We will monitor the number of people attending by placing wristbands at the entrance. After the festival, we will survey participants to assess their experience, satisfaction with the organisation, the quality of the programme and their willingness to return next year. This will give us an idea of what we can improve and change to ensure that next year's festival meets people's expectations. We will observe how effectively the project partners (e.g. "Druskininkai Mineraliniai Vandenys", "Eglės Sanatorija", "Maxima", "Druskininkų Rasa", "Druskininkai Savivaldybė") contributed to the campaign and the organisation of the festival. We will assess to what extent the support provided by the partners contributed to the success of the campaign and how the financial means and resources were used. We will compare the number of tourists before and after the campaign (especially during the festival) with the statistics of previous years. This will allow us to assess whether the image campaign has contributed to increasing the number of tourists. We will assess how the campaign and the festival have affected the profits of local businesses and the length of stay (hotels, spas) during the festival period. We will count the number of articles published about the mineral water festival "Druskininkai", the number of times the article was read, commented on and shared in newsletters ("15min.lt", "Delfi.lt", "Lrytas.lt"). On the "Druskininkai.lt" website, we will assess the number of visitors, traffic growth through social networks and paid advertising. We will analyse how many people clicked on promotional material, came to the website and were interested in the content (e.g. apps viewed).

All of the above methods will help to assess how successfully the Druskininkai image campaign and the DruskINinkai Festival have achieved their goals and objectives. The information obtained and analysed will provide valuable material for the preparation of the next festival.

Conclusions

1. Organisational communication is a fundamental process that involves a range of activities such as image building, implementing marketing strategies, designing a communication project and managing risks and crisis. Successful communication depends on a clear corporate image, coherent and targeted communication, a combination of effective marketing tools and careful project management. Clear, transparent and well-planned communication enables you to reach your target audience, build a positive corporate image, maintain customer loyalty and respond effectively to challenges.
2. The communication of the "Druskininkai Tourism and Business Information Centre" is focused on presenting the resort as a wellness, recreation and entertainment centre. The communication uses a website, social networks *Facebook* and *Instagram*. However, all their competitors use the same technique, and

Druskininkai does not stand out in this way. In order to stand out from the competition, it is suggested to choose a different angle of communication to try to attract more tourists.

3. Although Druskininkai has great communication in social media, it should highlight the city's importance as a place of longevity. It is proposed to organise a "DruskINinkai" festival to highlight the benefits of mineral water and spotlight the importance of longevity. The event would be attended by influencers and music artists. Targeted communication on the social networks *Instagram* and *Facebook* would help to attract local and foreign tourists and increase interest in Druskininkai. The festival's exclusive programme would help to establish Druskininkai as a resort of longevity and wellness, improving the image of the city.

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ECOTOURISM DEVELOPMENT: A CASE STUDY OF COX'S BAZAR, BANGLADESH

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Abstract
Ecotourism plays a significant role in sustainable tourism by promoting conservation efforts, benefiting local communities, and ensuring minimal environmental impact. This study focuses on Cox's Bazar, Bangladesh, as a case study for ecotourism development. Cox's Bazar is famous for having the world's longest unbroken sandy beach and unique biodiversity, including marine and forest ecosystems. Cox's Bazar is the leading tourism destination of Bangladesh but unplanned and improper development is leaving a trail of environmental injuries to the sector's sustainability. The study examines the current state of ecotourism in the region, its challenges, opportunities, and future prospects. This article analyzes scientific literature and applied qualitative content analyzes of the research of Nasrin (2024), Hossain (2023), and Lupa and Hossain (2019) to provide recommendations for sustainable ecotourism development in Cox's Bazar.

Introduction

As the world increasingly shifts toward more sustainable tourism models, Bangladesh is well-positioned to promote itself as a destination for ecotourism. The country is home to a wide array of natural attractions, including the Sundarbans mangrove forest, the hill tracts of Bandarban, and the tea gardens of Sylhet, all of which offer ideal settings for ecotourism. Ecotourism emphasizes low-impact travel, environmental conservation, and community engagement, making it a perfect fit for Bangladesh's rich biodiversity and rural communities (Hossain, 2024).

According to Hossain et al. (2025) in Bangladesh, Cox's Bazar is a popular tourist attraction that receives over one crore people yearly. However, increasing tourist growth has brought up environmental and social issues in Cox's Bazar, including crowding, waste, security, construction, overcrowding, degradation, and loss of natural and marine resource. Tourism can also worsen economic inequalities and threaten local cultures and traditions, leading to cultural commodification and loss of authenticity. As worries about the effects of tourism rise, the idea of ecotourism has evolved, which is crucial to mitigate these impacts.

It is important to ensure the development of ecotourism without harming the unique natural resources of Cox's Bazar and the interests of local communities. Intensive tourism can pose a threat to the environment (e.g., pollution, habitat destruction) and social culture (e.g., commercialization of traditions). There may be a lack of a clear ecotourism development strategy, effective regulatory mechanisms, and coordination among different stakeholders (government institutions, businesses, local communities, non-governmental organizations). The ecological awareness of both tourists and local residents may be insufficient, therefore it is important to analyze how this situation could be improved through education and information. It is important to determine which ecotourism activities should be promoted to ensure demand while not harming the ecosystem.

Problem question of research: How can ecotourism be effectively and sustainably developed in Cox's Bazar to mitigate the negative environmental and socio-cultural impacts of existing mass tourism, while maximizing benefits for the local environment and communities?

Novelty of the research. The development of ecotourism in Cox's Bazar has been analyzed in scientific articles (Hossain et al., 2025; Hossain, 2018; Hossain, 2023; Khan, Aziz, 2019; Khondkar, Anis, 2016 and others) but this article is new and unique because it uses a qualitative content analysis approach to analyze three research studies that have been carefully selected to compare the issues, benefits, opportunities and challenges of ecotourism development in Cox's Bazar and to make recommendations for sustainable ecotourism development in Cox's Bazar.

The research object - ecotourism development in Cox's Bazar.

The aim of this research is to analyze ecotourism development in Cox's Bazar, identify its strengths and weaknesses, and propose recommendations for ecotourism.

Objectives:

1. To identify the components of successful ecotourism development in a theoretical context.
2. To determine the importance of ecotourism in Cox's Bazar.

3. To analyze the strengths and weaknesses, challenges and opportunities for ecotourism development in Cox's Bazar.

Methodology. This study analyzes a scientific literature sources to explore the significance and challenges of ecotourism in Cox's Bazar, Bangladesh. The data collection encompasses a comprehensive review of academic literature, including peer-reviewed journal articles, scholarly books, and reputable reports focused on sustainable tourism and ecotourism practices within the Bangladeshi context.

The method used was qualitative content analysis, the aim of which was to describe the phenomena by organizing and summarizing the research material, to reveal the meanings people give to these phenomena. Qualitative content analysis allows the researcher to aggregate large amounts of information, to group the research data into sub-categories and categories according to content and meaning. The researcher analyses texts in order to reveal the diversity of people's perceptions, behaviors, strategies and interactions (Žydžiūnaitė, Sabaliauskas, 2017). Furthermore, this research critically examines the recent contributions of Nasrin (2024), Hossain (2023), and Lupa, Hossain (2019), whose studies offer pertinent insights into ecotourism development, to provide recommendations for sustainable ecotourism development in Cox's Bazar. The selection of research studies for the content analysis took into account a number of criteria: studies center on Cox's Bazar as the primary area of investigation; touch upon the theme of tourism impacts and the need for sustainable approaches or understanding related issues (overtourism, environmental concerns, ecotourism potential); studies utilized survey methods to gather data.

Ecotourism Development: A Review of Scientific Literature

In order to perform an in-depth exploration of the research topic, a definition of ecotourism first had to be determined. Initially, it was Dr. Hetzer, a German professor working at the University of California, Berkeley, who proposed the term "Ecotourism" in 1965. He proposed to (1) try to reduce the human impact on the environment, (2) respect the local culture and try one's best to adhere to the four principles of reducing impact, (3) give back local economic benefits as much as possible, and (4) give tourists the best recreational experience (Mishra, Kumar, 2024). Historically, the term "ecotourism" was adopted in order to describe the nature of the tourism phenomenon. Ecotourism emerged in the late 1980s as a response to growing environmental concerns (Diamantis, 2010). One of the most widely accepted descriptions of ecotourism was introduced by Ceballos-Lascurain in the 1980s and states: "travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present)" (Anandaraj, 2015).

It is defined as responsible travel to natural areas that conserve the environment and improve local livelihoods (Khondkar, Anis, 2016). According to Wolf, Croft, and Green (2019), there is the possibility for a symbiotic link between tourism and natural area protection.

Currently, ecotourism is also known under the name of "green tourism", "kind tourism", soft tourism" or "ecological tourism" (Stefanica, 2010). Litheko (2022) refer to ecotourism as a component of sustainable tourism that is made up of cultural, rural and natural tourism aimed to conserve biodiversity and sustain the well-being of local people, which includes learning experience and involves responsible actions on the tourism industry.

Ecotourism differs from mass tourism by focusing on environmental preservation, education, and community participation. Considering ecotourism over mass tourism is a responsible decision and an alternative way of economic diversification benefiting multiple stakeholders. The alternative to mass tourism is in the form of ecotourism. Ecotourism due to its well-recognized contribution to biodiversity conservation, poverty alleviation, and socio-economic development has been promoted in many developing countries (Mahonty et al., 2021). Ecotourism involves visiting fragile, pristine, and relatively undisturbed natural areas. It is a low-impact and a small-scale alternative to standard commercial mass tourism. Its purpose is often to educate the traveler, to provide funds for ecological conservation, to directly benefit the economic development and political empowerment of local communities, or to foster respect for different cultures and for human rights (Khondkar, Anis, 2016).

Ecotourism is considered an essential aspect of sustainable tourism due to its focus on conservation and community involvement. According to Weaver (2001), ecotourism can help preserve natural environments while providing economic opportunities to local populations. Buckley (2009) highlights that ecotourism contributes to biodiversity conservation by generating revenue for protected areas.

The primary goal of ecotourism is to safeguard and conserve nature, natural resources, and the environment. Ecotourism promotes responsible tourism in natural areas, which helps to conserve the environment, includes learning, promotes awareness, and ensuring the prosperity of indigenous communities (Mahonty et al., 2021).

The ecotourism associated with local and cultural values can help diversifying tourism business activities, solving the outlets for local products, improving the added value for local farmers and creating jobs for local people (Trang, Tu, 2021).

The current concrete definition of ecotourism describes it as "a tourism business or experience mode based on the three cores of environment (humanities and nature), society (ethnic group and community), and economy (local and sustainable)." More importantly, the interaction and mutual dependence of environmental conservation, cultural preservation, and economically profitable growth have since been defined in relation to the sustainable development of ecotourism (Huang et al., 2023).

Franch et al. (2008) identify three fundamental conditions for ecotourism: (1) the attractions must be prevalently nature based; (2) the interactions among tourists and the attractions must be educational in nature; (3) the experiences and products must be managed in a way that guarantees ecological, socio-cultural and economic sustainability.

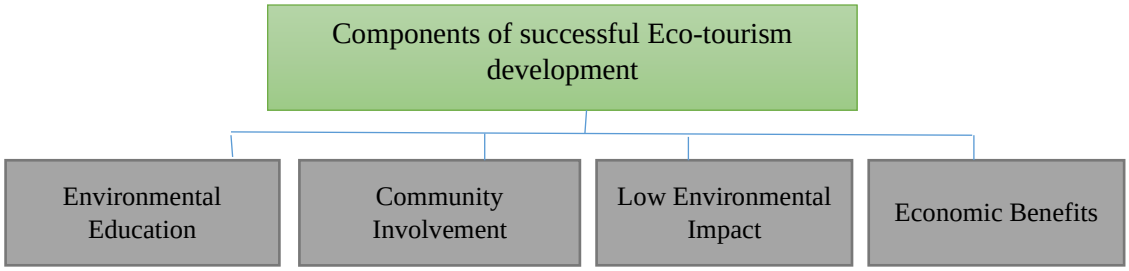


Fig. 1. Components of successful ecotourism development
Sources: made by authors according to Huang et al., 2023; Franch et al., 2008; Trang, Tu, 2021; Fennell, 2014; Cohen, 2019; Mahonty et al., 2021; Tiwari et al., 2024 and others

After analyzing scientific literature sources (Huang et al., 2023; Franch et al., 2008; Trang, Tu, 2021; Fennell, 2014; Cohen, 2019; Mahonty et al., 2021; Tiwari et al., 2024 and others), the authors of the article identified that **successful ecotourism initiatives must encompass the following components (Fig.1)**:

Environmental Education. Tourists should be educated about the significance of conservation efforts (Fennell, 2014). Responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education" applies to all tourists (Huang at al., 2023). Additionally, the future of sustainable travel will require a stronger emphasis on education and awareness-raising. Tourists themselves are key players in driving the demand for sustainable travel options. Educational campaigns, both at the governmental and grassroots levels, can help foster a greater understanding of travel's environmental and social impacts, encouraging responsible behavior. Future strategies might also include gamification or rewards systems, where tourists are incentivized to make more eco-friendly travel choices. Platforms like Airbnb and TripAdvisor could integrate sustainability scores or eco-badges into their reviews, helping travelers identify the most sustainable options.

Educating tourists about responsible travel practices is crucial for promoting sustainable tourism. Campaigns that encourage eco-friendly behavior, such as reducing waste, conserving water, and respecting local customs, can help minimize the negative impacts of tourism (Cohen, 2019).

Community Involvement. Ecotourism is a form of tourism that prioritizes environmental conservation and community development. For ecotourism to be successful, it is crucial to involve local communities in decision-making and ensure equitable distribution of benefits. Community participation in ecotourism can take various forms, including active, passive, collaborative, and women's participation (Tiwari et al., 2024). Local communities should play an active role in managing ecotourism activities (Honey, 2008). Ecotourism plays a significant role by enhancing the quality of life of the local community and in return, the active participation of the local

community helps in developing more satisfactory plans to promote the concept of ecotourism (Mahonty et al., 2021). According to Tiwari et al. (2024) emphasizes the importance of community participation in ecotourism, highlighting the need for deep-rooted involvement of the local people in the planning process and control over development initiatives. Community participation in ecotourism plays a vital role in preventing deforestation, conserving flora and fauna, and promoting the growth of greenery and alternative energy sources.

Low Environmental Impact. Tourism activities should have minimal ecological disturbance (Wearing & Neil, 2009). Ecotourism is an environmentally friendly, non-resource-consuming natural behavior by tourists based on the concepts of ecological, environmental, and natural resources protection and sustainable development. Ecotourism not only promotes the development of the economy in the tourist areas, but also meets the demand of tourists to get close to nature and is an effective way for nature reserves to enhance their self-supporting ability and realize sustainable development (Zhang et al., 2024).

Economic Benefits. Ecotourism should provide financial incentives for conservation efforts (Higham, 2007). The previous study findings of reveal that successful ecotourism destination relies on the local community and their involvement. Many decades of extensive study and research explored the ecotourism benefits and its socio-economic contribution to community people. Ecotourism is able to create employment, empower the local people as well as assist in infrastructure development (Mahonty et al., 2021).

While ecotourism presents numerous benefits, it also faces several challenges:

- *Over-Tourism*. High numbers of visitors can degrade natural habitats (Fennell, 2014).
- *Weak Regulations*. Poor enforcement of ecotourism policies can lead to environmental damage (Higham, 2007).
- *Climate Change*. Rising temperatures and natural disasters pose risks to ecotourism destinations (Wearing & Neil, 2009). The climate crisis presents a significant future challenge and opportunity for sustainable travel. With tourism contributing to global carbon emissions through air travel, transportation, and energy consumption, the industry must take proactive steps to reduce its carbon footprint (Mishra, Kumar, 2024).
- *Lack of Local Expertise*. In many developing countries, limited training and education hinder the effectiveness of ecotourism (Honey, 2008).

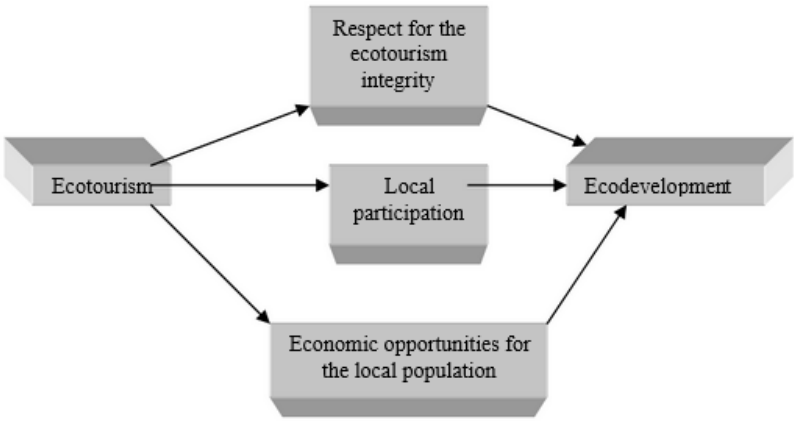


Fig. 2. Elements involved in the development of ecotourism
Source: Ronjith, 2021

Figure 2 illustrates that the development of ecotourism depends on respect for ecotourism integrity, local participation in this tourism, and economic opportunities (Ronjith, 2021). Firstly, respect for the ecotourism integrity is paramount. This emphasizes the importance of preserving the natural environment and cultural heritage of the destination. It means that ecotourism activities should be conducted in a way that minimizes negative impacts and maximizes positive contributions to conservation. Secondly, local participation is essential. This underscores the need for involving local communities in all stages of ecotourism development and management. It ensures that ecotourism benefits local people, empowers them, and respects their traditions and knowledge. Thirdly, economic opportunities for the local population are vital. Ecotourism should create sustainable economic

benefits for local communities, such as through employment, providing goods and services to tourists, or community-based tourism initiatives.

Ecotourism supposes carrying out the tourism activities in an environment with landscapes unaltered by pollution and at the same time reassuring. It represents a model of sustainable exploitation of the tourism resource, due to the minimizing of the negative effects on the environment (Stefanica, 2010).

The global economy and consumer trends evolve, sustainable travel must become more inclusive and accessible. Historically, ecotourism has been perceived as a niche market for wealthier Western tourists, but there is an increasing need to democratize access to sustainable travel experiences. This could involve promoting affordable ecotourism options and expanding sustainable tourism initiatives to include more diverse and underrepresented populations. By making ecotourism accessible to a broader audience, the industry can foster a more equitable distribution of sustainable travel's economic, social, and environmental benefits (Mishra, Kumar, 2024).

In summary, ecotourism development incorporates three development areas, which are environmental development, social development, and economic development. Ecotourism, as responsible travel to natural areas, promotes environmental protection and the well-being of local communities, distinguishing itself from mass tourism by its focus on education, community participation, and impact reduction. It not only helps to preserve biodiversity and natural areas but also provides economic opportunities for local residents, thus contributing to sustainable development. Ecotourism, by integrating cultural and local values, can diversify tourism business activities, promote the sale of local products, and create jobs, making it an essential aspect of sustainable tourism.

Successful ecotourism hinges on four key components: environmental education for tourists, active community involvement, minimizing environmental impact, and ensuring economic benefits for local populations. By educating tourists on conservation, empowering local communities in decision-making, reducing ecological disturbance, and providing financial incentives, ecotourism can effectively promote sustainable development and biodiversity preservation.

The importance of ecotourism in Cox's Bazar

Cox's Bazar holds international importance due to its unique coastal and ecological attributes. Situated in southeastern Bangladesh, it acts as a natural gateway to the Bay of Bengal (Fig.3). Its expansive, uninterrupted 120-kilometer shoreline, devoid of significant obstructions, forms a vast, picturesque beach that draws countless visitors annually. The region's stunning sandy stretches and tropical climate make it a year-round tourist hotspot. The beach's strategic position offers captivating sunset views over the Bay of Bengal, a major attraction. The gentle waves and gradual slope of the shoreline make it ideal for swimming and other beach activities. The lush, forested hills surrounding the area provide opportunities for trekking and exploration, offering a dramatic contrast to the coastal landscape. Adjacent to the shore, Himchari National Park is a popular destination, showcasing diverse flora and fauna, including rare bird species, waterfalls, and mammals (Nasrin, 2024).

Here are some top attractions in Cox's Bazar (Lupa, Hossain, 2019):

- *Inani Beach:* This 18-kilometer beach is 25 kilometers from the city. It has clean waters perfect for swimming and relaxing.
- *Marine Drive:* The world’s longest marine drive stretches 80 kilometers. It offers stunning views and peaceful drives.
- *Dulahazira Safari Park:* With 4000 animals and 165 species, this park covers 9 square kilometers. It supports wildlife conservation.
- *Sonadia Island:* Known as an “Ecologically Critical Area”, it’s a haven for rare birds and endangered sea turtles.
- *Chunuti Wildlife Sanctuary:* This sanctuary is rich in biodiversity. It hosts endangered species and showcases the region’s natural heritage.

Over the years, Cox's Bazar has become increasingly accessible. With existing domestic flight connections from Dhaka, Sylhet, and Chittagong to its airport, and plans for future international flights, the town's connectivity is set to expand dramatically. Enhanced road infrastructure and transportation services have also made it easier for domestic travelers to reach the area, especially during peak travel times. Nevertheless, the burgeoning tourism sector in Cox's Bazar has created challenges for the preservation of local traditions. The rapid development of

hotels, resorts, and commercial establishments has disturbed the traditional way of life in many local communities. Consequently, there is a rising concern that the town's distinct cultural identity might be lost or compromised as tourism increasingly drives the local economy.

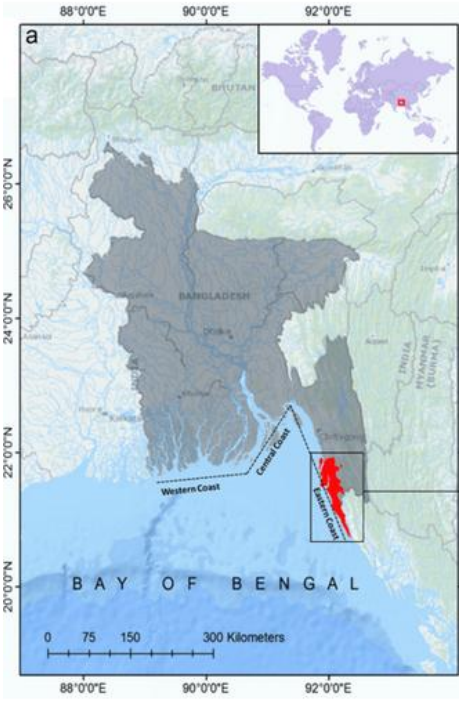


Fig. 3. The location of the Cox's Bazar district (Red) in Bangladesh
Source: Akhtar et al., 2022

In response to these difficulties, initiatives have been made to support eco-friendly travel strategies that honor and protect Cox's Bazar's rich cultural legacy. Initiatives for community-based tourism, which let local people oversee tourist-related activities, are becoming more popular. By giving locals the opportunity to respectfully and profitably share their cultural history with visitors, these programs seek to empower the community. Initiatives that promote tourists to partake in native practices - like fishing the way the people do it or going to the festivals - offer chances for cross-cultural interaction without compromising the authenticity of the encounter (Hossain, 2018).

Cox's Bazar's beaches, once pristine, are increasingly facing degradation due to the high foot traffic of tourists. The influx of visitors leads to littering, with plastic waste, food wrappers, and other debris littering the sand. Studies indicate that the volume of waste generated can overwhelm local waste management systems, leading to significant pollution (Khan, Aziz, 2019). Beach erosion is another concern, with excessive human activity altering natural coastal dynamics and threatening habitats.

The marine ecosystems surrounding Cox's Bazar are particularly vulnerable to over tourism. Increased boating, fishing, and snorkeling activities disturb coral reefs and marine biodiversity. Reports indicate that unregulated snorkeling tours have caused irreversible damage to coral ecosystems, leading to a decline in fish populations (Rahman, 2021). The rise in tourism has led to increased pollution in coastal waters. Improper waste disposal practices result in plastics and other waste being washed into the ocean, contaminating marine habitats and affecting water quality. Over tourism has led to habitat loss for various species that inhabit the coastal and marine environments. The natural balance is disrupted as local wildlife is displaced due to increased human activity, leading to reduced biodiversity. The Sundarbans mangrove ecosystem, while not directly in Cox's Bazar, is impacted indirectly as tourism-related activities in Cox's Bazar affect the broader ecological network (Hasan, 2019).

In summary, Cox's Bazar is renowned for its stunning natural resources, including the world's longest uninterrupted sandy beach and mangrove forests. Cox's Bazar is a major tourist destination in Bangladesh, and the

number of tourists is constantly growing. The increasing number of tourists in Cox's Bazar has a negative impact on the environment and local communities. The development of ecotourism in Cox's Bazar is crucial, as it can help ensure the long-term protection of the region's natural and cultural heritage, while providing economic benefits to local communities.

Ecotourism Development in Cox's Bazar

This part of the paper aims to analyze thee studies related to ecotourism development in Cox's Bazar (Table 1):

- *The first study* is by Nasrin (2024). The main objective of this study is to investigate the issue of excessive tourism in Bangladesh, with a particular emphasis on the country's most popular tourist attraction, Cox's Bazar. In the study, 100 respondents were chosen. Additionally, some people from Cox's Bazar were chosen to participate in the survey and with some in depth answers where be taken as well. The study was carried out in 2024 years.
- *The second study* is by Hossain (2023). The aim of this study was to find out how tourism development in Cox's Bazar can be carried out in an ecologically conscious way, ensuring environmental, social and economic sustainability, which would benefit the local communities, the economy and natural resources. Hossain (2023) prepared survey, selected the sample who were directly or indirectly connected or affected by sustainable tourism development in Cox's Bazar. The researcher randomly selected a group of people, and they were asked to respond to the questionnaire. The questionnaire was mainly sent to tourists, local businessmen, local people, industry officials, and government officials. It was carried out in 2023 and 100 respondents were interviewed.
- *The third study* is by Lupa and Hossain (2019). They surveyed 183 tourists who had visited Cox's Bazar within the previous five years. The purpose of this research was to examine tourists' views on environmental conservation and ecotourism, specifically focusing on Cox's Bazar. This was done to assess the market potential and identify marketing strategies for a sustainable ecotourism program in the area.

Table 1

Study objectives and focus

Study	Objective (s)	Focus area (s)	Respondent groups	Sample size
Nasrin (2024)	Investigate excessive tourism (overtourism) in Bangladesh, focusing on Cox's Bazar	Impacts of overtourism (environmental, social, economic)	General respondents and selected locals for in-depth answers	100
Hossain (2023)	Determine how to develop tourism in Cox's Bazar sustainably (environmentally, socially, economically) for the benefit of locals, economy, and natural resources.	Sustainable tourism practices, impacts, barriers	Tourists, local businessmen, local people, industry officials, government officials	100
Lupa & Hossain (2019)	Examine tourists' views on environmental conservation and ecotourism in Cox's Bazar; assess market potential and identify marketing strategies for sustainable ecotourism.	Tourist perceptions, ecotourism program potential	Tourists who had visited Cox's Bazar	183

Source: made by authors according Nasrin, 2024; Hossain, 2023; Lupa & Hossain, 2019

Cox's Bazar is experiencing a year-on-year increase in the number of tourists, which has an impact on the local community, economy and environment. Even people who previously considered travel challenging may now

easily reach Cox's Bazar because to this improved accessibility, which adds to the rising issue of overtourism as more and more tourists arrive quickly.

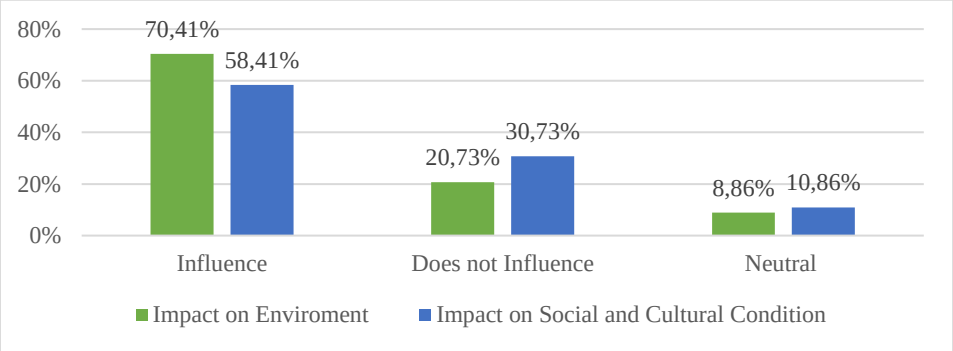


Fig. 4. Environmental and Social & Cultural Impacts of Overtourism
Source: made by authors according to Nasrin, 2024

As Cox's Bazar has more pressures of domestic tourists, it influences environmental condition negatively as per the response of 70.41% of people (Fig 4). But 20.73% of people think environmental condition does not affected. 8.86% of people do not have any opinion. Almost 58.41% of locals think that overtourism is the cause of social and cultural degradation. But 30.73% of people think social and cultural condition does not affected. 10.86% of people do not have any opinion.

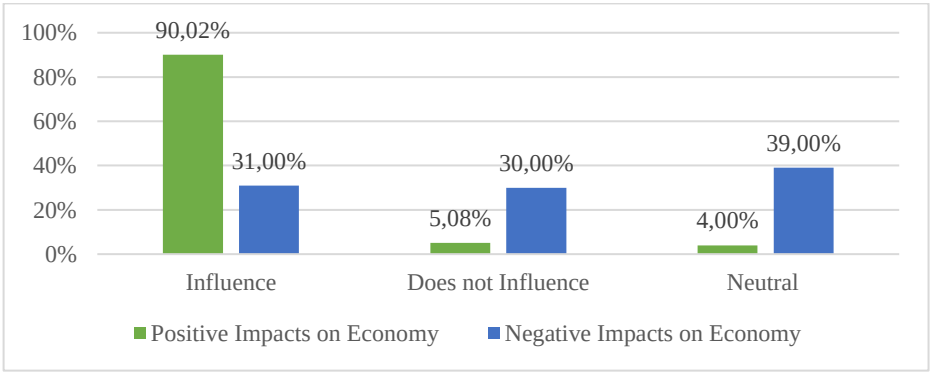


Fig. 5. Economic Impacts of Overtourism
Source: made by authors according to Nasrin, 2024

Almost 90.02% local entrepreneurs think that overtourism influence positively, where 5.08% local entrepreneurs are not agreeing with it. 4.00% of them are neutral. Almost 30.80% of Respondents from local entrepreneur's claims overtourism impacts negatively. Whereas 30% respondents don't think so. 39.20% were neutral. (Fig 5).

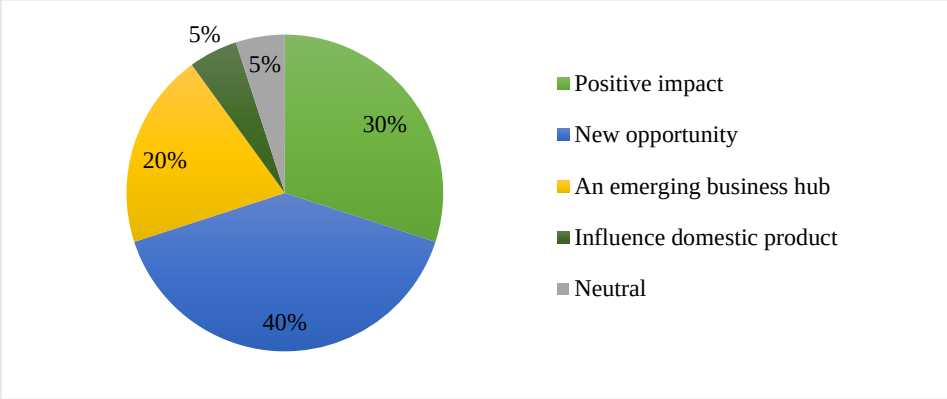


Fig. 6. Impact of Sustainable Tourism Practice on Local Business
Source: made by authors according to Hossain, 2023

Hossain (2023) asked for respondents "How sustainable tourism practice create impact on the local business in Cox's Bazar?" Studies indicate that a substantial portion of those surveyed, specifically 30%, anticipate a beneficial effect on local commerce. Furthermore, 40% perceive sustainable practices as a novel avenue for regional enterprises, leading to the development of new business sectors and increased local economic participation. An additional 20% believe it will transform the area into a burgeoning business center. Finally, 5% of respondents feel that sustainable tourism will encourage local residents to promote their products, thereby revitalizing the regional economy and fostering broader engagement. (Fig 6).

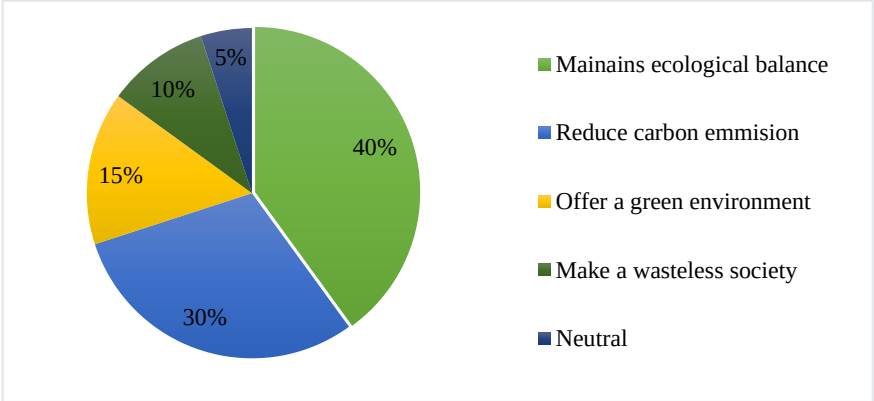


Fig. 7. Impact of Sustainable Practice on the Environment
Source: made by authors according to Hossain, 2024

Respondents were asked "How sustainable tourism practice create impact on the environment in Cox's Bazar?" Sustainable practices in Cox's Bazar are seen as having a profound impact. Specifically, 40% of respondents highlighted their role in preserving ecological balance, a critical aspect of environmental health. A further 30% emphasized the potential to reduce the area's high carbon emissions. Additionally, 15% believe these practices will contribute to a greener environment, while 10% anticipate they will foster a waste free- and clean-living space (Fig 7).

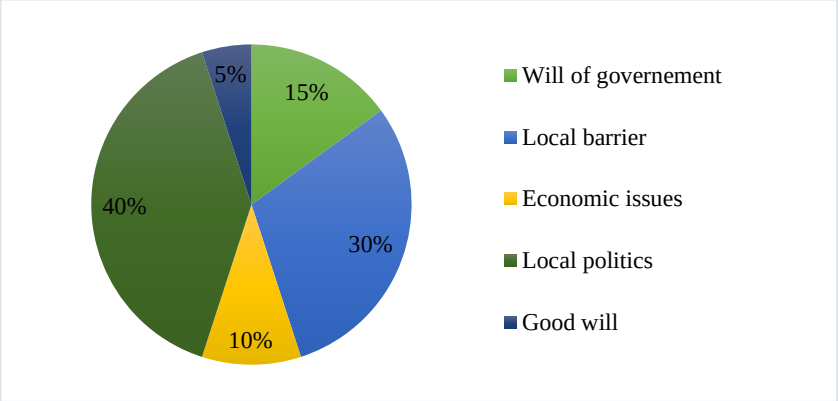


Fig. 8. Barriers to Sustainable Practice
Source: made by authors according to Hossain, 2024

Survey participants identified a range of barriers to sustainable practices. 15% felt that insufficient governmental initiative was the key obstacle. A substantial 30% believed that local community issues and willingness were the primary impediments. Economic factors were seen as a barrier by 10%. However, the largest group, 40%, attributed the issue to local political influences, which they felt prevented the adoption of planned sustainable approaches. A small 5% blamed a general deficit of goodwill (Fig 8).

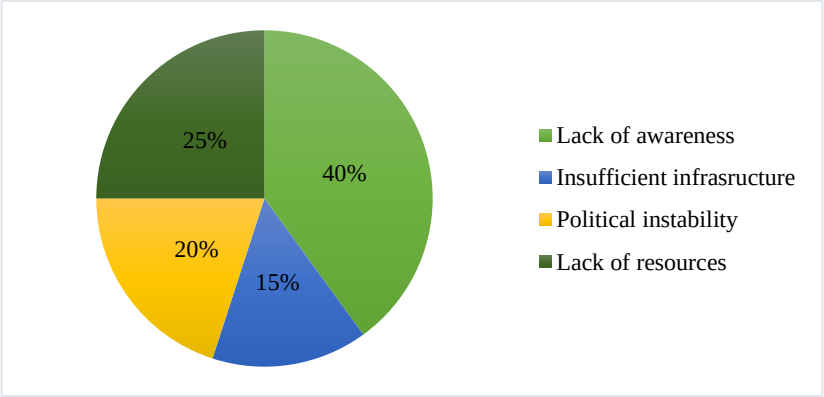


Fig. 9. Challenges of the Local Government
Source: made by authors according to Hossain, 2024

What are the possible challenges that local government face in implementing sustainable tourism practices in Cox's Bazar? Around 40% of the responders believe that lack of awareness is the main challenge faced by the local government. Around 15% of the responders believe that insufficient infrastructure is the main challenge for the local government. Around 20% of the responders believe that political instability is the main challenge for the government. Around 25% of the responders believe that lack of resources is the main challenge to implementing sustainable practice (Fig 9).

Table 2 presents the potential of various ecotourism programs, based on survey data (n=183) (Lupa, Hossain, 2019). The survey revealed that **the highest potential** lies in: wildlife watching, which has the highest mean (4.44) and the lowest coefficient of variation (CV 8.71%), indicating the greatest agreement and consistency. Nature safaris and beach cleaning programs also have high means. **Medium potential** is seen in guided nature hiking/trekking, subsidizing local handicrafts and products, and interpretive education seminars on ecological conservation, all of which have moderate means. **The lowest potential** is found in direct taxing of tourists to fund ecological conservation, which has the lowest mean (1.82) and a relatively high coefficient of variation (CV 17.47%), indicating the greatest disagreement and the lowest potential. Direct taxing of tour/hotel operators to fund ecological conservation also has a low mean. Mountain climbing also has a low mean and the highest CV of 25.35%.

Table 2

Potentials of various ecotourism programs

Programs	Mean	± SD	CV%
Wildlife watching	4.44	0.39	8.71
Safari on nature conservatory/parks	4.23	0.51	12.06
Beach cleaning program with local schools/colleges	4.21	0.39	9.23
Bike paths on all routes of Cox's Bazar with rental stations to decrease pollution	4.15	0.69	16.71
Guided nature hiking/trekking	3.98	0.61	15.26
Subsidizing local handicrafts, herbal products, etc.	3.90	0.94	24.17
Interpretive education seminars on ecological conservation with certification offers	3.87	0.59	15.12
Environmental restrictions on tour/hotel operators	3.72	0.41	11.07
Camping/nature living	3.02	0.29	9.68
Mountain climbing	2.95	0.75	25.35
Direct taxing tour/hotel operators to fund ecological conservation	2.54	0.26	10.27
Direct taxing tourists to fund ecological conservation	1.82	0.32	17.47
Mean ranges from 1 (most lacking product potential) to 5 (assuming highest product potential); n ≈ 183			

Source: Lupa, Hossain, 2019

Thus, wildlife watching and beach cleaning programs are the most popular and supported ecotourism activities. Direct taxing of tourists is the least popular and potential option. (The CV indicates the dispersion of data. A higher CV means greater disagreement among respondents. The coefficient of variation helps to understand which programs have the greatest difference of opinion and which have the greatest agreement).

The research of Lupa and Hossain (2019) is conclusive of the fact that Cox's Bazar is ripe for a proper ecotourism program from a marketing perspective. Bangladeshi tourists' willingness to participate in ecotourism programs, the general trend indicate that overall tourists are becoming more environmentally conscious about their activities, especially with regards to making travel plans.

Based on the research presented in the three papers, here is a table 3 summarizing the similarities and differences regarding ecotourism development in Cox's Bazar.

Table 3

Similarities and differences in ecotourism development in Cox's Bazar

Aspect	Similarities	Differences		
		Nasrin (2024)	**Hossain (2023)**	**Lupa & Hossain (2019)**
Environmental Concerns	All papers acknowledge negative environmental impacts resulting from high/unplanned tourism (e.g., pollution, resource strain, habitat degradation). All recognize the potential for sustainable/eco-tourism practices to mitigate environmental damage	Emphasizes beach degradation, marine ecosystem damage, pollution, and biodiversity loss specifically linked to *overtourism*.	Highlights the potential of *sustainable practices* to preserve ecological balance and reduce carbon emissions.	Note tourist disfavor towards poor waste management and lack of cleanliness.
Economic Aspects	All studies acknowledge the economic importance and potential of tourism in Cox's Bazar	Finds local entrepreneurs perceive *overtourism* positively in economic terms, but notes negative impacts like inflation for others.	Highlights how *sustainable practices* create new business opportunities and local economic participation.	Focus on the market potential of specific ecotourism *programs*, finding direct tourist taxation unpopular.

Social / Cultural Aspects	All papers recognize impacts on the local community and culture	Identifies social/cultural degradation, overcrowding, and increased living costs as consequences of *overtourism*.	Emphasizes *social sustainability* through community involvement, cultural preservation, and promoting local interactions.	Implicitly address this by assessing tourist interest in programs involving locals (e.g., local handicrafts).
Barriers / Challenges	Both Nasrin and Hossain identify significant challenges related to governance, resources, and community factors in managing tourism sustainably. Lack of awareness is noted as a challenge	Focuses on factors driving *overtourism* itself (transport, accommodation, etc.).	Identifies specific barriers to implementing *sustainable practices*, including government will, local politics, economic issues, and lack of goodwill /resources/ awareness.	Highlight potential lack of tourist willingness to pay (e.g., direct taxes).
Proposed Solutions / Potential	All studies implicitly or explicitly support sustainable/eco-tourism approaches as beneficial.	Suggests sustainable practices, regulation, community-based tourism, and technology as coping strategies for *overtourism*.	Focuses broadly on the benefits and implementation needs for *sustainable tourism* (environmental, social, economic).	Identify specific *ecotourism activities* with high market potential (wildlife watching, beach cleaning).

Source: made by authors according Nasrin, 2024; Hossain, 2023; Lupa & Hossain, 2019

Based on the provided research, the positive and negative aspects of ecotourism development in Cox's Bazar can be summarized as follows:

Positive Aspects. *Economic Benefits:* local entrepreneurs see a significant positive impact from overtourism; Sustainable tourism practices can create new business opportunities, develop business hub, and encourage the promotion of local products; Research by Lupa and Hossain (2019) indicates that Cox's Bazar is ripe for ecotourism development from a marketing perspective, and Bangladeshi tourists show a strong willingness to participate in ecotourism programs. *Environmental Potential:* sustainable practices can help preserve ecological balance, reduce carbon emissions, create a greener environment, and foster cleaner living spaces; Wildlife watching and beach cleaning programs are the most popular and supported ecotourism activities (Lupa, Hossain, 2019); The general trend shows that tourists are becoming increasingly environmentally conscious.

Negative Aspects. *Environmental Degradation:* Increased pressure from domestic tourists negatively affects the environmental condition; Overtourism causes social and cultural degradation. *Barriers to Sustainable Development:* Insufficient governmental initiative, local community issues and willingness, economic factors, local political influence, general lack of goodwill. *Challenges for Local Government:* Lack of awareness, insufficient infrastructure, political instability, lack of resources.

Cox's Bazar has significant potential for ecotourism development, particularly in economic and environmental areas. However, overtourism poses substantial environmental and social problems. To successfully develop sustainable ecotourism, it is essential to overcome existing barriers, such as insufficient government initiative, local community issues, and political instability. It is necessary to increase awareness, improve infrastructure, and ensure adequate resources. It is also important to consider tourist opinions and avoid unpopular measures, such as direct tourist taxation.

Conclusions and recommendations

1. Ecotourism, as responsible travel to natural areas, promotes environmental protection and the well-being of local communities, distinguishing itself from mass tourism by its focus on education, community participation, and impact reduction. Successful ecotourism hinges on four key components: environmental education for tourists, active community involvement, minimizing environmental impact, and ensuring economic benefits for local populations.
2. Cox's Bazar is renowned for its stunning natural resources, including the world's longest uninterrupted sandy beach and mangrove forests. Cox's Bazar is a major tourist destination in Bangladesh, and the number of tourists is constantly growing. The increasing number of tourists in Cox's Bazar has a negative impact on the environment and local communities. The development of ecotourism in Cox's Bazar is

crucial, as it can help ensure the long-term protection of the region's natural and cultural heritage, while providing economic benefits to local communities.

3. The general trend indicates that tourists are becoming increasingly environmentally conscious. Local residents and entrepreneurs also support ecotourism initiatives. Ecotourism can help preserve ecological balance, reduce carbon emissions, create a greener environment, and foster cleaner living spaces, create new business opportunities, and encourage the promotion of local products. Wildlife watching and beach cleaning are the most popular and supported ecotourism activities. However, ecotourism development is hindered by insufficient government initiative, lack of awareness, lack of resources, and political instability.

Recommendations for the Cox's Bazar Government:

- **Stronger Policies and Regulations**: Implement stricter environmental policies; Develop and enforce a comprehensive ecotourism development program.
- **Waste Management Initiatives**: Develop and implement effective recycling programs; Reduce plastic waste through targeted initiatives; Support and expand beach cleaning programs.
- **Community Engagement**: Actively involve local communities in ecotourism activities, including: maintaining cleanliness and sanitation, producing and selling local products, providing guiding services.
- **Sustainable Infrastructure**: Promote and incentivize the construction of eco-friendly hotels. Develop and implement sustainable transportation systems.
- **Tourist Education**: Promote responsible travel behavior through educational campaigns. Develop and implement an ecotourism marketing strategy that emphasizes responsible and sustainable practices.

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EDUACIONAL PROGRAM ANALISIS OF ŠIAULIAI "AUŠRA "MUSEUM

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Keywords: museum, educational programs, non-formal education, quality of educational programs, Šiauliai "Aušra" Museum.

Abstract
The article analyses the general qualitative factors of museum education, as they are in the educational programs of the Šiauliai „Aušra" Museum. The most important qualitative factors of the creation of education and museum activities were noticed: the presence of learning specialists, maintaining contact with the local community, schools, learning premises, employee competence and financial resources. A qualitative study was conducted using the expert interview method, interviewing two categories of respondents: museum education leaders and teachers of the Šiauliai city and region. The possible influence of the „Covid-19" pandemic through the prism of student behaviour is also discussed.
The results showed that the Šiauliai "Aušra" Museum partially meets the identified criteria, but there is also room for improvement, such as setting a standard for employees, better cooperation with schools, flexibility, adapting to teachers' wishes and possibly hiring a learning specialist. As guessed in the theoretical part, the impact of the "Covid -19" pandemic is already partially felt, but a new problem is emerging - smartphone addiction. At the end of the work, ways to improve the current situation are proposed.

Introduction

Museums are becoming an integral part of leisure these days. They not only organize exhibitions and education, but also invite to various events, conferences and other activities. The museum's ability to carry out its activities in a high-quality manner is its main strength.

Relevance of the topic – Recently, many state and other institutions have begun to pay attention to museums, especially their educational programs, successful cooperation with schools and educators. Therefore, it is quite important to know and determine what quality factors need to be taken into account when creating educational programs. This is necessary in order to further identify significant improvement opportunities that help the museum improve its activities and the community to receive full benefits from the existence of the museum.

Šiauliai "Aušra" Museum is one of the largest and most visited museums in Lithuania, offering various educational activities and attracting a large percentage of the total number of visitors. There have been no studies about it, therefore it is important to review and find out how qualitatively the museum conducts its educational programs.

Researchability of the topic - the quality of educational programs in Lithuania has been partially studied for several years: in 2015, it was noted that cultural institutions lack in-depth study and proper preparation in theatre and museum education, many museum education programs are suitable only for school-age audiences, and most of them are related to creative education (Klimavičiūtė-Minkštimienė and others, 2015). In 2017, the study revealed that the goals of many Lithuanian museums are oriented towards general museum activities, and the participants in the discussion miss the need for advanced training and school involvement (Radžinskij, 2017). The Kaunas city museum education, 2023, revealed how the activities are carried out and what its shortcomings are (Šinkūnas, 2023).

Research problem - What factors influence the consolidation of the quality of educational programs?

Research object: the qualitative aspects of the educational programs of the Šiauliai "Aušra" Museum.

Research goal: to conduct an empirical study after analysing the theoretical aspects of the educational programs of museums, assessing the quality factors of education.

Tasks:

1. To analyse the theoretical aspects of museums and educational programs.
2. To conduct a qualitative analysis of educational programs after preparing the methodology of the empirical part.
3. To present the possibilities for improving the educational programs organized at the Šiauliai "Aušra" Museum on the basis of the research.

Data and methods

For successful and relevant research information to gain these methods were used: scientific source analysis in comparison and qualitative research method - expert interview.

1. The scientific source analysis was made by comparing recent experiences, conducted studies and general sociological information between each other, seeking to see the situation in Lithuania and other countries.
2. The qualitive research method- expert interview was used to see the real situation of Šiauliai "Aušra" museum from the point of its educational program hosts and local teachers, to identify how much the museum is providing the best quality educations and what aspects need to be improved. For this research 2 different questionaries were made.

In the scientific data analysis, it was shown that museum quality cannot be described specifically, it depends on the person's emotional state, physical state and experiences during the visit. The qualification of museums can be also a lot. The benefit of having a museum is mostly social, psychological and political – cultural. It is also noticed that museum evolvement was slow and gradual – from private elite collections, it became one of the most important cultural institutions of the countries, preserving the memory pf the nation.

Learning in the museum is a continuous process. The main criteria for the museum educational program success was established: learning specialists; connection with schools and the local community; learning space; competent staff; financial resources. It is also important to notice possible Covid-19 pandemic impacts.

Results

After conducting the scientific source research, possible criteria of educational programme evaluation was made: Staff competency and Educational programmes with sub-criteria, provided in table 1.

Table 1

Criteria and sub-criteria of conducted research

Criteria	Sub- criteria
Staff (who host educational programs) competency	**Possession of a teaching degree:** only 2/6 museum experts own's this degree, others may have gained qualification through museum provided programmes. **Qualification improvement**: most staff go through museum provided courses/camps to improve their professional qualifications. **Performance standards**: not all staff has specifically arranged performance standards with the administration. Thos that do, require more "humane" touch in making them. **Role in the education**: many have noticed that they try to be guided through the process, but some time they are leaders, leaving not much free space. It all depends on the groups age-social etiquette situation.
Learning space:	Only one unit of museum doesn't have learning space.
Educational programmes:	**Creating**: not all staff know the process or has been involved in creating them. Those that do, create based on museum recourses. **Organization**: the teachers have found no problem with the way the educational programmes have been organised (time management, communication). **Benefits**: local teachers see the benefits, when the educational programme allows schoolers to participate interactivity: creating, touching, making an artwork. **Continuation**: museum-school continuation program is not arranged. Teachers do it by themselves, based on the theme of the education: reflections, discussions, artworks.
	Connection with schools and local community: While making the educations such connections were not made before. Only this year happened, when one specific school came to the museum with it's own made project. Anther ways to connect were made by making annual meetings with local school teachers, thus there's no specific number how many schools/teachers have been reached.
	Schoolers behaviour after COVID-19 pandemic: Some museum staff experts have noticed negative impact: schoolers became less focused, more impatient. But it seem that all this is going away. Teachers have noticed positive impact: schoolers want to go mor outside school, create, learn about Lithuanian history and past.
	Frequency of visits: most teachers are going to museum educations 2-3times per year. **Participation reason (of teachers/schools):** possible education connecting topics with school curricula, low prices. **Reason to not-participate**: financial resources being low, long travel distance, some educations being not relevant to school curriculum or older schooler age.

	Possible improvements (suggested by teachers): more education program topic alignment with school curriculum, being more flexible regarding the upcoming group, programs being more interactive.

In conclusion, Šiauliai ”Aušra” museum relatively meets the criteria of conducting qualitive educational programmes, but some improvement needs to be made, such as making individual performance standards for staff, being more flexible towards upcoming visitor group and arranging more cooperation with local teachers in the creation of the educational programmes.

Conclusions

Scientific literature has revealed that museums have changed their status from closed collections over a long period of time and have become a cultural and educational space accessible to everyone, preserving national identity and providing psychological, cultural and social benefits. Recently, Lithuania has been paying increasing attention to cooperation between schools and museums, creating joint projects between them, and strengthening the competencies of educators. Qualified specialists, a suitable environment, financial resources and connections with the community are necessary for the high-quality implementation of museum education. It is also important to assess the impact of the Covid-19 pandemic on students' educational activities. The theoretical part also highlights that non-formal education differs from formal education in that additional knowledge and competencies are acquired during it, which complement formal education. Museum educational programs are considered part of non-formal education, because they do not include assessments, certificates or awarded scientific degrees, they are more consistent with the theory of "learning by discovery". The assessment of the quality of museums is also diverse: it depends on the emotional, physical state of the visitor at that time or the impressions experienced during the education/excursion.

The study conducted in the empirical part shows that the SES partially meets the established quality factors of educational programs. The museum does not have a training specialist, but it constantly tries to encourage and involve educational leaders in competency development and pedagogical qualification improvement programs. The connection with schools is partially satisfactory, but according to the opinion of teachers-experts, it could be better, more frequent, especially when preparing educational programs. There is a visible deficiency in the evaluation of the work of educational leaders, performance standards are not intended for everyone, and the existing ones do not motivate. The impact of the pandemic, as assumed in the theoretical part, has almost disappeared: children are becoming more obedient, focused, but a new problem is highlighted - difficulties in concentrating attention, presumably due to the influence of smartphones. In the opinion of teachers, more frequent attendance and satisfaction with education would be ensured by updating existing educations, flexibility of staff and programs, cooperation, and an attempt to better meet the needs of each visiting group.

According to the research data, for higher-quality educations, it can be recommended that the Museum of Modern Art have an education specialist who could ease the burden of other employees and create more effective training programs. The financial resources used for this factor should not significantly affect the price of existing educations. Clear performance standards should be set for employees, which would be individually adapted to each employee. And most importantly, the museum must strengthen partnerships with surrounding schools.

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ANALYSIS OF THE COMPETITIVENESS OF CONFERENCE TOURISM IN THE VILNIUS REGION

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Keywords: Conference tourism, competitiveness, Vilnius region, tourism development.

Abstract
The study examines the issues of conference tourism competitiveness in the Vilnius region. The article analyzes the concept of conference tourism and its significance, determines the place of theoretical aspects of competitiveness and the reasons for competition - infrastructure, marketing, technical sustainability.
The empirical part presents a quantitative study - a survey, in order to determine how conference participants assess the competitiveness of Vilnius conference tourism. The results of the study confirm that in a competitive environment, places like Vilnius have great chances, but to achieve even greater potential, it is necessary to invest in technological infrastructure, public communication and international branding.

Introduction

Business and conference tourism is one of the fastest growing sectors in the global tourism industry, playing an important role in national economies. In recent years, destinations have increasingly competed for the organization of large-scale events, as they bring economic, social and brand benefits (Dwyer & Jago, 2019). Lithuania, and in particular the Vilnius region, is actively participating in this trend, aiming to position itself as a competitive location for conferences and business events.

As highlighted in the original study: “The Vilnius region, being the cultural, economic and political center of Lithuania, has great potential to become the main conference tourism destination in the Baltic States”. This underlines the strategic importance of the region and its determination to grow in this market segment.

Given this potential, it is necessary to conduct a detailed analysis of the factors influencing the competitiveness of conference tourism in Vilnius and to develop recommendations on how to increase the attractiveness of the region. The current study is aimed at investigating these factors both on a theoretical basis and by collecting empirical data.

Research problem - how various factors affect the competitiveness of conference tourism in the Vilnius region, and how they can be optimized to increase the attractiveness of the region in this area.

Hypothesis of the work - The development of infrastructure determines the competitiveness of conference tourism in the Vilnius region, the availability of services, and marketing strategies, and their improvement can strengthen the region's market position.

Research object - The conference tourism sector of the Vilnius region and its competitiveness factors.

Research goal: To analyze the factors determining the competitiveness of conference tourism in the Vilnius region, and to provide recommendations on how to increase the attractiveness and competitiveness of this sector.

Tasks:

1. To discuss the theoretical aspects of the competitiveness of conference tourism and their significance for the tourism sector.
2. Based on the data of the conducted research, to assess the competitiveness situation of conference tourism in the Vilnius region.
3. To prepare recommendations for increasing the attractiveness and competitiveness of conference tourism in the Vilnius region.

Data and methodology

In order to effectively analyze the competitiveness of conference tourism in the Vilnius region, a quantitative research method was chosen. Empirical data were collected through an online survey, which was conducted from March to April 2025. The survey was aimed at individuals who had already participated in conferences or business events in Vilnius, thus ensuring that the responses were relevant to the research objectives.

The survey included closed questions with answer options and open questions designed to capture a wide range of opinions and suggestions. A total of 100 respondents participated in the survey. The sample included both Lithuanian residents and foreign guests, allowing for the assessment of both local and international perspectives.

As emphasized in the initial research plan, "the survey was focused on assessing the participants' experiences and expectations related to conference infrastructure, sustainability, technology integration, accessibility and overall satisfaction".

In addition to demographic information, respondents were invited to assess the following aspects:

- Frequency of participation in conferences or business events.
- Perception of conference venue infrastructure in Vilnius.
- Key location factors when choosing a conference venue.
- Preferred sources of information about upcoming events.
- Comparison of Vilnius' attractiveness with other Baltic cities.
- Importance of sustainable development and technological solutions in event organization.
- Suggestions for improvement.

The collected data were analyzed using descriptive statistics to highlight trends, common responses, and recurring questions raised by respondents. In addition, open-ended responses were thematically coded to extract qualitative information.

Respondents' Profile and Experience in Conference Participation

- The majority of respondents are young people: 18–25 years old (49%) and 26–35 years old (24%), indicating that the younger audience is the most active group of conference tourism consumers.
- As many as 88% of respondents have attended conferences in Vilnius, and 54% participate in them more than twice a year – this allows us to conclude that the survey data reflects relevant and practical conference experience.
- This result suggests that conference tourism is a valuable source of professional development for both young and middle-aged professionals.

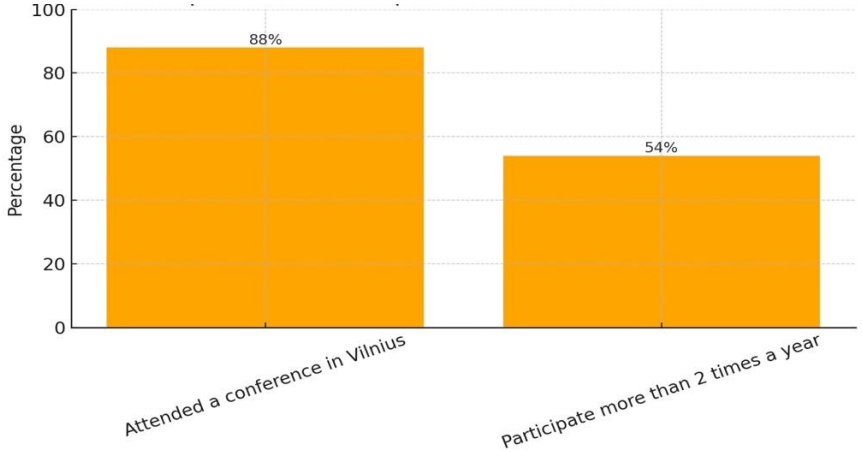


Fig. 1. Respondents Participation in Conferences in Vilnius

According to the methodological framework of the study, "quantitative analysis was chosen to ensure objectivity and identify measurable patterns that could provide practical advice on how to increase Vilnius' competitiveness in the conference tourism sector."

The survey results form the basis for the next section, "Results," where the data are interpreted and presented in the form of charts and graphs.

Results

The survey reveals valuable data on the current state of conference tourism and its future prospects in Vilnius. The responses received from the participants reflected both positive assessments and constructive criticism, thus highlighting specific aspects of strength and areas requiring improvement.

Frequency of participation

Respondents revealed a different frequency of participation in conferences or business events. Some participated regularly (monthly or several times a year), others less often. This shows that conference tourism in Vilnius attracts both regular and occasional visitors, which emphasizes the need to diversify formats and reach a wider audience.

Infrastructure assessment

When asked to assess the infrastructure of conference centers in Vilnius, most respondents rated it as average or good. However, several noted shortcomings in the areas of technological equipment, internet connection and accessibility. This is consistent with previous research that highlights that "infrastructure plays a crucial role in determining the competitiveness of a business tourism destination" (Dwyer & Kim, 2003).

Key factors influencing location choice

When choosing a conference location, participants identified the following key aspects:

- Convenient transportation and communication
- Quality of facilities
- Accommodation options
- Technological equipment
- Sustainability of the location

These factors are consistent with the broader literature highlighting the importance of integrated management in conference tourism destinations (Davidson & Cope, 2018).

Information sources

Respondents most often learned about events through social media, professional networks and organization websites. This highlights the growing importance of digital marketing and cooperation with opinion leaders in attracting participants.

Comparison of Vilnius city attractiveness

Compared to other Baltic cities, Vilnius was often considered less competitive, especially in terms of event volume, international recognition and marketing volume. However, respondents rated its safety, accessibility and growth potential highly.

Sustainable development and technology

Most respondents emphasized that environmental responsibility and technological innovation are important when evaluating conferences. Many noted that venues should implement more green practices, such as reducing waste and implementing energy-saving systems.

In summary, the results show that while Vilnius has a strong foundation for conference tourism, several key improvements are needed to strengthen its competitiveness and international appeal.

Conclusions

The analysis reveals that Vilnius has significant conference tourism potential, as evidenced by its modern spaces, growing popularity and attractive geographical location. However, several factors hinder its fully competitive image: insufficient choice of large venues, transport logistics, limited international marketing and lack of innovation in event formats.

In response to the listed problems, practical advice is offered, including the development of transport networks connecting key locations, investments in digital technologies and hybrid event opportunities, strengthening marketing strategies through international platforms and developing conference content with elements of entertainment, sustainability and accessibility.

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ASSESSMENT OF THE ATTRACTIVENESS OF TOURISM RESOURCES IN INBOUND TOURISM IN THE CITY OF NERINGA

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Keywords: tourism, tourism resources, inbound tourism, attractiveness.

Abstract
The article examines the assessment of the attractiveness of tourism resources in the context of inbound tourism in order to determine what factors determine the choice of tourists to visit the city of Neringa. The theoretical part of the thesis analyzes the concept of tourism and tourism resources, their types and factors determining their attractiveness. In the empirical part, a quantitative study is carried out – a questionnaire survey, the aim of which is to find out the assessments of tourists who have arrived about Neringa's tourism resources. The results of the study revealed the most important attractions for tourists and the main problems experienced. Based on the results of the study, recommendations were made for improving tourism infrastructure, increasing the quality of services and strengthening the attractiveness of tourism both in season and off-season.

Introduction

Relevance of the topic - Over the past decades, the tourism sector has developed and diversified rapidly, enabling it to adapt to ever-increasing quality standards and changing consumer expectations. The tourism industry remains one of the most dynamic and fastest-growing sectors of the global economy. Currently, tourism is seen not only as an economic activity, but also as a global social phenomenon that affects various areas of human life and becomes one of the most important factors in the global economy. (Baloch, Shah, Iqbal, Sheeraz, 2022). A positive image of the destination strengthens the competitiveness of the area, increases visitor satisfaction and loyalty. Therefore, the creation of an attractive and professionally formed tourism image becomes extremely important in order to attract international tourists and expand the international tourism market (Wang, Kim, Kim, Koh, 2024). J.F., Ding, Y.C. Tseng and T.Y. According to Wang (2021), the concept of attractiveness in the context of a tourism market or product refers to the ability to enhance consumer behavior and their motivation to consume. In other words, attractiveness becomes a unique incentive that stimulates consumers' desire to start, continue, or repeat consumption actions. As pointed out by K. Pompurova, I. Shimokkova and R. Riatli (2023), the attractiveness of the destination determines the desire of tourists to choose a destination and is treated as one of the most important factors that causes the desire to visit the tourist destination again. Therefore, when promoting inbound tourism, it becomes important to assess the attractiveness of a tourist destination in the light of tourism resources.

Tourism resources include both tangible and intangible factors that attract tourists (Yanagi, 2022), therefore, in order to meet the needs of a wide variety of tourists, tourist destinations must increase the attractiveness of tourism resources to tourists (Apriyanti, 2024). J.F., Ding, Y.C. Tseng and T.Y. Wang (2021) points out that the attractiveness of an area's tourism resources influences the needs of tourists, their choice of destination, their intentions to enter and revisit the area, the length of stay, and the amount of money spent on the tourism experience. Therefore, it becomes extremely important to identify the factors and characteristics that encourage tourists to choose one tourist area over another, or to choose a certain type of tourism activity, taking into account the attractiveness of tourism resources and their evaluation in the eyes of consumers.

The Curonian Spit is a 97 km stretch of land between the Baltic Sea and the Curonian Lagoon. It was formed just over 5,000 years ago by sea currents, sand and wind. Over the centuries, natural elements have determined the changing landscape, which has finally formed the current unique natural phenomenon - Neringa. Neringa is included in the UNESCO World Heritage List along with its unique natural and cultural heritage, making it one of the most visited places in terms of both Lithuanian and foreign tourists. In addition, Neringa is rich in tourism resources, so it becomes relevant to find out how incoming tourists appreciate their attractiveness.

Research of the study. Until now, tourism research has focused on analysing tourists' perceptions and attitudes towards the impact and development of tourism, as well as assessing the attractiveness of tourism in the formulation of travel routes or in the development of tourism products. (Ding, Tseng, Wang 2021), however, tourists' attitudes towards tourism resources themselves, with a separate assessment of natural and man-made attractions, infrastructure, services and conditions, and their attractiveness, which have received less attention from tourism researchers. Despite the fact that studies on inbound tourism have revealed the benefits of tourism resources in attracting tourists, there are few studies that would allow us to assess the attractiveness of segregated tourism resources from the point of view of tourists (Kim, Duffy, Moore, 2020). Thus, the relevance of the work is also determined by the fact that the analysis of individual tourism resources,

their types and attractiveness in inbound tourism in the scientific literature is fragmentary and incompletely analyzed. Therefore, systematic disclosure of this topic, identification of problems and search for solutions to them is relevant and practically useful, especially in the Lithuanian context.

The attractiveness of tourism resources in inbound tourism is more studied by foreign scientists: IP. Anoma, I.G., Mahaganggab, I.B. Suryawanc, (2020), S. Bardash, T. Osadcha, (2022), J.V., Chen, S., Htaik, T.M.B., Hiele, C. Chen, (2017), A., Ciacci, E., Ivaldi, S. Mangano, G.M. Ugolini, (2021), Z., Yang, S., Zhang, J., Liu, H. Sun, (2022).

Research problem. This work aims to see whether the attractiveness of Neringa tourism depends on the attractiveness of tourism resources, and whether it attracts incoming tourists and encourages them to visit this area again. In addition, the study aims to identify the most attractive tourist resources and whose attractiveness could be increased. Therefore, the study aims to find out how much tourism resources can promote tourism in Neringa and which ones need to be used more and which are lacking?

The working hypothesis is that if tourism resources in Neringa were unattractive, the number of tourists would decrease there.

The object of the work: assessment of the attractiveness of inbound tourism resources in the city of Neringa.

The aim of the thesis: to carry out an analysis of the assessment of the attractiveness of inbound tourism resources in the city of Neringa.

Tasks of the work:

1. To carry out a theoretical analysis of tourism resources;
2. To conduct a study on the assessment of the attractiveness of inbound tourism resources in Neringa;
3. Based on the theoretical analysis and the conducted research, to provide recommendations and proposals for improving the attractiveness of tourism resources in the city of Neringa.

Data and methods

In order to reveal the essence of the topic as accurately as possible, the main theoretical methods of research were used in the work: comparative - sociological, systematic - analysis, document analysis, generalization method. The research uses a quantitative research method – a questionnaire survey.

1. Comparative – a sociological research method that compares tourism information with legislation of different periods that regulates tourism trends.

2. Systemic – analysis method, tourism theory is divided into separate elements.

3. Method of document analysis, which is implemented by analysing the works of Lithuanian and foreign scientists.

4. Generalization method, using the above-mentioned scientific research methods, formulated conclusions and proposals.

5. Quantitative research is applied to evaluate tourism resources in Neringa, from the point of view of tourists, in order to identify the possibilities of adequate provision of tourism services and to identify the problems that arise

Results

After evaluating the criteria that can be used to assess the natural, cultural and infrastructure and service resources of inbound tourism in Neringa, the main factors increasing the attractiveness of tourism resources have been identified (Table 1).

Table 1

Criteria for the *attractiveness of inbound tourism in Neringa have been evaluated*

Criterion	Sub-criterion
Criteria for the assessment of natural resources	The most visited natural resources: Parmesan dune and cognitive trail Beaches and dunes
	Natural resources that promote the attractiveness of Neringa: Urbas Hill
	The most visited beaches : Nida common beaches (southern, central and northern)

	Nida dog beach (8 percent).
	Factors that reduce the attractiveness of beaches in Neringa: Storage items Equipped toilets
Criteria for the evaluation of cultural tourism resources	The most visited cultural resources:Nida lighthouseThe Sally Clock – Calendar"Hill of Witches" exposition of wooden sculptures Sculpture in memory of Vytautas Kernagis
	Evaluation of cultural events taking place in Neringa – there is a lack of musical events.
Criteria for the assessment of infrastructure and service resources	The most attractive factors of Neringa's infrastructure and services sector: Order and cleanliness Bicycle Walking Paths Catering services provided
	The most unattractive factors in the infrastructure and services sector are: High prices Entry Fee Parking problems
	There is enough information about Neringa, it can be found on the Internet.

In conclusion, the attractiveness of Neringa tourism is determined by both natural and cultural resources and infrastructure:

- Natural resources are among the most important – especially places of interest such as Parmidis Dune, beaches, Urbo Hill. The attractiveness is increased by the amenities: toilets, storage for things.
- Cultural objects such as the Nida Lighthouse, the Sundial-Calendar and the Hill of Witches are well regarded, but there is a lack of musical events that could enhance cultural tourism.
- Infrastructure and services are evaluated in two ways: cleanliness, paths and catering services are attractive, but negative factors are high prices, entrance fees and parking problems.
- Information about Neringa is accessible and sufficient, easily found on the Internet.

In general, Neringa has strong natural and cultural resources, but there are areas that need improvement, especially in terms of pricing, event organization and parking.

Conclusions

A theoretical analysis of tourism resources reveals that tourism resources describe natural and man-made attractions, infrastructure, services, and conditions that attract tourists to the area and can help create a tourist destination. The main resources of tourism are natural tourism resources, cultural tourism resources and man-made resources. Natural tourism resources are natural elements that attract tourists to the destination. Cultural tourism resources include, but are not limited to, architectural and archaeological treasures, culinary activities, festivals or events, history or heritage, sites, monuments and landmarks, museums and exhibitions, national parks and wildlife reserves and religious sites. Man-made resources refer to the infrastructure and attractions that people create to enhance the tourism experience at the destination. Inbound tourism is determined by geographical location, tourism resources, tourism services, accommodation, environmental protection, economic factors, seasonality, etc. All these factors make tourists want to visit a tourist destination, so the attractiveness of inbound tourism resources largely depends on how the tourist destination attracts tourists to come to visit. In order to increase inbound tourism, it is essential to successfully identify the attractiveness factors of tourism resources. The attractiveness of tourism resources is determined by natural, cultural, economic, technological and political and security factors.

A study on the assessment of the attractiveness of inbound tourism resources in Neringa shows that participants in visiting Neringa are influenced by the geographical location of the area, as the country is surrounded by the sea and beaches and seasonality. When assessing the attractiveness of Neringa's tourism resources, it was noticed that the natural resources are attractive to tourists, and the attractiveness of Neringa is mainly encouraged by Urbas Hill. Also, during the research, it became clear that Neringa's cultural tourism resources are also attractive, the most attractive of which are the Nida lighthouse and the Hill of Witches. The

provided accommodation and catering services and infrastructure also increase the attractiveness of Neringa for tourists due to the walking paths, the possibility of cycling, and order and cleanliness. However, the attractiveness of Neringa's tourism resources is reduced by high prices, the entrance fee, parking problems, toilet and storage problems on the beaches, and the lack of shops and the lack of musical events.

Based on the theoretical analysis and the conducted research, recommendations and proposals were made to improve the attractiveness of tourism resources in the city of Neringa, which includes infrastructure development, improvement of access to services, development of cultural and information solutions. Special attention is paid to increasing the attractiveness of beaches – it is proposed to install additional storage facilities and public toilets. The possibility of reducing the entrance fee and more parking spaces are also emphasized. It also emphasizes the need to organize cultural events of various formats, to increase the availability of mobility and digital services, so that the city of Neringa remains attractive not only during the season, but throughout the year.

The study reveals that most of the tourism resources in Neringa are attractive and are characterized by abundance. Therefore, the hypothesis is confirmed that if the tourism resources in Neringa were unattractive, the number of tourists would decrease there.

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MACHINE CREATIVITY AND THE CONCEPT OF AUTHORSHIP: CHALLENGE TO TRADITIONAL LAW

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Abstract
The author explores the complexities of regulating artificial intelligence (AI) in an increasingly multipolar world. Tools such as ChatGPT, DALL-E, etc. challenge established concepts of authorship and intellectual property law, thereby creating a global risk of legal uncertainty and lack of uniformity in the regulation of intellectual property created using AI. This risk entails the problems of disputes over the ownership of AI-created works, the use of copyrighted materials in AI training datasets, etc. To avoid this risk, the author proposes a multifaceted approach. Firstly, the creation of special 'sui generis' rights for AI-created works, which would distribute ownership of these works based on the contributions of AI users, AI programmers and AI systems themselves. Second, it is proposed to create a model of joint authorship used to reflect the joint efforts of humans and AI in co-creation scenarios. Thirdly, it is proposed to declare some AI-created works as part of the public domain, thus avoiding disputes over the ownership of these works, but this has the potential to stifle innovation and reduce investment flow. Finally, it is suggested that a uniform standard for the regulation of AI-assisted works be created at the international level to close jurisdictional gaps.

Introduction

Relevance of the Topic: In 2022, an artwork called 'Spatial Theatre', created by Artificial Intelligence (AI) won the digital art competition [Vincent, 2022]. According to the judges, this artwork was captivating with its technical sophistication and surreal images. At the same time, this competition raised the question in the artist community: who is the true author of this creation? Is it the programmer who developed the AI? The user who provided the data for the AI? Or is it the AI itself as an autonomous entity? This question touches on the fundamentals of intellectual property law, namely the concept of authorship, which is historically based on human creativity.

Generative AI tools such as ChatGPT, MidJourney, DALL-E etc. have disrupted traditional notions and concepts of authorship as they create outputs that are often more complex and original than human creativity. Compared to earlier tools that required human control, these tools can operate autonomously, using vast databases to create textual, visual, and musical works with minimal human involvement.

This study raises the relevant question of the adequacy of the existing copyright law, which was originally designed to protect the results of human intellectual work, in the face of the results created by AI. Technologies that can create complex and original content either without or with minimal human involvement challenge the established and traditional concept of authorship. It creates legal uncertainty in terms of defining ownership, liability, licensing, etc., which hinders the effective use of AI in creative industries.

The object of this study is the concept of authorship, which is in the process of evolution, in the context of works created by AI, and the interaction of this concept with the existing intellectual property system.

The aim of the study is to analyse the limitations of traditional copyright law in regulating AI-generated content: to examine the implications of AI-generated works in the context of their impact on property rights and licensing models; to identify the main legal as well as ethical gaps related to the definition of authorship in AI cases; to propose potential legal models that can reconcile the nature of AI creations with the principles of intellectual property law; and to assess the feasibility of the concept of authorship in the context of AI-generated works.

The study is based on a combination of doctrinal method with comparative legal analysis and case studies. The study presents legislative acts, international treaties, judicial practice of individual countries (UK, USA, EU, China, etc.).

The Main Arguments on the Problem. Traditional concepts of authorship are insufficient to address the issues arising from the creation of AI works. The fundamental rule of copyright law, which links authorship to human creativity and intention or action, cannot fully account for the unique characteristics possessed by generative AI. As AI systems operate based on autonomous processes, they challenge previously established notions of originality and labor, ultimately requiring a reassessment of the current legal framework. This articles proposes a hybrid approach to rethinking the concept of authorship that emphasizes 'collaboration' between stakeholders and flexibility in legal interpretation.

First, a 'tiered model of authorship' that recognizes the contributions of the user of the AI system, the programmer who created the AI system, and the AI system itself should be considered and adopted for discussion. In this model of authorship, the user has primary rights if their contribution significantly influences the creative process (e.g., writing a unique prompt to generate a picture, text, music, etc.), while the programmer retains secondary rights.

Second, this article proposes the development of 'sui generis rights' for AI-generated works. These unique legal protections will distinguish AI-created results from traditional copyrighted works, thus avoiding the legal mishaps that arise from applying outdated laws to new technologies. Sui generis rights can provide clear rules for ownership of AI works, normalize licensing agreements, and reduce disputes between stakeholders.

Third, harmonized international standards of AI-regulation should be created to address jurisdictional inconsistencies. An example in terms of the safe and ethical use of AI is the EU AI Act, which aims to regulate the development, commercialization, and use of AI technologies in the EU. Given the global nature of the use of AI technologies, having uniform and guiding principles is important for clarity in copyright and intellectual property law. Such standards should be oriented towards preserving the principles of fairness and creativity together with technological progress.

Theoretical framework and literature review

The concept of authorship has undergone a significant number of changes over time under the influence of various factors (cultural, legal, philosophical changes, etc.). Initially, authorship was considered a functional act directly related to the creation of physical objects artifacts, or texts. It was only during the Renaissance that such a concept as 'author-genius' appeared, which emphasized the author's individualism, creativity, and originality, and philosophers such as Immanuel Kant and Johann Gottfried von Herder contributed to the emergence of this concept. In particular, Kant in his Critique of the Power of Judgement detailed the genius as a creator who has an innate capacity for originality and creativity, and Kant defined genius as 'the talent (or natural gift) which gives the rule to Art" [Kant, 1790].

This concept believes that intellectual works are unique expressions of the human mind and deserve to be recognized and protected, and this philosophical framework has formed the basis of copyright laws. In particular, the Statute of Anne of 1710, which is considered the first modern copyright law, sought to strike a balance between the rights of authors and public access to knowledge. Authors were granted exclusive rights to their works for a limited period and established a framework that prevented monopolies on creativity while rewarding it.

The Berne Convention of 1886 brought these principles to the international level and emphasized intellectual labor and originality, making them the cornerstones of the concept of copyright. Within the above framework, authorship became tantamount to human creativity and began to reflect the values of the pre-digital era, when all works were believed to be created by humans and through their intelligence.

However, the emergence of generative AI has challenged the concept of copyright and rendered it obsolete. Such AI systems as DALL-E, MidJourney, ChatGPT, etc., work based on processing a huge amount of data and using probabilistic models to create unique content. The results of the work of these AI systems often demonstrate complexity and originality that can be compared to human work, but they lack the direct intellectual effort that is usually associated with authorship. Such a gap forces a reconsideration of the philosophical question of whether originality or uniqueness alone is sufficient for copyright, or whether human design, intent, and labor are important.

Some jurisdictions have taken up the search for an answer to this question. For example, the UK Copyright, Designs, and Patents Act 1988 recognizes computer-generated works and the author is recognized as the person who has made the 'necessary preparations' to create them [UK Copyright Act, 1988]. This is a progressive provision, but it does not take into account the nuances of generative AI, where the relationship between user, programmer, and AI is more complex. The EU is also discussing the inclusion of AI work in intellectual property regulations such as the Digital Services Act and Digital Copyright Directive, but at the moment there is no explicit recognition of authorship for AI.

However, more interesting in this case is the position of the Chinese legislator: in August 2023, China's 'Interim Rules for AI-enabled Services' came into force, establishing obligations for AI service providers. Under these rules, providers must ensure the security of services, provide users with clear license agreements, maintain data privacy, and remove infringing content [Cyberspace Administration of China, 2023]. Plus, in November 2023, the Beijing Internet Court handed down a landmark judgment, recognizing that images created by AI can be protected by copyright. The court ruled that if a work created by an AI demonstrates originality and creative input, it is protectable under the Copyright Law [Xizang Network Security and Informationization Office, 2023].

I believe that looking at the history of the development of authorship can provide invaluable insights to address these issues. Understanding the development of the concept of copyright from a historical perspective will enable policymakers and lawyers to develop legal frameworks that are tailored to the realities of AI

creativity and reflect the legacy of copyright. It is important to rethink the historical emphasis of authorship on originality and intellectual labor to consider the collaborative and autonomous nature of contemporary creativity.

The emergence of generative AI has posed challenges that limit the traditional understanding of authorship. The main challenge is to answer the fundamental question: how should authorship be established when most of the creative work is done by AI? In this case, the following models of authorship determination need to be distinguished: a user-centered model, programmer-centred model, AI-centred model.

The user-centered model considers the person who provides input data (prompt) to the AI system as the author. In this case, the user directs the creative process and selects the cues provided by the AI system, parameters, and other inputs that shape the final output. For example, a designer who uses MidJourney or Leonardo AI to create an advertising banner can claim that his creative direction and control of the AI system allow him to be the author of the resulting visual effects. Such a model is consistent with the principle of intellectual labor, as the user exerts effort and uses his creativity in controlling the AI system. However, this model raises doubts as to whether such input is consistent with the principle of originality of the created work, as the user often plays a minimal role by simply inputting cues into an already existing system or requesting the generation of input data by the AI system itself to then input this input data into the AI system and further creative work. This judgment calls into question the user-centric model in cases where the AI does most of the creative work.

The programmer-centered model shifts the focus of authorship to the developers of AI systems. Programmers are assumed to contribute to creativity because they develop tools that generate the results of creativity. This view emphasizes the importance of technical and intellectual labor in the process of creating an object of creativity, which is linked to the creation of generative AI that works as a form of meta-authorship. However, this approach has practical and ethical problems: most AI systems rely on training datasets that include copyrighted material. This calls into question the originality of the results created by the AI, as the output of the AI is a compilation of copyrighted materials. In addition, the role of the user of the AI system, who manages and improves the creative process, cannot be denied.

The AI-centred model is an extremely radical departure from the traditional norms of authorship, as it proposes to recognize the AI system itself as the author. This model challenges the foundations of copyright law by arguing that originality and creativity are not inherent human traits - if an AI can create a work that fulfills the criteria of originality, then it is entitled to authorship. Although innovative, this model has its flaws: for example, AI lacks consciousness, intention, and moral responsibility, the very qualities that underpin the concept of authorship. Granting rights to AI could blur the distinction between creators and tools, raising ethical concerns about turning creativity into a mere commodity that lacks uniqueness and depth.

The debate about models for determining authorship in the AI era is reinforced by the work of various researchers and international organizations. For example, Ryan Abbott in his book ‘The Intelligent Robot’ advocates the recognition of AI as an author, emphasizing the economic and social benefits of such an approach. According to the author, this would ensure that the benefits of AI are equitably distributed [Abbott, 2020]. Pamela Samuelson, a law professor at the University of California, opposes such radical changes and believes that copyright law should remain ‘human-centered to protect unique human creativity’ [Samuelson, n.d.]. The World Intellectual Property Organisation is also actively researching this issue. In its reports on intellectual property and AI, it emphasizes the need for flexible legal frameworks that can accommodate jurisdictional differences and technological change. The European Commission's White Paper on Artificial Intelligence also suggests a balanced approach based on ecosystems of excellence (seeking to enable AI adoption) and trust (developing a regulatory framework that ensures security and respect for fundamental rights in the use of AI) [European Commission, 2020].

The legal practice further illustrates the difficulties in determining authorship: in the famous Monkey Selfies case (Slater v. PETA), the court ruled that copyright requires direct human involvement, thus ruling out the possibility of granting rights to animals or tools [Naruto v. Slater, 2018].

In August 2023, federal judge Beryl A. Howell in Washington, D.C., ruled in Thaler v. Perlmutter,’ in which she ruled that works that are created solely by artificial intelligence without human input are not eligible for copyright protection [Thaler v. Perlmutter, 2023]. Judge Howell stressed that copyright law in the US requires human authorship and rejected arguments that AI could be recognized as the author of a work, which confirms the human-centric nature of current US law.

Thus, having analyzed the proposed models for determining authorship over AI-created objects and the existing practice, it can be concluded that none of the models is universal. Each model offers important elements for understanding authorship in the context of AI development, but the final solution requires

consideration of technical and ethical aspects. Legal frameworks must strike a balance between protecting the rights of creators, encouraging innovation, and minimizing the risks associated with the use of AI in the creative process.

Case studies and discussion

Case study 1: the controversy surrounding DABUS and its implications

Steven Thaler's Device for the Autonomous Bootstrapping of Unified Sentience (DABUS) has become a litmus test for the AI authorship hypothesis under existing law. DABUS independently created two works: a geometric food container and a flashing beacon. The said works have been filed for copyright protection in the US, UK, and Australia. In all cases, the applications were rejected because the works lacked a human author.

Stephen Thaler argued that DABUS's autonomous creative processes met the requirements of originality under copyright law, hence DABUS itself should be recognized as the author. He also argued that attributing authorship to AI would encourage innovation by legitimizing AI-created works within the intellectual property framework.

The US Copyright Office emphasized that the Copyright Act of 1976, requires a 'human mind' to be behind the creation of a work. The UK Intellectual Property Office took exactly the same approach, calling the absence of a human author a disqualifying factor, and the Australian courts supported the position of the US and UK regulators by emphasizing the anthropocentric nature of intellectual property laws [Supreme Court of the UK, 2021; Full Federal Court of Australia, 2022]**.**

DABUS case emphasizes the inflexibility of the current copyright systems about technological advances and their gradual obsolescence. The courts' position of relying on human authorship certainly reflects a commitment to traditional principles but fails to recognize the potential of AI and its impact on creative industries. DABUS has undoubtedly created works of originality and complexity, but these qualities were not taken into account by the courts and were not considered sufficient for copyright protection for one reason - they did not have a human author.

This case highlights the need for reforms in copyright law. AI shouldn't be given full copyright over the creative objects it creates, but it is also wrong to exclude the works that AI creates from copyright protection, as this risks negatively impacting innovation and further development of technology. Such a solution, as sui generis rights, can provide a way to recognize the value of works that AI creates without undermining the principles of human creativity.

The debate around DABUS raises key questions about the nature of creativity and the purpose of intellectual property law: should originality be a sufficient condition for protection, or does authorship require direct human involvement? The answer to the above question can be answered after rethinking the boundaries of copyright to take into account both human and non-human contributions. Such an integrated approach will ensure the relevance of the law in an era of rapid technological change.

Case study 2: Generative AI in commercial applications

Generative AI tools such as DALL-E, MidJourney, ChatGPT, etc. have become indispensable in the creative industries because they provide incredible efficiency and versatility. Many people use these tools to create visual effects, music, text, and banners for marketing campaigns, entertainment, and, in general, artistic expression. However, their commercial use has sparked serious disputes over authorship, ownership, and liability.

Ownership disputes most often arise from unclear or inconsistent terms of service provided by AI services. For example, a designer who used MidJourney on a free basis to create an advertising banner faced conflicts when the platform's terms of use claimed ownership of all results created. As of today, MidJourney's terms of use, and rights to the images created depend on the type of subscription. If the user has a free subscription, they can modify and distribute the generated images with the source, type of license, and a link to it, but no commercial use is allowed. If the user has a paid subscription, the user gets wider rights, including commercial use of the generated images [MidJourney, n.d.].

Some services establish broad control over the generated content, giving users limited rights for personal or commercial use when using the free version of the AI system (e.g. MidJourney or Suno AI described above). Other services specified in the usage policy that the user is the owner of the AI-generated content, e.g. Copilot, DALL-E, etc. [OpenAI, n.d.; GitHub, n.d.]. However, the platforms' terms of use change regularly, and these kinds of dynamics prioritize the platform's intellectual property interests but leave users in an unstable legal position, especially when the results are monetized.

Moreover, AI systems often incorporate elements from training datasets, raising concerns about copyright infringement. For example, if a work created by an AI is similar to an existing copyrighted work, the question arises: who is liable in this case - the user, the platform, or the AI itself?

This kind of dispute has already arisen, and there are several examples:

- GitHub Copilot and software code copyright: GitHub Copilot, developed with OpenAI, uses AI to autocomplete code and learns from public GitHub repositories. In November 2022, a class action lawsuit was filed against Microsoft, GitHub, and OpenAI alleging that Copilot infringes copyright by reproducing code without attribution or license. However, in July 2024, a judge dismissed most of the plaintiffs' claims, leaving the door open for an amended complaint [Doe v. GitHub, Inc., 2023].

- Stability AI, Midjourney, and DeviantArt lawsuit: In January 2023, artists Sarah Andersen, Kelly McKernan, and Carla Ortiz filed a class action lawsuit against Stability AI, Midjourney, and DeviantArt. They claimed that these companies used their work for AI training without consent, infringing on the copyrights of millions of artists. In August 2024, a judge allowed some of the plaintiffs' claims to proceed, including allegations of copyright and trademark infringement [Sara Andersen v. Stability AI LTD, 2024].

- Getty Images v. Stability AI: In February 2023, Getty Images filed a lawsuit against Stability AI, alleging that the company used its images to train its model without a license, infringing copyright and trademarks. In December 2023, a judge denied Stability AI's motion to dismiss, allowing the lawsuit to proceed [High Court of Justice, 2023].

- Lawsuit against OpenAI by authors: In July 2023, authors Paul Tremblay and Mona Awad filed a lawsuit against OpenAI, alleging that ChatGPT used their books without permission, which is copyright infringement. As of November 2024, the case is pending and a final judgment has yet to be issued.

Litigation surrounding the use of AI systems such as GitHub Copilot, Stability AI, MidJourney and OpenAI reveals key issues around the allocation of intellectual property rights, the use of training data, and the transparency of license agreements.

The GitHub Copilot court case demonstrates that the license agreements of services such as GitHub and others already provide a legal framework for users to use content, including for commercial purposes. Nevertheless, the plaintiffs' claims emphasize the need to clarify the terms and conditions that relate to the processing and use of code from public repositories for training GitHub models.

The court cases against Stability AI and OpenAI indicate that the key legal uncertainty relates not to the final product, but to the process of its creation, namely the use of training datasets that contain copyrighted material. Thus, users' rights to AI-generated content are often protected by the terms of use of most platforms (e.g., MidJourney and DALL-E), but it is necessary to focus on the regulation of the source data, not only the generation results.

As court practice shows, the lack of a clear mechanism for data attribution in the process of model training leads to serious legal consequences - in particular, the lawsuit against Stability AI emphasizes the need to implement mechanisms for tracking data sources, as well as agreeing on the rights to use copyrighted materials. This requirement reflects the basic principles of the fair use concept that must be considered when building and training AI systems. The court cases described earlier confirm that the lack of transparency regarding the composition of training data is a systemic problem, so establishing clear standards that govern the use of copyrighted material in AI training can mitigate legal risks. For example, creating a mandatory registry of data sources or implementing licensing at the level of training sets could be one solution.

Case study 3: Co-creation with AI as a partner

Increasingly, AI is becoming a partner in co-creative processes in various industries. For example, in music, tools such as Amper Music, Suno AI, and AIVA help composers, musicians, and general users generate melodies and musical pieces according to the user's wishes. In the film industry, AI systems are used to create visual effects, edit footage, develop storylines, and even write scripts and organize the filming process (e.g. Filmustage). These examples prove how human creators and AI systems can work together to create innovative products.

A prime example is related to the visual arts, where artists use AI systems such as DALL-E or MidJourney to create or post-process paintings. Such collaboration blurs the boundaries between human and AI contributions, raising new questions about authorship and ownership.

Therefore, in the context of human-AI collaboration, traditional notions of authorship that attribute results to humans are often outdated, as the sole authorship model cannot capture the distributed nature of creativity, as there are multiple participants in the creative process: the user, the programmer who created the AI, and the AI system itself. Recognizing joint authorship is not a bad solution, but it creates difficulties with the

distribution of rights and their boundaries, as well as attribution. For example, this model might include various mechanisms for sharing royalties and resolving copyright disputes.

Co-creation also raises a complex ethical question about attribution: should an AI system be recognized as a co-author, or should authorship belong only to the people who have interacted with the AI? AI should not be recognized as an author as it lacks intention and consciousness, but it is important to recognize the role of AI as a tool in the creative process, which will allow for transparency and respect for its contributions.

The research and jurisprudence presented in this section demonstrate the various challenges and opportunities associated with AI-created works. The ongoing controversy surrounding DABUS highlights the limitations of current copyright laws in recognizing autonomous creativity, while the commercial use of various AI tools highlights the importance of introducing clearer rules on ownership and protection against copyright infringement and distinguishing between copyright protection for human-created and AI-created works. Co-creation illustrates the unsustainability of the sole authorship model in reflecting contemporary AI-enabled creative processes.

The rapid integration of AI into the creative industries has revealed numerous contradictions in how copyright law is applied: traditional intellectual property laws, which were based on the principles of human creativity and Kant's 'author-genius', struggle to cope with the dynamics brought by AI-created works. These challenges manifest themselves in the following ways:

- incompatibility with traditional definitions of authorship. Classic copyright law is based on the principle that authorship emerges from the originality of the work and the intellectual effort of the individual. For example, the U.S. Copyright Act emphasizes that copyrighted works must reflect a modicum of creativity generated by the human mind'. However, the DABUS case has shown that AI systems can generate results independent of direct human intervention, calling into question this anthropocentric assumption. Traditional frameworks leave a legal vacuum for the works that AI has created. This exclusion leads to unpleasant consequences for innovators and stakeholders, as they lose incentives to develop and fully utilize generative AI technologies. Why should AI-generated works remain outside the scope of copyright if originality, rather than human endeavor, is the cornerstone of creativity?

- ethical and philosophical dilemmas. The rise of AI-generated creative objects raises questions about the nature of intent, originality, and authorship. Should originality be a sufficient basis for authorship, or does authorship require human consciousness and intention? Critics of AI authorship point out that recognizing non-human beings or machines as authors could undermine the cultural and moral value of human creativity, as such creativity would be reduced to a mechanical process: input data into an AI system - get the result of creativity. Proponents of recognizing AI as an author, in contrast, argue that such recognition helps stimulate innovation and reflects the realities of 21st-century creativity. I, on the other hand, believe that the answer lies somewhere in the middle and is to accept the arguments of both sides, which recognize the contributions of both humans and AI systems. Although AI systems are devoid of intention and consciousness, their outcomes are more often than not the result of collaborative processes involving humans (both user and programmer), which deserve some recognition.

- practical challenges for stakeholders. The lack of legal clarity creates practical challenges for users, programmers, and industries in general. For example, users of AI tools face conflicting claims of ownership, as some platforms claim rights to the results created using their systems (for example, when using the free version) and some platforms give the user full carte blanche to use the results of AI systems, including for commercial purposes. Developers face copyright issues for works that are created using AI and potential risks arising from the use of copyrighted datasets and materials. These gaps may deter investment in AI-related innovation because stakeholders cannot foresee the consequences of developing intellectual property disputes, if any. A legal framework that provides clear and predictable rules while being able to adapt to technological advances, is needed to address these challenges.

To possibly address the challenges posed by AI-created works, this paper proposes a multifaceted approach that strikes a balance between the current concept of copyright and innovation: creation of sui generis rights for AI-created works, co-authorship models, assigning public domain status for AI-created works, harmonization of international standards of AI-regulation and strengthening of licensing agreements.

Sui generis rights, or uniquely tailored legal protections, offer a good solution for AI-created works. Unlike the traditional concept of copyright, sui generis rights can accommodate both the collaborative and autonomous nature of AI creativity. These rights can allocate ownership rights based on the contributions made by users, programmers, and the AI itself to the creative object. For example, users may receive primary rights if their contributions significantly influence the process of creating the object of creativity, while developers

retain secondary rights for their role in designing the AI system. This approach maintains clarity and fairness and does not violate the existing copyright system.

Co-creation involving AI systems challenges the viability of sole authorship models. Joint authorship has the potential to address this issue by recognizing the interdependent contributions of the human and the AI system. In such a model, rights to the object of creativity can be distributed according to the degree of contribution of each participant. Joint authorship offers a practical solution for cases where the user and the programmer play an active role in shaping the output of the AI. For example, a user directing the AI to create a picture or piece of music can share authorship with the programmer who developed the instrument, reflecting the collaborative nature of the creative process.

Assigning public domain status as an alternative approach means that works that have been created by AI should be declared part of the public domain, with the guarantee that such creations remain accessible to all. Of course, this model avoids ownership disputes, but it discourages investment in generative AI technologies by removing any economic incentive to do so. Attributing AI-generated works to the public domain is possible, but it should be limited to results that are created completely autonomously by AI systems and without significant human involvement. Such a distinction would preserve the incentives for collaborative AI applications while at the same time ensuring that works created solely by AI benefit the general public.

As AI technologies are global in nature, harmonized international standards are necessary to address jurisdictional gaps and inconsistencies. Organizations such as the World Intellectual Property Organisation and the European Union could play a key role in developing guidelines for balancing innovation with intellectual property protection. A fundamental priority of such standards should be adaptability, allowing for changes as AI capabilities evolve. In this way, policymakers and lawyers can create a unified framework that removes ambiguity and promotes international cooperation and fair treatment of AI-created works around the world.

For generative platforms, clear and balanced license agreements are critical to resolving copyright disputes and the use of AI-generated content. Platforms should ensure that terms of service are transparent and clearly state the rights retained by users and the platform itself. Defining royalty or attribution mechanisms will help reduce tensions on this issue and encourage wider adoption of AI tools.

The integration of AI into the creative industries has far-reaching implications for how society values and regulates creativity by challenging established notions of authorship and originality, AI is forcing a rethinking of copyright and intellectual property systems. The discussion of this topic goes well beyond legal doctrine and affects ethical considerations of the role of AI and machines in human endeavor. Law should not only take into account technological advances but also protect the moral and economic value of human creativity. This focus ensures that the creativity generated by AI will enrich society without undermining the rights and recognition of human creators.

Conclusion

The integration of AI into the creative industries has challenged the foundations of copyright and intellectual property law, requiring a reassessment of how current legislation accommodates AI contributions. This paper has addressed these challenges through retrospective and historical analysis, discussion of theoretical frameworks and practical examples, and identifying key contradictions in existing legal systems.

The traditional concept of authorship, linking creativity and human intentions, no longer fits the current realities of works. Autonomous systems such as DABUS and tools such as DALL-E, MidJourney, ChatGPT, etc. demonstrate that complexity and originality in the creation of works are not the exclusive right of the individual. However, the refusal to copyright AI-created works on the basis of lack of human will and consciousness demonstrates the inflexibility of existing law. Although these decisions are in line with traditional principles of law, they do not take into account the collaborative and distributed nature of modern creativity.

Proprietary disputes over the use of commercial AI systems further emphasize the limitations and rigidities of existing legislation. Vague language in license agreements and the dependence of AI systems on extensive training datasets, which are often based on copyrighted material, have created legal uncertainty for users, programmers, and platforms. In the absence of clear guidelines, stakeholders face challenges in determining the rights, obligations, and economic value of AI-generated content.

This article argues that addressing these challenges requires a change in the approach to defining creativity and authorship. Innovative legal solutions such as the introduction of sui generis rights and joint authorship models will ensure that intellectual property law is relevant in modern times. These reforms will balance the

protection of human creators and the opportunities offered by AI, as well as foster innovation and ensure fairness and accountability. To address the challenges associated with AI-created works, this paper offers the following recommendations.

The development of sui generis rights for AI-created works will identify the unique characteristics of these creations, and such rights will run parallel to the traditional concept of copyright protection and offer customized solutions for works created autonomously or collaboratively. Ownership would be distributed among users, programmers, and platforms based on their contributions, providing clarity and fairness.

In cases where AI acts as a collaborative partner, joint authorship models should be adopted. Such models allocate rights and royalties proportionally and recognize the interdependence of human and AI contributions. For example, a user who directs an AI to create content and provides it with input may share authorship with the developer who programs the AI system.

AI platforms are encouraged to review terms of service to ensure transparency and balance. License agreements should clearly define the rights retained by users and platforms, and include mechanisms for royalty distribution and attribution, which will reduce disputes and encourage greater adoption of generative AI technologies.

Given the global proliferation of AI technologies, harmonized international guidance is essential. Organizations such as WIPO and the European Commission should lead the way in creating flexible framework standards that take into account jurisdictional differences and promote consistency in AI law among different countries. The priority of these standards should be adaptability, which will ensure that legal systems evolve with technological advances.

The issues surrounding AI-created works require ongoing discussion among stakeholders, including lawyers, programmers, creators, the public, and other interested parties. This discussion should address not only the regulation of AI but also ethical considerations about the role of machines in human creativity.

The introduction of AI into the creative industries has been a watershed moment in the history of intellectual property, as it has challenged traditional notions of authorship and is forcing society to rethink the value and ownership of creative works. Although complex, these challenges offer new opportunities to develop innovative legal and cultural frameworks that reflect the realities of the new world.

The future of copyright depends on its ability to reconcile tradition with progress. By adopting flexible and forward-looking solutions, society can ensure that AI-generated creativity enriches, rather than undermines, human ingenuity and uniqueness. Such reforms should aim to be fair, transparent, responsible, and inclusive, and foster an environment where creator rights are not compromised and innovation flourishes. As AI evolves and further embeds itself in creativity, its impact will only increase. Addressing the issues described above is necessary to ensure that copyright and intellectual property systems remain robust and capable of supporting creative and technological advances

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LAW ENFORCEMENT AGENCIES AND CORRUPTION

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Keywords: corruption, law enforcement institutions, corruption prevention.

Abstract
The article examines the concept of corruption, its forms, the functions and responsibilities of law enforcement institutions in the fight against corruption, discusses the assumptions and control of corruption in law enforcement institutions themselves. The practical part of the thesis analyses the composition of corruption-related criminal acts in Lithuanian judicial practice and reveals practical mechanisms for combating corruption.

Introduction

Corruption causes significant harm to society, undermines institutions, reduces trust in them, weakens the ability to implement public policies, and provide quality public services. Preventing and combating corruption is crucial to protecting EU values, policy effectiveness, preserving the rule of law and trust in institutions that govern (Joint Communication to the European Parliament, the Council and the Lithuanian Committee on Economic and Social Affairs on the fight against corruption, 2023).

The topic of corruption remains relevant and worthy of study. According to the Corruption Perceptions Index, Lithuania ranked 12th among EU countries in 2023 and 35th in the world (Transparency International, 2024). The results of the 2023–2024 study "Lithuanian Corruption Map", initiated annually by the Special Investigation Service of the Republic of Lithuania (STT), showed that corruption in Lithuania ranks fifth after other most pressing problems (inflation, low salaries, health care problems, drug use).

The role of law enforcement institutions in the fight against corruption is important and indisputable. However, legal mechanisms for combating corruption are not enough. The question of increasing the integrity and transparency of law enforcement institutions themselves is also increasingly being raised. It is appropriate to examine in more detail the composition of corruption-related criminal acts in the practice of Lithuanian courts in the past 2018-2025 and assess what measures could be implemented in the future to reduce corruption cases in Lithuania.

The object of the work is the role and responsibility of law enforcement institutions in the fight against corruption.

The purpose of the work is to reveal the role and responsibility of law enforcement institutions in the fight against corruption.

Tasks of the work:

1. To analyse the concept and forms of corruption, the functions and responsibility of law enforcement institutions in the fight against corruption.
2. To analyse the prerequisites for corruption and control in law enforcement institutions.
3. To analyse the composition of corruption-related criminal acts in Lithuanian court practice.

Methods of the work: analysis of scientific literature and legal acts; data collection, systematization and generalization.

Theoretical justification

In the preamble to the Civil Law Convention on Corruption (2022), corruption is regulated as "the direct or indirect solicitation, offering, giving or acceptance of a bribe or other undue payment or promise of such payment, which distorts the proper performance of any duty or required behavior of the person receiving the bribe, undue payment or promise of a bribe or undue payment".

The Law on the Special Investigation Service of the Republic of Lithuania (2017) regulates corruption as "direct or indirect seeking, demanding or accepting by a civil servant or an equivalent person of a material or other personal benefit (gift, service, promise, privilege) for himself or herself or another person for performing or failing to perform actions in accordance with his or her duties, as well as actions or inaction by a civil servant or an equivalent person in seeking, demanding or accepting a material or other personal benefit for himself or herself or another person, as well as direct or indirect offering or granting to a civil servant or an equivalent person of a material or other personal benefit (gift, service, promise, privilege) for performing or failing to

perform actions in accordance with his or her duties, as well as mediation in the performance of this part specified acts".

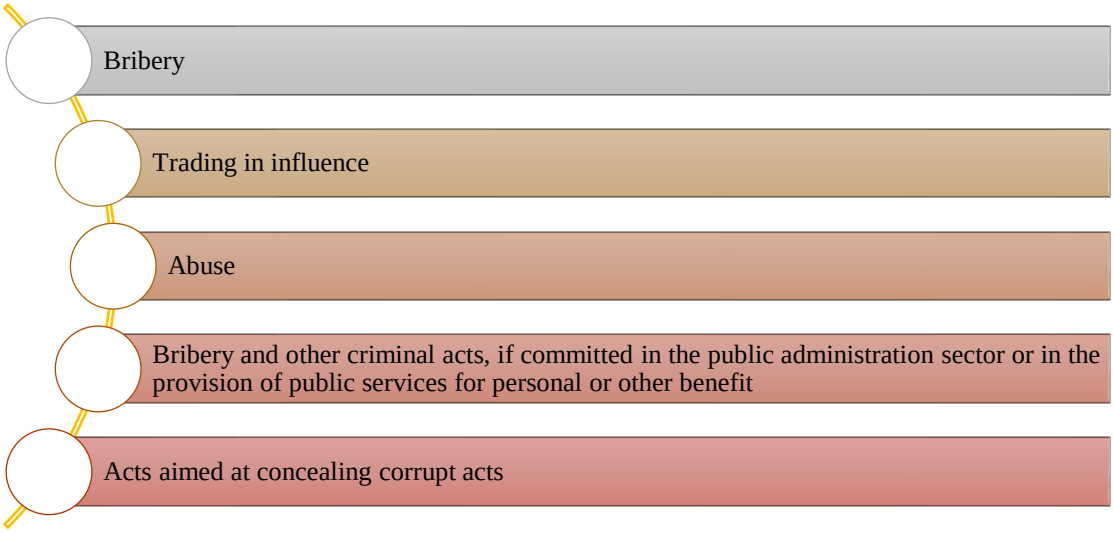


Fig. 1. Acts classified as criminal acts of a corrupt nature
**Source: compiled according to: National Agenda on Corruption Prevention for 2022–2033*

Liability for acts of a corrupt nature is regulated by Chapter XXXIII of the Criminal Code of the Republic of Lithuania (2000). The following forms of corruption are distinguished: bribery (Article 225 of the Criminal Code of the Republic of Lithuania), trading in influence (Article 226 of the Criminal Code of the Republic of Lithuania), bribery (Article 227 of the Criminal Code of the Republic of Lithuania), abuse (Article 228 of the Criminal Code of the Republic of Lithuania), illegal registration of rights to a thing (Article 228-1 of the Criminal Code of the Republic of Lithuania), failure to perform official duties (Article 229 of the Criminal Code of the Republic of Lithuania).

The concept and forms of corruption are widely studied in the scientific literature. According to D. Singh (2022), the word “corruption” comes from the Latin term “corruptus”, meaning to disrupt, break, damage or contaminate. It is bribery, abuse of power, seeking personal gain, even if the return is not achieved. Other benefits can be sought from a person in office (maintaining support, loyal supporters, clients, political support, and not only personal gain).

P. C. Kratcoski (2018) defines corruption as a situation in which a person responsible for the performance of specific duties seeks an improper or unfair advantage by performing certain actions or failing to act as he or she should in the performance of these duties. Corruption can occur in all sectors of society, including public and private institutions, including specific professional groups (e.g., lawyers, doctors), and private individuals. Forms of corruption: bribery, extortion, intimidation, gratuity tax, theft, etc.

The purpose of law enforcement institutions is to guarantee law and order, ensure public security, and protect individual rights and freedoms (Dobrynin, 2012). The features of law enforcement institutions are related to law enforcement activities, assistance to the court in administering justice, political neutrality, employees who have a legal education, and an impeccable reputation (see Figure 2).

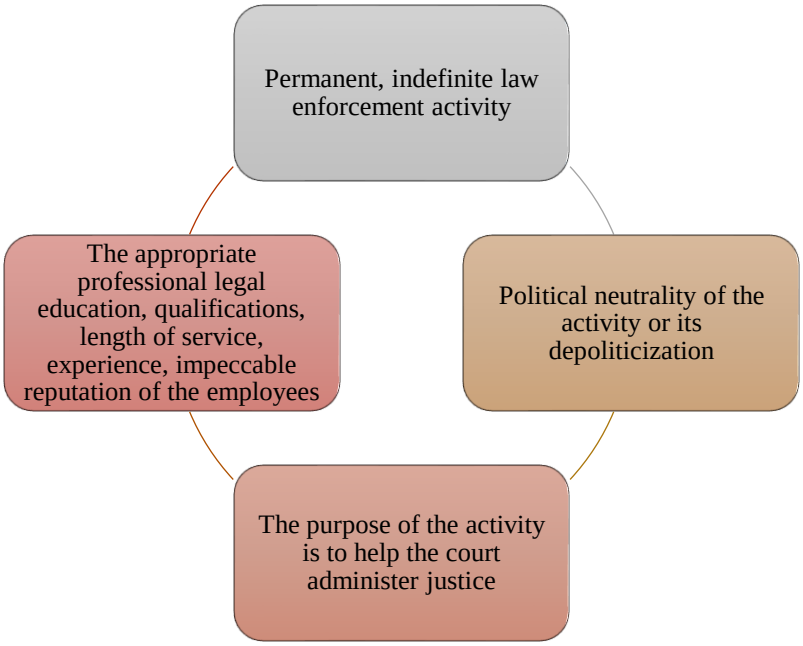


Fig. 2. Main features of law enforcement institutions
**Source: compiled according to: Danišauskas, 2009, p. 294*

Essential corruption prevention measures are aimed at risk analysis and management of this phenomenon, anti-corruption assessment of legal acts or their drafts, determination of the level of resistance to corruption, anti-corruption standards of conduct, corruption prevention planning documents (national agendas, action plans) (see Figure 3).

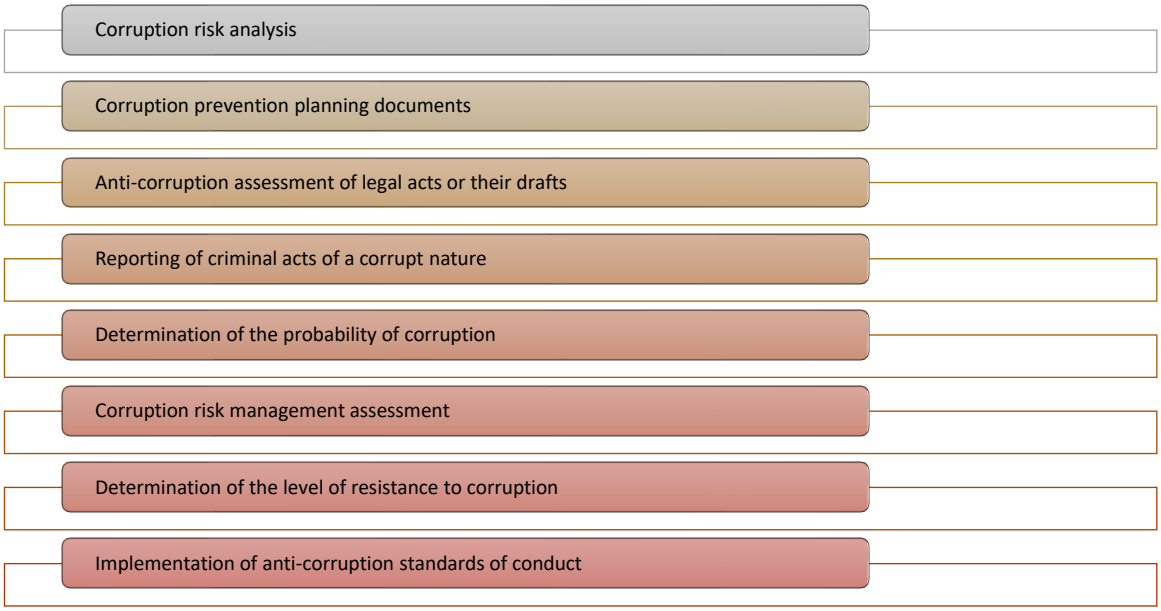


Fig. 3. Essential measures for the prevention of corruption
**Source: compiled according to: Law on the Prevention of Corruption of the Republic of Lithuania, 2021*

Law enforcement agencies investigate corruption-related acts, carry out corruption prevention and control. However, the issue of the integrity and transparency of law enforcement agencies themselves is also relevant.

According to A. S. Hidayat et al. (2023), the basis for responsible and honest actions of law enforcement agencies is ethical standards, moral obligations, and integrity. The canon of law enforcement morality includes higher ideals of honesty, impartiality, and social responsibility. In performing their duties and interacting with

members of the public and other legal institutions, persons entrusted with upholding the law must adhere to fundamental principles, not abuse power, and perform their duties professionally and responsibly. Ensuring that law enforcement agencies act in accordance with the principles of justice and integrity in all their actions can reduce the level of corruption.

Results

The number of registered corruption-related criminal acts decreased to 239 in 2024 (from 279 in 2023 and 471 in 2022). Bribery and abuse of power account for the majority of both the number of registered corruption-related criminal acts and the share of serious corruption-related crimes. The number of investigated corruption-related criminal acts is decreasing every year in the period 2022-2024 (in 2024 it was 236, in 2023 – 298).

Table 1

Number of registered and investigated corruption-related criminal acts in 2022-2024

Year	2022	2023	2024
Number of registered corruption-related crimes	471	279	239
Number of investigated corruption-related criminal acts	317	298	236

**Source: Report on the activities of the Prosecutor's Office of the Republic of Lithuania in 2024, 2025*

20218-2025. In the cases examined in the judicial practice, emerging problematic issues regarding the qualification of the crime of bribery under Article 225 of the Criminal Code of the Republic of Lithuania are visible. In the cases, civil servants who have taken advantage of their position and taken bribes, or persons who have used the services of these servants, are tried. The forms of demanding a bribe can be various, it can be demanded openly, directly or disguisedly, through third parties, etc.

The element of demanding a bribe can be incriminated only when the initiative to give a bribe comes from a civil servant or a person equated to him, and not from the bribe giver. In the judicial practice, when examining cases of trading in influence, an attempt to influence employees of law enforcement institutions using acquaintances, influence on a civil servant is visible.

The courts hold that bribery (according to Article 227 of the Criminal Code of the Republic of Lithuania) objectively manifests itself in the commission of at least one of the alternative actions: an offer of a bribe, a promise to give it, an agreement to give a bribe, or the giving of a bribe.

Conclusions

The concept and forms of corruption are regulated in legal documents and are analysed in scientific works by Lithuanian and foreign authors. There is no single universally defined definition of the phenomenon of corruption.

When examining the case law of 2018-2024, it is seen that the cases address issues regarding the qualification, reduction and cancellation of criminal acts of a corrupt nature (bribery (according to Article 225 of the Criminal Code of the Republic of Lithuania), trading under influence (Article 226 of the Criminal Code of the Republic of Lithuania), bribery (Article 227 of the Criminal Code of the Republic of Lithuania), abuse (Article 228 of the Criminal Code of the Republic of Lithuania)).

The cases reveal criminal actions of civil servants, and cases of bribery of employees of law enforcement institutions themselves are also becoming apparent.

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THE FAMILY IS NOT JUST A SOCIAL INSTITUTION BASED ON THE UNION OF A MAN AND A WOMAN

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Keywords: family, legal regulation, marriage, social institution.

Abstract
The article analyses the theoretical aspects of the concept of family and marriage and the problematic aspects of same-sex marriage in the Lithuanian legal system. It analyses the aspirations of various countries (both European Union countries and third countries) to accept same-sex families, not only between a man and a woman. The analysis also reveals the position of the child within the family and what the child's welfare and rights depend on. It reviews the legal framework and Lithuanian cases in this context. The work pays particular attention to the Lithuanian position on the recognition of same-sex marriage.

Introduction

In Lithuania, the constitutional concept of the family is based on the concept of family policy, which includes definitions of family, harmonious family, extended family, and single-parent family, and directly links the family with the fact of marriage. This means that a man and a woman living together but not married, including raising children (adoptive children), are not considered a family. The family has long been perceived as a traditional social institution based on the union of a man and a woman. However, in today's society, the concept of the family is evolving and expanding in the light of social, cultural and legal changes. Families can be made up not only of married persons, but also of single parents with their children, grandparents with their grandchildren, or even of close relatives who share a common household, responsibilities and an emotional bond.

The aim of this article is to determine whether the family in Lithuania is just a social institution created on the basis of the union of a man and a woman.

Objectives:

1. Outline the theoretical aspects of the concept of family and marriage.
2. Analyze case law on same-sex marriage.

Research methods. The following research methods were used in this work: scientific literature analysis method, documentary content analysis method. Systematic analysis and generalisation method were used to structure the results of the research.

Soviet occupation and homosexuality in Lithuania: historical perspective and contemporary challenges

The dark past has left a trace in our Lithuanian society that is still active today. The fear of repeating the mistakes of history, instead of learning from them, still lingers in our memory. It is time to acknowledge history and address the issues that affect LGBTQ+ people in Lithuania today.

During the Soviet occupation, homosexual relations were not only considered a "remnant of the bourgeois system", but also persecuted: the Criminal Code of the Lithuanian SSR stipulated a prison sentence of up to 8 years for sexual relations between men. This provision of the Lithuanian Penal Code remained in force until 1993, 3 years after the declaration of independence and almost a year after the adoption of the Constitution of the Republic of Lithuania by referendum, which introduced a general prohibition of discrimination. While men faced imprisonment, lesbians were in a different situation: women who dared to have a single sexual relationship or to have a long-term relationship with another woman were threatened by the Soviet psychiatric system. Homosexual behaviour by women was considered anti-social, similar to, for example, reading forbidden books or refusing to work in a state-appointed job.

It has been 20 years since non-discrimination was adopted in Lithuania and we are still clinging to Soviet views. "Lithuanian society has long been ripe for change, and international organisations and studies show that ensuring LGBTQ+ rights is a prerequisite for a progressive state. Democracy is about inclusion, not exclusion, and affirming the rights of the LGBTQ+ community is a step towards a brighter future. This would strengthen public confidence in the state, reduce social tensions and position Lithuania among the world's most progressive countries. Today we have the opportunity to show that equality, respect and justice are not just ideals - they are fundamental values of our country."

Although Lithuania's independence has been followed by changes in the legal framework and the abolition of inhumane laws, discrimination on the grounds of sexual orientation has been banned relatively recently - on

1 January 2005, when the Equal Opportunities Act entered into force. This can be due to many reasons - the attitudes of religious leaders, existing laws, pathologizing medical discourse, cultural heterosexism, etc. [Project,https://manoteises.lt/zt/tos-pacios-lyties-partneryste-atsakymai-i-interneto-komentatoriu-klausimus/].

The adoption of same-sex marriage would strengthen democracy, because democracy is based on the equality of all citizens and respect for human rights. The elimination of discrimination and the legal recognition of same-sex relationships demonstrate the ability of the state to provide legal protection to all citizens, regardless of their orientation. This is not only a legal obligation, but also an important signal of the maturity of a country's democracy. Countries that have legalized the recognition of same-sex relationships have seen lower social tensions and higher levels of public tolerance. This encourages the formation of a diverse society that is open to dialogue and innovation. Ensuring LGBTQ+ rights also has a direct impact on the country's economy. For example: Countries with a high LGBTQ+ friendliness index are more likely to attract highly skilled professionals and investment. The tourism sector in particular benefits: LGBTQ+ friendly countries receive higher visitor arrivals. Ensuring social rights reduces the costs of legal challenges caused by discrimination. The inclusion of the LGBTQ+ community in the legal and social system reduces exclusion and avoids the consequences of discrimination such as social isolation, unemployment or psychological problems. This not only ensures a better quality of life for LGBTQ+ people, but also contributes to a more cohesive society.

In summary, Lithuania should recognize and affirm LGBTQ+ rights as an important part of democracy, as it is not only the right thing to do, but also necessary for social progress and economic growth. Historical mistakes and outdated attitudes still affect modern society, but guaranteeing LGBTQ+ rights would strengthen state democracy, reduce social tensions and create a more open society. This would make Lithuania a more progressive country, attract investment, and improve the quality of life for all citizens. The legal and social inclusion of the LGBTQ+ community in the life of the state is a step towards building an equal, just and harmonious society.

Challenges to the concept of family in Lithuania

You probably know that in Lithuania, the concept of family is not precisely defined - the Constitution of the Republic of Lithuania only says that marriage is entered into by the free consent of a man and a woman - but the definition of family is not limited to marriage. According to the Constitutional Court of the Republic of Lithuania, the concept of family is, among other things, gender neutral. This means that we do not consider people who have not registered their marriage or people who are single parents raising a child or an adopted child to be family.

Article 38(1), (2) of the Constitution of the Republic of Lithuania (The family is the foundation of society and the state. The State shall protect and cherish the family, motherhood, fatherhood and childhood.) together with Article 29 of the Constitution of the Republic of Lithuania (All persons shall be equal before the law, the courts of law and any other public authority or official. Human rights shall not be denied or privileged on the basis of sex, race, nationality, language, origin, social status, religion, beliefs or opinions.)) shows that any family must be protected and not discriminated against.

The Law on Equal Opportunities of Lithuania defines the concept of equal opportunities as the implementation of human rights enshrined in international human and civil rights instruments and the laws of the Republic of Lithuania regardless of gender, race, nationality, language, origin, social status, faith, beliefs, or attitudes, age, sexual orientation, disability, ethnicity, religion. In other words, everyone in Lithuania, including people with same-sex orientation, has equal rights and opportunities, but we know that same-sex marriage is not established in Lithuania. Article 169 of the Criminal Code of the Republic of Lithuania also provides for liability for discrimination on the grounds of nationality, race, sex, origin, religion or other group affiliation. Thus, whoever has carried out acts aimed at preventing a person belonging to a group of people or a group of people on the grounds of age, gender, sexual orientation, disability, race, colour, nationality, language, origin, ethnic origin, social status, religion, beliefs or opinions from participating on an equal basis with others in the political economic, social, cultural, labour or other activities, or to restrict the rights and freedoms of such a group of people or of a person belonging to such a group, shall be punishable by public works or a fine, or by restriction of liberty, or by arrest, or by imprisonment for up to three years.

In the case Beizaras and Levickas v Lithuania, the European Court of Human Rights examined the compatibility of Lithuanian legislation with the European Convention on Human Rights, in particular with regard to discrimination on grounds of sexual orientation and the right to protection of private life. At the heart of the case, a homosexual couple shared a photo of a kiss on Facebook and received a barrage of comments

(both positive and negative). The national LGBT rights organization LGL, based on Article 170 of the Penal Code, filed a complaint against the Prosecutor General for hate speech. The Prosecutor General's Office decided not to open a pre-trial investigation after finding no evidence of a crime in the comments. This decision was appealed to the Klaipėda District Court, and subsequently to the Court of Appeal. LGL lost both appeals. The applicants were not satisfied with this decision and appealed to the European Court of Human Rights (ECtHR). The very fact of refusing to open a pre-trial investigation in this situation, especially in the case of such extreme hate speech on the internet, is in itself discrimination. Secondly, the content of the decisions of the Lithuanian officials proves that sexual orientation was a ground for refusing to open a pre-trial investigation, i.e. that the possibility of provocation from the applicants was perceived and argued on the basis of traditional values of society. Third, the applicants rely on the hypothetical argument that, had it been a case of discrimination against persons other than homosexuals, the public officials would have acted differently.

An important argument of the ECtHR is that the internet in Lithuania is a serious medium for incitement to hatred against sexual minorities, and that the publication of comments on Facebook alone is sufficient grounds for a finding of an infringement.

In this case, the following has been infringed:

1. Discrimination on grounds of sexual orientation - the applicants claimed that Lithuanian legislation violates their rights to equal treatment and discriminates against them on grounds of their sexual orientation, as there is no legal possibility for same-sex couples to enter into civil unions.

2. Right to family and protection of private life - the applicants also claimed that they were denied the right to live as a family, even though they had the same obligations and relationships as heterosexual couples.

Thus, violations of Article 8 (right to privacy) and Article 14 (discrimination) of the European Convention on Human Rights were found, as they did not grant same-sex couples the right to marriage or civil union. The ECtHR ruled that Lithuania had violated the European Convention on Human Rights by denying same-sex couples the right to civil unions and by failing to recognise them as a family, in breach of the right to family life and the principle of equality before the law.

The decision was important because it drew attention to the rights of homosexual persons and prompted many countries, including Lithuania, to review their legislation to bring it into line with international human rights standards (European Court of Human Rights, Beizaras and Levickas v Lithuania, 2020).

In summary, the ECtHR's decisions, not only in Lithuanian cases, still maintain the position that Member States have the right to choose whether to allow same-sex marriage. The Court underlines that the institution of marriage and its concept are dynamic and constantly evolving. In the future, we can expect that the ECtHR may adopt different interpretations, perhaps even confirming that same-sex couples have the right to marry in all States.

Same-gender family situation in Europe and worldwide

Same-gender marriages and families are becoming more common and more accepted around the world. The world has a wide variety of approaches to the concept of family, and in many cases rights and social changes are influenced by political, cultural and religious contexts.

When the Netherlands became the first country to legalise same-gender marriage in 2001, it still seemed like a radical idea, one that was the subject of much debate and public uproar. Many advocates of the traditional family form perceived the process as a direct attack on the values they espouse (Gritėnas, 2014). Marriage is regulated by the Civil Code, whose first book, Article 30(1), states that marriage may be entered into by two persons of different sexes or the same gender. Adoption by a same-gender couple is also possible [https://www.lrs.lt/sip/getFile3?p_fid=29181, 2020].

In Norway and other Scandinavian countries, the struggle for LGBT* rights started much earlier than in our country, and the achievements are greater," says Augustas Čičelis, head of the association In corpore. - Norway is an interesting and in many cases a role model for human rights and LGBT* activism (Association "In corpore", 2015).

Religious beliefs and conservative attitudes often influence national legal systems and societal attitudes towards recognising same-sex marriage. In Islamic countries, for example, homosexual relations are strictly forbidden and can even be punished. In Iran and Pakistan, homosexual relations are not recognised, illegal and criminalised. Similarly, in some Christian countries, same-sex partnerships are not recognised because of deep traditional and religious prejudices. This shows that religion and tradition can shape a country's laws and social attitudes.

The topic is still a subject of much debate and challenge, but there has been positive progress in many countries in recent years. Recent developments show that an increasing number of countries are adopting marriage equality laws, thereby legalising same-gender marriage.

Countries that have legalised marriage equality: 16 May 2024 The Liechtenstein government passed a law on marriage equality. The law entered into force on 1 January 2025. 27 March 2024 On 27 March 2024, the Lower House of the Thai Parliament passed the Marriage Equality Act and on 18 June 2024 the Upper House passed the Act. The Marriage Equality Act was signed into law by the King of Thailand on 24 September 2024 and entered into force on 22 January 2025.

2024 Countries that have legalised marriage equality: 15 February 2024 The Greek Parliament votes in favour of legalising same-sex marriage, becoming the first Christian Orthodox majority country to do so. The same vote also legalised same-sex adoption. On 20 June 2023, the Estonian Parliament voted in favour of marriage equality and became the first country after the Soviet Union to legalise same-sex marriage. The law entered into force on 1 January 2024. Slovenia's Constitutional Court ruled that the ban on same-sex marriage violates the Slovenian Constitution and gave the Slovenian Parliament 6 months to legislate accordingly, which it did on 4 October. The ruling entered into force immediately after the court's decision. On 21 July 2022, the unicameral Andorran legislature, the General Council, voted unanimously in favour of amending the country's civil union law to include marriage equality for same-sex couples. On 25 September 2022, in a national referendum, Cubans approved the Family Code, which included provisions allowing same-sex couples to marry (Human Rights Campaign, 2024).

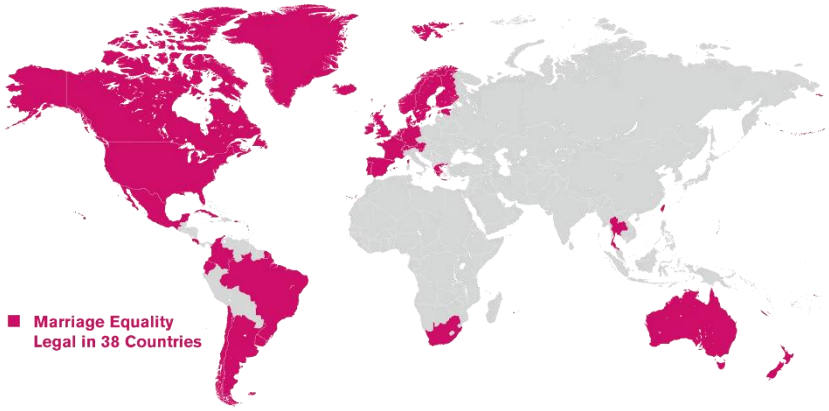


Fig. 1. Human rights campaign, 2025

According to the Human Rights Campaign, same-sex marriage is already legal in 38 countries around the world. This number is steadily rising, reflecting the international community's growing recognition of equality and human rights. Countries such as the Netherlands, Canada, Spain and South Africa were among the first to enshrine this right in law, encouraging others to follow suit. In recent years, countries such as Taiwan, a pioneer in Asia, and Chile have joined them, showing that progressive change is taking place in different regions of the world. The adoption of these laws not only provides legal guarantees for couples, but also sends a clear message of intolerance of discrimination and respect for the dignity of all human beings.

Situation of children in same-gender families

In today's society, human rights, and in particular children's rights, are becoming increasingly important, as children who are not able to take care of themselves and protect their own interests must receive special attention. Children's rights are defined in various international instruments which regulate their protection and promotion in society. One of the main instruments shaping the system for the protection of children's rights in many countries is the United Nations Convention on the Rights of the Child.

Psychologist Jurgita Smiltė Jasiulionė (2021), says: "Children grow and develop with individual differences, regardless of their family composition". It is not the sexual orientation of the parents that is important for a child's smooth and healthy emotional, psychological and social development, but the parenting skills they possess and apply. Therefore, what matters is not whether a child grows up in a homosexual or heterosexual couple, but whether the adults raising the child are able to respond sensitively, timely and locally to the child's emotional needs, whether the child's needs for security, autonomy and communication are met, and whether the couple establishes a respectful relationship between themselves and with the child.

Many people believe that the main purpose of marriage is children, and that homosexual men and women cannot give birth. It is wrong to say that the main purpose of marriage is children, because marriage or partnership is a value choice. Couples do not necessarily marry for the purpose of having children. According to the author, marriage can mean very different practical, economic, social, cultural, symbolic, value, psychological or religious choices for couples Methodological Centre for Complex Family Services.

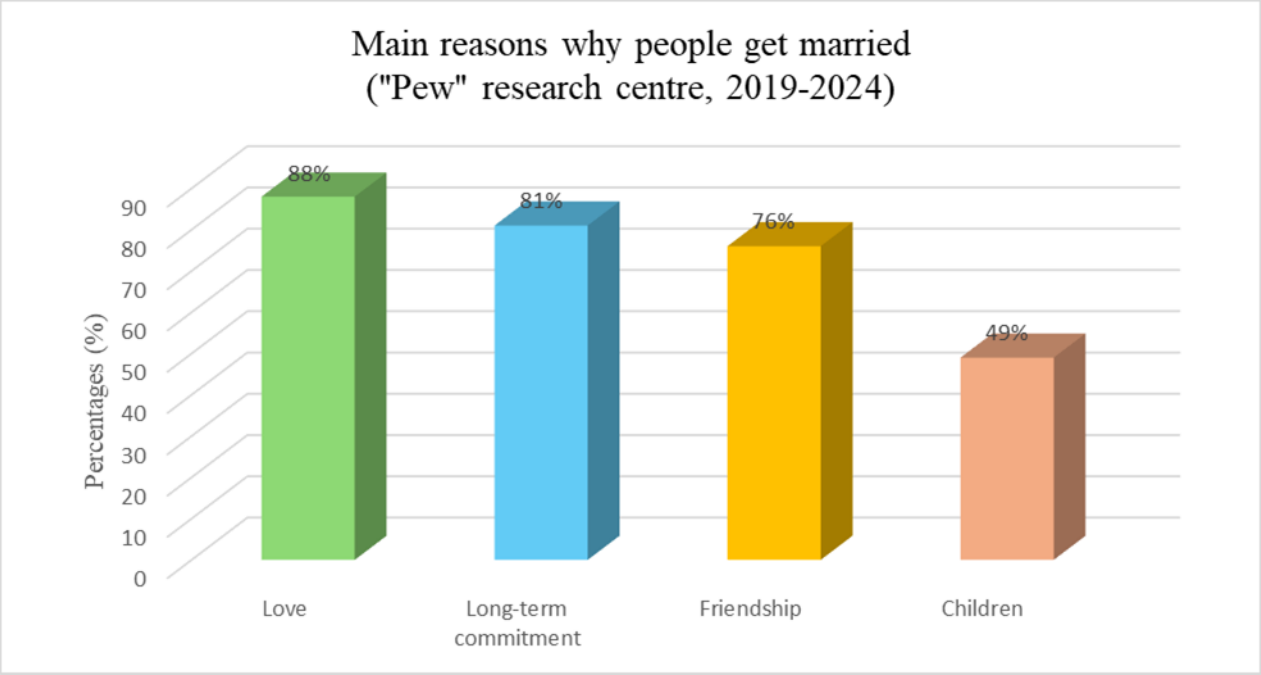


Fig. 2. Created by the authors based on data from the Pew Research Center

This is confirmed by research evidence. For example, a 2019-2024 Pew Research Center survey in the US found that the main reasons people married were love (88%), long-term commitment (81%) and friendship (76%). In this survey, children were only the fourth most important factor, and only half of the spouses (49%) felt that the goal of having children was important in their decision to marry [https://ztcentras.lt/wp-content/uploads/2021/10/Lyciai-neutralios-partnerystes-iteisinimo-galimybiu-analize-ir-kokybinis-tyrimas-apie-LGBTQIA-asmenu-poreikius.pdf]

The belief that homosexual women cannot give birth and men cannot conceive is also incorrect, because infertility is not linked to homosexuality. Most studies show that there are no significant social, emotional, health or learning differences between children raised by same-sex or different-sex couples. The well-being of children in both same-sex and LGBTQIA+ families is thought to depend more on the overall well-being of the partners, the parents' education and the relationship within the family, the structure of the family (the number of children in the family, whether the child(ren) was raised by a single parent, whether the children grew up in the same marriage or went through a divorce, etc.), and the amount of time and attention devoted to the children's needs. Thus, the statement that a family between a man and a woman is in the best interests of the child is debatable. There is also evidence that children of LGBTQIA+ couples do better in school because of the legal and psychosocial difficulties that LGBTQIA+ couples face in raising children, and that when children are born into LGBTQIA+ families, a psychological compensation mechanism is triggered for the children, which means that LGBTQIA+ couples have a higher regard for children than heterosexual couples and put much more effort and time into their children. It is also interesting to note that in same-sex couples, children

are never born "accidentally", but rather the birth of a child is expected and desired (Labanauskas, 2021 Lithuanian Social Science Centre, Lithuanian Centre for Human Rights) .

A common misconception in the public domain is that the legalisation of gender-neutral partnerships, and thus of adoption, is not in the best interests of the child and is not based on scientific evidence.

The American Psychological Association recognised as early as 1994 that children of homosexual parents are no different from children of heterosexual parents. In 2013, researchers at the University of Cambridge, who studied the daily routines of same-sex and different-sex adoptive families, concluded that children raised in same-sex families are just as happy as children raised in male-female families. In 2017, the Australian Journal of Medicine published a study that found that children raised in same-sex families were no different from children raised in heterosexual families. The study also points out that it is not same-sex parents but societal discrimination that harms children [https://manoteises.lt/zt/tos-pacios-lyties-partneryste-atsakymai-i-interneto-komentatoriu-klausimus/, 2021].

In light of the research findings, the main determinant of a child's well-being is not the gender of the parents, but their ability to provide a loving, supportive and safe environment for the child. Regardless of their parents' sexual orientation, children who grow up in sensitive and attentive families have the same chances of developing emotionally, psychologically and socially as those who grow up in heterosexual families. It is therefore important for society to move from stereotypes and discrimination to objective facts, promoting equal rights and opportunities for all families, regardless of their structure. This is the only way to ensure that children grow up feeling loved, supported and able to reach their full potential.

Conclusions

The concept of the family is an evolving phenomenon, influenced by social, economic, cultural and legal changes. The structure, values and norms of the family have evolved throughout history, and today these changes are accelerating due to the development of human rights and societal change. The traditional concept of the family, which has long dominated both law and society, is gradually expanding to recognise other forms of partnership and to emphasize that the essence of the family lies not only in legal definitions, but also in relationships. One of the main challenges facing modern society is to ensure that all families, whatever their composition, enjoy the same social and legal guarantees. In particular, children's well-being should be taken into account, not on the basis of parental status or partnership, but on the basis of emotional stability, a sense of security and a supportive relationship with parents or guardians. The legal framework should therefore take into account the real needs of families, rather than rigid definitions that may not be in line with modern society.

In Lithuania, family law regulation remains conservative, but growing public awareness and the development of international human rights standards encourage discussions on the revision of existing legal norms. An analysis of the case law shows that Lithuania is losing cases against Lithuania before the ECHR. In the precedent-setting case "Beizaras and Levickas v. Lithuania", which analyzed the compatibility of Lithuanian legislation with the European Convention on Human Rights, in particular with regard to discrimination on the grounds of sexual orientation and the right to protection of private life, the case was in conflict with the EU legislation. Based on a review of EU countries, it can be argued that in economically and socially more advanced countries, gender-neutral partnerships are considered to be equivalent or equal to marriage, and that these countries provide flexible and extensive adoption rights for LGBTQIA+ couples. All countries that allow same-sex marriage generally recognise same-sex marriages or registered partnerships entered into in other countries.

In the future, it is important to work towards modernizing the legal system based on international practice, research and the real needs of families. It is also necessary to strengthen public education, reduce stereotypes and promote the understanding that the family is first and foremost a unit of relationships and responsibility, and not just a legal institution. Only by creating equal opportunities for all families and guaranteeing their rights can we create a social environment that is fair, solidarity-based and inclusive, in which everyone feels safe, respected and able to develop to their full potential

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LEGAL PROTECTION OF TRADEMARKS. RECENT FEATURES OF DISPUTE RESOLUTION AT THE STATE PATENT BUREAU

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Keywords: trademark, trademark protection, intellectual property, State Patent Office.

Abstract
This article examines the legal and practical problems faced by trademark owners in protecting their trademarks. It analyses and systematises the theoretical and practical approaches of various Lithuanian and foreign authors to the concept, meaning, functions, and remedies of trademarks, as well as aspects of the State Patent Bureau's activities to ensure trademark protection. The legal acts regulating the protection of trademarks and the legal regulation of related disputes at the State Patent Office are examined in detail. The work includes a study of the handling of disputes on the legal protection of trademarks in the Appeals Division of the State Patent Office, and an analysis of the dispute decisions issued by this division. It also examines Lithuanian case law, mechanisms of trademark protection, registration and dispute procedures. Particular attention is paid to the role of the State Patent Office and other institutions in ensuring the legal protection of trademarks.

Introduction

The protection of trademark owners' rights, as a form of intellectual property, is becoming increasingly important. A trademark is the property of its owner and serves as a tangible commercial asset that provides consumers with information about goods associated with a particular source. Legal protection of trademarks is essential and is widely used by businesses to safeguard their marks against unauthorized or unlawful use. One key method of protecting trademarks is through legal registration. Owners of registered trademarks can more effectively defend their rights in disputes with entities that infringe upon those rights, using all legal remedies provided by law.

Trademark protection is significant not only for the rights of trademark owners but also for broader societal and state interests. Countries that ensure effective trademark protection are more attractive to international investors and offer stronger consumer safeguards. By providing robust legal protection for trademarks, the state fosters business development, stimulates innovation, attracts foreign investment, creates jobs, and strengthens the confidence of both trademark owners and consumers. All of these factors contribute to economic growth (Staff, Sheppard, 2023; Grigienė, Jacunskaitė, 2021).

One of the key institutions responsible for enforcing trademark protection in Lithuania is the State Patent Bureau, which resolves disputes concerning trademark legal protection. The relevance of this topic is underscored by the limited academic analysis of the specific procedures applied in trademark-related disputes at the State Patent Bureau and the lack of up-to-date scientific research on the subject.

The main objective of this article is to analyse the legal protection of trademarks and to explore the peculiarities of recent disputes examined by the State Patent Bureau.

Objectives:

1. To analyse the activities of the State Patent Bureau in ensuring trademark protection.
2. To identify the peculiarities in the handling of disputes related to the legal protection of trademarks by the State Patent Office.

Methods: The following research methods have been used in this work: the method of analysis of scientific literature, analysis of legal documents, and the systematic analysis and generalization method, which were used to systematize the research results.

Theoretical aspects, meaning and functions of trademark protection

Trademarks have been used since ancient times, when people employed various symbols to mark their goods to indicate their origin and distinguish their quality. The ancient Greeks marked ceramics, while the Romans used symbols to identify military equipment. In the Middle Ages, trademarks began to acquire a legal form: various guilds and craft unions formally registered and regulated trademarks to ensure product quality and protect consumers from fraud or inferior goods (Markova, 2017). During the Industrial Revolution, the significance of trademarks grew considerably due to increasing competition and the advent of mass production. Companies began registering and promoting their brands to safeguard their uniqueness and commercial value.

A trademark is a key object of intellectual property, performing an essential identification function by providing unique recognition to an entity, product, or service. In academic literature in the fields of law, management, and public administration, a trademark is often defined as a symbol—a conventional

representation or sign with a particular meaning—used to identify a specific entity. A trademark may consist of a sign or a combination of signs, including letters, numbers, words, colours, sounds, or any combination thereof. It can also take the form of a logo, graphic design, or distinctive style that contributes to the identity of the entity.

Trademarks are legally protected intellectual property, regulated by laws that ensure protection against misuse, misappropriation, or imitation. They may exist as tangible elements, such as labels or registration documents, as well as intangible assets encompassing brand reputation and identity. Trademarks are usually graphically represented by symbols, colours, fonts, or other design elements, allowing them to be clearly distinguished from others. Their primary function is to help consumers identify the origin of goods or services, thereby serving as a distinctive feature in the marketplace. Accordingly, trademarks may be analysed from legal, managerial, and economic perspectives.

The main piece of national legislation defining trademarks in Lithuania is the Law on Trademarks of the Republic of Lithuania (2000), which defines a trademark as any sign capable of distinguishing goods or services. This definition aligns with those in international instruments, such as the WTO TRIPS Agreement (1994) and the regulations of the United States Patent and Trademark Office.

Although the concept of a trademark is not directly defined in the Madrid or Paris Conventions or in European Union law, the definition provided in Article 2 of the Lithuanian Law on Trademarks corresponds with international standards. It is also important to use the accurate terminology: "trademark" rather than "brand".

A trademark is important for both companies and consumers as it performs various functions (Figure 1).

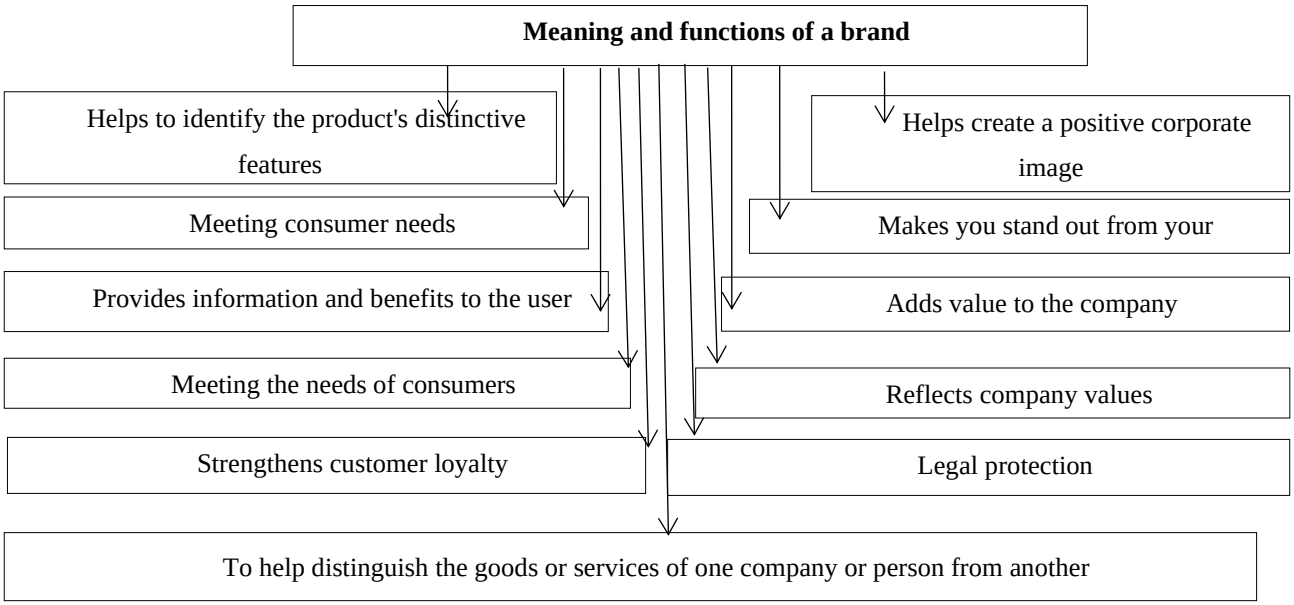


Fig. 1: Meaning and functions of a brand
**Source: based on Chestek, 2022, p.185; Limba and Jurkute, 2013, p.132-144; Vanagiene and Ramanauskiene 2008, p.172*

Based on the information presented in Figure 1, it can be argued that trademarks play a vital role for both businesses and consumers. They help identify products or services, enhance a company's image, differentiate it from competitors, create added value, and foster customer loyalty. Strong brands establish an emotional connection with consumers, who often choose familiar and trusted trademarks due to the quality and reliability associated with them.

Registered trademarks provide legal protection against imitation, counterfeiting, and unauthorised use. A trademark can consist of various elements such as words, letters, numbers, graphic symbols, colour combinations, sounds, or even the shape of packaging. Trademarks are classified according to their affiliation into three categories:

1. Individual trademarks – owned by one or more proprietors and granting exclusive rights to use the mark.
2. Collective trademarks – used by members of an association of producers or service providers.
3. Certification marks – used to indicate that goods or services meet certain quality or origin standards.

The legal regulation of trademarks exists at both national and international levels. In Lithuania, the primary legal act is the Law on Trademarks of the Republic of Lithuania, which stipulates that a trademark must clearly

distinguish the goods or services of one person from those of another. On the international level, the WTO TRIPS Agreement plays a key role in defining and harmonising trademark protection standards.

In conclusion, a trademark is not only a legal instrument but also an essential marketing tool that ensures a company's competitiveness and builds consumer trust. Its core function is to distinguish goods or services from different producers and, over time, to become a key element of a company's market identity.

Remedies and legal regulation of trademark proprietors' rights

The legal doctrine discusses the concept of a trademark together with the concept of a trademark proprietor. Article 2 of the Law on Trademarks of the Republic of Lithuania (the "Law on Trademarks") states that "the owner of a trademark shall be the owner of the trademark protected in the Republic of Lithuania in accordance with the procedure established by this Law." This concept is also present in international legislation. For example, Article 1(5) of the Trademark Law Treaty, ratified on 27 October 1994, states that "the owner of a trademark shall be the person who is indicated in the Register of Trademarks as the owner of the registration." Furthermore, Article 5 of the Council Regulation specifies that trademark proprietors may be both natural and legal persons, as well as institutions established under public law.

According to the conducted analysis, trademark proprietors are natural or legal persons, irrespective of their nationality, who have legal capacity and meet the criteria laid down in the legislation, having either registered or applied for registration of their trademark. Most trademark proprietors are private legal entities, but consortia, associations, and unions may also hold trademarks. Such collective trademark proprietors register a collective trademark by applying.

In a competitive market, unfair competition may arise when certain entities take undue advantage of, copy, or imitate the trademarks of other companies. This not only misleads consumers but also damages the reputation of businesses. To protect trademark owners, intellectual property is subject to legal safeguards at both national and international levels.

Trademark owners can defend their infringed rights in three ways: through out-of-court negotiations, through the courts, or by applying to the Competition Council of the Republic of Lithuania. In practice, trademark owners most frequently assert their rights in court under civil procedure rules. Article 49 of the Patent Protection Law of the Republic of Lithuania establishes the right of a trademark owner to seek judicial enforcement of their rights. Such cases are heard by the Vilnius Regional Court as the court of first instance, which adjudicates disputes related to the protection of trademark owners' rights, decisions of the Appeals Division of the State Patent Bureau, and cases concerning the revocation or invalidation of a trademark registration. In addition to national legislation, the protection of trademarks is also governed by international and European Union law, which sets out the fundamental principles of trademark protection and the mechanisms for the enforcement of rights.

Trademark protection is governed by international, EU, and national law. The most relevant international legislation includes the Paris Convention for the Protection of Industrial Property (1883), the Nice Agreement Concerning the International Classification of Goods and Services for the Registration of Marks (1957), the Madrid Agreement and Protocol on the International Registration of Marks (1989), the Trademark Law Treaty (1994), and the Singapore Treaty on the Law of Trademarks (2006).

At the EU level, trademark protection is regulated by Directive 2008/95/EC, Directive 2004/48/EC on the enforcement of intellectual property rights, as well as Regulation (EU) 2017/1001 on the European Union trademark.

In Lithuania, the primary legal act governing trademark protection is the Law on Trademarks of the Republic of Lithuania (2000). This law establishes the rules for the registration, legal protection, use, and maintenance of trademark registers. It also defines the rights and obligations of trademark owners and provides legal mechanisms for dispute resolution, ensuring effective trademark protection in Lithuania.

In summary, the rights of trademark proprietors are protected at both national and international levels. Trademark owners can assert their rights through extrajudicial, judicial, or administrative means, with legal remedies encompassing both compensatory and protective mechanisms. The continuous development of the legal framework and the harmonisation of international law with national practices ensure stronger trademark protection and more effective enforcement of owners' rights in a competitive market.

Study of the peculiarities of the examination of disputes related to the legal protection of trademarks before the State Patent Office

In accordance with the provisions of the Order of the Director of the State Patent Bureau of the Republic of Lithuania *"On Approval of the Rules on Appeals, Oppositions and Requests for Invalidity or Cancellation of Registration of a Trademark"* (2019), the Appellate Division of the State Patent Bureau of the Republic of Lithuania is responsible for handling disputes such as appeals and oppositions in pre-trial proceedings. One of the primary types of disputes dealt with by the Appellate Division is oppositions. To better understand the specifics of handling oppositions before the Appellate Division, an analysis of its case law was conducted. The objective was to identify the grounds and reasoning behind the decisions of the Appellate Division.

For this analysis, ten decisions of the Appeals Division of the State Patent Bureau of the Republic of Lithuania were selected, covering a variety of disputes, including appeals and oppositions. The selected cases included decisions that were:

- upheld by the Appeals Division,
- partially upheld,
- dismissed.

One of the cases under examination is the decision of the Appellate Division of 14 December 2023, No. 2Ap-2315, concerning an opposition to the registration of the trademark *HIPERBOLE in SYMPHONY*. The opposition was based on Article 8(1)(2) of the Law on Trademarks and Designs, which states that a trademark may be refused registration if it is confusingly like an earlier registered trademark. In this case, the key issue was the similarity between *HIPERBOLE* and *HIPERBOLE in SYMPHONY*, as both trademarks covered the same categories of goods and services.

The applicants, as proprietors of the earlier trademark *HIPERBOLE*, filed an opposition against the registration of *HIPERBOLE in SYMPHONY*, arguing that it was confusingly like their existing mark and could mislead consumers. The opposed trademark was applied for under Class 41, covering services related to the organisation of entertainment events and concerts—services identical to those associated with *HIPERBOLE*.

The Board of Appeal found that the opposition was well-founded and ruled in favour of the applicants. The decision emphasized that the earlier *HIPERBOLE* trademarks had priority over the opposed mark. In accordance with Article 8(2)(1) of the Law on Trademarks and Designs, the Board confirmed that the applicants' trademarks had been registered before the opposed mark.

Following the case-law of the Court of Justice of the European Union (CJEU), the Board assessed trademark similarity based on visual, phonetic, and semantic criteria. It was determined that the opposed trademark *HIPERBOLE in SYMPHONY* contained the dominant element *HIPERBOLE*, leading to a high degree of similarity. According to CJEU jurisprudence, trademark similarity must be evaluated based on the overall impression, considering the dominant and distinctive elements. Since *HIPERBOLE* is the primary and most distinctive element in both trademarks, the additional phrase *in SYMPHONY* did not significantly alter the overall impression.

The Board also noted that the trademarks were associated with highly similar services, increasing the likelihood of consumer confusion, particularly among those unable to directly compare the marks.

In conclusion, the Board ruled that there were sufficient legal grounds to prohibit the registration of *HIPERBOLE in SYMPHONY*. Article 8(1)(2) of the Law on Trademarks and relevant CJEU case law were applied to ensure that consumers are not misled regarding the origin of the trademarks and their proprietors.

In another decision of the Appellate Division of the State Patent Bureau of Lithuania (SPB) on 12 April 2024, No. 2Ap-2334, an opposition was filed under Article 8(1)(2) and (3) of the Law on Trademarks. The case involved an application by McDonald's International Property Company to refuse the registration of the trademark *MAK SUSHI*, filed by MB Lantua. McDonald's argued that the contested trademark infringed upon their earlier registered trademarks by creating a likelihood of confusion among consumers. However, the opposition was rejected, and the contested trademark was allowed to proceed to registration.

The opposition was based on Article 8(1)(2) and (3) of the Law on Trademarks, which states that a trademark shall not be registered if it is confusingly like an earlier trademark and is likely to mislead the public. McDonald's International Property Company, as the opposing party, claimed that *MAK SUSHI* was too like their trademarks and could create a false impression regarding the origin and nature of the goods.

After reviewing the case, the Board of Appeal ruled to reject the opposition and permit the registration of *MAK SUSHI*. The Board determined that there were no legal grounds to prohibit the registration, as the similarity between *MAK SUSHI* and McDonald's trademarks was not sufficient to cause consumer confusion. While acknowledging that McDonald's trademarks were earlier registered marks, the Board emphasized that visual, phonetic, and semantic comparison must be applied to determine the likelihood of confusion.

A direct comparison between *MAK SUSHI* and McDonald's trademarks revealed that there were no significant overlapping elements between them. Furthermore, the Board noted that McDonald's had misidentified the dominant and distinctive elements of the contested mark, leading to an erroneous and unfounded comparison. Consequently, since no substantial similarity was established, the issue of whether the trademarks covered identical or similar goods and services became legally irrelevant in this case.

The Board of Appeal ultimately ruled to reject the opposition under Article 56(4)(2) of the CTM Law, concluding that the opposing marks were not sufficiently similar to create a likelihood of confusion. The decision clarified that trademark similarity must be assessed based on the overall impression conveyed by the marks, with a focus on their distinctive and dominant elements. In this case, no misleading association between the trademarks was identified.

As a result, the Appellate Division of the State Patent Bureau of Lithuania ruled that there was insufficient similarity between *MAK SUSHI* and McDonald's trademarks to justify refusal of registration. The opposition was dismissed, and the contested trademark *MAK SUSHI* was allowed to proceed to registration.

One of the types of disputes handled by the Appeals Division of the State Patent Bureau of Lithuania (SPB) is appeals. A case analysis of Decision No. 2Ap-2321 of 12 January 2024 involves an appeal filed by the Association INFOBALT against the decision refusing the registration of the trademark *EnergyTech Digital*. The applicant disagreed with the examiner's decision, arguing that the mark complied with all legal requirements and should be registered.

The appeal was based on Article 7(1)(2) and (3) of the Law on Trademarks, which stipulates that a trademark may only be registered if it possesses sufficient distinctiveness and does not directly describe the characteristics of the goods or services. INFOBALT argued that, although the contested mark consists of generic words, it does not directly relate to the services covered by the application and thus meets the necessary legal requirements.

After re-examination, the SPB examiner upheld the initial decision, ruling that the mark lacked distinctiveness and did not meet the registration criteria. However, following a detailed review, the Board of Appeal overturned the decision, concluding that *EnergyTech Digital* satisfies the requirements of Article 7(1)(2) and (3) and is eligible for registration.

The Board of Appeal determined that, while the terms *Energy*, *Tech*, and *Digital* refer to specific fields, they do not directly describe the services covered in Classes 35, 36, and 41 (corporate business management, financial transactions, and educational services). The Board emphasized that the sign does not commonly describe these services, lacks a direct association with them, and does not mislead consumers.

Referring to EUIPO guidelines and relevant case law, the Board confirmed that *EnergyTech Digital* possesses distinctiveness. A trademark's distinctive character is assessed based on its use in commerce and public perception. Since the contested mark is not inherently descriptive of the applied services, it meets the legal standards for registration.

This decision highlights the Board of Appeal's focus on ensuring that trademarks are evaluated based on their distinctive qualities, consumer perception, and contextual relevance, rather than just their generic components.

On June 20, 2022, the Board of Appeal of the State Patent Bureau dismissed an appeal regarding the registration of a combination of the colours yellow and blue as a trademark. The applicant sought to overturn the examiner's decision, arguing that the colour combination functioned as a distinctive sign for their services. The Board of Appeal ruled that the evidence presented was insufficient to prove that consumers perceive these colours as a trademark without additional verbal or graphic elements. It emphasized that colours are generally seen as stylistic elements rather than trademarks unless proven otherwise.

Furthermore, the decision highlighted that inherent distinctiveness before use can only be recognized in exceptional cases, usually in highly specific markets. Since the applicant's services were aimed at a broad consumer base, the colour combination did not meet the criteria for trademark registration.

The Board of Appeal also referred to the Court of Justice of the European Union (CJEU) ruling in case C-104/01, which stated that colours can only be registered as trademarks under exceptional circumstances. The CJEU warned that monopolizing colours could distort competition and provide an unfair advantage.

This decision confirms that colour combinations alone cannot easily be registered as trademarks unless it is demonstrated that consumers clearly associate them with a specific commercial origin. Moreover, according to EU case law, it must be ensured that colour registration does not hinder competition or prevent other businesses from using similar colours in their operations.

On 12 April 2024, in Decision No. 2Ap-2334, the Appeals Division of the State Patent Bureau upheld the opposition filed by UAB AKROPOLIS GROUP against the registration of the trademark *DŽIAUGSMUI* by the small partnership Paragrafas. The opposition was based on Article 8(1)(2) of the Law on Trademarks and

Designs, which provides that a trademark shall not be registered if, by reason of its identity or similarity with an earlier mark and the identity or similarity of the goods or services, there is a likelihood of confusion on the part of the public.

The Board of Appeal found that the trademark *DŽIAUGSMAS*, owned by UAB AKROPOLIS GROUP, had been registered earlier than the contested mark. The analysis noted that both marks are word marks and consist of the same noun, the initial part of which, *DŽIAUGSM-*, is identical. Since the initial part of trademarks is the most easily perceived by consumers, this was considered a relevant factor in assessing similarity. In addition, the marks are phonetically identical in the number of syllables, the position of the accent, and the identical first syllable. They are also semantically identical, as both refer to the same meaningful word in the Lithuanian language.

In addition to the analysis of the similarity of the marks, the Board of Appeal also assessed the goods and services concerned. It was observed that goods and services can be considered identical not only when they are the same, but also when the goods or services covered by the contested mark fall within a broader category covered by the earlier mark. This legal reasoning is also supported by the case law of the Court of Justice of the European Union (CJEU), particularly in Case C-251/95, where it was emphasized that the assessment of trademark similarity includes visual, phonetic, and semantic aspects.

The Appeals Division of the Office for Harmonization in the Internal Market (OHIM), having assessed the similarity of the marks and the overlap in goods and services, concluded that there was a real likelihood of confusion on the part of consumers. The opposition was therefore found to be well-founded and was upheld, and the trademark *DŽIAUGSMUI* was refused registration. This decision underlines that the similarity of word marks is assessed in a complex manner, considering not only visual or phonetic criteria but also the semantic meaning and the categories of goods or services involved.

Conclusions

The State Patent Bureau of the Republic of Lithuania (SPB) is responsible for the registration of trademarks, including the examination of applications submitted by natural and legal persons, the assessment of trademarks, the issuance of registration certificates, and the renewal of their validity. To enhance efficient dispute resolution, starting in 2024, the Lithuanian State Patent Bureau (SPB) introduced out-of-court mediation services. Mediation aims to facilitate amicable dispute resolution, enabling parties to reach a mutual agreement while avoiding additional legal costs. The Appellate Division of the SPB handles disputes related to trademark registration, revocation, or cancellation in a pre-trial procedure. These disputes may be examined through written or oral proceedings, ensuring efficient argument evaluation and the issuance of well-reasoned decisions. These procedures enhance legal clarity and transparency in the trademark registration process.

The examination of trademark disputes before the Appellate Division of the SPB is based on an integrated assessment of trademarks, in accordance with the case-law of the Court of Justice of the European Union (CJEU) and the EUIPO Trademark Examination Guidelines. During the dispute resolution process, the similarity of trademarks is assessed from visual, phonetic, and semantic perspectives, considering their distinctive and dominant characteristics. The likelihood of confusion is determined based on the overall impression of the trademarks and the context in which they are used. The Appellate Division relies not only on national legislation but also on international legal frameworks, including the Paris Convention for the Protection of Industrial Property. Trademarks may be refused registration or invalidated if they are deemed to be contrary to public policy, morality or the public interest. Special attention is paid to ensuring that trademarks do not infringe upon the fundamental political and social principles of the European Union. This approach guarantees that registered trademarks comply with legal requirements and do not mislead consumers.

The consistent application of both national and international legal norms contributes to a coherent and reliable trademark protection framework. The practices of the SPB, particularly those of its Appellate Division, reflect an increasing emphasis on qualitative legal reasoning, transparency, and harmonisation with EU standards. Furthermore, the introduction of mediation not only diversifies the available legal remedies but also reinforces a culture of cooperation and compromise among disputing parties. These developments demonstrate a proactive approach toward strengthening the institutional capacity of the SPB in safeguarding trademark rights and promoting legal certainty in the field of intellectual property.

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PROBLEMS OF LEGAL REGULATION OF SUSPENSION OF SENTENCE

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Keywords: sentence, suspension of execution, legal regulation.

Abstract
This work formulates the problems of legal regulation of suspension of execution of sentence from theoretical aspects. Documentary content analysis is performed - the concept of suspension of execution of sentence is analyzed, regulation of suspension of execution of sentence at the international and national levels, analysis of scientific literature. Case law analysis - the problems of legal regulation of suspension of execution of sentence are analyzed.

Introduction

The issue of legal regulation of the suspension of sentence is a relevant topic, not only for specialists working in the field of criminal law, but also for the entire society. In scientific sources and judicial practice, the suspension of sentences is considered an alternative measure to imprisonment, without isolation from society. Such an alternative is applied only under certain conditions, providing an opportunity for a person who has committed a crime to avoid the most severe criminal measure - imprisonment.

The topic is relevant because public attention to human rights is growing, and ensuring fair treatment of convicted people is not always properly regulated in practice. Legal gaps are manifested in the application of conditions for the postponement of sentence execution, which are not always clearly regulated by law, and questions also arise regarding the effectiveness of this measure in terms of control and social integration (Abramavičius, 2016, p. 302). In today's context, in the criminal law system, the postponement of sentence execution is aimed not at punishment, but at helping the person who committed the crime to resocialize, reduce potential recidivism and avoid isolation, which often has negative consequences in the future (Švedas, Veršekys, 2016, p. 6-27). This measure avoids overcrowding in prisons and at the same time reduces state costs. To implement the set goals of probation, it is necessary to ensure effective and clear regulation of the postponement of the execution of the sentence, which would help the person who committed the crime to understand his responsibilities and possible stricter consequences and would promote positive behavioral changes during the probation period and after it.

A transparent and clear system for the postponement of the execution of the sentence is necessary for both convicts and law enforcement institutions, therefore it is particularly important to address the existing gaps in the legal system related to the regulation and application of this institute in practice (Kuzminskaitė, Dirgėlienė, 2014, pp. 1-16). A transparent and clear system can help to effectively implement probation, ensure justice and prevent recidivism of convicts, which often occurs due to isolation from society and the lack of behavioral changes.

Article object - the postponement of the execution of the sentence.

Article aim- to analyze the features and problems of the legal regulation of the suspension of sentence in Lithuania.

Article objectives:

1. To present the concept and development of suspension of sentence in Lithuania.
2. To analyze international and national legal acts regulating suspension of sentence.
3. To examine the problems of application of suspension of sentence and execution of the process on a national scale.

Research methods. Documentary content analysis – the concept of penalties is analyzed, the institute of penalties in Lithuania, types and proportions of penalties, application of penalties, grounds for reducing penalties, analysis of scientific literature. Analysis of the practice of Lithuanian courts and the European Union – the peculiarities of the application of penalties in judicial practice and the application of penalties in the courts of the European Union are analyzed.

The concept of suspension of sentences

In order to present the concept of postponement of the execution of a sentence, it is first necessary to review the concept of probation. Probation is an alternative measure to imprisonment, in the process of which the behavior of a person who has committed a crime is constantly monitored or supervised (Grigaravičius, 2016, p. 220). Probation has two forms - postponement of the execution of a sentence, conditional release from imprisonment before the term, and conditional release from correctional institutions (Law on Probation of the Republic of Lithuania 2011, No. XI-1860, current version from 2024-05-14). In all three cases, the rights and freedoms of the convicted person are restricted, but in a lighter form than in the form of imprisonment. The convicted person must fulfill certain individual conditions during the probation period so that no negative consequences arise and the execution of the sentence is credited.

In scientific literature, probation is defined as a trial period for a person who has committed a crime, during which the latter is assigned monitoring and control of his behavior (Sakalauskas, 2013, pp. 5-39). During this trial period, the person who has committed a crime is given the opportunity to change his behavior norms and not commit other criminal acts, while at the same time ensuring constant supervision (Sakalauskas, 2013, p. 37). According to Sakalauskas (2013, pp. 5-39), this measure is not intended to punish, but to allow the convicted person to correct his/her faulty behavior independently, without isolation from society. Vasiliauskas and Kazakevičius (2020, p. 184) identify probation as a control measure, the purpose of which is to ensure that the person who committed the crime complies with the established probation conditions, while at the same time providing him/her with the opportunity to avoid isolation from society and not lose social ties. Another author expresses a similar opinion, stating that probation is an instrument for individualizing punishments, which can be used to apply milder punishments that allow maintaining social ties with loved ones and society (Švedas, 2021, p. 238). Other authors note that probation is not only a means of control and integration into society. Abramavičius et al. (2019, p. 244) argue that probation creates conditions for a person who has committed a crime to avoid recidivism, due to the person's individual supervision and constant social control (Abramavičius et al., 2020, p. 244). After reviewing the concept of probation in scientific literature, it can be concluded that probation is like a trial period for a convicted person, during which the person can change their faulty behavior while living in freedom, rather than in a prison. The monitoring and social control applied during the probation period helps to ensure that the person who committed the crime complies with the established probation conditions and behavioral norms. At the same time, the person who committed the crime is given the opportunity not to lose social ties with family and society. This measure allows for the application of milder sentences than imprisonment and is an excellent preventive measure to reduce the likelihood of recidivism during the probation period.

As Drakšas (2020, p. 457) states, “a court can impose a fair sentence only by following the totality of criminal substantive and procedural law norms.” This means that the court has a great responsibility to thoroughly investigate the case and its circumstances, guided by the principle of impartiality, and to make a fair decision based on solid grounds.

Postponement of sentences is one of the forms of probation, which is used to implement criminal liability. This form is considered an institute of the general part of criminal law, which allows a person who has been sentenced to a prison sentence to postpone the term of serving the sentence. According to Lauciaus (2020, p. 184), deferred sentence is a method intended to individualize sentences, thereby reducing the number of prisoners in prisons. Another author presents a similar opinion, stating that deferred sentence is an individual form of punishment, which gives the convict the opportunity to serve the sentence later (Simanaitytė, 2016, p. 201). Other authors (Žilinskas, Vasiliauskas, 2019, p. 312) consider the postponement of the execution of the sentence as a preventive measure that helps the person who committed the crime not to lose social ties. Abramavičius et al. (2001, p. 447) also consider the postponement of the execution of the sentence as a preventive measure of punitive impact, designed to avoid the isolation of the person who committed the crime from society. Meanwhile, Čepas (2009, p. 10) notes that the postponement of the execution of the sentence is an important tool that provides the opportunity to differentiate punishments based on the nature of the crime and the individual characteristics of the person who committed the crime. Another author argues that the postponement of the execution of the sentence has an impact on reducing recidivism, because a properly applied postponement can reduce criminal recidivism (Sakalauskas, 2013, p. 32).

In summary, it can be stated that the postponement of the execution of the sentence is primarily considered a preventive measure, which is imposed by the court on a convicted person who has been found guilty, but it is a lighter form of punishment in a procedural sense than imprisonment.

Legal regulation of suspension of sentences at international and national levels

One of the first international documents relevant in the context of the analyzed topic is the European Convention for the Protection of Human Rights and Fundamental Freedoms (1950), adopted in 1950. Article 5, paragraph 1 of this convention states that "everyone has the right to liberty and security of person" and freedom may not be restricted unless there is reasonable evidence of a crime committed "when he is lawfully detained on the basis of a decision of a competent court" (Law of the Republic of Lithuania "On the Ratification of the European Convention for the Protection of Human Rights and Fundamental Freedoms, its Fourth, Seventh and Eleventh Protocols", 1955). Such regulation allows for the application of alternative measures, such as the postponement of the execution of the sentence in the pre-trial process, until the person is found guilty. Meanwhile, Article 6 provides for the right of the person to a fair trial, and the practice of postponing the execution of the sentence can be considered an effective measure to ensure the rights of the accused person to liberty (Law of the Republic of Lithuania "On the Ratification of the European Convention for the Protection of Human Rights and Fundamental Freedoms, and its Fourth, Seventh and Eleventh Protocols", 1955).

Another relevant international legal instrument is the United Nations International Covenant on Civil and Political Rights, adopted in 1966 (International Covenant on Civil and Political Rights, 1966). This document does not contain a direct definition of probation or suspension of sentence, but it does set out essential principles whose application is relevant in the context of suspension of sentence. For example, Article 9(3) of the International Covenant on Civil and Political Rights states that "the detention of persons pending trial shall not be a matter of routine, but release may be subject to guarantees that they will appear in court, participate in all other stages of the trial and, if necessary, comply with the judgment" (International Covenant on Civil and Political Rights, 1966).

Another significant international legal act emphasizing fundamental principles of justice is the EU Charter of Fundamental Rights, adopted in 2000. This Charter entered into force throughout the EU, including Lithuania, only after the ratification of the Lisbon Treaty in 2009 (the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed in Lisbon, 2007). Article 48 of this document defines the presumption of innocence: "Everyone charged with a criminal offence shall be presumed innocent until proven guilty according to law" (Law of the Republic of Lithuania "on the ratification of the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community", 2008).

In the context of the topic under analysis, it is also important to examine the EU recommendations on probation and alternative sanctions. One such is the Council of Europe Decision "2008/947/JHA on the application of the principle of mutual recognition to judgments and decisions on conditional sentences with a view to ensuring the supervision of conditional release measures and alternative sanctions" (Council Framework Decision, 2008/947/JHA). With these recommendations, the EU encourages the use of probation processes and other alternative measures to reduce prison overcrowding and enhance the resocialization of convicted people.

After Lithuania regained its independence in 1990, a system of probation and postponement of sentence was formed, based on the models of the USA and European countries that existed at that time. According to Levon (2012, pp. 97-111), postponement of sentence appeared in the Criminal Code of the Republic of Lithuania (hereinafter referred to as the Criminal Code of the Republic of Lithuania) in 1994, when an amendment was adopted that provided for the possibility of applying postponement of sentence, with minimal restrictions on its rights. At the same time, a probation system was also being introduced (Levon, 2012, pp. 97-111). According to another author's analysis, in 2000, a new Criminal Code was adopted in Lithuania, which established the postponement of sentence as an alternative to imprisonment (Grigaravičius, 2017, pp. 76-79). The new code provided for specific conditions for probation and suspension of sentence, applied depending on the complexity of the crime and the characteristics of the convicted person's behavior. In 2001, the Penal Code (hereinafter referred to as the CPC) was adopted, which established the rules for the application of probation and suspension of sentence, defined the functions of probation services and supervision instruments (Levon, 2012, pp. 97-111).

Another important date when analyzing the development of the postponement of sentence enforcement in Lithuania is 2012, when the Law on Probation was adopted (Law on Probation of the Republic of Lithuania of 22

December 2011 No. XI-1860, current version as of 2024-05-14). The latter legalized probation services as separate institutions, whose main task was to supervise and control the suspension of sentence execution (Abramavičius et al. 2020, p. 246). Along with this law, electronic monitoring tools for people who have committed a crime were introduced. The law also regulates the processes of probation and suspension of sentence execution, the functions of probation service supervisors, and additional measures intended to correct the behavior of persons who have committed a crime (Žilinskas, 2017, pp. 210-215).

The Probation Law has had several amendments to date that are important for the topic under analysis. In 2015, the Probation Law was significantly amended, establishing enhanced monitoring of people who have committed a crime. The amendments included the obligation of the probationer to comply with certain restrictions on activities and place of residence, and to actively cooperate with the probation service throughout the probation period (Law on Probation of the Republic of Lithuania, current version as of 01/09/2015).

Another legislative reform was implemented in 2017, which consolidated the activities of probation services. This means that structural centralization was carried out, during which different probation services were merged into a single national probation service. The result is centralized management, coordinating the unified activities of all probation departments. Services were also standardized to ensure uniform supervision conditions regardless of location (Levon, 2012, pp. 97-111). Such changes ensured the lawful and consistent implementation of probation. In 2020, probation supervision was renewed, and probation officers were provided with more resources and tools, with the help of which monitoring began to be applied more effectively. With this update, additional specialized programs were created, the purpose of which was to separate high-risk groups of recidivism and apply individual monitoring and control to them (Rutkauskas, 2020, pp. 130-134). The last change was made in 2022, during which new amendments were made to the Criminal Code of the Republic of Lithuania and the Probation Law. The latter included new principles of probation enforcement, focused on social rehabilitation and its importance. Also, electronic monitoring has been strengthened once again and stricter penalties have been imposed in cases of violation of probation conditions (Law on Probation of the Republic of Lithuania, current version as of 01/07/2022).

When analyzing the postponement of the execution of a sentence, it is important to review the currently valid version of the Law on Probation of the Republic of Lithuania (current version as of 2024-05-14). Part 2 of Article 11 of this law regulates the grounds for the execution of probation: “the execution shall commence on the day of receipt of the final court judgment (ruling) and the order (order) to execute the judgment or ruling by the probation service” (Law on Probation of the Republic of Lithuania, current version as of 2024-05-14). This means that the probation process is considered to begin with a court decision granting a stay of execution of the sentence. It is also indicated that probation services shall begin supervision immediately after the court verdict, including the convicted person in the “probationary personal data register” (Law on Probation of the Republic of Lithuania, current version as of 14 May 2024). Meanwhile, Articles 12, 13 and 14 specify the legal status, rights and duties, prohibitions and obligations of convicted persons (Law on Probation of the Republic of Lithuania, current version as of 2024-05-14).

In summary, it can be stated that the principles of probation and suspension of sentence are based on international and EU legal acts, regulatory documents and recommendations. The latter emphasizes the principles of human rights, justice and proportionality in judicial proceedings, and the importance of resocialization and reducing recidivism. International legal acts encourage the search for alternative punishment measures in pre-trial, executive and parole processes, aiming at the integration of offenders or accused people into society. For these reasons, the application of suspended sentences can be considered an effective means of ensuring human rights and freedoms, characterized by long-term social and judicial benefits. After Lithuania regained independence in 1990, a system of probation and suspended sentences was formed, based on the models of the United States and European countries that existed at that time.

Analysis of Lithuanian Court Practice on Postponement of Sentence Execution

The three most important aspects on which judicial practice in Lithuania can be analyzed are inaccuracies of legal regulation and problems of interpretation, incompatibility with international standards, and legal gaps or incompleteness. Criminal cases were selected for analysis, in which all the previously listed aspects are found.

The first aspect - inaccuracies of legal regulation and problems of interpretation are noticeable in the criminal case of the Supreme Court of Lithuania (No. 2K-304-895/2018), which was decided on the application of a postponement of the execution of the sentence. In the case (No. 2K-304-895/2018), the defendant was incriminated with various criminal acts (fraud, forgery of documents and other illegal acts), as a result of which it was decided to consolidate the acts and postpone the execution of the sentence, however, insufficient attention was paid to the social and economic circumstances of the defendant, which could have influenced the decision. The defendant met the criteria of a socially and economically vulnerable person – he did not have a stable income and was registered as unemployed with the Employment Service (Criminal Court of Lithuania, Case No. 2K-304-895/2018). The CRC imposed a prison sentence, stating that the difficult social situation did not constitute a basis for mitigating the sentence, and also assessed the possibilities of resocialization and decided that there was no reason to believe that the defendant would reform, as this was a repeated criminal act committed over several years (Criminal Court of Lithuania, Case No. 2K-304-895/2018).

In another case of the Šiauliai Regional Court (Criminal Court of Lithuania, Case No. 1S-30-354/2020) regarding the "shortening of the term of suspension of execution of the sentence and the cancellation of the criminal record", interpretation issues are also noticeable. In this Šiauliai Regional Court case (No. 1S-30-354/2020), the issue of shortening the term of suspension of the execution of the sentence and canceling the criminal record was considered, however, the Šiauliai Regional Court rejected the convicted person's request, arguing that the criminal law does not provide for such possibilities (Šiauliai Regional Court case No. 1S-30-354/2020). This case reveals the problematic of interpreting and applying legal acts when convicted persons seek shortening the term of suspension of the execution of the sentence and cancellation of the criminal record. It is important to note that the Šiauliai Regional Court strictly adhered to the norms of the applicable legal acts and argued that the Criminal Code of the Republic of Lithuania does not provide a legal basis for satisfying such requests. Also, the convicted person was subject to conditions of suspension of sentence ("the execution of the sentence was postponed for 1 year") and additional sanctions ("a contribution of 10 MGL (376.60 EUR) to the Crime Victims Fund"), therefore there is no basis for adopting additional decisions (Šiauliai Regional Court Case No. 1S-30-354/2020). In other words, the Šiauliai Regional Court stated that such a request contradicts the development of the law, because "reduction of the term of conviction and cancellation of conviction is impossible when the institute of suspension of sentence is applied to a person", therefore, granting the request cannot be considered (Šiauliai Regional Court Case No. 1S-30-354/2020). Such an interpretation of the court indicates that the options of convicted persons are not clearly defined and are more formal than practical, since the Lithuanian legal framework does not provide opportunities to take advantage of resocialization benefits.

When analyzing the inaccuracies of legal regulation and problems of interpretation, cases are noted where there is a lack of a clear definition regarding the implementation of additional conditions in the probation process. In the LAT criminal case (No. 2K-180-1073/2019), the execution of the sentence was postponed, the accused was ordered to participate in a behavioral correction program and was obliged not to use psychotropic substances. However, the legal framework does not clearly define how violations of such special conditions are assessed and which institutions are responsible for the implementation of these conditions. This creates the basis for assessing violations individually, which results in the problem of unequal interpretation.

In another case of the Vilnius Regional District Court (No. 1-827-927/2019), a case regarding the postponement of the execution of the sentence was examined, but without finding sufficient grounds to ensure the resocialization and behavioral control of the accused, a custodial sentence was imposed - imprisonment. The defendant was characterized by antisocial behavior, so it was difficult to formulate goals and methods for changes in behavioral norms. For these reasons, it can be assumed that the current regulation of the Criminal Code of the Republic of Lithuania (current version from 2024-11-15) does not contain clear guidelines on how to ensure the effectiveness of the postponement of the execution of sentences in the long term. In other words, the regulation is of a general nature and does not indicate how to ensure the integration of the convict into society, even after applying additional probation conditions.

The second aspect - the incompatibility of legal acts with international standards is also noticeable in judicial practice. In the previously analyzed LAT criminal case (No. 2K-180-1073/2019), the convict is instructed to participate in a behavioral correction program, however, without an assessment of whether the specific program is suitable for the convict's personality or needs, such participation may be ineffective

The second aspect - the incompatibility of legal acts with international standards is also noticeable in judicial practice. In the previously analyzed LAT criminal case (No. 2K-180-1073/2019), the convicted person is instructed to participate in a behavioral correction program, however, without an assessment of whether a specific program is suitable for the convicted person's personality or needs, such participation may be ineffective in principle. As analyzed in the previous section, international legal acts and EU recommendations emphasize the importance of resocialization and individualized punishments, however, in order to achieve efficiency, the convicted person's psychological state and social situation should be thoroughly investigated before the correction program is assigned. Otherwise, it is difficult to ensure efficiency.

In the criminal case of the Supreme Court of Lithuania (No. 2K-304-895/2018), which was decided on the application of a suspension of the execution of the sentence, social and economic circumstances that could have influenced the decision were not prioritized. International legal acts provide that decisions on punishments must be carried out taking into account the behavior of the person who committed the crime and other circumstances, not only the consequences of the crime. In this particular case, the Supreme Court (No. 2K-304-895/2018) prioritized the consequences, rather than the potential for the convict to integrate into society. For these reasons, it can be assumed that the application of international legal acts should be carried out more carefully, and national legal acts should be reviewed more often, in order to comply with international principles. Also, based on the principles of European human rights, insufficient attention to the integration of a person into society is contrary to international standards, in this case, prioritizing the consequences can be considered insufficient attention to the resocialization of the convict. The third aspect - legal gaps or incompleteness, is manifested in the incompleteness of the regulation of Article 75 of the Criminal Code of the Republic of Lithuania (current version from 2024-11-15) on the postponement of the execution of the sentence. The latter lacks clear guidelines on how to ensure the court's obligations to convicts, as proven by judicial practice. As mentioned above, in the LAT case (No. 2K-180-1073/2019), the convict was obliged to participate in a behavioral correction program and not use psychotropic substances. However, the Lithuanian legal system does not provide for control mechanisms that would regulate and select programs that meet the needs and condition of the convict, assess the effectiveness of such programs in further legal proceedings, or specify additional measures that would be applied when the convict violates these court obligations. The main aspect regulated by the Criminal Code of the Republic of Lithuania (current version as of 2024-11-15) is a warning and termination of the suspension of the execution of the sentence, which acts as a means of threat (Sakalauskas, 2013, pp. 31-33). However, in the absence of in-depth assessments of the convict's social situation and psychological state, the application of the Criminal Code of the Republic of Lithuania (current version as of 15 November 2024) in relation to formal behavioral correction programs is more of a formal process than one that would directly comply with international recommendations and have long-term effectiveness. For these reasons, legal gaps and incomplete application of legal acts are obvious in the context of the Lithuanian legal system.

The regulatory gaps in Article 75 of the Criminal Code of the Republic of Lithuania (current version as of 15 November 2024) are also reflected in other examined cases. For example, in the case of the Vilnius Regional District Court (No. 1-1567-269/2019), court obligations were imposed on the accused who committed domestic violence (preventive work), but it is unclear how the fulfillment or non-fulfillment of those obligations is assessed in the probation process, or how their monitoring is effectively carried out. This shows the incompleteness of the legal acts, which lack clear guidelines and procedures for assessing and effectively monitoring the implementation of the assigned obligations.

In another criminal case of the Vilnius Regional District Court (No. 1-827-927/2019), the defendant was formally sentenced for the committed criminal acts, without taking into account the psychological state of the defendant and other corrective measures that are clearly necessary for him. Lithuanian legal acts regulate preventive measures in relation to persons who have committed repeated crimes quite narrowly. This means that there is a lack of consistency and completeness in order to ensure corrections of the behavior and resocialization of convicted persons.

There are also cases where Lithuanian courts interpret laws narrowly, without emphasizing the positive changes of the convicted person, and this can be considered a gap in the application of legal acts. Such a case is observed in the previously examined case of Šiauliai Regional Court (No. 1S-30-354/2020), in which the court assessed only the criteria established in the legal acts, ignoring the individual changes of the convict, when the latter submitted a request to shorten the suspension of the sentence.

In summary, it can be concluded that the postponement of the execution of the sentence is an effective measure that allows maintaining the social ties of the person who committed the crime and promotes the resocialization of such a person. However, based on case law, it seems that the application of the postponement of the execution of the sentence is often formal or limited. The issue of the postponement of the execution of the sentence in the context of the Lithuanian legal system reveals fundamental gaps related to the inaccuracies of legal regulation and problems of interpretation, incompatibility with international standards and the aspect of the incompleteness of legal acts. Lithuanian courts often follow formal general rules and legal norms, distancing themselves from the individual sentencing process, as there is a lack of clear mechanisms for this in legal documents.

Conclusions

The development of deferred sentencing in Lithuania was facilitated by the inclusion of this norm in the Criminal Code of the Republic of Lithuania at the end of the 20th century, as an alternative to avoid isolation from society. Over the past decades, the probation process and the postponement of sentence enforcement as a legal norm have improved, and the Lithuanian Probation Service was established. Electronic monitoring devices (bracelets) have also been introduced for convicted people, with the aim of more effective social control and enforcement of court obligations.

After analyzing international and national legal acts regulating the suspension of sentence execution, it can be concluded that such international legal acts as the European Convention on Human Rights, the EU Charter of Fundamental Rights and various EU recommendations to member states emphasize the principles of justice and resocialization in relation to convicted people. International legal acts also encourage the search for alternative methods of imprisonment to reduce recidivism and the occupancy of prisons. At the national level, the postponement of the execution of a sentence is regulated by the Criminal Code of the Republic of Lithuania (current version as of 15 November 2024), the Criminal Procedure Code of the Republic of Lithuania (current version as of 18 July 2024) and the Probation Law (current version as of 14 May 2024), which establish the main grounds, conditions and exceptions for this process.

After analyzing the postponement of sentence enforcement based on case law and problems in the conduct of proceedings, it can be concluded that the postponement of sentence enforcement in Lithuania is limited and formal. This is determined by inaccuracies in legal regulation, gaps and incompleteness in legal acts, the formal approach of courts to the individual social and economic circumstances of the person being tried, and the challenges faced by the Lithuanian Probation Service. As a result, limited and formal decisions negatively affect the effectiveness of postponing the execution of sentences, resocialization, reducing recidivism, and form a distrustful public attitude towards judicial decisions. Addressing these challenges requires systematic improvement of national legislation, constant harmonization with international legislation and regulatory documents and recommendations, as well as finding ways to improve the working conditions of the Lithuanian Probation Service.

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PSYCHOPHYSIOLOGICAL REASEARCH AND LEGAL ASPECTS

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Keywords: psychophysiology, psychophysiological research, polygraph, application of neuroscience in law, admissibility of evidence, right to liberty.

Abstract
This article examines psychophysiological examinations as a source of evidence in criminal, civil and other types of cases, with a focus on their legal application and regulatory issues in Lithuania. The theoretical part presents the concept of psychophysiological testing and its main methods - the polygraph (lie detector), functional magnetic resonance imaging (fMRI), and electroencephalography (EEG). Using document content analysis, the thesis evaluates Lithuania legal acts related to the conditions for applying such tests, the admissibility of evidence, and the protection of personal privacy and human rights. The research section analyses the case law of Lithuania courts and the European Court of Human Rights in order to determine how the legality and justification of these examinations are applied in practice.

Introduction

The advancement of modern technologies has an increasing impact on law enforcement institutions - new methods are being developed not only to investigate criminal offences but also to more thoroughly assess the behaviour of suspects or other participants in the proceedings. Among the applied methods are psychophysiological examinations, including the polygraph (lie detector), functional magnetic resonance imaging (fMRI), and electroencephalography (EEG). These tests are based on the analysis of a person's physiological responses to external stimuli to detect potential deception or other emotional reactions, which may be significant when assessing the circumstances of a case. First and foremost, when assessing the protection of individual rights, it is important to mention Article 22 of the Constitution of the Republic of Lithuania, which enshrines the right to private life, and Article 31, which establishes the principle of self - incrimination. Additionally, Articles 6 and 8 of the European Convention on Human Rights protect the right to a fair trial and protection of privacy. Because of these legal frameworks, the collection of physiological data must be approached with extreme caution. The use of polygraphs is regulated by a specific Law on the Use of the Polygraph which outlines the conditions and circumstances under which they may be applied. The procedure for polygraph testing is further detailed in a, Government Resolution, 'On the Approval of the Rules for Polygraph Testing.'' Furthermore, the polygraph may be used for the evaluation of persons related to classified information, as established by the Law on State and Official Secrets. Moreover, when it comes to the collection of sensitive data, such as physiological or neuropsychological data, it is important to mention the General Data Protection Regulation, which defines the handling of special categories of data and establishes strict requirements for their processing. It is particularly significant that Article 20 of the Code of Criminal Procedure of the Republic of Lithuania establishes the principle of admissibility of evidence, stating that data used in criminal proceedings must be obtained by lawful means. This raises the question of whether psychophysiological examinations can be regarded as admissible evidence or merely as supplementary information.

Methodology and theoretical foundations of polygraph application, standardization of the research process, and ethical issues. Results of practical research and their limitations. History helps us to understand the current debates on the legitimacy of the polygraph. Finally, research on the assessment of personal behaviour helps to assess a person's reaction in complex situations becomes relevant during psychophysiological research when the subject is experiencing stress or tension. The subject of the thesis is psychophysiological research and its legal aspects. The purpose of the work is to analyse the legal regulation and practice of psychophysiological research in Lithuania.

Objectives of the thesis:

1. To present the concept of psychophysiological research;
2. To analyse the legal regulation of psychophysiological research;
3. To analyse the application of psychophysiological research in the European Union;
4. To determine how the legality and validity of psychophysiological research are applied in judicial practice.

Data and methods

The work used document analysis - psychophysiological tests - such as the polygraph, fMRI and EEG, as well as an examination of the foundations of legal regulation, aspects of human rights protection, and the issue of admissibility of evidence. National legal acts, European Union and international documents, as well as scientific literature describing the methods and application of these tests were analysed. An analysis of the case law of the Republic of Lithuania and the European Court of Human Rights was carried out to assess how psychophysiological tests are assessed in practice and their compliance with human rights protection standards.

Conclusions

The concept of psychophysiological research - it can be stated that the research includes the analysis of the interaction of human physiological reactions and psychological state, using such methods as polygraph (lie detector), functional magnetic resonance (fMRI) and electroencephalography (EEG). Although the mentioned methods can reveal certain emotional or cognitive reactions, the interpretation of these results depends on many subjective factors, therefore they cannot be considered completely objective or sufficient basis for decisions. The limitations of application and scientific validity of the methods are still the subject of several discussions, especially when these research methods are in a legal context.

The legal regulation in force in Lithuania, related to the polygraph, based on psychophysiological research, unaccompanied minors and shortcomings of minors. Despite the Law on the Use of the Polygraph and other legal acts, there are no clear provisions on the evidentiary value of the results in legal proceedings and ensuring the protection of human rights. Discussion of other countries: the USA and Poland show that these studies are more widely used, but their results are Poland show that these studies are more widely used, but their results are often only indicative. In Austria and Germany, the results of a polygraph test are critically assessed and are not considered reliable evidence in courts, and the legal regulation of Latvia is close to the Lithuanian situation, but is also not sufficiently comprehensive.

The application of psychophysiological studies in the European Union has revealed that these methods are not directly regulated, but their application is limited through the main human rights protection documents. The European Convention on Human Rights prohibits inhuman or degrading treatment or punishment, and the General Data Protection Regulation 2016/679 provides for strict conditions for the processing of personal data, especially when it comes to mental health or biometric data. This shows that any psychophysiological studies in European countries must be carried out only with a clear legal basis, informed consent and the principles of proportionality and legality.

Psychophysiological legal acts and criteria of validity applied in court practice - show that both Lithuanian courts and the Court of Human Rights assess these methods critically and very cautiously. In Lithuania court practice, the results of polygraph tests are considered auxiliary information that does not have independent evidentiary value. The essential assessment criteria are the legality of the test (ensuring human rights and voluntariness) and validity (methodological reliability, scientific basis). The jurisprudence of the ECHR ensures that any methods of testing that affects the dignity of a person may violate psychological or physical integrity, must be strictly limited and applied only on an established legal basis.

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JUDICIAL MEDIATION – A GROWING DISPUTE RESOLUTION METHOD?

Ivona Bernat
Lect. Vilija Šlajienė
Keywords: judicial mediation; mediation process; alternative dispute resolution; Lithuania; mediation development.

Abstract
This article analyzes the development of judicial mediation in Lithuania and its growing popularity trends. The theoretical part examines the concept, principles, and legal regulation of judicial mediation both in Lithuanian and European Union law, as well as its application within the Lithuanian legal system. Particular attention is paid to the use of mediation in civil, administrative, and family law cases. The empirical part is based on secondary data analysis: statistics from 2020 to 2023, reports of the Judicial Mediation Commission, and the activity results of the State Guaranteed Legal Aid Service. Based on scientific literature, statistical data from 2020–2023, and court practice analysis, the aim was to evaluate whether judicial mediation is becoming a more popular method of dispute resolution, to assess its role and trends in civil and administrative cases, and to highlight practical implementation challenges. It was evaluated whether judicial mediation is truly gaining popularity in Lithuania. Research data revealed that judicial mediation is most frequently applied in civil cases (especially family disputes), while in administrative cases it remains rare. In order to increase the accessibility and efficiency of mediation, it is necessary to strengthen the legal framework and involve more certified mediators in the process.

Introduction

Judicial mediation is a structured method of dispute resolution. Article 2 of the Law on Mediation of the Republic of Lithuania (Register of Legal Acts, 2017, No. 12053, current version effective from 01-01-2021) provides that during judicial mediation, the parties to the dispute, with the help of a mediator, seek a peaceful resolution that fully or partially satisfies both sides. In this way, through cooperation, the parties reach a mutually acceptable agreement and avoid a traditional court decision, where one party is declared the winner and the other – the loser.

Taking into account Directive 2008/52/EC of the European Parliament and of the Council adopted in 2008, it is evident that mediation has long been offered as an alternative. In Lithuania, this dispute resolution method is established by the Law on Mediation, which is regularly updated to meet the needs of the public, the judicial system, and mediators. Article 9 of the Law on Mediation stipulates that the purpose of judicial mediation is to ensure a procedure for resolving civil or administrative disputes, during which one or more mediators assist the parties in peacefully resolving the dispute in a case under consideration by the court (Register of Legal Acts, 2017, No. 12053, current version effective from 01-01-2021). This method is based on the voluntary participation of the parties, cooperation, and mutual trust. Judicial mediation is becoming an increasingly relevant tool in dispute resolution practice in Lithuania. The choice of this topic is based on the objective to analyze whether judicial mediation is a growing method of dispute resolution and to examine the current situation.

Objectives set: to reveal the theoretical aspects of judicial mediation and its application in the Lithuanian legal system, and, based on statistical data and court practice analysis, to assess whether judicial mediation is gaining popularity as a method of dispute resolution.

Data and Methods

To achieve the goal and objectives of this thesis, the following research methods were used: analysis of scientific literature, analysis of normative legal acts, and generalization – in order to reveal the concept of judicial mediation, its application, development trends, and preconditions for growing popularity in Lithuania. A comparison method was also applied to compare the provisions of Lithuanian judicial mediation regulations with those adopted in European directives, along with various authors' opinions and positions on the legal regulation of this institution, as well as challenges encountered. A qualitative research method was used for the analysis of secondary data, i.e., reviewing court practice and examining the 2020–2023 reports of the Judicial Mediation Commission and the State Guaranteed Legal Aid Service, as well as other scholarly works related to judicial mediation, to highlight mediation trends in the Republic of Lithuania.

Results

It is observed that both at the European Union and national levels, legislative initiatives are constantly being improved with the aim of granting mediation greater power and potential in resolving disputes between interested parties. This approach naturally serves as an alternative to traditional court proceedings.

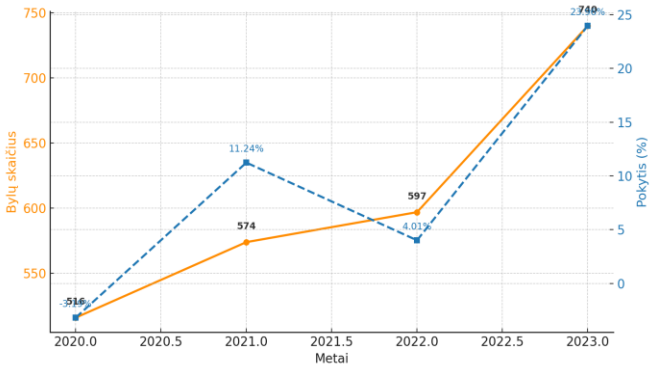


Fig. 1. Number of civil cases referred to judicial mediation

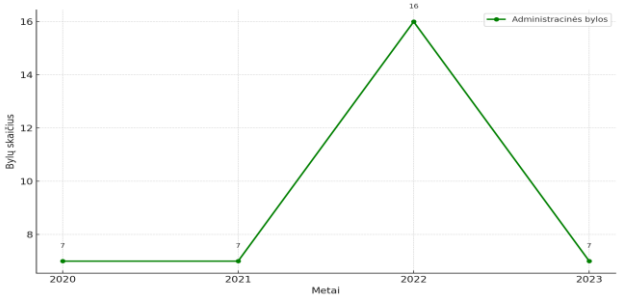


Fig. 2. Number of administrative cases referred to judicial mediation

The data presented reveal a decrease in the number of civil cases referred to the judicial mediation process in 2020 (compared to 533 cases in 2019). This decline could be attributed to the pandemic-related restrictions, during which a national quarantine was declared and various institutions and agencies sought ways to shift their operations to remote work. Despite the direct and indirect influence of external factors, judicial mediation is gaining popularity. According to statistical data, the number of civil cases referred to mediation increased by more than 43 percent. Regarding the referral of administrative cases to mediation, no such growth has been recorded, and a stagnation in this area is evident. To overcome this, additional efforts must be made to promote mediation further. In order to analyze the growing popularity of judicial mediation in resolving disputes in greater depth, other statistical data on judicial mediation will be examined. These will help to reveal prevailing statistical trends in the mediation field.

When analyzing the trends in the growing popularity of judicial mediation as a dispute resolution method, it is important to review not only the overall statistics, which show general tendencies, but also statistical data reflecting the differences among courts of the same category. This section seeks to identify which courts refer the highest number of disputes to judicial mediation and the reasons behind the volume and success of judicial mediation in these courts.

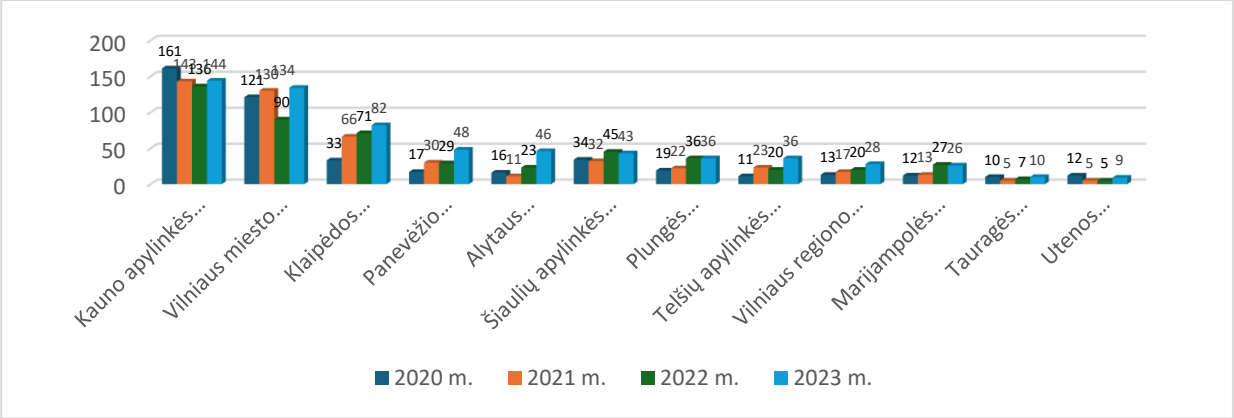


Fig. 3. Number of Cases Referred to Judicial Mediation in District Courts

When assessing the number of cases referred to judicial mediation by regional courts, it can be observed that only in 2023 did the Kaunas Regional Court refer the most cases to judicial mediation – 39 cases. In the same year, the Vilnius Regional Court referred 36 cases. During all other years of the analyzed period, the Vilnius Regional Administrative Court referred the most cases among the regional courts. The Panevėžys Regional Court referred the fewest cases.

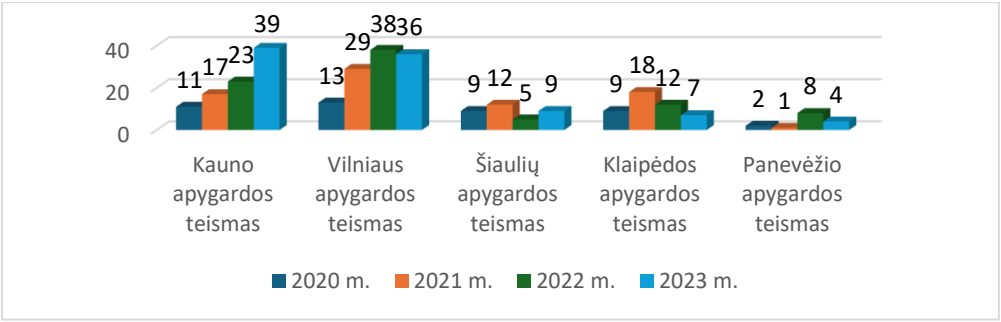


Fig. 4. Number of Cases Referred to Judicial Mediation in Regional Courts

In the analyzed period, the number of cases referred to judicial mediation by administrative courts is significantly lower than the number of cases referred by courts of general jurisdiction. The Vilnius Regional Administrative Court refers the highest number of cases to judicial mediation, and this trend remains consistent throughout the entire analyzed period. According to the provided summarized statistics, it can also be seen that in 2022, all administrative courts referred more cases to judicial mediation than in other years.

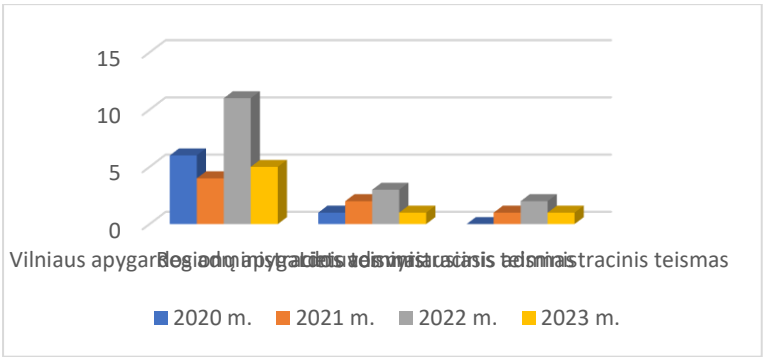


Fig. 5. Number of cases referred to judicial mediation in administrative courts

During the analyzed period, the number of cases referred to judicial mediation by administrative courts is significantly lower compared to those referred by courts of general jurisdiction. The Vilnius Regional

Administrative Court refers the most cases to judicial mediation, and this trend remains consistent throughout the reporting period. According to the summarized statistics provided (Figure 6, Number of cases referred to judicial mediation in administrative courts), it is also evident that in 2022 all administrative courts referred more cases to judicial mediation than in any other year of the period analyzed.

To assess whether judicial mediation is becoming an increasingly popular method of dispute resolution, it is important to analyze data related to the outcomes of cases referred to mediation. Only an increasing number of successfully completed judicial mediation cases would allow the conclusion that this dispute resolution method is growing in popularity.

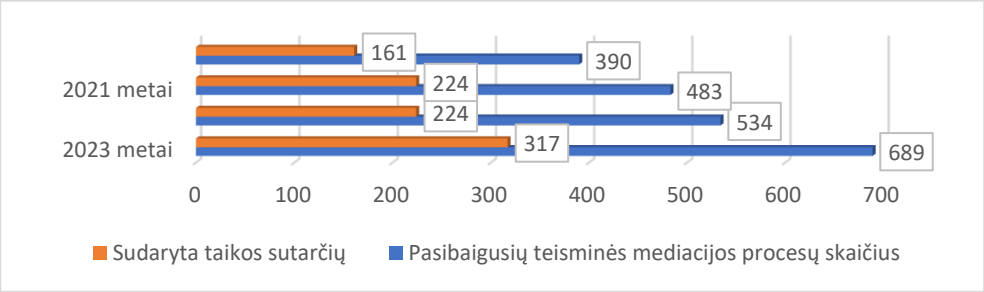


Fig. 6. Outcomes of judicial mediation processes during the period 2020 - 2023

According to the summarized statistics on the outcomes of judicial mediation processes (Figure 7, Outcomes of judicial mediation processes during the period 2020–2023), about half of the disputes referred to judicial mediation are concluded with the signing of a settlement agreement. It is worth noting that throughout the entire reporting period, this ratio has remained stable—between 41% and 46% of all judicial mediation processes ended in settlement agreements. Although no significant changes are observed during the analyzed period, the trend is positive, meaning that the number of settlement agreements is steadily increasing or remains consistent.

Conclusions

After analyzing the legal framework, it was concluded that the existing legal basis does not yet guarantee a broad and effective application of judicial mediation in practice. Although this method of dispute resolution has been promoted internationally for quite some time and has also been applied in Lithuania for twenty years, it cannot yet be considered effectively implemented. Nevertheless, research and collected statistical data analyzing trends in judicial mediation indicate that in the future, mediation as a means of resolving not only civil but also administrative disputes will become more popular. This forecast is supported by the evident efforts of the state to expand the use of mediation. The second part of the thesis analyses judicial mediation as a growing method of dispute resolution. After reviewing statistical trends on the application of judicial mediation in Lithuania based on reports of judicial mediation activities between 2020 and 2023, and evaluating the scope of mediation in administrative and civil cases, as well as the outcomes of mediated cases, the study presents both the possibilities for the expansion of judicial mediation and the challenges that may hinder its popularity. The analysis shows that judicial mediation is becoming a more popular method of dispute resolution, especially in civil cases—most notably in family law. However, in administrative disputes, judicial mediation still faces both internal and external challenges that prevent the full realization of its potential. Some of these challenges are related to human resources—judges' workloads often do not provide favorable conditions for applying mediation procedures. Another important aspect is the need to improve the qualifications and skills of mediators in this area, including judges who are or could potentially serve as mediators in administrative disputes. Recent trends reveal a stagnation in the number of cases referred to mediation, even though the necessary legislation for the mediation process is in place. A key factor in the growing popularity of judicial mediation is public awareness. Broader education is needed among the general public, law enforcement, and public administration institutions about the benefits and applicability of mediation as an alternative method of dispute resolution.

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COMPARATIVE SAMPLE TACTICS

Laurynas Vėlyvis
Lect. Jovita Jonkienė
Keywords: comparative sample, tactics.

Abstract
The article analyzed the concept of taking comparative samples, the procedural and tactical foundations of taking. Next, separate tactics for taking comparative samples and recording the results were selected, and their features were analyzed. These are the tactics of taking fingerprints and palm prints, DNA, handwriting, smell and voice traces. The features of taking these different tactics, methodologies, and recording the results are described. The third part of the work analyzed case law, identifying problems with the tactics of taking comparative samples, the principles of the methodology for presenting specialist conclusions, and other problematic issues. The protection of individual rights when taking comparative samples was analyzed, the assessment of the conducted research when obtaining comparative samples in other ways, when the research conclusion was non-categorical.
The work used the method of scientific literature analysis, analysis of regulatory legal acts, analysis of case law, systematic, comparative, and logical methods.

Introduction

Topic relevance. The Constitution of the Republic of Lithuania (TAR, 1992, No. 33-1014), the European Convention for the Protection of Human Rights and Fundamental Freedoms (Valstybės žinios, 1995, No. 40-987), the International Covenant on Civil and Political Rights (Valstybės žinios, 2002, No. 77-3) and other international and national legal acts imperatively provide that the rights and freedoms of an individual may be restricted only in strict accordance with the procedure established by legal acts and only to achieve goals important to society as a whole. It is the duty of every person not to violate the laws and the legal norms enshrined in them, because in case of violation of the law, law enforcement institutions will be forced to restrict human rights and freedoms in order to be able to reveal the committed criminal acts and punish the persons who committed them. Law enforcement institutions, while protecting state values and the rights of violated persons, and performing the functions provided for, acquire the right to apply procedural coercive measures that restrict the rights of persons provided for in the laws, which are divided into preventive and other procedural coercive measures. Among the latter, one of the most frequently performed procedural coercive measures is the taking of comparative samples, which is directly related to the use of special knowledge in conducting identification investigations, and with the help of which it is aimed to reveal criminal acts. Since the disclosure of criminal acts always remains relevant, therefore the disclosure measures - confirm the relevance of the analyzed topic.

Since such problematic aspects are still not uncommon in criminal proceedings, this confirms the relevance of the analyzed topic.

Researchability of the topic. R. Ažubalytė, R. Jurka, J. Zajančkauskienė, M. Šalčius, V.E. Kurapka (2011) have repeatedly spoken out on the legality of taking comparative samples: "Data obtained during evidence collection actions with elements of coercion may not be recognized as evidence not only due to the content, form or other shortcomings of the data themselves, which have evidentiary value, but also due to the fact that the rules of procedural coercion established in the law were violated when collecting this data, i.e. the rights and interests of persons protected by law were unreasonably restricted". However, when analyzing the aspects of the tactics of taking comparative samples, we can only find insights from S. Matulienė and V.E. Kurapka, which means that the topic has not been widely researched.

Problem of the work. The tactics of taking comparative samples are often related to both procedural problematic aspects and the peculiarities of the tactics of taking comparative samples themselves. In the case of procedural violations, the rights of the participant in the process are not ensured, therefore, the question arises about the criterion of admissibility of evidence, and the problematic aspects of the tactics of taking comparative samples are related to improper sampling, when it is not possible to properly conduct the investigation, as a result of which the process of investigating a criminal offense becomes significantly more complicated, or the offense remains undisclosed.

Hypothesis of the work. Are human rights ensured in all cases during the collection of comparative samples, analyzing both the collection of comparative samples or improper collection, when the act remains undisclosed?

Object of the work. Tactics of the collection of comparative samples.

Purpose of the work. To reveal the tactics of the collection of comparative samples.

Tasks of the work:

1. To reveal the concept of comparative samples and the procedural foundations of their collection
2. To define the features of individual tactics of the collection of comparative samples
3. To determine the practical aspects of the tactics of the collection of comparative samples

Data and methods

Analysis of scientific literature, analysis of case law, analysis of legal acts, systematic, comparative, logical method.

Results of interviews with professionals:

Summarizing the taking of comparative samples during a pre-trial investigation, it is important to note that the very tactics of taking samples, preparation for the upcoming investigation, are not regulated by law, however, in order to properly obtain special knowledge, it is very important to properly prepare for the taking of comparative samples and properly record this action so that the question of the legality of this procedural coercion does not arise in court.

Having analyzed the individual types of comparative samples required for personal identification, it can be seen that the provisions of criminal procedure do not regulate the tactics of taking comparative samples themselves, that is, their taking for the purpose of investigation, but the procedure and formalization requirements are very clearly regulated. Non-compliance of the requirements for formalization of comparative samples with the requirements of criminal procedure could cause difficulties during the judicial examination in order to prove the guilt of the person. However, the tactics of taking are no less important, which are regulated in the recommendations and other sources, and non-compliance with the requirements for taking samples required for investigation, in general, could prevent the appointment of the necessary examination expertise.

When assessing practical-judicial problems when taking comparative samples, it should be emphasized that the tactics of taking comparative samples are an extremely important procedure of pre-trial (sometimes also judicial) investigation. Indisputable evidence, which may be the conclusions of specialists or expert reports submitted by experts, may be denied solely due to incorrect or illegal taking of comparative samples. The methodology of conducting the investigation is also no less important, because in the appeals of convicted persons these matters are analyzed very carefully and often attempts are made to deny them.

Conclusions

Taking comparative samples is a procedural coercive measure that must be used only to achieve the goals of criminal proceedings. Specifically, comparative samples are used to obtain special knowledge relevant to the investigation: for the investigation or examination of objects. Comparative samples must be taken in accordance with forensic tactics, as well as the principles of legality and justice. If a person does not agree to give comparative samples to a pre-trial investigation officer (or prosecutor) in good faith, a prosecutor may issue a resolution to take comparative samples by force, but actions that are dangerous to health or offend human dignity may not be used.

Summarizing the types of individual comparative samples required for personal identification, it can be seen that the provisions of criminal procedure do not regulate the tactics of taking comparative samples themselves, but the requirements for procedure and formalization are very clearly regulated. The second part of the work analyzes the tactics of taking comparative samples of handwriting, odor traces, fingerprints and palm prints of living and deceased persons, DNA and voice. Non-compliance of the requirements for formalization of comparative samples with the requirements of criminal procedure could cause difficulties during the trial, in order to prove the guilt of the person. However, no less important are the collection tactics, which are regulated in the recommendations and other sources, and non-compliance with the requirements for taking samples necessary for the investigation, which could generally prevent the appointment of the necessary examination or its denial in court.

When taking comparative samples, there are not many practical problems in judicial practice, but it happens that convicted persons in their appeals seek to refute probable conclusions, disagree with the taking of comparative

samples by investigative methods, or simply argue that the information in the conclusions does not prove their guilt. Therefore, it is very important that the conclusions of specialists or the expert reports submitted by experts, which may become indisputable evidence, are not refuted solely due to the incorrect or illegal taking of comparative samples. The methodology of conducting the investigation is also no less important, because in the appeals of convicted persons these matters are analyzed very carefully and often attempts are made to refute them.

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THEORETICAL ASPECTS OF DIVORCE, THE ANALYSIS OF LITHUANIAN COURT PRACTICE

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Keywords: marriage, spouses, divorce, legal separation.

Abstract
The article analyses the notion of divorce, its significace to society as well as its legal regulation in Lithuania. The article also presents and investigates the reasons for divorce, provides details description of such divorce principles as voluntary, equal and legal separations and discribes their meanings. The article provides social and psichological consequences of divorce and its legal peculiarities. The research of the article analyses the Practice of Lithuanian Courts regarding of spouses in divorce proceedings.

Introduction

Marriage, as a legal and social institution, is a voluntary contract concluded in accordance with the law in order to create family relationships. Despite the importance of marriage, in practice it is often necessary to resolve issues of its dissolution. In Lithuania, the regulation of marriage is enshrined in the Civil Code, which provides for the conditions for the conclusion and dissolution of marriage. According to Article 3.7 of the Civil Code, marriage may be concluded between persons of different sexes who have reached the age of majority, by free will. And Article 3.49 establishes that divorce may be based on mutual consent, at the request of one of the spouses, or due to the fault of one or both spouses.

The divorce rate in Lithuania remains one of the highest in Europe. Court practice shows that divorce is increasingly becoming the subject of legal disputes, especially when the parties disagree on issues of children or division of property (Šedbaras, 2019, p. 87). Divorce often becomes a complex process that requires not only legal regulation, but also psychological and social attention. According to Leopold (2018), divorce has significant consequences not only for the emotional, but also for the economic state of a person.

Objectives of the work:

1. To analyze the concept of marriage and divorce.
2. To present the methods of divorce.
3. To analyze cases of divorce in judicial practice.

Data on methods

The analysis of legal acts aims to analyze legal acts, to analyze laws. Civil cases in the case of divorce are analyzed using the method of document content analysis. The summary method is used in the article to present conclusions.

Results of the analysis of case law

When examining the case law in Lithuania on divorce, it is necessary to review the different methods of divorce provided for in the Civil Code, each of which has its own specifics and requires an appropriate legal assessment. In order to reveal the topic of the article, the method of document analysis was chosen. Divorce in Lithuania is examined in civil proceedings, but in some cases the Civil Code provides for divorce in a notarial manner. The article analyzes the case law of both the Supreme Court of Lithuania and lower courts, because the Supreme Court of Lithuania less often examines cases of this type, and lower court rulings provide valuable information about the practical application and resolution of various legal issues.

Divorce by mutual consent of the spouses is one of the simplified forms of the divorce process, when the spouses agree not only on the fact of divorce itself, but also on its legal consequences. Case law shows that even in such cases it is necessary to assess whether the agreements comply with legal norms and do not violate the interests of the spouses or other interested parties. After examining the case law, it has been established that when dissolving a marriage by mutual consent of both spouses, strict legal requirements must be observed both in terms of the application and the content of the legal consequences of the contract. The court must assess whether the

conditions provided for in the contract are implemented and do not violate the interests of one of the spouses. It is necessary to note that in case law, the issue of divorce and the issue of division of property are assessed together. It is evident from the case law that in a dissolution case the court assesses not only the agreements between the spouses, but also the possible impact on third parties. The obligation to discuss all property-related conditions in the contract also includes the obligation to provide all information about creditors. Lithuanian case law reveals that dissolution of marriage by mutual consent is not just a formal process, it must be transparent, justified, and not violate the rights of third parties. The application of the principles of honesty, care and responsibility is emphasized not only in the relations between spouses, but also in relation to interested persons. Clear and honest disclosure of assets and obligations is a condition for ensuring a legal and fair divorce. It is necessary to note that the duty of the courts is not to formally approve the concluded agreement on the consequences of divorce, but to realistically assess its legality. The court must ensure not only the equality of the parties, but also that the agreement clearly specifies the conditions for deviating from the principle of equal division of joint property. This once again confirms that even in the case of mutual consent of the spouses to divorce, judicial control is necessary to protect the interests of the parties and the interests of third parties, thus ensuring a fair, legally regulated divorce process.

Based on case law, it can be concluded that divorce by mutual consent is a simplified process that requires not only an agreement between both parties on the divorce, but also an agreement on all legal consequences – issues of child support and division of property. Case law confirms that even in the event of a mutual agreement between the parties, the court checks whether the agreement complies with the requirements of the law and does not violate the interests of the spouses, children or other interested parties, e.g. creditors. In summary, divorce by mutual consent is the fastest and simplest method of divorce, but a comprehensive and responsible legal assessment is necessary, ensuring the interests of all participants in the process.

A divorce can also be dissolved upon the submission of a petition by one of the spouses. This method is distinguished by the fact that only one party seeks a divorce, therefore the court individually assesses both the relationship between the spouses and the legal consequences of the divorce. Divorce at the request of one of the spouses is possible in cases where the spouses have been living separately for more than a year (separation confirmed by the court), one of the spouses is recognized as incapable after the marriage, the spouse is declared missing, the spouse is convicted of an unintentional crime.

Analyzing the case law, it has been established that if the spouses have actually been living separately for a long time, but do not have a separation agreement confirmed by the court, which is an essential factor in seeking to dissolve the marriage according to Article 3.55, Part 1, Paragraph 1 of the Civil Code, such a method of divorce is impossible, but the court does not prevent the dissolution of the marriage in another way. When filing an application for divorce due to the recognition of a spouse as incapable, the court takes into account not only the actual dissolution of the marriage, but also additional social and legal aspects, the spouse's incapacity, and ensuring the interests of the children. Such cases require an individual assessment, and decisions are made in accordance with both legal norms and the principles of proportionality and reasonableness. It is important to note that the incapacity of a spouse must be established and confirmed by the court after the marriage was concluded.

The third condition for applying to the court with a request for divorce is the declaration of one of the spouses as being unknown. In this case, it is necessary to submit a court-approved decision stating that the spouse’s place of residence is unknown, it is unclear where he is. The last condition for divorce at the request of one of the spouses is the conviction of the spouse for an unintentional crime. Although the Civil Code provides for the possibility of divorce if one spouse is serving a prison sentence for an unintentional crime, there are no publicly available cases in court practice when a marriage is dissolved in this way within a 10-year period. For this reason, it is not possible to analyze such cases and provide specific court decisions.

Divorce at the request of one of the spouses in Lithuania is based on several grounds provided for in the Civil Code, but the court assesses each case individually. First of all, a separation approved by the court may be a basis for divorce, but it is necessary to resolve all legal issues related to the divorce in order to protect the interests of the spouses and third parties. In the event of the spouse's incapacity or in cases where the spouse is recognized as missing, the court assesses social and legal aspects, ensuring the interests of the spouses and children. In this way, a court decision on the incapacity or unknown whereabouts of the spouse is necessary for the dissolution of a marriage. Although the Civil Code provides for the possibility of divorce when the spouse is convicted of an unintentional crime, it is practically not applied or is rarely applied, since there have been no publicly available

cases on such grounds in the past 10 years. In summary, it can be stated that divorce at the request of one of the spouses is a complex process that requires a detailed legal and factual assessment.

The last form of divorce is due to the fault of one or both spouses, which is one of the most complex forms of divorce, because the marriage is terminated due to the inappropriate behavior of one or both spouses, which made living together impossible. The conditions for divorce due to the fault of one or both spouses: infidelity, cruel treatment of the spouse, failure to care for the family for more than one year.

After analyzing the case law, it can be concluded that when terminating a marriage due to the fault of one of the spouses, the court evaluates both the formal charges and the spouses' duties in essence, which are provided for in the Civil Code. The court emphasizes that the dissolution of a marriage can be determined by the behavior of both spouses, but the constant failure to fulfill the duties of one of the spouses, such as failure to contribute to the maintenance of the family, disrespectful behavior, violence, infidelity, is the basis for recognizing him as guilty.

In cases where the spouse treated the spouse cruelly, the guilt must be based on clear evidence and all circumstances must be thoroughly assessed. It is important to note that it is very important to collect and present appropriate evidence in order to substantiate a request for divorce due to the fault of one of the spouses. In court practice, there are cases where the spouse's guilt is proven for cruel behavior based on a criminal court ruling in which the spouse is convicted of violence against his or her spouse. When terminating a marriage due to the fault of the spouse who is unfaithful, the plaintiff is obliged to present supporting evidence. In court practice, in cases where guilt due to infidelity is proven, the court does not undertake to divide the property equally, but assesses the circumstances in the interests of the children, and a decision may be made to divide the property unequally. In addition, the other spouse who has proven guilt may request compensation for moral damage. It is important to note that when assessing the guilt of a spouse, the courts also assess whether the spouse has substantially violated his or her duties as a spouse, which made the life of the spouses together impossible, and therefore the marriage was dissolved due to his or her fault. When a spouse is convicted of intentional crimes, the court assesses whether this was the main reason for the dissolution of the marriage. When analyzing case law, it is worth noting that the court, having assessed the circumstances, may decide that the marriage broke up because the spouse did not take care of the family, and the conviction is only an additional circumstance. It can be concluded that the marriage broke up due to the fault of the spouse, because the defendant was unable to fulfill his obligations as a spouse, which led to the dissolution of the family and marriage.

Conclusions

After analyzing the case law, it can be concluded that divorce is a long process. The longest time to obtain a divorce is due to the fault of the other spouse, because when filing a petition for divorce due to the fault of the other spouse, the spouse must provide evidence substantiating the fault. The person filing the petition is responsible for proving the fault. When examining a petition for divorce due to the fault of the other spouse, the court also examines the arguments submitted by the defendant regarding the dissolution of the marriage, and after evaluating all the collected data and noting the failure of both spouses to fulfill their obligations, unwillingness to make efforts, and unwillingness to adapt, it may make a decision to dissolve the marriage due to the fault of both spouses. Such practice reflects the courts' desire to ensure a fair resolution of disputes. It should be emphasized that divorce by mutual consent is the fastest and most consistent with the principle of free will, however, when filing a request for divorce by mutual consent, spouses must also submit an agreement on legal consequences, and in the event of any dispute, the divorce will not be approved, and the divorce process itself will take longer, as the case will be suspended or referred for retrial. It should be noted that most often disagreements arise over child support. Court practice confirms that each case is assessed individually, in accordance with legal norms, the principles of justice, proportionality and reasonableness.

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MEDIATION OPTION FOR INHERITANCE DISPUTES

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Keywords: mediation, inheritance disputes, stages of mediation process, Lithuanian case law.

Abstract
The article examines the possibility of applying mediation in inheritance disputes, highlighting the specificities, advantages and disadvantages of this process. Then examines how mediation can be applied in the context of succession, highlighting its advantages: speed, flexibility, emotional sensitivity and possible disadvantages such as the parties' reluctance to cooperate or the lack of legal certainty. The stages of the mediation process and their practical application are analyzed, and the most appropriate mediation method in inheritance disputes is identified. The practical part includes an analysis of Lithuanian case law and an assessment of the results of mediation in specific cases. Finally, a comparison is made between mediation and judicial dispute resolution, assessing their effectiveness and impact on the relationship between the parties.

Introduction

The work analyzes the possibilities of applying mediation in inheritance disputes, taking into account the legal, emotional and practical complexity of this area. Inheritance disputes are one of the most common legal conflicts involving family members and relatives, therefore they are very sensitive to emotional background. The concept of family is closely related to emotional and interdependent ties, therefore mediation as an alternative method of dispute resolution helps to avoid long and complex legal proceedings, promoting cooperation and dialogue between the parties to the dispute.

The work is based on scientific literature and scientific articles, which analyze both the theoretical foundations of mediation and its practical application in inheritance cases. It is discussed that the mediation process in inheritance disputes has many advantages: confidentiality, speed, preservation of relationships and cost-effectiveness. The importance of the mediator's competence is also emphasized - the ability to manage emotional situations and maintain objectivity. The work analyzes scientific literature by foreign and Lithuanian authors, which discusses the factors and challenges of the effectiveness of the mediation method, as well as Lithuanian case law and statistical data on inheritance disputes.

Scientific literature shows that the application of mediation in inheritance disputes is not yet sufficiently developed, but this alternative tool has great potential. The study reveals the main challenges of inheritance disputes: emotional complexity, distrust between the parties, lack of legal regulation and lack of specialists with specific knowledge in the field of inheritance. The analysis of the article justifies the need to develop the application of mediation, improve the training of specialists and inform the public about the benefits of this method.

Objectives of the work:

1. to analyze the specifics, advantages and disadvantages of mediation in inheritance disputes;
2. to reveal and analyze the stages of the mediation process and determine the most appropriate mediation method in inheritance disputes;
3. to examine the results of case law and the mediation process in inheritance disputes.

Data and methods

The following research methods were used in the article: documentary content analysis allowed for an overview of how mediation is applied in inheritance disputes and what main challenges it poses in practice. The analysis method was used to determine, based on various sources, how the main principles of mediation help to create an effective and fair mediation process that could be applied in inheritance disputes. The analysis of legal acts helped to determine how legal acts support the application of mediation in inheritance disputes and what legal challenges this may pose. The generalization method was used to formulate general insights into the theoretical and practical aspects of mediation based on the information received. The practical part of the thesis used the method of case law analysis.

Conclusions

Mediation in inheritance disputes is of a specific nature, as it usually resolves conflicts between close family members, which are accompanied not only by legal disagreements, but also by deep emotional aspects related to loss, grievances or distrust. In this context, mediation becomes particularly valuable, as it provides an opportunity to resolve the dispute peacefully, constructively and confidentially, while maintaining family relationships and reducing emotional tension. Among the main advantages, the mediation process is usually faster, cheaper and more flexible than judicial proceedings, and the parties have more control over decision-making. However, mediation also has disadvantages - it requires mutual consent of the parties and a willingness to cooperate, and in the event of a major conflict or unequal position of the parties, reaching a fair and balanced agreement can be difficult. In summary, mediation in inheritance disputes is useful and effective when the parties are ready to seek a compromise, but its application should be well thought out, having assessed both the emotional and legal context of the conflict.

Mediation in inheritance disputes takes place in several main stages. The first is the preparatory stage, when the terms of mediation are agreed upon, followed by the introductory stage, when the parties are introduced to the process and the circumstances of the dispute are discussed, followed by the negotiation stage, when the parties seek solutions with the help of a mediator, and the final stage is the formalization of the agreement. These stages form a coherent structure that allows for constructive conflict resolution. In summary, it can be stated that the choice of an appropriate mediation method depends on the specific circumstances of the conflict, the expectations of the parties and the desired results. Each inheritance dispute is unique, therefore we cannot single out one specific appropriate mediation method, since different mediation methods: facilitative, evaluative, transformative and narrative offer different ways of solving problems. Therefore, in this case, the role of the mediator is extremely important in order to select the most appropriate method. The mediator must understand the needs, expectations of the parties, the dynamics of their relationship and the circumstances of the dispute in order to select the method that best suits the characteristics of the specific conflict.

Taking into account the examples of case law analyzed in the work, it can be stated that Lithuanian courts tend to promote mediation in inheritance disputes, seeing in it not only a means of reducing the court's workload, but also an opportunity to ensure a higher quality of dispute resolution and maintain a more favorable relationship between the parties to the dispute. Further changes in practice and legal regulation, focused on specialized training and improvement of mediation procedures, can further increase the application of this method in the field of inheritance and create new examples of precedential practice. We can also state that in the future, a targeted system of statistical collection, clear legal regulation and greater awareness of specialists and the public about the advantages of mediation in the field of inheritance could further strengthen the authority of this instrument and provide a clearer basis for objectively assessing the results achieved. Such institutionalization of mediation would undoubtedly contribute to the efficiency of civil justice and strengthening the protection of individual rights in Lithuania.

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POLICE OFFICERS' DECISION-MAKING ON THE ISSUE OF AN ORDER FOR PROTECTION AGAINST VIOLENCE IN THE IMMEDIATE ENVIRONMENT UNDER THE NEW EDITION OF THE LAW: THEORETICAL AND PRACTICAL ASPECTS

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Keywords: Decisions on domestic violence protection orders by police officers are made in accordance with the new wording of the law.

Abstract
This article explores the police officers decision-making of domestic violence warrant in Lithuania when issuing protection order in accordance with the amended Law on Protection against Domestic Violence, effective as of July 1, 2023. The aim of the study is to examine the theoretical basis of the new legal regulation and evaluate the main practical challenges encountered by law enforcement during its application. The key objectives are to clarify the principles behind the updated legal framework, identify decision-making difficulties, and compare the old and new legislative versions. The research is conducted through the analysis of legal acts, academic literature, and judicial practice. The first part of the study discusses the conceptual and normative aspects of the law, while the second part focuses on the comparison of different legal versions and real-world application, highlighting the key factors that influence decision-making. The findings indicate that while the new regulation appears effective in theory, in practice various shortcomings remain – particularly for police officers who are directly responsible for implementing the law. These gaps call for clearer procedures, improved training, and more consistent institutional support.

Introduction

The Republic of Lithuania, acting in accordance with the principles of democracy, must ensure the protection of individuals, groups and the whole of society. One of the fundamental principles of a democratic state is the obligation to protect natural human rights and freedoms from possible events, especially from criminal acts. The family is considered the foundation of society and the state, therefore its protection is important from both a legal and moral point of view. The legal system must ensure that family members are protected from violence or other harmful behaviour in the immediate environment. In the event that the safety or well-being of family members is at risk, the state has the right and duty to intervene in the private life of the family, if necessary to prevent the law from being violated, to ensure public health, morality or the rights and freedoms of others.

A preventive measure – a domestic violence order – has been adopted and has been put into practice. This order is regulated by the Law on Protection from Domestic Violence. It is a preventive protective measure designed to protect a person who is at risk of domestic violence. It provides that an adult who poses a risk of violence may be ordered to temporarily move out of the common place of residence if he or she lives with the victim. He or she may also be prohibited from visiting the victim's place of residence, approaching him or her or the adult persons and/or children living with him or her, communicating with them or seeking contact.

The preventive measure – the SAA warrant – is directly related to police officers, since it is they who are tasked with implementing the measures provided for in the new version of the law when a person at risk is identified. In July-December 2023, about 27 thousand reports of domestic violence were received. After conducting a domestic violence risk assessment, SAA warrants were issued in more than 27 percent of cases. Statistical data show that the risk assessment is an important tool that allows assessing the situation based on the circumstances presented by the victim. The decision on which participant in the incident should be subjected to this assessment is made by police officers, based on objective circumstances.

Thus, the old version of the law, which was in force until 1 July 2023, is no longer valid, and the legal regulation, which was well known to police officers, has changed and now responsibility is divided between the Code of Administrative Offences of the Republic of Lithuania and the Criminal Code. It should be noted that administrative responsibility applies only in the case of a violation of domestic violence warrant. Although statistical data show positive trends, the question arises whether these figures reflect the real situation. In addition, it is extremely important to analyze how the SAA order works in practice and what challenges and problems police officers experience when making decisions on its issuance.

The problem of the work is the challenges arising in practice regarding the effectiveness of the domestic violence order and its application as a preventive measure.

The object of the work is the decisions made by police officers on the domestic violence protection order according to the new wording of the law.

The purpose of the work is to analyze the factors determining the inappropriate decision of police officers on the adoption of a domestic violence order.

Tasks of the work:

1. To analyze the content of the new wording of the law on domestic violence protection, the main changes and their significance for police decision-making.

2. To identify the main problems and challenges that police officers face when making a decision on the issuance of a warrant.

3. To conduct an analysis of the new and old wordings of the law and case law in order to assess how legal changes and the application of decisions in practice affect the adoption of decisions on the protection order by police officers.

The applied research method is empirical: The work uses an analysis of literature and legal acts in order to assess the differences between the new and previous versions of the Law on Protection from Domestic Violence and their impact on the decision-making of police officers. An analysis of case law is also applied, which aims to determine how courts assess decisions made by the police regarding the issuance of warrants and what precedents shape the assessment of the legality of decisions.

The structure of the work consists of an introduction, two main parts, conclusions and a list of literature. The introduction describes the topic, problem, goal, objectives and research methods of the work. The first part analyzes the concept of domestic violence, the new version of the law, the theoretical and practical issues of decision-making by officers. The second part performs a comparative analysis of the law, examines case law, and analyzes the factors determining the decision-making of police officers. The conclusions present the results of the research, and the list of literature indicates all sources used.

Data

The study examined how police officers apply domestic violence protection orders after the new version of the law entered into force. The focus is on practical problems that hinder the effective implementation of this preventive measure. The analysis revealed that decision-making for officers is often complicated by unclear wording of the law, lack of legal guidelines, limited resources and deficiencies in professional training.

The empirical study compared the old and new versions of the Law on Protection from Domestic Violence, additionally relying on the Criminal Code, the Code of Administrative Offences, official statistics and the risk assessment questionnaire that officers apply at the scene. Data from the second half of 2023 showed that out of more than 27 thousand registered reports of violence, SAA orders were issued in more than a quarter of cases.

The study conducted an analysis of case law and academic literature, which allowed identifying significant gaps in application. It turned out that although the legal framework has been improved, its practical application remains fragmented, often depending on the competence of the individual officer. It was found that officers' decisions are significantly affected by stress, lack of experience, lack of human and technical resources, and limited cooperation between institutions. Also the analysis of court decisions revealed that in 70 percent of cases, police officers’ actions lacked sufficient justification or objectivity. The findings highlight the need to improve officers’ training and ensure consistent application of legal procedures.

Summarizing the results of the study, it can be stated that in order to ensure the effective application of the protection order, it is necessary not only to improve the law legally, but also to invest in the training of officers, the institutional support system, and a more transparent decision-making procedure.

Results

The study revealed that although the new version of the Law on Protection from Domestic Violence gives police officers more powers to respond quickly to cases of violence, the practical application of protection order decisions remains problematic. Decisions are often based on formal signs or an assumed threat, rather than objective facts. This creates a risk of subjectivity in decisions and the possibility of abuse for both officers and parties to the conflict.

Although the SAA order works as an effective preventive measure in theory, in practice it sometimes happens that it is not issued when there is a clear basis, or is issued but is not properly implemented. It also became clear that police officers lack clear application guidelines, consistent training and practical preparation.

In summary, in order to ensure real protection from violence, it is necessary to improve not only legal acts, but also the competence of officers, decision-making control mechanisms and strengthen interdepartmental cooperation.

Conclusions

The study showed that although the new version of the Law on Protection from Domestic Violence theoretically strengthens protection mechanisms and gives police officers more powers, in practice the adoption of decisions on protection orders remains uneven and problematic. Decisions are often made based on an assumed rather than an actual threat, there is a lack of clear application criteria, and officers lack sufficient training and practical preparation.

It was found that even issued orders are not always properly implemented – there is a lack of supervision, control and institutional support. This reduces the effectiveness of the preventive measure and may pose a risk of recurring violence.

In summary, effective protection from violence can be ensured only when, together with amendments to legal acts, real measures are implemented: strengthening the preparation of police officers, explaining application algorithms and improving inter-institutional cooperation.

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TERMINATION OF EMPLOYMENT CONTRACTS AND LEGAL CONSEQUENCES

Rita Smagurauskaitė

Keywords: termination of the employment contract, the labor disputes commission, legal consequences, jurisprudence, unlawful dismissal.

Abstract

The article analyses the basics of labour law in Lithuania, as well as emphasises the interpretations of the case law on the applicable legal norms, as well as examines the formalisation of termination of the employment contract, as well as the course of labour disputes in courts and the causes of labour disputes. The investigative part of the article examines and analyses the cases of labour disputes of the State Labour Inspectorate, case law and statistics related to the examination of labour disputes.

Introduction

Employment relationships are one of the most relevant legal relationships in everyday society. It is important for the employee to have proper working conditions, to pay wages on time, to provide annual leave and other social guarantees. It is important for an employer in an employment relationship that the employee performs his functions properly so as not to abuse working conditions and social guarantees. However, in today's society, employees seek to defend all their rights, and the Labor Disputes Commission helps employees. The Labour Disputes Commission receives a large number of statements regarding unlawful dismissal. This is because employers avoid paying severance pay, therefore they indicate another reason for termination of the employment contract, or use psychological violence against the employee in order for the employee to sign an application for termination of the employment contract voluntarily. Employees who do not agree with such termination of the employment relationship may apply to the court for the resolution of the dispute regarding the wrongful dismissal or the violation of the employee's rights. The case law has examined a number of labour cases, has clarified and established a number of peculiarities regarding the norms of application of labour law. The Supreme Court of Lithuania has repeatedly emphasized that employers must comply with the law, respect the rules of cohabitation and act honestly, and adhere to the principles of reasonableness, justice and honesty. The implementation of these principles is significant both during the validity of the employment relationship and after its termination.

The object of the work is the termination of employment contracts and legal consequences.

The aim of the work is to analyze the termination of employment contracts and the legal consequences.

Objectives of the work:

1. Provide grounds for termination of employment contracts.
2. To examine labour disputes regarding termination of employment contracts.
3. To analyze labor disputes in Lithuania regarding termination of employment relations in 2020 2024.

Methods of the work. method of analysis of scientific literature, articles and documentary content. The practical part uses the method of analysis of case law and analysis of statistical data.

Structure of the article. The work consists of an introduction, a conceptual part, which examines the grounds for termination of employment contracts, labor disputes related to termination of employment contracts, and a research part, which examines cases of termination of employment contracts and their legal consequences in Lithuania in 2020-2024, as well as conclusions and a list of references.

Theoretical justification

The employment contract may be terminated if either party (or both jointly) decides to do so. However, the following concepts are often confused when terminating an employment contract: termination of an employment contract, termination of an employment contract or dismissal, although these concepts are different. The widest term is the termination of the employment contract, it covers all cases when the rights and obligations of the parties to the employment contract expire, regardless of whose initiative it took place. The employment contract expires both upon the death of the employee and its termination on the grounds established by the Labour Code, as well as after the liquidation of the employer without rights.

The termination of an employment contract is regulated by Article 53 of the Labour Code of the Republic of Lithuania, which indicates the grounds for termination of an employment contract: by agreement of the parties, on the initiative of one of the parties, by the will of the employer, in the absence of the will of the parties, in the event of the death of the party to the employment contract (natural person), when it is not possible to determine the location of the employer (natural person), in other cases.

When the employment relationship ends, in all cases of termination of the employment relationship, the employer must submit a decision to terminate the employment contract in accordance with Article 65(3) of the Labour Code of the Republic of Lithuania.

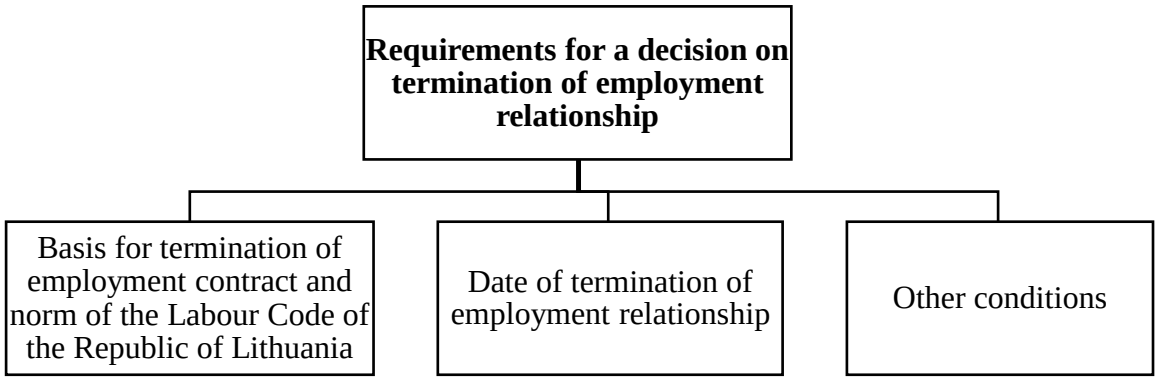


Fig. 1. Requirements of the employer's decision on the termination of the employment relationship.

According to Figure 1, it can be seen that the decision must be submitted in writing, it indicates the grounds for termination of the employment contract and the norm of the law according to which the employment contract is terminated, as well as the date of termination of the employment relationship. This decision must be communicated to the employee for information.

When an employee considers that the employment contract has been terminated unlawfully, he must apply to the Labour Disputes Commission for unfair dismissal. The employee must apply to the Labour Disputes Commission not later than within one month from the time the employee became aware or should have learned that his or her rights were violated. If the one-month deadline for applying to the Labour Disputes Commission is overdue, the employee may still apply to the Labour Disputes Commission with a request to renew the missed deadline (Kiznė, 2023).

One of the peculiarities of hearing labour cases in court is that the court may exceed the requirements made under Article 417 of the Code of Civil Procedure of the Republic of Lithuania (hereinafter referred to as the Code of Civil Procedure of the Republic of Lithuania), which means that the court may make a decision that is more favourable to the employee and the employee may receive more benefit than requested in the claim (Civil Code of the Republic of Lithuania // TAR, 2016, No. VIII-1864, current wording from 01.05.2023).

When examining the causes of labour disputes, it was established that labour disputes are caused by different attitudes of the employee and the employer to work, irresponsibility of the employee and the employer, change of the head of the company, discrimination, personal conflicts, mobbing, conflicts due to the emotions that have arisen, and the tendency of the employer to avoid paying taxes.

Results

The data study aimed to answer each question raised in the survey. Below are the results of the statistical survey:

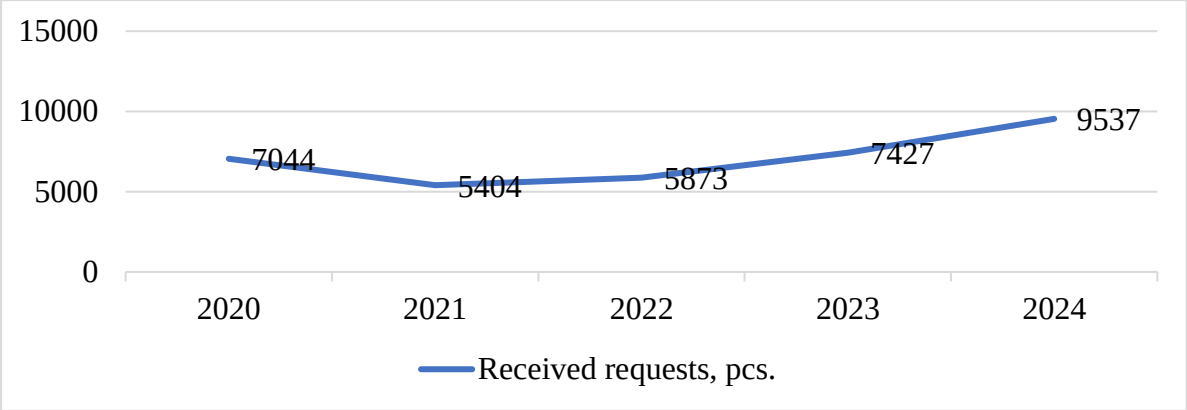


Fig. 2. Applications regarding labor disputes received by the Labor Disputes Commission, change in 2020-2024, units
Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/lt/darbo-gincai/dgk-statistika-dgk-spendimu-ir-teismu-sprendimu-apzvalgos/?lang=lt

According to the data provided, it can be seen that the largest number of applications for labour disputes was received in 2024. In 2024 compared to 2023, it can be seen that in 2024 there were about 22% more applications received than in 2023, in 2022 compared to 2024, it can be seen that in 2024 applications were received about 38% more than in 2022 and in 2021 compared to 2024, It can be seen that in 2024, about 43 percent of applications were received. Comparing the entire analysis period, it can be seen that over the course of five years, the number of applications received related to labour disputes has been steadily increasing (the decrease in the number of applications in 2021 is related to the quarantine period), the largest number of applications were received regarding wages, compensation for non-material damage and unlawful dismissal (State Labour Inspectorate, n. d.)

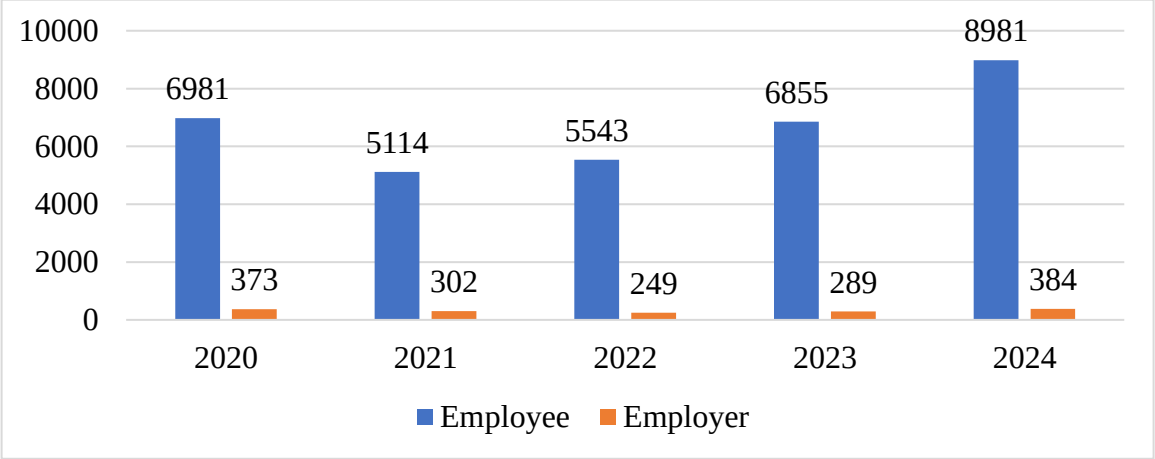


Fig. 3. Number of applications examined by the Labor Disputes Commission by type of claimant
Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/lt/darbo-gincai/dgk-statistika-dgk-spendimu-ir-teismu-sprendimu-apzvalgos/?lang=lt

According to Figure 3, the Labour Disputes Commission is mainly addressed by employees. During the analysis period, about 95 per cent of the number of applications received by the Labour Disputes Commission consists of applications received by employees, and only 5 per cent of the applications received consist of applications received from employers. Since the Labour Disputes Commission is the main institution that protects the rights of employees, therefore, the largest number of requests consists of the requests received from employees.

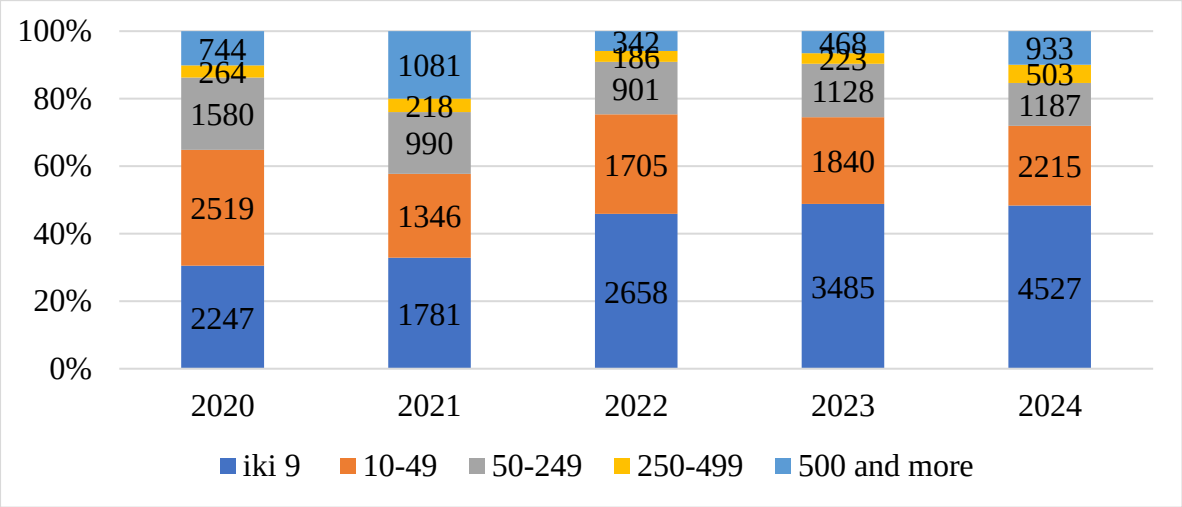


Fig. 4. Number of applications examined by labour dispute commissions by company size groups (number of employees)

Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/lt/darbo-gincai/dgk-statistika-dgk-spendimu-ir-teismu-sprendimu-apzvalgos/?lang=lt

According to the presented Figure 4, it can be seen that the largest number of disputes related to employment relations arises in small enterprises with up to 9 employees, as well as a large number of employees from 10 to 49 employees. During the analysis period, the number of applications received by labour disputes commissions from very small companies on average accounts for about 41 per cent of the applications received, and about 28 per cent of all applications received by small enterprises, while the number of applications received from large enterprises accounts for about 4 per cent of all applications received, while the number of applications received by very large enterprises accounts for about 10 per cent of all applications received. This can be influenced by the desire of small business owners to save in order to earn more profits, then employers when dismissing employees require them to sign applications for dismissal voluntarily and not at the will of the employer, as well as dismissal illegally, in order to avoid paying the severance payments due to the employee. In larger companies, the number of labour disputes is lower because those companies have a high cash turnover, and the salary per employee is relatively lower than the amount of a small company's per salary compared to the income earned, so that larger companies have less difficulty in laying off employees than small companies.

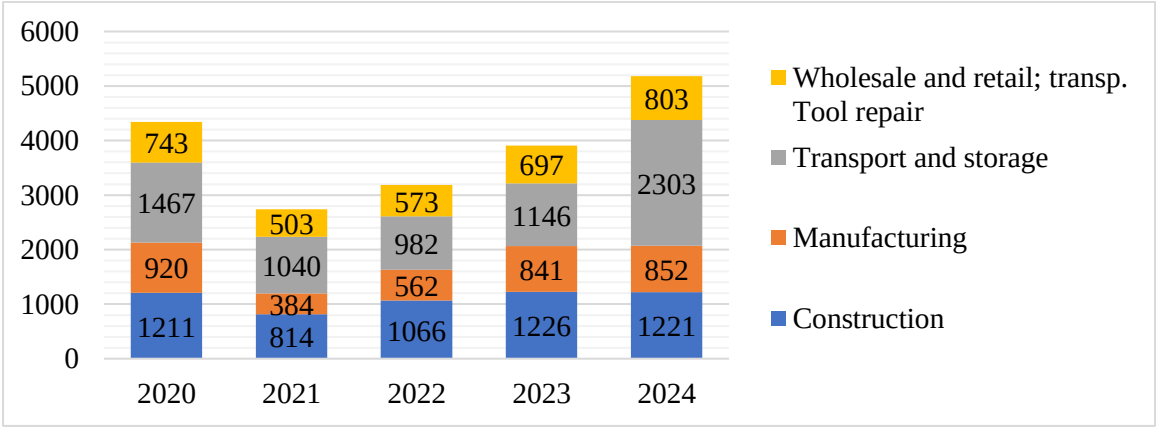


Fig. 5. Number of applications examined by labor dispute commissions by economic activities

Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/public/canonical/1737707444/1924/2A_DGK.pdf

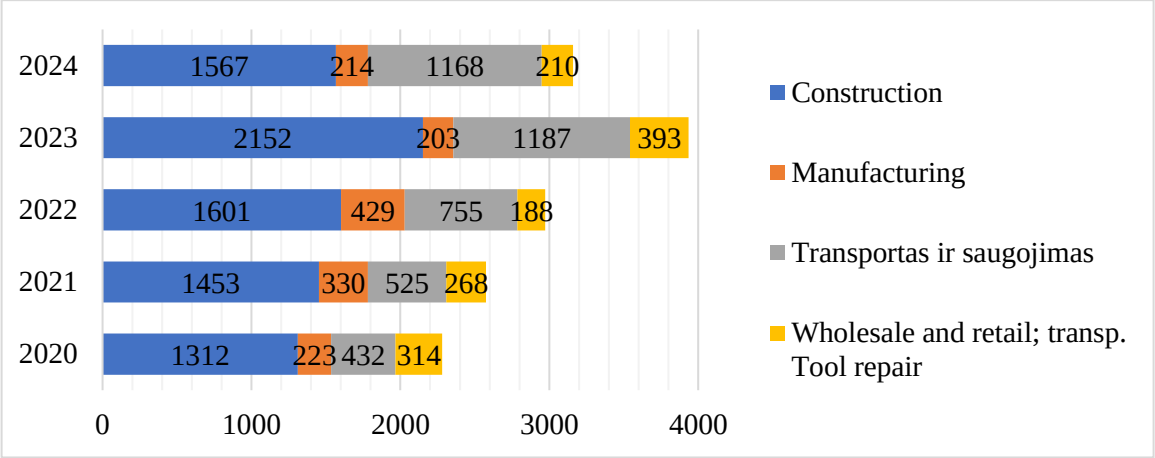


Fig. 6. During the control of illegal work, the number of persons working illegally was determined.
Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/public/canonical/1737707444/1924/2A_DGK.pdf

The data in Figure 6 are presented by selecting the number of applications received by economic activity. During the analysis period, the largest number of applications for labour disputes was received from construction companies, the number of these applications accounts for 23 per cent of all (selected) applications received. There is also an increase in the number of applications received in 2024 from enterprises operating in transport and storage, the number of these applications in 2024 accounting for about 176 per cent of all applications received under selected economic activities. It can be said that illegal work prevails in these enterprises of economic activity, employees are employed informally in order for companies to avoid taxes. This is proven by the investigation of the Labour Disputes Commission on illegal work, see Figure 7.

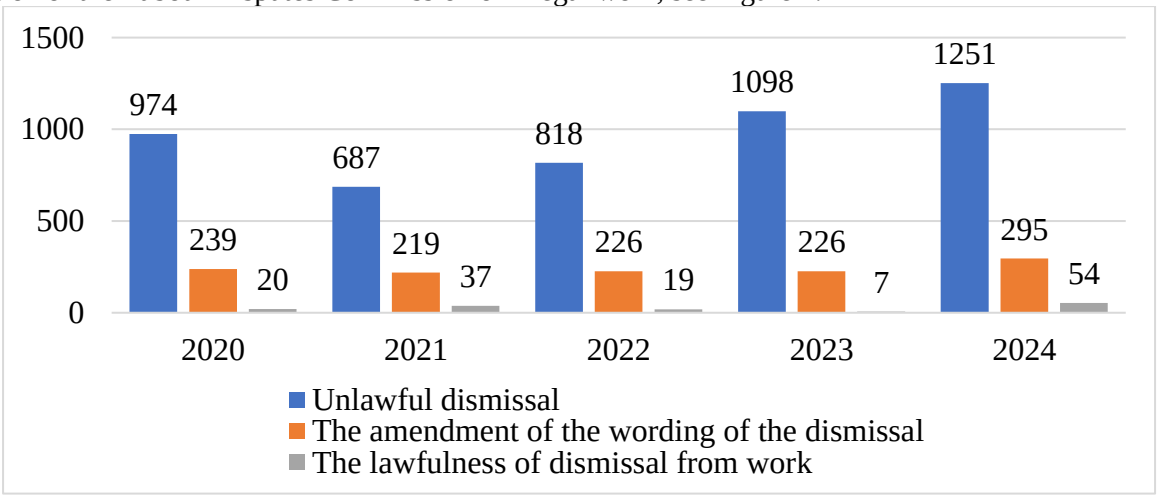


Fig. 7. Requirements raised at the request received by the Labor Disputes Commission

Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/lt/darbo-gincai/dgk-statistika-dgk-spendimu-ir-teismu-sprendimu-apzvalgos/?lang=lt

According to Figure 7, we can see that the largest number of persons who worked illegally are in construction companies and transport and storage companies, as well as the largest number of applications related to labour disputes are also received from enterprises of this economic activity. It can be said that labour disputes arise due to employers' tax evasion, the desire to earn more profit by avoiding high taxes, because the tax burden is heavy for each company and employee, and illegal work and tax evasion are the most common cases in these companies.

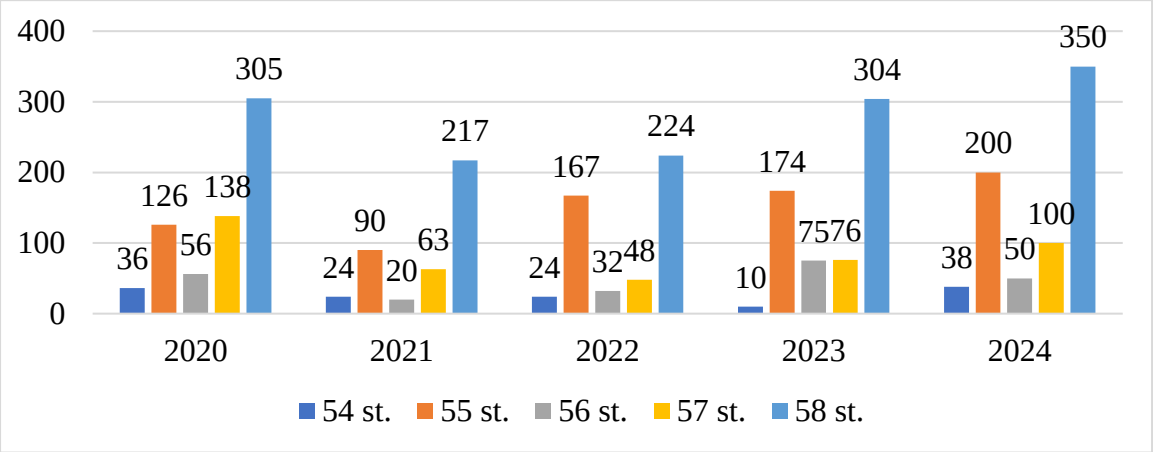


Fig. 8. Change in applications received by the Labor Disputes Commission in 2020 - 2024 regarding illegal dismissal, units.

Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/lt/darbo-gincai/dgk-statistika-dgk-spendimu-ir-teismu-sprendimu-apzvalgos/?lang=lt

According to the data provided, Figure 8 shows that the DGK receives the largest number of requests for unlawful dismissal under Article 58 of the Labour Code of the Republic of Lithuania (Termination of the employment contract on the initiative of the employer due to the fault of the employee), the number of these requests is almost the same in 2020 and 2023, the number of these requests is maintained in 2024. According to the analysis of the periods, an average of 48 per cent of all applications for unlawful dismissal were received under this basis of the Labour Code of the Republic of Lithuania, it can be said that this was influenced by the improper qualification of termination of the employment contract, since the employer, when terminating the contract on this basis, must assess all the circumstances due to which the duties could have been violated.

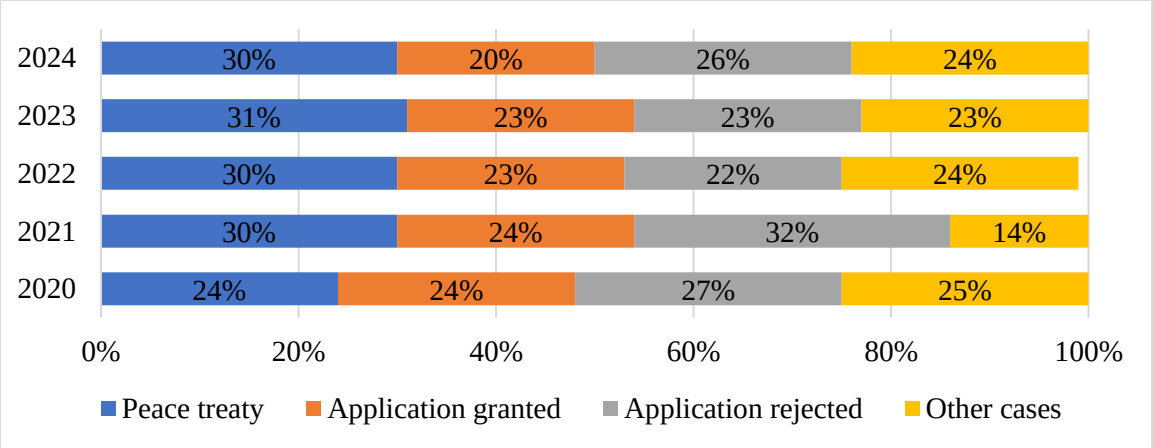


Fig. 9. Change in applications for unlawful dismissal decisions received by the Labor Disputes Commission in 2020-2024.

Source: compiled by the author of the work, based on the activity reports of the Labour Disputes Commission. Internet access: https://vdi.lrv.lt/lt/darbo-gincai/dgk-statistika-dgk-spendimu-ir-teismu-sprendimu-apzvalgos/?lang=lt

According to the data provided, Figure 13 shows that between 2022 and 2024, the majority of wrongful dismissal disputes were resolved by settlement (around 30%), while in 2020 and 2021 the largest number of wrongful dismissal claims were rejected (around 30%). It can also be seen that during the analysis period about 23 per cent of the applications were satisfied (State Labour Inspectorate, n. d.).

According to the Labour Code, after the termination of the employment contract, the employer must settle accounts with the employee, i.e. pay him wages, compensation for unused leave, and severance payments if dismissed in accordance with certain articles of the Labour Code of the Republic of Lithuania, in order to terminate all legal relations.

At the end of the employment contract, the employee also faces legal consequences. One of them is that he loses his job, and he also has the opportunity to find a new job. However, upon termination of the contract, the employee must return to the employer his property that he received in order to perform the work, i.e. mobile phone, computer, stationery if a large quantity has been transferred (calculator, pad of paper, etc.), printer, etc. If the employee does not have or has damaged these items, he must compensate the employer for damage in accordance with the Labour Code of the Republic of Lithuania (Labour Code of the Republic of Lithuania // TAR, 2016, No. XII-2603, current wording from 01.01.2024).

Conclusions

In summary, according to the statistics of the Labour Inspectorate in 2020-2024, it was established that labour disputes usually arise in large and medium-sized enterprises whose activities are related to construction and transport. It has also been established that this type of company has the highest number of cases of illegal work, and therefore it can be concluded that labour disputes usually arise due to improper settlement with employees and failure to ensure their rights and conditions. When analysing the requests received by the Labour Disputes Commission, it was found that the largest number of requests related to termination of employment contracts were mainly requests for unfair dismissal, of which the most were received in 2020 and 2024 during the analysis period, and the lowest in 2021 and 2022. The emergence of labour disputes was influenced by the employers' inappropriate qualification of termination of the employment contract. Analysing the requests of the Labour Disputes Commission, during the period under review. The Labour Disputes Commission resolved about 29 per cent by means of a settlement agreement, about 24 per cent satisfied the requests, and rejected about 26 per cent. The legal consequences of the employer are proper settlement with the employee. If the contract is terminated unlawfully, the employer must compensate for the period of enforced absence and settle correctly according to the case of termination of the employment contract. If the employer fails to pay the employee on time, he must pay penalties in accordance with the procedure established by law. And the legal consequences of the employee are to return the property of the employer, if the property is damaged or the employee does not have it, the employee must compensate for the damage in accordance with the procedure established by laws, also the employee must return the money that was not used for its intended purpose, must return the overpaid amounts due to mistakes, and must return the amounts of money due to the excess holidays, these amounts may be deducted from the salary in accordance with the procedure established by law.

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THE REASONS FOR THE LIMITED SPREAD OF MEDIATION

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Keywords: mediation, spread, court, mandatory mediation, process.

Abstract
This article examines the key factors limiting the spread of mediation in Lithuania. To provide a comprehensive understanding of the issue, the paper discusses the concept and essential characteristics of mediation, its fields of application, and the role of mandatory mediation in expanding its use. The study highlights the main legal, social, and institutional barriers to the broader implementation of mediation and explores foreign experiences to identify good practices applicable in the Lithuanian context. Empirical data collected through a survey of practicing mediators provides practical insight into real-world challenges and perceptions regarding mediation effectiveness. The findings show that despite a growing legal framework and efforts to promote mediation, public awareness remains limited, professionals often lack sufficient motivation or support, and the legal community's involvement is uneven. Mandatory mediation in family disputes has shown measurable success, but a broader cultural shift and policy improvements are needed to ensure sustainable growth.

Introduction

The emergence of alternative dispute resolution (ADR) in Lithuania is largely influenced by the experience of the United States, where Harvard Law School professor Frank E. A. Sander is recognized as one of its pioneers, publicly promoting a vision of courts as flexible dispute resolvers. While the initial reception in Europe was skeptical, growing societal interest in non-litigious resolution methods prompted the European Union to prioritize the development of ADR mechanisms. Among them, mediation has emerged as one of the most effective tools.

In the modern legal system, mediation is not only a means of ensuring justice but also a path to reducing court overload and promoting social harmony. The right to access a court is fundamental, but the Council of Europe has encouraged the improvement of procedural accessibility and the development of non-judicial alternatives. The adoption of the 2008 EU Mediation Directive (2008/52/EC) highlighted the importance of promoting mediation as a balanced complement to litigation.

In Lithuania, court-annexed mediation began as a pilot project in 2005, followed by the adoption of the Law on Conciliatory Mediation in Civil Disputes in 2008. Since then, the system has gradually evolved, including the development of non-judicial mediation. A significant milestone was the introduction of mandatory mediation for family disputes as of January 1, 2020, under the revised Mediation Law, further demonstrating the national legislature's efforts to create a favorable environment for mediation.

Despite the development of a supportive legal framework, the spread of mediation remains limited. A significant portion of society still lacks awareness of its benefits or perceives it as an unofficial alternative to formal legal proceedings. Mediation is often viewed with caution, and legal professionals do not always encourage its use.

This thesis explores the reasons behind the limited application of mediation in Lithuania. It begins with a theoretical analysis of the concept and key characteristics of mediation, followed by an overview of its fields of application. It then examines the necessity of mandatory mediation, the barriers that hinder its broader use, and insights from foreign mediation practices. The empirical part of the thesis presents findings from a quantitative survey of Lithuanian mediators, aiming to assess real-world factors influencing the effectiveness and acceptance of mediation in practice.

Data and methods

To achieve the aim of the thesis – to analyze the reasons behind the limited spread of mediation in Lithuania – a combination of theoretical and empirical research methods was applied. **Theoretical research methods** included a review and analysis of academic literature, scientific articles, and legal documents. This allowed for the examination of the concept of mediation, its key features, legal regulation, and the context of its application both in Lithuania and internationally. Comparative analysis was also used to evaluate foreign mediation practices and identify potential applications in the Lithuanian legal system. **Legal analysis** was conducted to evaluate the legal framework governing mediation in Lithuania, including the Mediation Law, the Code of Civil Procedure, and other relevant legislation. This analysis helped assess how legal regulation either

promotes or restricts the development of mediation. **Case law analysis** was used to explore how mediation is applied in judicial practice. Selected court decisions provided insights into the real-life implementation of mediation and the obstacles faced during its use in civil and administrative proceedings. **Empirical research** was conducted using a **quantitative research method** – an anonymous **questionnaire survey** of practicing mediators in Lithuania. The survey aimed to identify practical challenges, assess public awareness, and evaluate professional attitudes toward the effectiveness and accessibility of mediation. The data gathered provided valuable insights into how the mediation process functions in practice and what factors influence its limited dissemination. **Generalization** was used to summarize the findings of the theoretical and empirical analyses and to formulate conclusions and recommendations based on the data collected.

Results of interviews with professionals

As part of the empirical research, a quantitative survey was conducted among practicing mediators to identify real-life factors limiting the spread of mediation in Lithuania. The results of the survey revealed several key insights into the challenges and perceptions of mediation practitioners.

Firstly, the majority of respondents indicated that public awareness of mediation remains low. Many people are unfamiliar with the concept of mediation, do not understand its benefits, or confuse it with other legal procedures. This lack of understanding often results in reluctance to engage in the mediation process or outright rejection of it. Secondly, mediators pointed out that the motivation of parties involved in mediation is often lacking. In some cases, individuals participate in mediation only because it is mandatory (e.g., in family disputes), without a genuine intention to resolve the conflict. This lack of willingness and cooperation from the parties reduces the effectiveness of the process and can lead to unsuccessful outcomes.

Furthermore, respondents noted that the mediation process itself can be emotionally demanding, requiring not only legal knowledge but also strong psychological skills. Mediators often face challenges such as parties' resistance, distrust, or manipulative behavior. Maintaining neutrality in such situations is described as one of the most difficult aspects of the mediator's role.

The survey also highlighted issues related to the accessibility and affordability of mediation services. Although mandatory mediation hours are state - funded, continued mediation beyond that period may be costly, deterring parties from continuing the process voluntarily.

Lastly, some mediators expressed concerns about insufficient promotion of mediation among legal professionals. It was observed that certain lawyers and legal representatives are reluctant to recommend mediation to their clients, fearing loss of income or doubting the credibility of the process. This negatively affects the broader adoption and trust in mediation as a valid method of dispute resolution. In conclusion, the survey results confirm that the limited spread of mediation in Lithuania is influenced by a combination of legal, institutional, cultural, and psychological factors. While legislative improvements and mandatory mediation have brought some positive developments, further efforts in public education, professional training, and systemic support are essential to promote mediation as an effective and trusted dispute resolution method.

Conclusions

This thesis analyzed the concept of mediation, its areas of application, the necessity of mandatory mediation, the main obstacles limiting its spread, and the experience of foreign countries in order to understand the reasons for the limited use of mediation in Lithuania. Based on the theoretical analysis and empirical data obtained through a survey of professional mediators, it can be concluded that mediation in Lithuania, although legally established and institutionally supported, still faces significant challenges that hinder its broader application.

One of the most prominent barriers is the lack of public awareness and understanding. Many members of society are unfamiliar with mediation as a process and often view it as an unofficial or ineffective alternative to litigation. This results in low motivation among parties to participate voluntarily, which is a critical component for a successful mediation outcome. Although mandatory mediation, particularly in family law disputes, has led to a noticeable increase in mediation usage, it also brings challenges—especially when parties perceive it as a formal requirement rather than a constructive opportunity to resolve disputes peacefully.

From a legal and institutional perspective, the regulatory framework for mediation in Lithuania is gradually evolving. However, the integration of mediation into the justice system is still not fully developed. Legal professionals, such as lawyers or judges, are not always proactive in promoting mediation, sometimes due to

skepticism or concerns about professional income. Moreover, limited financial support for continued mediation after the state-funded hours makes the process less accessible for many individuals.

The practical application of mediation is further complicated by the challenges faced by mediators themselves. As revealed by the survey, mediators often work under emotional pressure, face uncooperative or hostile parties, and require both legal expertise and psychological resilience to manage conflict constructively. Despite these challenges, mediators recognize the value of their role and see mediation as a necessary part of a modern legal system.

Comparative analysis of foreign practices shows that mediation can be successfully integrated into legal systems when supported by clear legislation, public education, and institutional encouragement. Countries like Canada, Germany, and the Scandinavian nations offer valuable models where mediation is both respected and widely used.

In conclusion, while Lithuania has made progress in promoting mediation—especially through the introduction of mandatory mediation in certain areas—further steps are essential. These include increasing public awareness, strengthening the education and support of legal professionals, ensuring the accessibility of mediation services, and applying successful foreign experiences to the Lithuanian context. Only by addressing these barriers can mediation become a truly effective, trusted, and widely used method of alternative dispute resolution.

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JUDICIAL MEDIATION – AN INCREASINGLY POPULAR METHOD OF DISPUTE RESOLUTION?

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Keywords: Mediation; Judicial Mediation; Dispute Resolution; ADR; Court; Lithuania.

Abstract
Judicial mediation is becoming a more widespread and important form of alternative dispute resolution (ADR), particularly in civil and administrative cases. This article investigates the role of judicial mediation in Lithuania, its advantages, and its place within the legal system. It highlights the growing relevance of mediation in reducing court burdens and fostering more amicable solutions. The research combines theoretical analysis with empirical data, including a survey and expert interviews, to evaluate public understanding and the practical application of judicial mediation. Findings suggest that although judicial mediation is valued positively, its accessibility and public awareness remain limited.

Introduction

The increasing complexity of modern legal disputes has led to the need for more effective resolution mechanisms outside of traditional litigation. Judicial mediation has emerged as a valuable tool, offering parties the opportunity to settle disputes with the help of a neutral mediator, often within a court framework. In Lithuania, judicial mediation is legally recognized and regulated, but its practical application remains limited. This work examines why judicial mediation is gaining popularity, what advantages it offers, and what challenges hinder its broader adoption

Data and Methods

This bachelor's thesis uses a mixed-methods approach to analyze both legal frameworks and empirical perceptions of mediation. A quantitative public survey was conducted to assess public awareness of judicial mediation, along with qualitative interviews with certified mediators to gain professional insights. The legal analysis includes national and international legislation, as well as scientific literature on ADR mechanisms.

Results

The research findings demonstrate that judicial mediation is most often used in family, inheritance, and minor civil disputes. The advantages include faster resolution, emotional and financial relief, and improved long-term relationships between disputants. However, challenges include insufficient public knowledge, uneven practice, and a lack of qualified mediators in certain regions. The research also emphasizes the importance of mediator personality, preparation, and the court’s encouragement in achieving effective outcomes.

Conclusions

Judicial mediation in Lithuania is increasingly recognized as an effective alternative dispute resolution method, especially in civil and administrative cases. The theoretical analysis and empirical research conducted in this bachelor's thesis indicate a positive perception of judicial mediation among both the general public and professionals. Respondents highlighted the potential of mediation to reduce court workloads, promote faster and less adversarial dispute resolution, and foster a more cooperative legal culture.

However, the findings also reveal several challenges, such as limited public awareness, inconsistent application in practice, and the need for clearer legal regulation and institutional support. Experts emphasized that further education, promotion, and integration of mediation into legal procedures are essential for its successful development.

Overall, the results suggest that judicial mediation has a valuable role in Lithuania’s legal system but requires more systemic support to fully realize its potential.

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FORENSIC INFORMATION SYSTEMS, THEIR APPLICATION IN THE LITHUANIAN STATE BORDER GUARD SERVICE

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Keywords: forensic information system, Lithuanian State Border Guard Service.

Abstract
The article examines in detail the concept and characteristics of forensic information, the definition, characteristics and classification of a forensic information system, the purpose and tasks of a forensic information system, the Lithuanian forensic information system and forensic information systems used in the Lithuanian State Border Guard Service.The thesis conducted an empirical study that identified the following legal regulatory challenges that informants face when working with these forensic information systems: different data exchange regulations between countries, limited access to data, incompatibility of data protection laws of different countries, unclear regulation of interaction with other EU systems, unclear data retention periods and access rules.

Introduction

Forensic information systems are specialized databases and technological platforms designed to collect, store, analyze and share information about criminal acts and persons related to them. Forensic information systems are designed for the investigation, interpretation and prevention of criminal acts. Forensic information systems process external and internal primary data relevant to the investigation of crimes and convert them into significant forensic information, they ensure the storage, processing and transmission of information to users. These systems include various forensic databases, file cabinets, collections with the help of which law enforcement agencies can effectively collect, analyze and exchange information about criminal acts and objects related to them, identify suspects and prevent criminal acts. In modern society, crime is becoming increasingly globalized and complex, and law enforcement institutions must use modern technologies and information systems to identify suspects and prevent criminal acts. The relevance of the topic is justified by the need to examine in more detail the application of information technology systems at the Lithuanian border. There is a lack of recent scientific research on this topic. The study identifies not only the situation of the application of information technology systems at the Lithuanian border, but also assesses legal regulation, reviews identified problems and the possibilities of applying information technology systems. Lithuania lacks more detailed scientific research examining the application of forensic information systems in the border control system. The works of scientists that examine the application of forensic information systems focus mainly on the integration of these information systems and general methods of investigating criminal acts, therefore a more detailed analysis of this topic is appropriate to assess the problematic aspects and possibilities of information technology systems applied in the border service. Work problem. The application of forensic information systems is not always effective, in practice there are shortcomings in the exchange of data between different institutions, technological limitations or legal barriers. The object of the work is forensic information systems and their application at the Lithuanian border. The purpose of the work is to analyze forensic information systems and their application at the Lithuanian border.

Objectives of the thesis:

1. To reveal the concept and classification of forensic information systems.
2. To identify the features of forensic information systems used at the Lithuanian border.
3. To analyze forensic information systems and their application at the Lithuanian border with the help of empirical research.

Data and methods

Scientific literature analysis method – applied when analyzing special literature. Document (legal) analysis (national and international legal acts were analyzed). Qualitative interview method (applied when interviewing experts). Generalization method applied – when summarizing the results of the work sections.

Results of interviews with professionals

VSATIS, SIS II, EUROPOL, SIRENE, ECRIS, POLIS. VSATIS is the information system of the State Border Guard Service, it is the main system that helps ensure the security of the state border by carrying out checks on persons and vehicles, administering the list of restrictions, recording border crossing events and processing other data. The Schengen Information System (SIS II) is a European-wide database that collects information on wanted or monitored persons and objects in the Schengen area. The EUROPOL system is used to collect information on criminal acts, international networks or cooperation with foreign institutions. The SIRENE system is used when it is necessary to cooperate with other Schengen states, when identifying people who require international coordination. The ECRIS system allows you to quickly obtain data on the trustworthiness of a person.

The POLIS information system helps to identify people with a criminal past. The VSTATIS information system interacts with EU information systems and registers, police, customs, migration register databases, national information systems and registers, SIS II and ECRIS. Its purpose is to ensure state border control, manage border crossing events, administer restriction lists, provide data on persons, vehicles, documents, manage risks and perform analysis. It allows not only to register border crossing events, but also to effectively manage restriction lists and manage risks. VSTATIS is also important in analyzing situations after an event, since it is possible to trace whether a person had a reason to be stopped, what his previous crossing attempts or entries in other registers were. An information system is used at the Lithuanian border, which partially performs the functions of a forensic information system – the Schengen Information System (SIS II) – a database operating at the European Union level, which collects information about persons and objects sought or monitored in the Schengen area.

The informants were asked to tell what registers this system interacts with. What is the purpose and functions of this information system. The information system Schengen Information System (SIS II) interacts with VSATIS, SIRENE, ECRIS, EUROPOL, POLIS, national police and law enforcement registers, passport and personal document databases, and car registers. It interacts with our national POLIS system and makes it possible to quickly verify information about people who may pose a threat to state or public security. An information system is used at the Lithuanian border, which partially performs the functions of a forensic information system - the SIRENE information system. This system is related to SIS II and is intended for the exchange of additional information between national offices of the Schengen area states. It helps coordinate actions and exchange data on internationally wanted people. The SIRENE information system interacts with VSATIS, ECRIS, SIS II, and national databases such as POLIS. Using VSATIS, which integrates data from SIS II, notifications of possible violations are received immediately. SIRENE data allows you to check specific details of the case, contact another country and act promptly, especially when decisions are needed on the detention of a person or information on the circumstances of a crime. SIRENE interacts with national databases, such as POLIS, which makes it possible to compare information about a person at the national and international level and make decisions on further actions - whether it be detention, questioning or deportation. The ECRIS information system interacts with the VSATIS, SIRENE information systems, with national criminal records, Ministries of Justice in other EU countries, with national criminal records throughout the EU. The ECRIS information system allows national authorities to exchange information on criminal records through a centralized system, ensuring data quality and security. ECRIS makes it possible to check a person's sentences in EU countries, to identify repeat offenders. Interacts with national criminal records, in Lithuania with the Department of Informatics and Communications, and Ministries of Justice in other EU countries. The SIS II and VSTATIS information systems help to identify violations of the law more quickly and accurately. SIS II operates the fastest and covers the largest number of EU countries. VSTATIS is the most effective border data management and alert system. Data exchange takes place automatically and manually.

In information systems such as VSTATIS, SIS II, ECRIS, data exchange takes place automatically. Manual work is done with the SIRENE information system. Coordination takes place through national contact points. Data is transmitted in accordance with EU standards, securely and quickly. Strict personal data protection requirements stipulate the need to comply with EU and national legislation, limited access to data is ensured, and the need to constantly update legislation considering technological changes is stipulated.

The study revealed that Informants, when working with these forensic information systems, face such technical challenges as system compatibility, data transfer speed, the need to update technical equipment, and ensuring system availability, especially in border sections with poor connectivity. Operational challenges include the large amount of data, the possibility of human error, the need for continuous training of employees, ensuring rapid response to incidents, as well as the complexity of system integration with other EU systems. The study identified the following legal challenges faced by informants working with these forensic information systems: different data exchange regulations between countries, limited access to data, incompatibility of data protection laws between different countries, unclear regulation of interaction with other EU systems, unclear data retention periods and access rules.

The study revealed that in order to better meet the needs of the work, it is necessary to ensure better integration of forensic information systems, use artificial intelligence in risk analysis, automate warnings about repeat offenders, ensure faster processing time of SIRENE requests, ensure faster data updates in existing forensic information systems, regulate a unified EU database, ensure more effective automated identification of suspected persons/vehicles.

Conclusions

1. A forensic information system is defined as a system that is used to transform internal and external primary data relevant to the investigation of crimes into processed forensic information, ensuring its accumulation, storage, processing and transmission to users in the required form and allowing for the most appropriate decisions. It aims to effectively collect, process, analyses and use information related to criminal acts and ensure the prevention of criminal acts. Forensic information systems are classified according to the source of origin, content, impact of the external environment, functionality, level of use, level of access, technological solutions, causal relationship, level of automation, purpose. In relation to forensics, information systems from other areas, systems indirectly related to forensics and forensic information systems are distinguished.

2.The following forensic information systems are used at the Lithuanian border: VSATIS, the Schengen Information System (SIS II), the electronic migration services register MIGRIS, the European Criminal Records Information System (ECRIS). VSATIS is designed to process data on persons crossing the state border of the Republic of Lithuania, their travel documents and means of transport. Although VSATIS is not directly focused on the accumulation of forensic information, it is integrated with other information systems and registers that store forensic information. The Schengen Information System (SIS II) helps national law enforcement and administrative institutions to better protect the Schengen area, fight crime and find missing people. Together with the Schengen Information System (SIS II), a specialized information exchange system SIRENE is also used, the purpose of which is to help coordinate law enforcement actions between Schengen states. The European Criminal Records Information System (ECRIS) is also used at the Lithuanian border, it enables the central authorities of the Member States to exchange information from criminal records.

3. Empirical research has established that such forensic information systems as VSATIS, SIS II, EUROPOL, SIRENE, ECRIS, POLIS are used at the Lithuanian border. VSATIS is the information system of the State Border Guard Service, it is the main system that helps ensure the security of the state border by carrying out checks on persons and vehicles, administering lists of restrictions, recording border crossing events and processing other data. The Schengen Information System (SIS II) is a European-wide database that collects information about wanted or monitored people and objects in the Schengen area. The EUROPOL system is used to collect information about criminal acts, international networks or cooperation with foreign institutions. The SIRENE system is used when it is necessary to cooperate with other Schengen states, when identifying people who require international coordination. The ECRIS system allows for quick access to data on a person's criminal record. The POLIS information system helps identify people with a criminal past. The SIS II and VSATIS information systems help to identify violations of the law more quickly and accurately. SIS II – operates the fastest and covers the largest number of EU countries. SIS II is the most effective border data management and alert system. Data exchange takes place automatically and manually. In information systems such as SIS II and ECRIS, data exchange takes

place automatically. Manual work with the SIRENE information system. Coordination is carried out through national contact points, data is transmitted in accordance with EU standards, securely and quickly. Strict personal data protection requirements apply to forensic information systems. The study identified the following legal regulatory challenges that informants face when working with these forensic information systems: different data exchange regulations between countries, limited access to data, incompatibility of data protection laws of different countries, unclear regulation of interaction with other EU systems, unclear data retention periods and access rules. For these forensic information systems to better meet work needs, it is necessary to ensure better integration of forensic information systems, use artificial intelligence in risk analysis, automate warnings about repeat offenders, ensure faster processing time of SIRENE requests, ensure faster data updates in existing forensic information systems, regulate a unified EU database, ensure more efficient automated identification of suspected persons/vehicles.

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PROBLEM OF BIOLOGIC AND ACTUAL PATERNITY RELATION AND CHILDREN'S RIGHTS

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Keywords: biological paternity, actual paternity, children's rights, paternity determination.

Abstract
This article examines the problem of the relationship between biological and actual paternity in the context of children's rights protection. It discusses the concept of paternity, its significance, and its legal regulation in Lithuania and internationally. The study analyzes the mechanisms for protecting children's rights related to paternity recognition and explores the case law of the Supreme Court of Lithuania and other legal institutions on paternity determination and recognition. The research raises the question of how the legal system should balance the rights of biological and actual fathers while prioritizing the best interests of the child.

Introduction

In recent decades, the concept of fatherhood has become the subject of increasing legal and social discussion. As family models evolve, so does the understanding of a father's role in a child's life—social (de facto) fatherhood is gaining more significance than biological ties. Situations often arise where the biological father does not fulfill his parental responsibilities, while a social father, though lacking legal status, actively cares for the child. Such cases pose challenges for family law, as the current legal framework does not always reflect real-life circumstances or ensure the primacy of the child's best interests.

Court practice, particularly that of the European Court of Human Rights and Lithuanian courts, increasingly emphasizes the child's welfare over mere genetic connection. Academic literature highlights that de facto fatherhood often plays a more important role in a child's socialization and emotional well-being than biological kinship alone. However, legislation still lacks a clear definition and legal protection for social fathers. This issue becomes especially relevant when addressing a child's right to know their origins, maintain relationships with both biological and social fathers, and experience stable family life.

The problem addressed in this thesis is the legal uncertainty between biological and social fatherhood, which may jeopardize the protection of the child's rights and interests. The object of the research is the relationship between biological and social paternity in the context of child rights protection. The aim of the thesis is to analyze the legal aspects of this relationship, identify regulatory gaps, and propose recommendations to better safeguard the best interests of the child in contemporary family law.

Objectives of the thesis:

1. To analyze the concept and significance of fatherhood, as well as the legal regulation of the establishment and recognition of paternity.
2. To examine the child's rights related to the recognition of paternity and their protection under international and national legal frameworks.
3. To investigate examples from the case law of the Supreme Court of Lithuania or other courts concerning the establishment or recognition of paternity.

Data and methods

In order to achieve the objectives of the thesis and to reveal the main aim of the research, an analysis of legal acts, a review of scientific literature, and an examination of Lithuanian court practice were conducted. To highlight the key issues related to the establishment and recognition of paternity, the method of generalization was applied.

Research results

The analysis of Lithuanian court practice revealed that, in cases concerning the establishment or recognition of paternity, courts are increasingly guided by the principle of the best interests of the child, as enshrined in Article 3.3 of the Civil Code and Article 4(1) of the Law on the Fundamentals of Protection of the Rights of the Child, rather than by biological ties alone. Courts increasingly consider the child's psychological safety and emotional well-being, recognizing that the actual caregiving relationship may carry more weight than genetic connection.

For instance, in case No. e2-2507-884/2024, the Plungė District Court approved a settlement agreement emphasizing the importance of a stable social relationship between the child and the person who actively cares for them. This approach aligns with the case law of the European Court of Human Rights, which holds that biological links alone are insufficient to constitute "family life" under Article 8 of the European Convention on Human Rights. Similarly, in case No. e2-12584-1184/2024, the Šiauliai District Court highlighted the significance of consistent caregiving, upbringing, and emotional bonding in ensuring the child's welfare. In another case (No. e2A-943-894/2024), the Kaunas Regional Court annulled a previous paternity record and recognized J.B. as the legal father, as he demonstrated a willingness to take real responsibility for the child. This decision reflects the UN Convention on the Rights of the Child, particularly Articles 7 and 8, which affirm the child's right to know their parents, maintain identity, and grow up in a secure family environment.

These examples demonstrate a flexible, case-by-case approach in Lithuanian jurisprudence, with courts focusing primarily on the child's interests. While the legal framework still formally prioritizes biological paternity, court practice is increasingly adapting to individual circumstances, taking emotional and social factors into account. This reflects both national and international legal standards on the child's right to family life, identity, and safety.

The findings of this research confirmed the initial hypothesis: there is a clear discrepancy between the formal legal provisions, which often prioritize biological paternity, and the lived social reality, where a de facto (social) father may play a more significant role. In conclusion, although legal regulation continues to be based on the biological model of paternity, judicial practice is gradually reshaping this paradigm in favor of a more flexible, child-centered approach that seeks to harmonize biological and social fatherhood in the protection of the child's rights and well-being.

Conclusions

1. The analysis of the concept of fatherhood and its legal regulation revealed that modern fatherhood encompasses not only a biological but also a social (de facto) dimension. Although the Civil Code (particularly Articles 3.140–3.148) emphasizes biological paternity as the basis for legal recognition, the significance of social ties is increasingly acknowledged. Scholars such as G. Sagatys and J. V. Uzdzila emphasize that fatherhood is not merely a genetic fact but also a conscious and continuous involvement in the child's life, which shapes the true content of fatherhood.

2. In the context of international and national legal instruments concerning children's rights, it has been established that a child's right to know their origins (Articles 7 and 8 of the UN Convention on the Rights of the Child), maintain relationships with parents, have an identity, and live in a safe family environment are fundamental principles that the state must guarantee. Although national legislation remains focused on biological paternity, it increasingly incorporates social factors—especially when evaluating whether a legal decision truly serves the best interests of the child, as required by the Law on the Fundamentals of Protection of the Rights of the Child of the Republic of Lithuania.

3. The analysis of court practice has shown that in paternity establishment or recognition cases, courts are increasingly guided not only by biological ties but also by the de facto relationship between the child and the person fulfilling the role of a father. In such cases, priority is given to the child's welfare by considering emotional bonds, daily care, and actual involvement in the child's life. This approach reflects the principle of the best interests of the child, enshrined in both national and international legal acts. However, despite this progressive judicial trend, there is still a lack of clear legal regulation, which leads to inconsistent rulings that may depend on individual judicial discretion. This highlights the need for legislative reforms to establish a more precise and consistent legal framework for recognizing social (de facto) paternity, ensuring legal stability and protection for the child.

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EMOTION CLASSIFICATION FROM EEG SIGNALS: AN ANALYTICAL FRAMEWORK FOR MACHINE LEARNING APPLICATION

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EEG signal processing; Emotion recognition; Machine learning; CNN; Valence-arousal model; Emotiv EPOC.

Abstract
This study explores EEG-based emotion classification through a software-oriented, analytical approach. Focusing on the valence-arousal model of emotion, it evaluates signal processing and machine learning techniques without implementing a full system. The research utilizes the OASIS EEG dataset, recorded using the Emotiv EPOC headset, and recommends a streamlined preprocessing pipeline incorporating Butterworth filtering, FFT, Power Spectral Density, and Spectral Entropy for effective feature extraction. A CNN-based classification model—potentially enhanced with LSTM layers—is proposed as a suitable architecture, especially for real-time emotion recognition applications. Key considerations include computational efficiency, latency, and overfitting risks due to the limited dataset size. The findings provide a foundation for future system development in affective computing and brain–computer interface design.

Introduction

Emotions are complex psychological and physiological responses produced by individuals under external stimuli, including internal neural processes and the influence of external environments such as social and cultural factors [1]. As a fundamental aspect of human cognition, emotions play a crucial role in perception, decision-making, and social interactions. In recent years, research on emotion recognition has gained significant attention, particularly in the field of human–computer interaction (HCI) [2]. Since computers lack emotional awareness and cannot interpret human emotions directly [3], developing accurate emotion recognition systems is essential for improving human–machine interaction and enabling empathetic, adaptive systems [4], [5].

The accurate identification of human emotions is a complex task, as this domain is multifaceted and can manifest in various ways [6]. Traditional approaches such as facial expression analysis, gesture recognition, and voice modulation detection have been widely used for emotion recognition [7]. However, these methods have notable limitations in accuracy and reliability since humans may involuntarily or deliberately conceal their real emotions [4], [8], [5]. Given these challenges, researchers have explored physiological signals, such as electroencephalography (EEG), electrocardiography (ECG), and skin conductance, to achieve more objective and accurate emotion recognition. Among these, EEG is one of the most reliable and widely accessible tools for analysing brain activity in relation to emotions[2], [3], [4], [9], [10]. This method involves placing electrodes on the head to capture the electrical signals generated by brain activity. EEG signal is a kind of bioelectrical signal, which is the overall response of the activity of a large number of neurons in the cerebral cortex or the surface layer of the scalp and contains a lot of physiological and pathological information. Relevant studies show that collecting and analysing EEG signals and extracting their emotional features can reveal necessary information about human emotional states [11]. This study adopts an analytical research approach, grounded in the examination of existing literature and publicly available EEG datasets. It focuses on evaluating and selecting appropriate signal processing and machine learning tools for EEG-based emotion classification. While the study does not involve software implementation, it presents a methodological framework and rationale for tool selection, which can guide future system development in this domain.

Figure 1 presents a workflow diagram illustrating the steps involved in developing an emotion classification system (ECS) using the Emotiv EPOC headset. It illustrates the complete process, from device connection and EEG signal acquisition to machine learning training and real-time emotion prediction and visualization.

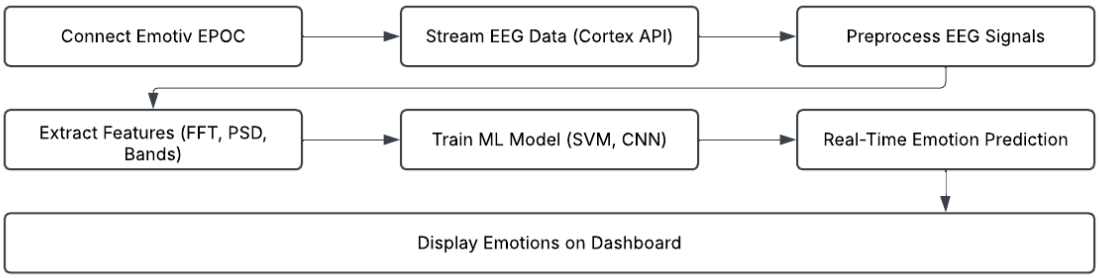


Fig. 1. Emotion classification processing workflow with EEG signals by using Emotiv EPOC
**Source: made by author*

Before developing an ECS, it is crucial to understand the neuroscientific basis of emotions, how EEG signals correlate with emotional states, and which machine learning (ML) algorithms are best suited for achieving reliable classification. This requires an analysis of how different types of brain oscillations are characterized based on their frequency. These are known as frequency bands and can be related to different brain states (delta, theta, alpha, beta, and gamma). It is no less important to determine the appropriate method for emotion classification in the study. Additionally, reviewing existing research and leveraging publicly available EEG emotion datasets (e.g., DEAP, SEED, DREAMER) can provide insights into best practices, signal processing techniques, and benchmark performance metrics. Additionally, it is necessary to define a data collection strategy, whether to use existing datasets or conduct new EEG recordings, and implement robust signal preprocessing methods, including artifact removal, bandpass filtering, and normalization to reduce noise. By addressing these key aspects, understanding and determination of the emotion model, EEG signal interpretation, machine learning selection, data processing, and system evaluation, makes the development of an ECS more structured, scientifically grounded, and optimized for real-world applications.

Models of emotion and publicly available EEG datasets

By reviewing the literature, multiple approaches to emotion identification and classification were found. Among the most widely recognized models are those proposed by Ekman et al. and Russell. Ekman et al. suggested that certain emotions are universal across all cultures and backgrounds, identifying six basic emotions: happiness, anger, sadness, fear, disgust, and surprise. In contrast, Russell introduced the circumplex model of affect (fig.2), which conceptualizes emotions in a valence-arousal space, categorizing them based on their level of activation and linking them to human emotional states [2], [6], [10].

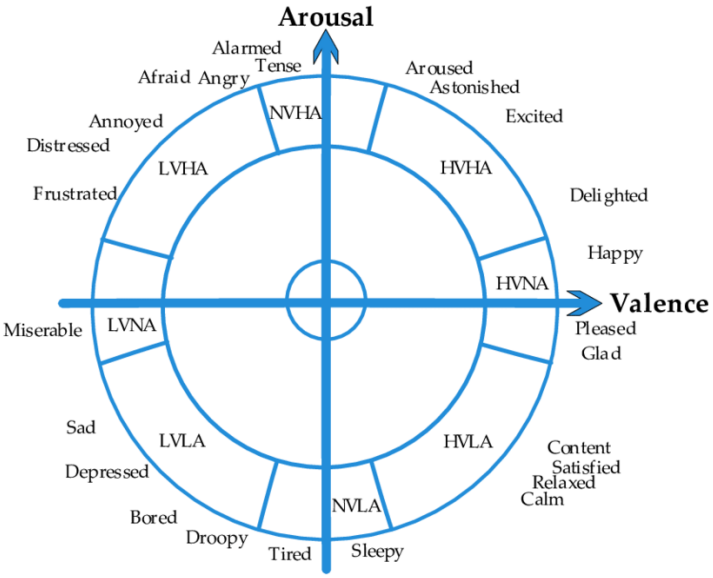


Fig. 2. 2D valence-arousal emotion model by Russell.
**Source: [12]*

2D valence-arousal emotion model is used to quantitatively describe emotional states. The first dimension, valence, ranges from unpleasant to pleasant, and the second dimension, arousal, changes from bored to excited. Therefore, the valence-arousal model can describe most variations in human emotion changes.

In the reviewed studies, a three-class emotional model was also found, classifying emotions into happy (high arousal and valence), sad (low arousal and valence), and neutral (mid-range arousal and valence) [2]. Other studies have categorized emotions into four primary classes: happy, relaxed, sad, and angry. While this classification offers low computational complexity, one of its major drawbacks is low classification accuracy [3].

Additionally, datasets used in emotion classification research often maintain a balanced distribution of emotional categories. For example, one study utilized an initial dataset containing 308 samples per emotional category (Happy, Sad, Neutral) [4]. Similarly, emotion recognition research frequently incorporates happiness, sadness, fear, and neutral as key categories [13].

Sukumaran and Manoharan [14] have conducted a detailed review of various EEG datasets that classify emotions or affective states. Table 1 summarizes several freely accessible EEG datasets and their features for emotion classification.

Table 1

Publicly available EEG datasets

Dataset	Modalities	No. of Participants	No. of Channels	Affective States	EEG Sensor
DEAP	EEG and other physiological signals such as ECG, EMG, and EOG	32	32	Arousal, valence, dominance, like/dislike	Biosemi ActiveTwo EEG system
SEED	EEG data, along with eye movement data	15	62	Positive, Negative, Neutral	ESI NeuroScan System
SEED IV	EEG data, along with eye movement data	15	62	Happy, sad, fear, and neutral	ESI NeuroScan System
DREAMER	Contains EEG and ECG signals recorded	23	14	Valence, arousal, and dominance	Emotiv EPOC EEG headset
AMIGOS	EEG, ECG, Video Recordings, Self-assessment Questionnaires	40	14	Valence, arousal, liking, dominance, familiarity, basic emotions	Emotiv EPOC+ headset
MAHNOB-HCI	Contains EEG and other physiological signals like ECG, EMG, GSR, and respiration, audio, and video recordings	27	32	Valence, arousal, dominance, and emotion categories such as happiness, sadness, anger, fear, etc.	32 active AgCl electrodes placed according to the international 10-20 system
ASCERTAIN	Frontal EEG, ECG, GSR, and facial features	58	8	Arousal, Valence, Engagement, Liking, Familiarity	Neurosky MindWave EEG sensor
DECAF (Decoding Cognitive and Affective States)	A multimodal dataset that includes EEG, facial expression, and physiological signals	30	306 channels (corresponding to 102 magnetometers and 204 gradiometers)	Valence, arousal, and dominance	ELEKTA Neuromag device
LUMED	Facial expressions, GSR, and EEG	13	8	Negative valence and positive valence	Neuroelectrics Enobio 8
MPED	EEG, GSR, respiration, and ECG	23	62	Joy, funny, disgust, angry, fear, sad, neutrality	ESI NeuroScan System

**Source: [14]*

For this research, the OASIS EEG dataset was selected due to its compatibility with the Emotiv EPOC EEG headset, which aligns with the hardware considered in this study. The dataset consists of raw EEG signals

collected from 15 participants, recorded while viewing emotionally evocative images from the Open Affective Standardized Image Set (OASIS). Although OASIS was originally designed as a visual stimuli set annotated with valence and arousal ratings, it has been widely adopted in affective computing by integrating it with EEG recordings obtained using portable headsets such as the Emotiv EPOC [21]. However, its relatively small dataset size introduces important considerations when selecting machine learning methods. As observed in the study [21], increasing the number of features beyond a certain limit leads to overfitting, with a downward trend in performance that may even reverse. The authors further suggest that feature selection should be minimal and carefully controlled to reduce participant bias and prevent model overfitting.

EEG signal interpretation

The International Federation of Societies for Electroencephalography and Clinical Neurophysiology recommends the 10–20 system for electrode placement, ensuring equal spacing for symmetrical positioning and method for placing electrodes during EEG recordings [15]. The figure 3 shows EEG electrode placement on the scalp, organized according to the underlying brain lobes.

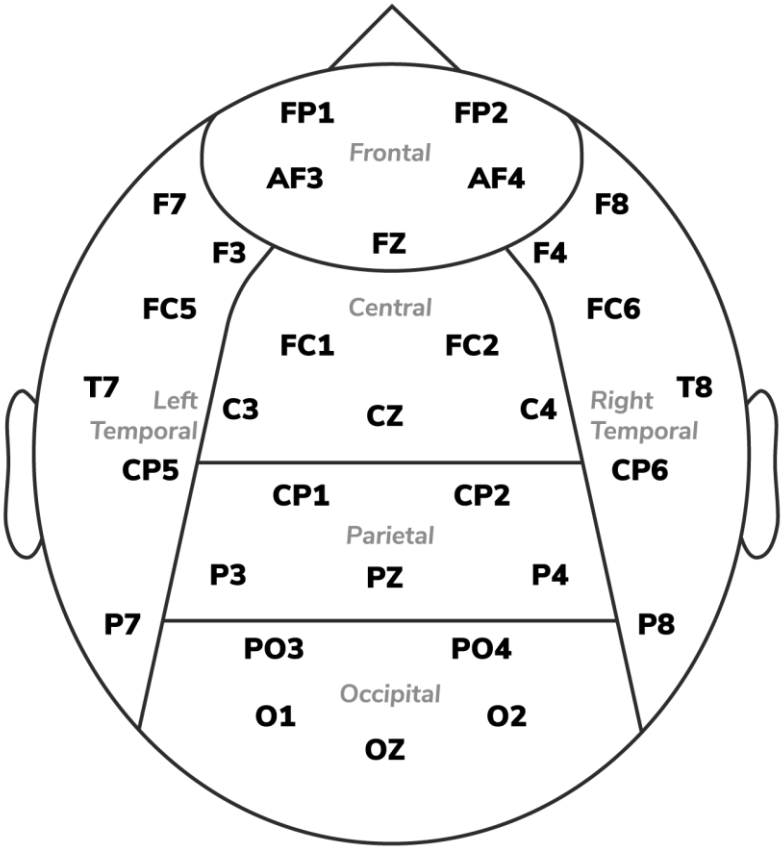


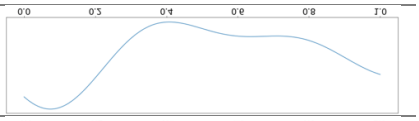
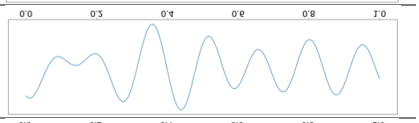
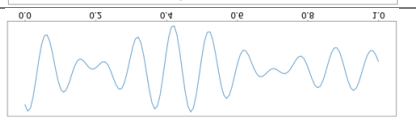
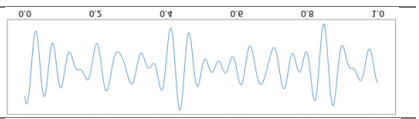
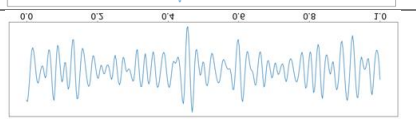
Fig. 3. EEG electrode placement, divided into regions of the brain

**Source: [16]*

EEG is usually classified according to its frequency bands. Some fundamental waveforms include delta (0.5 to 4 Hz) seen during deep sleep in frontocentral head regions, theta (4 to 7 Hz) also seen in the frontocentral head regions in early stages of sleep and drowsiness. Alpha rhythm, the characteristic pattern of the normal background rhythm of the EEG seen in the occipital region (8 to 12 Hz)[17]. Beta waves (12–30 Hz) dominate alertness and active thought, most typically seen in the frontal and central brain areas. They can also be found in other areas of the brain, such as the parietal and temporal lobes[18]. While gamma (>30 Hz) activity been detected and studied across frontal lobe, central sulcus, partiel lobe and occipital lobe [19]. They are often linked to concentrated mental activity, processing of information, learning, and memory, which require significant metabolic energy [20].

Table 2

The mental states and various activities with the frequences of EEG signals

Brain waves	Frequency range (in Hertz)	Status	Activities	Visualization
Delta	0.5 - 4	Deep sleep (dreamless), unconscious, trance	Lethargic, not moving, not-attentive, low-level of arousal	
Theta	4 - 8	Intuitive, fantasy, recall, creative, dreamlike, drowsy	Creative or intuitive, but could be distracted and unfocused	
Alpha	8 - 13	Relaxed, not agitated but not drowsy, conscious, tranquil awake	Meditation and learning	
Beta	13 -30	Alertness, attention and agitation	Mental activity, activation of mind and body functions	
Gamma	>30	Thinking and Integrated thoughts	Very focused learning, problem solving and high-level information processing	

**Source: [14], [16]*

The table above outlines the distinct characteristics of brain waves in terms of their frequency, morphology, and associated cognitive activities. Delta waves, characterized by low frequency and high amplitude, are predominantly observed during deep sleep and unconscious states, often associated with lethargy and low levels of arousal. Theta waves exhibit slightly higher frequencies and variable patterns, commonly linked to intuitive thought, memory recall, and creative or dreamlike states, albeit with reduced focus. Alpha waves, typically regular and moderate in frequency, are most prominent during relaxed wakefulness, and are associated with meditative states and learning processes. Beta waves display higher frequencies and lower amplitudes, corresponding to alertness, active thinking, and engagement of both mental and physical functions. Gamma waves, the highest in frequency, are associated with advanced cognitive processes, including focused attention, complex problem-solving, and integrative information processing. Overall, an increase in frequency correlates with heightened cognitive demand, increased metabolic activity, and greater neural integration.

Preprocessing pipeline

Raw EEG signals extracted from the recording device are continuous, unprocessed signals containing various kinds of noise, artifacts and irrelevant neural activity. Hence, a lack of EEG pre-processing can reduce the signal-to-noise ratio and introduce unwanted artifacts into the data. In the pre-processing step, noise and artifacts presented in the raw EEG signals are identified and removed to make them suitable for analysis in the further stages of the experiment[21]. The EEG signal, as preprocessed in the work of Navdeep Shakya, Rahul Dubey, and Laxmi Shrivastav[22], was first processed using the Fast Fourier Transform (FFT) to obtain a periodogram. From this, the Power Spectral Density (PSD) values were calculated and extracted as feature vectors. These spectral features represent the distribution of signal power across frequency bands and were normalized before being passed to the classification stage. This kind of pipeline they use by researching the detection of stress by the analysis of EEG signal. While some studies apply basic filtering or minimal noise reduction, the researchers who proposed a comprehensive methodology for EEG-based emotion recognition implemented a more robust preprocessing pipeline. Their approach began with the application of a Butterworth bandpass filter to remove unwanted noise and retain essential EEG frequency components. In contrast to simpler pipelines, they further applied the Fast Fourier Transform (FFT) to extract Power Spectral Density

(PSD) and Spectral Entropy (SE) features, capturing both spectral power and signal complexity. The resulting features were then normalized, providing consistent scaling across inputs and enhancing the quality of subsequent analysis [23]. Considering the relatively small size of the selected dataset, it would be appropriate to adopt a simplified signal processing pipeline in a practical implementation. Such an approach could help preserve meaningful signal characteristics and reduce the risk of overfitting. In this context, a combination of a Butterworth bandpass filter, Fast Fourier Transform (FFT), Power Spectral Density (PSD), and Spectral Entropy (SE) would be a reasonable choice for feature extraction, as it balances noise reduction with the retention of relevant emotional features.

Machine learning

As shown in table 3, deep learning models such as CNNs and hybrid architectures (e.g., CNN + LSTM or CNN combined with optimization algorithms like ABC and GWO) have achieved the highest accuracy, reaching up to 100% on the DEAP dataset. In contrast, traditional machine learning methods like SVM or decision trees typically yield lower performance.

Table 3

Performance of machine learning methods on EEG datasets

Reference	Data used	Classification methods	Accuracy (%)
[7]	SEED, DEAP	Baseline CNN	97 (SEED), 98 (DEAP)
		CNN + LSTM	98 (SEED), 98 (DEAP)
		RNN	92 (SEED), 94 (DEAP)
		Advanced model (CNN + ABC + GWO)	99 (SEED), 100 (DEAP)
[9]	DEAP	SVM-random forest	60
		Decision tree algorithm	81.64
		ANN	93.75
		SVM	70.5
		DBN	79.2
		QDC	81.87
		RNN-scheme 1, RNN-scheme2	89.33, 86.53
[10]	SEED, DEAP	k-NN	95.85%
[24]	SEED	3DCANN	97.35%
[25]	SEED	SMCD (2D-CNN + 2 Classifiers)	96.36%
[3]	Own dataset	MLP	75%
		1D-CNN	94%
		CNN-LSTM	97%
		2DCNN	98%

Based on these findings, a CNN-based approach, potentially enhanced with LSTM layers for temporal feature capture or optimization techniques, would be a suitable recommendation for future system development in this research domain. The choice should also consider dataset size, computational resources, and risk of overfitting.

Conclusion

This study adopts an analytical approach, leveraging existing literature and the publicly available OASIS EEG dataset to evaluate signal processing and machine learning techniques for EEG-based emotion classification. Grounded in Russell's circumplex model of affect, which maps emotions in a valence-arousal space, the research focuses on selecting tools compatible with the Emotiv EPOC EEG headset. The OASIS dataset, featuring EEG signals from 15 participants exposed to emotionally rated images, supports this structure.

Given the dataset's limited size, a simplified signal processing pipeline—incorporating a Butterworth bandpass filter, FFT, Power Spectral Density, and Spectral Entropy—is recommended to preserve relevant emotional features while minimizing overfitting. For classification, a CNN-based model, potentially

augmented with LSTM layers, is suggested as a robust future direction. This framework offers a practical foundation for developing emotion recognition systems, balancing model complexity with data and resource constraints.

Further work can focus on defining key parameters for the CNN model, such as learning rate, number of layers, loss functions, and activation functions. When implementing this framework in real-world applications, it's important to consider the model's ability to deliver real-time responses, which places greater emphasis on computational efficiency and responding time optimization.

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ARTIFICIAL INTELLIGENCE IN THE EDUCATION PROCESS: A YOUTH PERSPECTIVE

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Keywords: artificial intelligence (AI); generative artificial intelligence (GenAI); teaching; youth; artificial intelligence in education (AIED); learning; digital literacy.

Abstract
In today's digital era, where technologies are deeply embedded into everyday life, the integration of Artificial Intelligence (AI) into various areas has become an increasingly relevant topic. This study explores youth perspectives on AI in the education process, aiming to assess attitudes towards its integration both into primary and higher education institutions, highlighting a gap in existing studies, which primarily focus on university students, overlooking younger part of the learners. Analysing scientific literature, statistical data and the conducted survey's responses from youth aged 14 to 29, the study provides a better understanding of youth perceptions. The survey findings indicate that while the youth are more likely to use AI tools for personal purposes, they generally view AI as a beneficial tool, capable of enhancing the learning experience by providing easier access to learning materials, improving academic results and helping teachers manage their workload, yet visible concerns remain regarding data security, provided information reliability and ethical implications, calling for further oversight in educational institutions to ensure correct and reliable implementation of AI technologies. The survey results reveal most well-known AI tools among students - ChatGPT and Grammarly, as well as higher education institution students' increasing support of AI tool integration into higher institutions, as compared to primary education institutions. Additionally, the study highlights the necessity for future research to include a broader sample of youth to ensure a well-rounded understanding of AI's impact on the educational process.

Introduction

Relevance of the topic. In today's world, where the Internet plays a major role in the lives of modern people, with 86% of the entire population of the European Union using the Internet daily in 2023, this number increases to 97% among young people (EUROSTAT, 2023). Along with the use of the Internet, interest in other information technologies is also accelerating, which are also developing rapidly and starting to integrate into more and more areas of life. As of recently, the technology that has been attracting the most interest is Artificial Intelligence (AI), so it is not surprising that this technology has already found its way into educational institutions. According to Chiu et al. (2022), the integration of AI education into schools can be considered an important global strategic initiative that will help educate the next generation. Thus, in order to ensure the smooth development of this technology in the field of education, it is important to follow and take into account the attitude and position of young people in using AI solutions for educational purposes.

The problem of the article. The integration of Artificial Intelligence into various areas of life remains actively studied by researchers and creators and developers of AI tools themselves, but when it comes to the integration of AI into the field of education, most researchers mainly take into account the older part of youth - students studying in higher education institutions. The younger part is often bypassed, leaving a gap in the interaction of AI and basic education institutions, despite the growing interest in the use of AI for educational purposes in the context of basic education (Lee, Kwon, 2024). From these circumstances arises the need to find an answer - what is the attitude of youth towards the use of AI in the field of education, covering both school-age and older youth age groups.

The object of the article. Youth's attitude towards the possibilities of applying artificial intelligence for educational purposes.

The goal of the article is to examine the possibilities of integrating AI into the teaching/learning process and to assess young people's attitudes towards the use of AI in the field of education.

Objectives of the article:

1. Analyse the theoretical concepts of artificial intelligence.
2. Present the possibilities of applying artificial intelligence in the teaching/learning process.
3. Examine the attitude of the youth age group towards the use of artificial intelligence for educational purposes.

Methods of research.

1. Comparative analysis and systemization of scientific literature and online sources.
2. Systemization, grouping and analysis of primary data.

Artificial Intelligence

As a concept, Artificial Intelligence (AI) has been in use since the 1950s, first formally proposed by computer scientists John McCarthy and Marvin Minsky at a workshop in Dartmund in 1956, with the help of Nathaniel Rochester and Claude Shannon (Hasan et al., 2024). However, a stronger interest in this technology began to grow rapidly since 2017, when the first AI governance processes were initiated internationally (Stefan, 2023). However, as the complexity of technologies increases, it is very important to keep up and develop computer literacy skills in order to successfully continue to apply technologies in everyday life. According to Palomares et al. (2021), it is precisely the teaching and improvement of digital literacy that is the most important factor in overcoming the challenges of AI, especially among young people.

In order to better understand the role of AI in human life, it is important to get familiar with the definitions of AI. There are many definitions of AI, because with the rapid development of technologies, their understanding and meaning also change. Having mastered its primary functions, AI develops, expands into other areas, and over time, encourages changes in its definition. Definitions of Artificial Intelligence are provided in Table 1.

Table 1

Definitions of Artificial Intelligence

Author	Definition
Hasan, Saifulah. Hashmi (2024)	Artificial Intelligence is defined as the application of human intelligence to a computer or other machine, including the creation of algorithms and programs that allow machines to perform actions that require human intelligence, such as problem solving, learning, thinking, and perception.
European Council, 2024	Artificial Intelligence is defined as the use of digital technologies to create systems that can perform tasks that normally require human intervention, imitating human thinking, but processing information faster and more accurately, through learning from experience.
High-Level Expert Group (HLEG), 2019	Artificial Intelligence is defined as systems that demonstrate intelligent behaviour, that analyse their environment and take actions corresponding to a certain level of autonomy, in order to achieve set goals. AI systems can be based solely on software, operating in a virtual world – virtual voice assistants, search engines, speech and facial recognition systems, or artificial intelligence can be integrated into other devices – advanced robots, autonomous cars, drones.

* *Source:* compiled by the author from scientific literature.

In this paper, when discussing artificial intelligence, we will refer to the definition developed by HLEG.

Generative Artificial Intelligence

In the field of Artificial Intelligence, Generative Artificial Intelligence (GenAI) tools are often mentioned, which are technologies that are able to independently generate new, meaningful content in text, video or audio format, using the work of other writers or illustrators used for training purposes (Lv, 2023; Feuerriegel et al., 2024). When delving into the category of GenAI technologies, a subcategory of Large Language Models (LLM) is distinguished, consisting of large-scale pre-trained neural networks designed to model and generate text data, representing natural language, using large-scale text data sets for training (Feuerriegel et al., 2024). In recent years, one of the fastest growing and developing GenAI tools belonging to the LLM subcategory has become the ChatGPT (Chat Generative Pre-trained Transformer) tool, attracting attention with its creativity and flexibility, and its ability to generate smooth and consistent high-quality text (Lv, 2023). Authors Liu et al. (2023) define the ChatGPT tool as an AI chatbot that uses advanced natural language processing technologies to generate answers related to user queries on various topics with the help of large language models (LLMs).

Possibilities of using Artificial Intelligence in the field of education

With the rapid development of Artificial Intelligence technologies, it is not surprising that more and more applications of AI are emerging, including in the field of education. Artificial Intelligence in education (AIED), as a field that encompasses the application of AI technologies to teaching and learning, mainly in the context

of higher and postgraduate education, has been growing since the 1970s (Southgate et al., 2019). According to Murphie et al. (2018), the major change in student learning will be a shift to more personalized learning with new interactive and adaptive learning environments. Table 2 presents the uses of Artificial Intelligence in the field of education, as stated by the authors, which allows us to get a better understanding of the impact of AI in education.

Table 2

Artificial Intelligence uses in education

Author	Artificial Intelligence uses in education
Liu, Saleh, Huang (2021)	Providing educational material and creating a smart teaching/learning environment; quality control performance on educational materials; quick and effective search and assignment of appropriate learning materials, adapting to the learner's level; help in designing lessons or lectures; correction of student's homework and similar manual tasks, thus easing the teacher's workload and allowing them to focus on tasks requiring a more human approach.
Jho, Ha (2024)	Developing learner's argumentation and critical thinking skills; improving writing.
Jimenez, Juarez-Ramírez, Castillo, Licea, Ramirez-Noriega, Inzunza (2018)	Implementing Intelligent Tutoring Systems (ITS) to replicate the human aspects of teachers and provide personalised lessons using emotional feedback systems to increase learners' motivation to learn and enjoy the learning process.

* *Source:* compiled by the author from scientific literature.

Thus, it is possible to distinguish more than a few areas of application of AI in higher education institutions and the possible positive impact on the teaching/learning process of students. Emphasizing the more relevant possibilities of applying AI tools from the students' side, one can mention the increase in the accessibility of teaching/learning materials, the motivation of learners and the general desire and enjoyment of the teaching/learning process. It is also worth mentioning the possibilities of AI tools to develop learners' argumentation and critical thinking skills, as well as the possibilities of easing the workload of teachers by taking over mechanical tasks, or simply by helping to prepare teaching/learning materials or programs.

Youth attitudes towards Artificial Intelligence

Despite the fact that Artificial Intelligence was initially associated mainly with technology communities, information and communication technology specialists and companies (Stefan, 2023), as AI technologies develop, they are rapidly expanding the areas of interest, and it is precisely the youth age group, characterized by the most frequent use and integration of the Internet and digital technologies into their daily lives, that is becoming one of the most relevant in the development process of AI (Gagrčin et al., 2021). Gagrčin et al. (2021) argue that the young generation is the greatest driver of social change and draw attention to the importance of deeper research into the relationship between youth and AI, analysing the readiness of young people to accept, shape and adapt the scope of integration of AI into everyday life. The attitudes of young people towards Artificial Intelligence are presented in Table 3.

Table 3

Attitudes of the youth towards Artificial Intelligence

Author	Youth attitude
Gargčin et al. (2021)	Visible concern about the inappropriate use and distribution of accumulated data; overall positive attitude towards the integration pf AI into the educational process; certainty in AI's inability to fully take the place of teachers.
Sumakul, Hamied, Sukyadi (2021)	Positive attitude towards the use of AI among students learning English as a foreign language, emphasising AI's ability to help learners delve into theoretical concepts and improve grammar and vocabulary.

Anthology Report (2023)	Positive attitude towards the role of AI in higher education, indicating that AI tools will revolutionize methods of education, increase student engagement and interactivity in the learning process, and help generate ideas.
Anthology Report (2024)	High level of use of AI technologies among students, indicating the main AI imperative in higher education to increase student engagement and interactivity, as well as generating ideas.
Von Garrel, Mayer (2023)	High usage of ChatGPT for the purpose of explaining questions, terms and concepts, as well as for searching and analysing learning materials and literature.
Kelly, Sullivan, Strampel (2023)	Lack of knowledge, experience and confidence in using GenAI tools, including ChatGPT amongst students.
Limna, Kraiwanit, Jangjarat, Kleiklung (2023)	Overall positive attitudes with present concerns regarding data security, the accuracy of information provided by AI, and the potential loss of personal connection with teachers.
Malmström, Stöhr, Ou, (2023)	Positive view of the use of AI for educational purposes, with a large proportion of concern about the potential impact of AI tools in education and disagreement about AI results being better than the personal abilities of students.
Almassaad, Alajlan, Aleibakan (2024)	AI tools help students save time by providing instant information and answers to questions, but there are also concerns about potential misinformation, plagiarism and the lack of human contact.

**Source:* compiled by the author from scientific literature.

According to the data from the analysed studies, it can be concluded that students have a rather positive attitude towards AI tools and their potential benefits for the teaching/learning process. However, there is also concern about the security and reliability of these tools, and there is a need for reliable and competent individuals in teaching/learning institutions to monitor and ensure the successful integration of AI technologies into teaching/learning processes. It is important to emphasize the observation of the author Ngo (2023) about the lack of school-age youth in research, and the encouragement to include both school-age and higher education students in future studies in order to obtain more accurate results that reflect the real impact of integrating AI tools into the teaching/learning process on all learners.

Study on the youth's attitude towards the use of Artificial Intelligence for educational purposes

The analysis of scientific literature and statistical data revealed a high prevalence of information technologies – including AI in youth age groups and the active integration of AI tools into the education process. The study aims to cover the youth from 14 to 29 years, additionally dividing the respondents into groups of current education, in order to better understand the attitude towards the integration of AI into primary and higher education institutions. It also aims to clarify the aspects of AI that may cause concern in the education process.

Research criteria

After analysing the theoretical part and clarifying the most relevant possibilities for integrating artificial intelligence into the teaching/learning process and their potential impact on the academic work of learners and teachers, a research instrument was developed – an 11-question questionnaire. The criteria for the questionnaire survey are formed with the help of the research instruments, ensuring that the information received from the respondents purposefully responds to the tasks formulated by the research. The empirical study aims to determine the attitude of the youth age group towards artificial intelligence and the possibilities of its application and integration into the learning process. The criteria for a questionnaire survey are formed with the help of research instruments, ensuring that the information received from respondents purposefully responds to the objectives formulated in the study, presented in Table 4.

Table 4

Research instruments

Criteria	Research indicators	Methods used
Artificial intelligence knowledge assessment.	• How do respondents rate their knowledge of AI technologies? • Which AI tools are most familiar to learners?	Questionnaire (questions: 1, 4)
Evaluation of the use of artificial intelligence.	• How common is the use of artificial intelligence for personal purposes? • How common is the use of artificial intelligence for educational purposes?	Questionnaire (questions: 2, 3)
Youth's attitude towards the use of AI in the learning process.	• What is the opinion of learners about the integration of AI tools into the learning process? • Do learners support the integration of AI into learning institutions?	Questionnaire (questions: 6, 7)
Assessment of the impact of artificial intelligence tools on the learning process.	• Does the use of artificial intelligence raise concerns among young people? • How does AI influence the learning process?	Questionnaire (questions: 5, 8)
Socio-demographic characteristics of respondents.	• Education • Age • Gender	Questionnaire (questions: 9, 10, 11)

Representativeness of the study, sampling type and respondents

The study was conducted using a quantitative research type, aiming to obtain accurate and statistically sound data. The website www.pollmill.com was used to implement the questionnaire survey method. Random sampling was used to select the study sample, and independent respondents were selected. According to the statistical data of Vilnius City Municipality (Vilnius.lt, 2024), in Vilnius city, in the youth age group between 14 and 29 years, 99469 residents lived in 2024. Based on the sample formation formula, with a 5% error and a 95% confidence level, in order to obtain accurate and reliable results, the survey must include 383 respondents. The survey was conducted during November 2024.

The sample calculation formula is expressed as - $n=1/(\Delta\ 2+1/N)$, where:

n - sample size,

Δ - permissible error size,

N - size of the studied population.

Results

Assessing respondents' knowledge of AI with the question "How would you rate your knowledge of Artificial Intelligence technologies?", a vast knowledge of AI technologies is visible, with 83% claiming to be familiar with AI, and the most popular AI tools being "ChatGPT" and "Grammarly" (fig. 1).

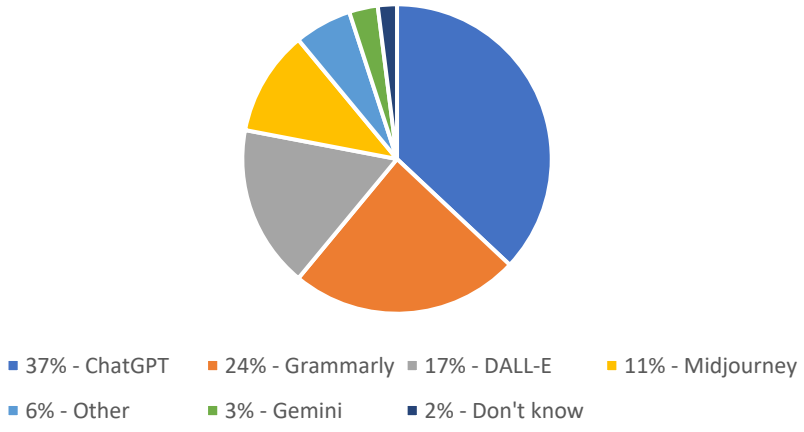


Fig. 1. Which Artificial Intelligence tools are you familiar with?

**Source: made by author*

Comparing respondents' use of AI technologies for personal and learning purposes, using the questions "Have you used Artificial Intelligence tools for personal purposes?" and "Have you used Artificial Intelligence tools for learning purposes?", it is concluded that the majority of respondents have used artificial intelligence tools, but the use of AI tools is more common for the implementation of personal goals. Determining respondents' attitude towards the use of AI in the educational process, a largely positive response is revealed, with only 3% of the respondents not supporting the decision to integrate AI into the educational process (fig. 2).

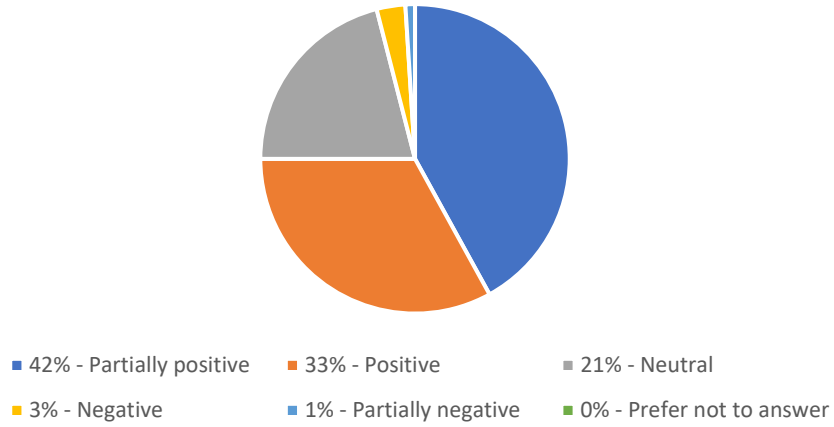


Fig. 2. What is your opinion about integrating Artificial Intelligence tools into the learning process?

**Source: made by author*

Comparing the respondents' opinions on the integration of artificial intelligence into basic and higher education institutions, the question "In your opinion, should Artificial Intelligence be integrated into:" was asked (fig. 3). Both the integration of AI into schools and higher education institutions received the majority of respondents' support and it can be concluded that the majority of respondents support the integration of AI tools into the educational process and institutions, with a slightly higher level of support from students of higher education institutions for the integration of AI into higher education institutions.

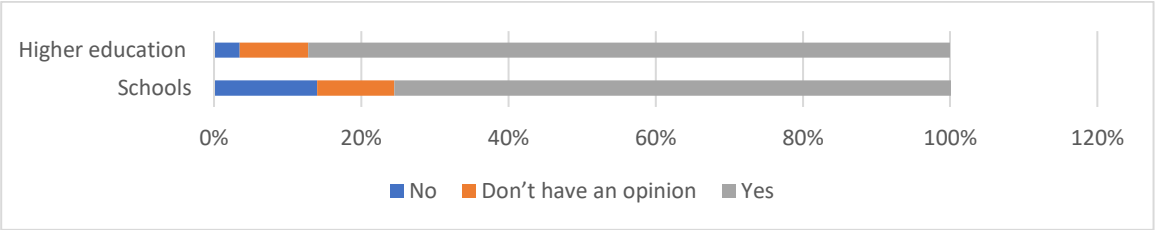


Fig. 3. "In your opinion, should Artificial Intelligence be integrated into:"

**Source: made by author*

Assessing the impact and doubts of using AI tools in the educational process, a great amount of concern is shown when using AI tools (fig. 4).

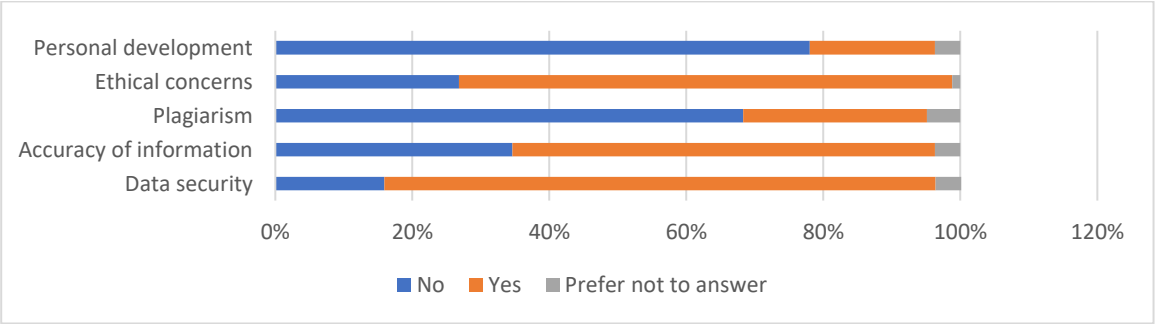


Fig. 4. "If you use Artificial Intelligence tools, do you face any doubts about:"

**Source: made by author*

Regarding AI's impact and influence on the educational process, the question was formulated: "In your opinion, how can Artificial Intelligence influence the following areas of the teaching/learning process:" (fig. 5). The conclusions are drawn that, in the opinion of the respondents, artificial intelligence can largely contribute positively to the teaching/learning process and provide benefits to both learners and teachers, but most of the respondents also have doubts.

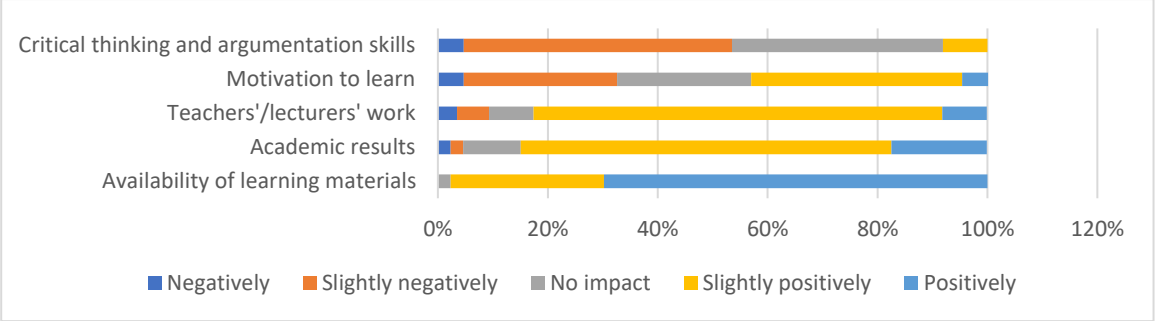


Fig. 5. "In your opinion, how can Artificial Intelligence influence the following areas of the learning process:"

**Source: made by author*

Analysing the socio-demographic characteristics of the 86 respondents who participated in the survey, it is seen that the majority - 44% of the respondents study at schools, and 37% study at higher education institutions. By age, the majority - 51% of the respondents belong to the 14-19 age group, and by gender, 55% - men, 42% - women.

Conclusion

When analysing scientific literature, it was noted that many variations the definitions of AI exist. The definitions differ slightly from each other, while maintaining similar features and functions of artificial intelligence. One main definition of AI used in the work is emphasized, as well as definitions of AI subcategories tools that reflect the current state of artificial intelligence.

The analysis of the scientific literature also showed the variety of ways to use AI, including areas of education. The discussed methods of applying AI tools in the educational process may be relevant in both basic and higher education institutions. The integration of AI tools into the educational process can improve the quality and process of education for both learners and teachers.

When analysing the scientific literature, examining the attitude of young people towards the use of AI for educational purposes, a lack of full-fledged participants in the youth age group was noted. When studying the older half of the youth age group - students, a positive attitude of students towards AI was established. In order to obtain comprehensive results that fully cover the youth age group, a survey was conducted. The survey results showed a mainly positive attitude towards and support of the integration of AI tools into educational institutions, highlighting the positive impact of AI use in educational institutions, such as increasing learning material accessibility, easing teachers' workload and improving academic results. Although several hesitant factors remained, including concerns of data privacy, accuracy of AI generated information and ethical concerns. It was revealed that among the youth group, learners are more inclined to use AI tools for personal purposes than educational purposes, with AI tools such as ChatGPT and Grammarly being the most popular among youth. An increased support can also be seen from higher education institution learners when it comes to integration of AI technologies into higher education institutions, as compared to primary education institutions. It is worth emphasizing that although the survey covered the entire youth group, consisting of individuals aged 14-29, the number of respondents participating in the survey does not reach the required number to obtain accurate and reliable results, based on which specific conclusions could be drawn and further decisions made regarding the integration of AI into educational institutions.

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THE EVOLUTION OF ARTIFICIAL INTELLIGENCE: FUTURE TRENDS AND IMPACT ON SOCIETY

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Keywords: artificial intelligence (AI), society, future, technology, ethics, impact.

Abstract
Artificial Intelligence (AI) is one of the most significant technologies of the 21st century, exerting a comprehensive impact on the labor market, education, social behavior, and everyday life. This paper analyzes the evolution of AI – from its theoretical foundations to modern applications – with a particular focus on its societal impact, including changes in employment, learning processes, human behavior, ethics, and data privacy. It also addresses major challenges such as bias, lack of transparency, and accountability issues. As AI becomes more embedded in different sectors, profound shifts in required skills and job structures are emerging across industries. Many societies are experiencing unequal levels of preparedness for these changes, particularly in youth employment and digital inclusion. This study employs comparative analysis based on statistical data and secondary source review. A comparison between Lithuania, France, and Tunisia is presented to illustrate different levels of preparedness and the extent of AI's impact. The objective of this paper is to examine the development of artificial intelligence, assess future trends, and evaluate its effects on society while highlighting emerging challenges and proposing solution pathways.

Introduction

Artificial Intelligence (AI) has evolved from a technological novelty into a force that is transforming society. It is reshaping not only industrial processes, but also the nature of work, education models, and human interaction (Maphosa & Maphosa, 2022). As AI systems become increasingly integrated into daily life - from voice assistants to generative models - questions are being raised about their impact on individuals, social structures, and values (OpenAI, 2023). The expansion of this technology brings with it challenges related to ethics, data privacy, decision-making transparency, and accountability (Saeed & Omlin, 2023), while also offering more efficient services, new professions, and expanded learning opportunities.

AI is not only transforming jobs or sectors - it is altering the very structure of society. The level of national preparedness for these shifts varies significantly and depends on factors such as education quality, social policy, investment in technology, and digital literacy. In some countries, AI implementation is accompanied by broad educational reforms and upskilling initiatives, while in others, these processes are only beginning.

This paper explores not only the evolution and future directions of AI, but also how different countries - Lithuania, France, and Tunisia - respond to the challenges posed by AI. These countries were selected due to their contrasting levels of preparedness, ranging from technologically advanced nations to those facing major educational and social challenges.

Research object: the evolution of artificial intelligence, future trends, and its impact on society.

The aim of the paper is to analyze the development of AI, assess its future trends, and evaluate its societal impact, with a particular focus on emerging challenges and risks.

Research objectives:

1. To summarize the historical development stages of AI, its current applications, and technological breakthroughs.
2. To identify key future trends in AI development and the related ethical challenges.
3. To analyze the societal impact of AI across major domains.

Research Methodology

This study applies a qualitative approach based on secondary data and literature analysis. Information was sourced from academic publications, international reports, and institutions. A comparative analysis was used to assess AI readiness and societal impact in Lithuania, France, and Tunisia—chosen for their differing technological and socio-economic contexts. Key indicators such as education levels, NEET rates, and workforce transformation were analyzed. Reports from WEF, OECD, UNESCO, and Stanford supported the findings. This approach enabled an overview of AI trends and challenges across developed and emerging regions.

The Evolution and Application of Artificial Intelligence

The idea of artificial intelligence (AI) - that machines could mimic human thinking - has been discussed for decades, but AI only emerged as a distinct scientific discipline in the mid-20th century. One of the most significant milestones was the work of British mathematician Alan Turing, who developed a theoretical model of computation and introduced the Turing test in 1950 - a method for assessing whether a machine can exhibit behavior indistinguishable from that of a human (Baxtillaret et al., 2019).

In 1956, the term "artificial intelligence" was officially used for the first time at the Dartmouth Conference, initiated by AI pioneers such as John McCarthy and Marvin Minsky. Their goal was to transfer human reasoning into computer systems. At the time, early AI systems were based on symbolic logic and rule-based algorithms, but their capabilities were limited by technological constraints (Taboada et al., 2023).

A major breakthrough occurred in the 1980s with the rise of machine learning, which enabled systems to learn from data rather than follow strictly predefined instructions. The true explosion of AI progress took place around 2010, driven by three key factors: the growth of big data, the availability of powerful graphics processing units (GPUs), and advances in deep learning technologies (Maphosa & Maphosa, 2022).

Artificial neural networks, whose architecture was inspired by the human brain, played a particularly important role. They enabled machines to recognize images, understand language, process texts, and generate content. Among the most significant models are AlphaGo (DeepMind), GPT-3 and GPT-4 (OpenAI), and BERT (Google), all of which greatly expanded AI application possibilities (OpenAI, 2023; DeepMind, 2023).

Today, AI extends far beyond academic research. It is integrated into consumer electronics, healthcare, transportation systems, financial services, and education. According to KBV Research (2023), the global AI market has grown exponentially over the past decade, and forecasts indicate continued rapid expansion.

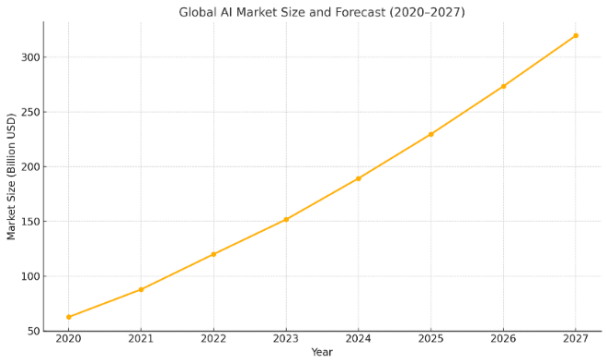


Fig. 1. Global AI Market Size Forecast (2020–2027)
** Source: KBV Research, 2023*

As AI continues to advance, the boundary between human and machine intelligence is increasingly blurred. What began as a theoretical concept has become one of the most powerful forces shaping modern civilization. Given the pace of this development, it is essential to comprehensively evaluate AI's impact on society - from labor market transformation to challenges in education and social dynamics.

Current Applications of Artificial Intelligence

Modern artificial intelligence has become one of the core technologies transforming a wide range of sectors - from business to education and healthcare. Its ability to process large volumes of data, recognize patterns, learn from experience, and make predictions allows it to optimize operations, increase efficiency, and create new services (Maya, 2023).

In the field of healthcare, AI plays a major role in early diagnostics, personalized treatment, and even drug development. Systems like AlphaFold, developed by DeepMind, help decipher protein structures and accelerate

scientific research (DeepMind, 2023). In radiology, AI achieves a diagnostic precision that, in some cases, surpasses that of human specialists.

In education, AI is applied to create personalized learning platforms such as Duolingo and Khan Academy, which adapt content to student abilities, provide real-time feedback, and track learning progress. This enhances learning outcomes and supports individualized education (Maphosa & Maphosa, 2022).

In the finance and business sectors, AI is used for process automation, fraud detection, data analysis, and improving customer service. Algorithms assist in faster risk assessment, optimize investment decisions, and reduce operational costs (Likhadzed & Klubnikin, 2024).

In creative industries, generative AI models such as ChatGPT, DALL·E, and Jukebox are fundamentally changing content creation. These tools enable users to generate text, images, and music, opening new possibilities for both professionals and hobbyists to collaborate with technology in the creative process (OpenAI, 2023).

AI is also widely applied in autonomous transportation. Companies such as Tesla and Waymo are developing self-driving vehicles that rely on AI algorithms to make real-time decisions, detect objects, and ensure road safety.

In the field of cybersecurity, AI helps detect anomalies, anticipate threats, and respond to attacks in real time. This automated analysis reduces the risk of cyber incidents and enhances the resilience of information systems.

Table 1

The Impact of AI Across Key Sectors

Sector	**Main Applications**	**Benefits**
Healthcare	Diagnostics, drug development	Accuracy, speed, early detection
Education	Personalized learning, virtual tutors	Engagement, scalability, accessibility
Business / Finance	Automation, fraud detection, trading	Efficiency, cost reduction, insights
Creativity	Text, image, and music generation	Innovation, creative support
Transportation	Autonomous vehicles, logistics optimization	Safety, cost reduction, sustainability
Cybersecurity	Threat detection, risk analysis	Protection, preventive defense

**Source: Maya, G., 2023*

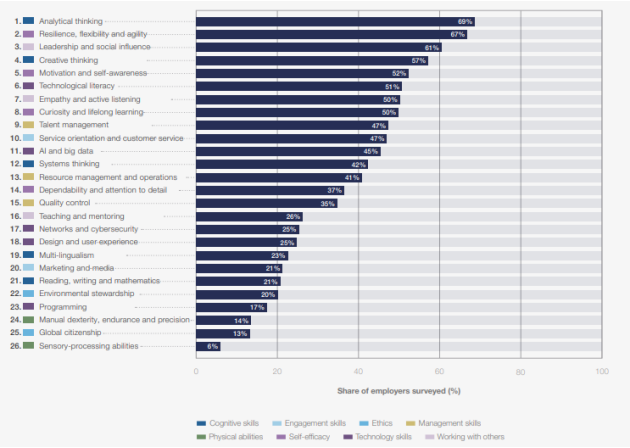


Fig. 2. Most In-Demand Skills in 2025.
**Source: World Economic Forum, 2025*

The expansion of artificial intelligence is already reshaping the labor market. The structure of occupations is shifting, and the most in-demand skills are those that AI cannot easily replicate - critical thinking, problem-solving, creativity, emotional intelligence, and adaptability. According to the World Economic Forum (2025), the nature of work and the skills required will be significantly transformed between 2025 and 2030.

However, these trends vary greatly between countries. The impact of AI depends heavily on the education system, youth preparedness, and broader economic context. Therefore, it is essential to evaluate how AI-driven transformation affects different countries and which indicators reflect this change.

Future Directions and Challenges

Although current AI solutions already have a significant impact, the most profound changes are likely still ahead. One of the most notable directions is the development of Artificial General Intelligence (AGI). Unlike narrow AI, AGI would be capable of performing a wide range of cognitive tasks, learning from experience, and solving novel problems without pre-programmed instructions. Organizations such as OpenAI and DeepMind are actively investing in this area (OpenAI, 2023).

The pursuit of AGI also raises fundamental questions about consciousness, the boundaries between humans and machines, and whether AI could ever achieve self-awareness. For now, these models function as advanced statistical systems, yet their ability to generate human-like language and decisions has sparked ongoing philosophical debates (Baxtillaret et al., 2019).

Another rapidly emerging field is explainable artificial intelligence (XAI), which seeks to make AI decisions understandable to humans. Modern neural networks often operate as "black boxes," with limited clarity about how decisions are made. Ensuring transparency is essential to building trust, maintaining accountability, and enabling ethical application (Saeed & Omlin, 2023).

As AI technologies evolve, the need for regulation becomes increasingly critical. The European Union, OECD, and UNESCO are already developing frameworks for ethical AI use. Their objectives include safeguarding data privacy, ensuring human oversight, and preventing bias, discrimination, or the militarization of AI systems (Odejobi & Edunjobi, 2024).

The labor market will remain one of the most affected areas. AI will not only automate repetitive tasks but also fundamentally reshape the job landscape. New specializations will emerge, such as AI ethics consultants, human-AI interaction designers, and prompt engineers (Likhadzed & Klubnikin, 2024). This will require lifelong learning, continual skill development, and educational reform.

Ultimately, all these directions bring forth ethical challenges: Who is responsible for AI decisions? How can we prevent bias and misuse? How do we preserve human dignity in a technology-driven society? These questions must be addressed now - while there is still time to shape the rules rather than chase their consequences.

The Impact of Artificial Intelligence on Society

Artificial intelligence is transforming not only technology but also the very structure of society. One of the most visibly affected areas is the labor market, where AI is taking over repetitive tasks and reshaping occupational structures. While the demand for traditional positions is declining, new specializations are emerging that require digital literacy, creativity, critical thinking, and adaptability. Without active reskilling policies, social inequality may deepen (Likhadzed & Klubnikin, 2024; WEF, 2025).

Comparing different countries reveals that the impact of AI on labor markets is uneven. In Lithuania, the projected level of skill disruption reaches 35%, while only 41% of the population holds a higher education degree. In Tunisia, the figures are similar - 35% and just 15%, respectively – where as in France, only 33% of jobs are expected to be disrupted, and 37% of the population has attained higher education (WEF, 2025). These differences indicate that AI may further exacerbate educational and social inequalities. Globally, the average skill disruption level is 39%, and the share of NEET youth (Not in Education, Employment, or Training) stands at 21.7% (WEF, 2025). AI is also reshaping the education system. Personalized learning tools, such as Duolingo and Khan Academy, allow content to be adapted to students' abilities, improving their learning outcomes. However, overreliance on AI may reduce learners' independence, critical thinking, and evaluative skills (Maphosa &

Maphosa, 2022). Studies show that 39% of students in Lithuania use AI out of curiosity, and 51% of teachers expect AI to have a positive impact on education (lrytas.lt, 2025).

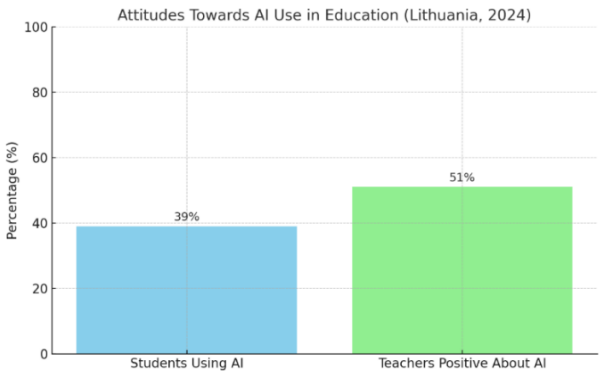


Fig. 3. Attitudes Toward the Use of AI in Education
**Source: lrytas.lt, 2025*

In the social sphere, AI influences behavior patterns. Algorithms that manage information flows on social media platforms shape individuals' worldviews, emotions, and decision-making. This can foster echo chambers, polarization, and even dependency on AI-driven decisions (Saeed & Omlin, 2023).

Ethical and privacy-related concerns are also becoming increasingly relevant. As AI systems process sensitive personal data, the risks of surveillance, discrimination, and data breaches grow (Odejobi & Edunjobi, 2024). Some facial recognition technologies are already being used for mass surveillance, raising concerns about human rights.

Even mental health may be affected. While AI can assist in diagnosing psychological disorders and offering therapeutic solutions, excessive reliance on such technologies can lead to social isolation, dependence on algorithms, and a weakening of real human relationships (Maphosa & Maphosa, 2022).

All these developments demonstrate that AI is no longer just a technological phenomenon - it has become a powerful social force shaping daily life, behavior, and values. Its impact is not uniform; it depends on a country's preparedness, educational systems, social policy, and ethical governance. Therefore, it is essential to ensure that AI integration into society occurs responsibly, grounded in ethical, legal, and educational principles.

Results

To evaluate how prepared different countries are for the transformation brought about by artificial intelligence (AI), a comparative analysis was conducted. The focus was placed on four key indicators: the level of workforce skills transformation (i.e., the percentage of current skills that will become obsolete and need to be replaced), the share of the population with higher education, labor market churn, and the percentage of NEET youth (young people aged 15–29 who are not in education, employment, or training).

Table 2

AI Impact Indicators by Country

Country	Workforce Skills Transformation (%)	Higher Education (%)	Labor Market Churn (%)	NEET Youth (%)
Lithuania	35%	41%	14%	14%
France	33%	37%	19%	12%
Tunisia	35%	15%	20%	23%

**Source: World Economic Forum, 2025*

The results indicate that Lithuania and Tunisia are among the countries experiencing a 35% workforce skills transformation rate, while France is slightly lower at 33%. Simultaneously, only 15% of Tunisia's population has attained higher education, compared to 41% in Lithuania and 37% in France. Labor market churn is highest in Tunisia (20%), followed by France (19%) and Lithuania (14%). The NEET youth rate is also most severe in Tunisia (23%), while Lithuania and France show 14% and 12% respectively. These disparities highlight unequal levels of preparedness for AI-driven transformation. Without strong reskilling programs and educational reforms, countries like Tunisia risk deepening social inequality. France, by contrast, presents a more stable scenario, supported by a higher education rate and lower NEET levels. Lithuania lies in between but must also continue to invest in digital skills and inclusive policies. These indicators confirm that the societal impact of AI is not uniform – it is closely tied to the strength of education systems, labor adaptability, and social resilience. Additional international research supports these findings. According to the OECD (2024), countries that invest in digital skills development, continuous education, and inclusive labor policies are significantly more prepared for AI-driven transformations. UNESCO (2021) also highlights the importance of equitable access to education and ethical AI implementation, particularly in less developed regions. Together, these sources reinforce the conclusion that educational infrastructure and social policy are critical to minimizing inequality in the age of artificial intelligence.

Conclusions

Artificial intelligence (AI) has become a transformative force shaping not only technological systems but also education, labor, social values, and psychological well-being. This study analyzed the evolution of AI, its real-world applications, future trends, and societal impact—emphasizing that the effects of AI are not equally distributed and are closely tied to national preparedness. The comparative analysis of Lithuania, France, and Tunisia highlighted key disparities. Both Lithuania and Tunisia face a 35% workforce skills transformation rate. However, only 15% of Tunisia's population has completed tertiary education, and 23% of youth fall into the NEET category. Lithuania, though more resilient, still reports significant vulnerability, with 41% tertiary education and 14% NEET youth. France stands in a more favorable position, with lower skill transformation (33%), higher education attainment (37%), and a lower NEET rate (12%). These figures underscore the link between successful AI adaptation and the strength of a country’s education system, digital competence, and social inclusion. For Lithuania to strengthen its readiness, urgent action is needed in expanding access to higher education, promoting digital skills across age groups, and integrating AI literacy into public policy. Regional vocational centers should implement AI- and IT-oriented training programs, especially targeting NEET youth to prevent social marginalization. Moreover, the development of explainable AI (XAI) is essential to ensure transparency, accountability, and public trust in algorithmic decision-making—especially in fields like healthcare, governance, and employment. Ethical AI cannot exist without human-centered design. Governments must regulate AI systems in a way that protects privacy, avoids bias, and strengthens human rights. International collaboration—with institutions such as UNESCO, the OECD, and other global stakeholders—is crucial for sharing best practices, harmonizing ethical standards, and ensuring that no country is left behind in the digital shift. Ultimately, AI is not neutral. Its societal impact depends on how we design, govern, and apply it. Only through inclusive education, transparent technologies, social justice, and long-term investment in people can artificial intelligence become a driver of positive change rather than a source of exclusion and inequality.

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EXERGAMING FOR EDUCATION AND PROMOTING HEALTH: A REVIEW OF A RELATIONAL MODEL FOR GAMESELECTION AND EVALUATION

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Keywords: Exergaming, Exergame Selection, Relational Model, Health Promotion, Game-based Learning.

Abstract
The convergence of technology and health has led to the development of exergaming, an innovative tool that combines video game play with physical exercise to encourage health and improve learning. Exergames are technology-driven video games that require players to engage in physical movement, often involving full-body motion through virtual sports, group fitness exercises, or other physical interactive activities. Particularly popular among children and adolescents, exergaming redefines what was once a traditionally sedentary leisure activity into a physically active and health-promoting experience. Over the years, studies have demonstrated the potential that exergames can help to promote health with an increase in physical activities by making exercises more enjoyable and engaging, especially for individuals who lack motivation in traditional physical activities. It is about taking the passion for gaming and transforming what was once considered a sedentary behaviour into a potentially more active and healthy activity. This article explores the potential of exergames in health promotion and education for different age groups, emphasizing their role in encouraging movement, enhancing cognitive skills, improving physical fitness, and supporting overall well-being. Despite positive outcomes concerning exergames, some researchers pointed out pitfalls in the effective use of these exergames in education and health promotion, which may be due to selecting games that align with specific player abilities, learning goals, and health needs. These challenges are often due to variations in game design, target outcomes, and user demographics. To address this gap, this article proposes a literature review for exergame selection, the Bloom's taxonomy of learning domains, with key performance components of exergames. This framework aims to guide educators and health professionals in selecting appropriate exergames to address defined educational and wellness outcomes. As one of the most innovative new forms of physical activity, exergaming has tremendous potential in educational and fitness settings and includes a variety of activities from muscle and cardio workouts to sports and dance animations.

Introduction

Exergames, designed to promote physical activity through interactive gameplay, have emerged as valuable tools in both educational settings and health promotion. By combining digital gaming with physical movement, exergaming offers an engaging alternative to traditional exercise programs. As technology becomes deeply integrated into everyday life, its application in promoting health and education opens new doors for innovation. In recent years, the intersection of technology, education, and physical activity gave rise to the concept of exergaming as a promising tool for addressing physical inactivity and enhancing cognitive learning while encouraging physical fitness (K Chow & F Mann, 2023). Despite the well-documented health benefits of physical activity, participation remains problematic across many populations. For example, surveys of the Lithuanian population on general physical activity reveal that 40.5 % of the population reached the World Health Organisation's recommended physical activity standard. More concerningly, the latest Eurobarometer survey indicates that the percentage of Lithuanians who never engage in any sport or exercise increased from 46% in 2013 to 51% in 2017, surpassing the European Union average of 46% (Ministry of Health of the Republic of Lithuania, official website). This trend is compounded by the increased prioritization of smart technologies in daily life, which further reduces the time available for traditional forms of exercise.

Globally, physical inactivity is recognised as an important issue for public health. According to the World Health Organization (WHO) reports on World Obesity and Overweight Day, in 2022, 1 in 8 people worldwide were living with obesity (March 2024 and the News release 26 June 2024). Over 2.5 billion adults were overweight, with 890 million classified as obese, and 43% of adults aged 18 and above were categorised as overweight. For children and adolescents, the statistics are equally alarming, with 37 million children under the age of 5 overweight, with over 390 million children and adolescents aged 5–19 being overweight, including 160 million of them obese. Additionally, nearly 1.8 billion adults are at risk of disease from insufficient physical activity. Projections suggest that if current trends continue, the global inactivity rate could rise to 35% by 2030, placing further strain on health systems worldwide. These statistics underscore the urgent need for innovative and inclusive strategies, such as exergaming, to promote physical activity and mitigate associated health risks. It recommends that adults should spend 150 minutes on moderate-intensity, or 75 minutes of vigorous-intensity physical activity per week

Literature Review

Research supports the value of physical activity across all age groups (Guthold, R. et al, 2020). Based on the trend of 2018 WHO for more active people for a healthier world by 2030, Guthold and his colleagues carried out a research survey to examine the physical activity levels in 146 countries with a database of 298 schools, including 1.6 million students focusing on adolescent aged 11-17 years from 2001 to 2016. Their findings revealed that in 2016, about 81.0% of students aged between the age ranges were insufficiently physically active, with a higher prevalence in girls (84.7%) than boys (77.6%), although there was a significant decrease from 2001 to 2016, with 85.1% in 2001. Physical inactivity among boys decreased over time; no significant change was observed for girls. The results varied little by country income group, though some regions (like high-income Asia Pacific) showed particularly high inactivity rates. This study underscores the urgent need for policies and interventions to increase physical activity among young people.

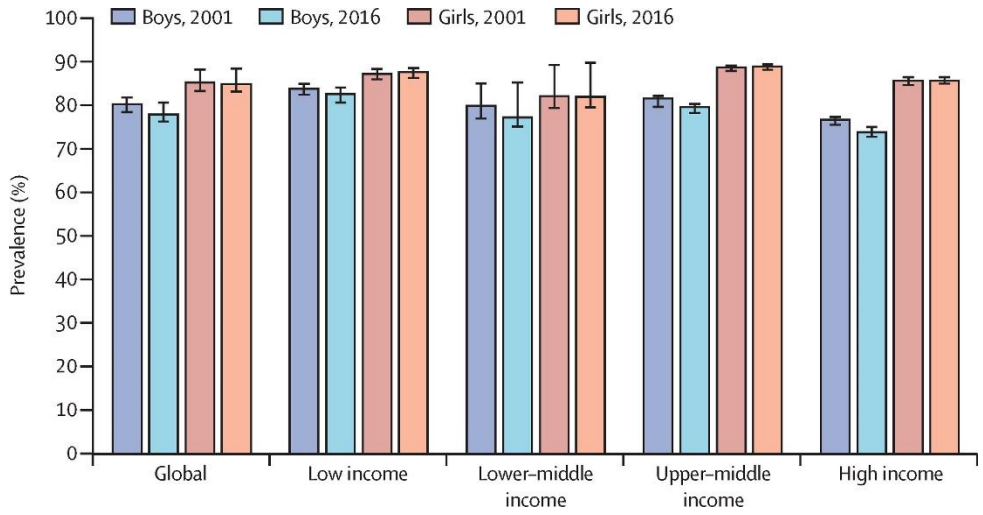


Fig. 1. Prevalence of insufficient physical activity among school-going adolescents aged 11–17 years, globally and by World Bank income group, 2001 and 2016
**Source: made by author. Reference (Guthold, R. et al, 2020)*

Exergame, also referred to as fitness game or gamercise, are term used for exercise video games (Benzing & Schmidt, 2018), which rely on technology that tracks body movement or reaction aimed at making exercise more entertaining. Historically, the concept evolved from early gaming technologies in the 1950s and 1960s. In 1982, a home video game Atari 2600 was released. The Power Pad, a peripheral for the Nintendo Entertainment System, was released in 1986 (Bogost, 2005), followed by the Foot Craz for the Atari 2600 in 1987. (Bogost & Montfort, 2009). Konami's Dance Dance Revolution, introduced in 1998, was cited as one of the first major fitness games; when it was ported from the arcade to PlayStation, it sold over three million copies. In the 2000s, several devices and games have used the exergame style to much success (Wikipedia, the free encyclopedia, n.d.), like the EyeToy camera, and Nintendo's Wii Fit. By June 2009, health games were generating revenues of $2 billion, largely due to Wii Fit's 18.22 million sales.

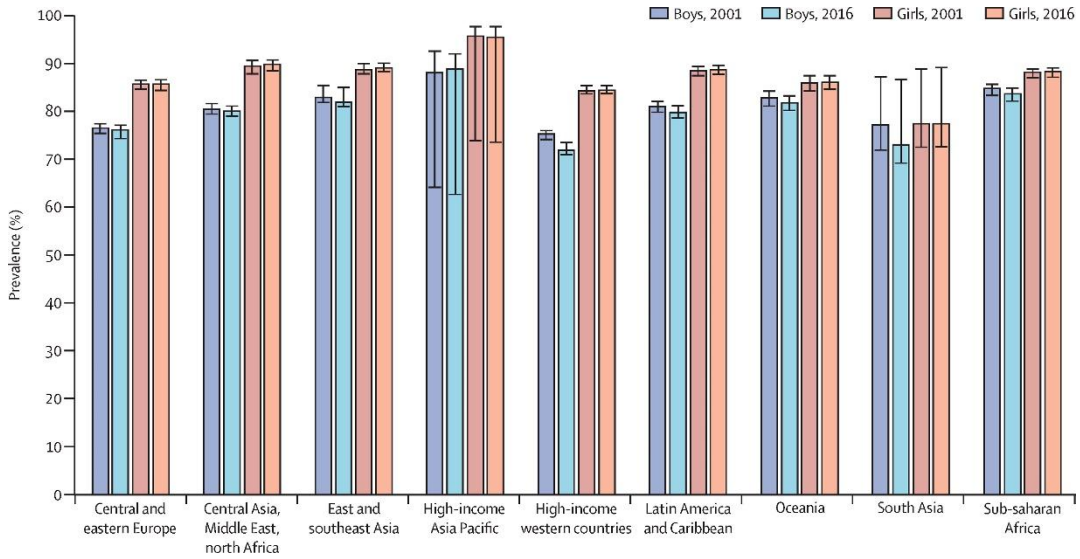


Fig. 2. Prevalence of insufficient physical activity among school-going adolescents aged 11–17 years, by sex and region, 2001 and 2016
**Source: made by author. Reference (Guthold, R. et al, 2020)*

Physical inactivity is a well-established risk factor for many chronic conditions, such as diabetes, cardiovascular disease, and cancer, and is estimated to cause 1.9 million premature deaths globally yearly (Biddiss & Irwin, 2010). Exergaming has demonstrated potential in both prevention and rehabilitation. These game-based physical activities go beyond simple hand-finger movements as the primary interface and require the user to apply full-body motion while participating. The American College of Sports Medicine (2013) identified it as a response to increasing obesity rates, a decrease in physical activity levels, and the influx of technology that saturates society and the way people live. They noted that the reason behind the growing popularity of Exergaming is that people now spend over 50 hours a week in front of screens such as cell phones, computers, and television, with gaming being one of the most popular entertainments. The incorporation of full-body movement through sensor-based game controllers like Dance Dance Revolution, Light Space, Sony Eye Toy, and Microsoft Kinect allows for a more dynamic and health-promoting gaming experience.

In addition to the physical health benefits, video games have been increasingly recognized as a potential support in mental well-being. In 2021, the WHO raised the question: “Can video games make us healthier?” Their initiative explored how games might aid in training health professionals, supporting patients with chronic conditions, and promoting mental health. The organization acknowledged that commercial video games are increasingly being used as interventions to manage conditions such as anxiety, chronic pain, and depression. Moreover, K Chow & F Mann (2023) mention from the studies of (Harris et al., 2015; Ribas et al., 2017; Cikajlo et al., 2020) that structured exergaming has shown positive outcomes in physical rehabilitation for individuals with Parkinson’s disease and those recovering from strokes.

David Drummond, Assistant Professor at Necker Enfants Malades Hospital, University of Paris, has emphasized that video games are already in use within official healthcare programmes, serving both educational and therapeutic functions. With now over 2 billion active gamers worldwide, the WHO’s “Triple Billion” target for a healthier world is promising, which goal was once to ensure 1 billion more healthier lives by 2023. Gaming, especially exergaming, is rising as a vital tool in the global health agenda.

Definition of Exergaming

Exergaming is a hybrid of digital gaming and physical activity that has gained popularity in both health and education sectors. Unlike traditional video games, Exergame, Exergaming or active video game is a physical activity that requires players to engage in full-body movements during exercises with the games. These games utilise technologies such as motion sensors, wearable trackers, or pressure-sensitive platforms to monitor and respond to the player’s physical activity. According to the American College of Sports Medicine (2013), exergaming is defined as a technology-driven physical activity, such as video game play, that requires participants to be physically active or exercise to play the game. The terminology of exergames has differed

among researchers in the health and non-health-related sectors, and a variety of terms have been used to define exergames, as explained by Yoonsin and Stephen (2010). It has been defined using terminologies such as:

- *Exergames,*
- *Exertainment,*
- *Dance simulation video games,*
- *Interactive video games,*
- *Activity promoting video games,*
- *active video games,*
- *Physical gaming,*
- *Kinaesthetic of video gaming*
- *Physical activity-change games.*

In simple terms, it is a combination of the digital world with real-life movement, transforming exercise into an interactive, enjoyable and motivational experience that promotes learning and healthy lifestyle.

Benefits Of Exergames for Health and Education

Exergames offer significant advantages compared to traditional exercise, as they easily allow for task-specific exercises to be delivered across a range of difficulty levels (Skjæret et al., 2015). In contrast to traditional sedentary video games, exergame responds to lifestyle changes as an innovative solution of the intersection of digital entertainment and physical activity. A rapid growth of smartphone adoption has further expanded the potential of gamified health applications, incorporating GPS and location-based services that require players to move and perform game tasks in real-world environments (Boulos & Yang, 2013). Enabled by optical sensors and advanced motion detection technology, it provides immersive experiences that replace traditional button-based gameplay. This evolution has demonstrated benefits in applications, not only in promoting physical activity but also in supporting cognitive and emotional development, particularly among children and adolescents. Research shows that high-intensity exergaming increases heart rate and energy consumption to levels significantly higher than sedentary gaming (Millis et al., 2013; K. Chow & F. Mann, 2023). It makes staying active easier and more enjoyable for everyone, regardless of your age or fitness level. With growing interest in physical activities and fitness, exergames will surely become more and more popular, promoting healthy and active lifestyles across diverse age groups more enjoyable.

Some benefits of exergaming on participants include:

- *It helps improve fitness through total-body workouts, enhancing flexibility, strength, and cardiovascular health, with customisable options for all fitness levels;*
- *Enhancing engagement in physical education by making exercise enjoyable;*
- *Serving as a rehabilitation tool for individuals recovering from injuries or with mobility limitations;*
- *Exergaming is accessible, allowing users to exercise at home, which is ideal for busy individuals or those in areas lacking fitness facilities;*
- *It encourages children and teenagers to be more active and promotes adherence to long-term health goals;*
- *The interactive and enjoyable nature of exergames combats workout boredom, fosters social interaction, and motivates users through game-like features and personalized choices.*

Limitations and Pitfalls of Exergames

Despite its potential as a response to lifestyle change, some researchers have shown the limitations and pitfalls of exergames on the health and well-being of children, adolescents and adults in education and health promotion. They see it as a dangerous factor in the health of their player in the long term. Kosma (2021) noted that traditional play is an experience that is enjoyable for its own sake and serves no biological purpose. Exergames on consoles like Nintendo and Xbox, on the contrary, focus on measurable outcomes, such as steps taken and weight loss. They emphasize function-centred objectives, valuing results over the enjoyment of the game, which is limited to the emotional and psychological benefits of free-form play. They can help promote healthier lifestyles, but they lack the intrinsic joy found in true play, which prioritizes the experience itself

without the need for external validation (Kosma et al., 2021). Rüth and Kaspar (2021) identified several potential pitfalls of using exergames at home, including:

- *Unhealthy exercise due to inappropriate training intensity;*
- *It can elicit several nonphysical negative motivational, emotional, and cognitive effects of the competitive mode that hamper physical activity or cause undesirable side effects;*
- *Experiences that are not shared or considered worthy of discussion;*
- *Positive effects on the body composition and physical activity of the players may disappear given no learning objectives and no specific goals before exergaming;*
- *Competitive exergaming could increase physical effort or even aggression when exergames contain violent behaviour.*

These drawbacks may not result from exergaming itself but from the selection of exergames. The content and difficulty level of a game may result in improper matching with the gamer's ability, which may affect the usage of exergaming (K Chow & f Mann, 2023).

Exergaming In Health Promotion and Rehabilitation Settings

The application of exergames in health settings has shown promising results. Exergaming rehabilitation allows the subject to interact with digital games by implementing repetitive functional activities (Elena et al., 2021). These games have been integrated into physical therapy programs to improve motor skills, balance and recover cognitive functions after injuries or neurological disorders in patients. For instance, Wii Fit has been a popular choice in physical therapy to rebuild strength and coordination. It plays a vital role in promoting healthy ageing, helping older adults stay physically active, improving their postural control, and reducing social isolation through multiplayer and community-driven games. This aligns with the concept of the World Health Organisation Statement of 1986, a process for health promotion enabling people to increase control over and improve their health through environmental and social interventions (WHO, 2021). Despite the benefits that exergaming can bring to the health sector, many countries continue to face challenges such as workforce shortages and a lack of specialisation in the rehabilitation sector to meet the population's needs (WHO, 2021). This makes it increasingly important to explore innovative solutions like exergaming that can increase traditional rehabilitation methods (Tobaigy et al., 2018).

Rehabilitation encompasses "a set of interventions designed to optimize functioning and reduce disability in individuals with health conditions in interaction with their environment" (WHO, 2021). A study by Tobaigy et al. (2018) explored the feasibility of using exergames in rehabilitation by examining a total of 44 participants, where 17 of them were physiotherapists and 27 were older people to determine their attitudes, awareness, opinions and experiences towards exergames. Physiotherapists identified the greatest potential for exergames in treating Pediatric patients, balance disorders, and stroke survivors. For them, the top benefits of exergames were increased patient motivation and participation (23%), exercise variety (19%) which can increase intensity and difficulty, and readable data and feedback (visual and auditory) (14%). They also expressed concerns, notably the risk of falls (42%) and inappropriate and low-quality movements (21%).

Table 1

The most valuable of using exergames in terms of patient groups and specific diseases

Category	Items	Percentage
Benefits	Enjoyment for patients	9%
	Increase patient's motivation and participation	23%
	Variety of exercise options	19%
	Can increase intensity and difficulty	14%
	Give readable data and feedback (visual and auditory)	14%
	Novel	5%
	Challenges multiple senses	2%
	Dual technique can rehab balance and upper limb	5%
	Use as patient device home exercise program	2%
	Can increase strength fitness and practice time	7%
Risks	Falling	42%
	More pressure on staff to supervise the patients	6%
Disease	Visual problem	6%

	Incorrect use	5%
	Injury	5%
	Increase the bad competition between patients	5%
	Inappropriate and low quality of movements	21%
	Waste time to set up	5%
	Put pressure on patients	5%

**Source: made by author. Reference (Tobaigy et al. (2018)*

Table 2

The potential benefits and risks of exergames from physiotherapist's perspective

Category	**Items**	**Percentage**
Patient group	Stroke (old and young)	11%
	Pediatric	14%
	Traumatic brain injury (TBI)	7%
	Neuro (General)	7%
	Balance issue	14%
	Young adult (General)	14%
	Cardiac	7%
	Pulmonary	7%
	Orthopedic (Musculoskeletal)	7%
	Geriatric (General)	4%
	Lower limb (Rehab)	4%
	Community-dwelling older adult	4%
Disease	Stroke (CVA)	33%
	Parkinson's disease (PD)	15%
	Traumatic brain injury (TBI)	7%
	Multiple Sclerosis (MS)	11%
	Chronic obstructive pulmonary disease (COPD)	4%
	Contralateral C7 (Peripheral nerve disorders)	4%
	Age-related disease: balance disorder and fractures	26%

**Source: made by author. Reference (Tobaigy et al. (2018)*

68% of the older participants were aware of exergames, primarily through observing their children and grandchildren playing, and 92% had tried them. This reflects a growing familiarity with gaming technologies among older populations, potentially increasing the acceptability of such tools in therapeutic settings. Most of them talked about advice they had received about exercise from healthcare professionals. The tables below show the different data collection of the research.

Table 3

Questions about the awareness of exergames among older people

Questions	Percentage	
	Yes	No
Have the old people seen their children or grandchildren play?	68%	32%
Did you try to play with someone else's games?	8%	92%
Have you advised about exercise from healthcare professional?	77%	23%
Have given exercise sheet or programme to follow at home?	73%	27%
Has a healthcare professional suggested you to use exergames?	12%	88%

**Source: made by author. Reference (Tobaigy et al. (2018)*

In another study, Gunur et al. (2022) aimed to investigate the Kinect-based exergaming on the physical and psychosocial health factors in 22 young adults aged between 18 and 40, divided into two groups. The experimental group engaged in exergaming, and the control group played traditional games. The intervention lasted for 5 weeks, with different sessions held three times per week for 45 minutes. As a result, the

experimental group showed statistically significant improvement in reaction time, subjective happiness and mental well-being over the traditional playing of video games. These findings concluded that Kinect-based exergaming positively impacts young adult health over normal fitness.

Exergaming Application in Education

Exergaming may serve as a valuable tool to encourage physical activity and good health in children and adolescents as part of a broader approach to promote physical activity and healthy living (Lee, Wan et al., 2024). Studies have shown that incorporating active video games into school curricula can improve student well-being and engagement, as traditional lecturing often fails to motivate or engage students. With children showing greater interest in digital platforms, educators can use this means to improve traditional learning outcomes by making use of computer-based simulations and video games (Annetta, L. A., 2008).

The introduction of school-based physical activity programs using active video games, or exergames, has shown promise in enhancing social, cognitive, and physical skills (Birinci, Y. Z., 2020). Exergaming could fight sedentary lifestyles and encourage healthy habits; for instance, games like Dance Dance Revolution teach rhythm and coordination skills while engaging students actively. Studies have revealed that exergaming can increase physical activity levels in students by motivating them to be more active and enjoy physical education (Ennis et al., 2013), with exercises becoming more attractive and reducing boredom.

Abdurrahman and Manolya (2020) investigated the outcomes of exergame training on balance improvement in 53 children aged 10. Participants were categorized into home-based exergamers, using the Nintendo Wii system for balance training three times a week for eight weeks and a control group, with no training. As a result, the pretest-posttest analyses showed significant progress in static and dynamic balance in the exergame group. The results advocate exergames as an effective option to enhance children’s balance at school and at home. Additionally, Lee Wan's research highlights that exergames can motivate physical activity to levels that provide fitness benefits for children and adolescents.

The Relational Model: A Framework for Game Selection

As Exergaming becomes increasingly recognized as a valuable tool for health and education, a key challenge remains in selecting the right game to match users' physical, cognitive, and emotional needs. According to the U.S. Department of Health & Human Services (2008), understanding the measurement player's Physical Intensity (Absolute and Relative Intensity) during gameplay is one means for selecting the appropriate game accordingly. For exergames to contribute meaningfully to health and fitness, players must meet moderate-to-vigorous activity that equals or exceeds 3.0 METs (Metabolic Equivalents), where 1 MET represents, the energy used at rest.

The Bloom’s taxonomy model offers a framework for making decisions to effectively align games with their player’s needs by considering the Cognitive, Motor and Affective domains. The rational model characterises the learning perspective into a cognitive domain that enables the player to have memory, visual perception, executive functions and attention. It helps players with the ability to learn, think and understand information and was further divided into six levels, including remembering, understanding, applying, analysing, evaluating, and creating. The motor domain which is less used, focuses on the physical ability, coordination and full-body movement of the player. It was further divided into six levels, including perception, set, guided response, mechanism, complex overt response, and adaptation. The affective domain enables the player to build confidence, motivation and emotional resilience. It focuses on how students develop feelings, interests, and attitudes toward learning, and how they interact with others. It was further divided into five levels, including receiving, responding, valuing, organizing, and characterizing (K Chow & F Mann, 2023).

The social and emotional aspects of the players are important for their development. Social development reflects a child’s ability to interact with peers and adults in a socially acceptable manner. The model also considers social-emotional components for the game selection, which are divided into emotion, self-efficacy, social skills, and enjoyment, which are crucial to the social development of children (K Chow & F Mann, 2023).

K Chow & F Mann (2023) mention other researchers (Solomon, 1984; Rebetez and Betancourt, 2007; Sheehan and Katz, 2010) categorized video game selections by function, form, and genre. To help in game selection,

- Solomon 1984 classified the games into simulations (the game reflects reality), abstract games (the game itself is the focus of interest), and sports.
- Exergame Network, 2012, proposed five basic types of exergames classifying the games by their motion and perception demands on the player. Workout exergames (the player completes a workout based on the advice of the game); control exergames (the player uses different body parts to control the game); exergame machine (the player uses real fitness equipment to play the game); sensory exergames (the player must jump and run to earn points); and rhythm exergames (the player becomes a musician or dancer and is guided by music).

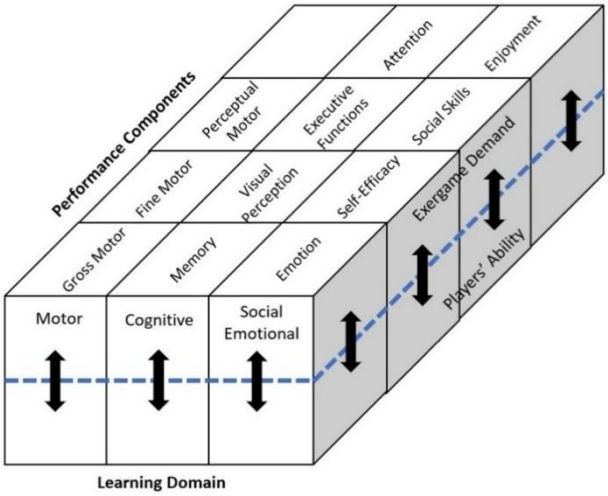


Fig. 4. Matrix of learning domains, performance components, and matching between demands of exergame and ability of exergamer

**Source: made by author. Reference (Chow et al., 2023*)

In conclusion, to attain health, educational objectives and personal usage, it is important to align the game's content with specific learning outcomes, personal interests and preferences to enhance motivation. Each exergame should be chosen based on its ability to support the learner's development in these areas, ensuring that it meets educational or rehabilitative goals while maintaining fun and motivation.

Conclusion

Exergaming represents an accountable tool for education and health promotion, combining physical activity and cognitive benefits. It innovatively combines technology and wellness by integrating physical exercise with video gaming, encouraging gamers to be physically active while enhancing learning experiences. Exergame is a technology-driven physical activity video game, that requires participants to be physically active or exercise to play the game.

By adopting a relational model for game selection, educators, healthcare providers, and individuals can maximize the benefits of the games. As technology continues to evolve, the future of exergaming holds the promise of a healthier, more active, and more engaged society. This article highlighted the potential of exergames, showing their benefits for educational settings and rehabilitation programs in the health sector. However, there remain some challenges regarding the full implication of exergames in the long term, especially in rehabilitation programs. Some researchers have pointed out pitfalls in the long-term effects of exergames on current and future gamers.

The Bloom's taxonomy model provides a framework by aligning game features with user needs and goals across physical, cognitive, and emotional domains. Although further research needs to be carried out about the selection of exergames matching with the user's ability, integrating concepts such as Bloom's taxonomy and physical activity standards (e.g., METs) will enable educators and health professionals to make successful decisions about which exergames to implement for a specific user.

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CREATING THE VISUAL IDENTITY OF VŠĮ "PAS TOTORIUS'' BY APPLYING ARTIFICIAL INTELLIGENCE AND AUGMENTED REALITY TECHNOLOGIES

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Keywords: Visual Identity; Artificial Intelligence (AI); Augmented Reality (AR).

Abstract
The article examines the problem of a company's differentiation and establishment in the market with the creation of a visual identity. With the help of comparative analysis and systematization of scientific literature and online sources, the most relevant factors and components of visual identity are determined, which are able to positively influence the company's activity and image, as well as the possibilities of integrating Artificial Intelligence (AI) and Augmented Reality (AR) technologies into the visual identity creation process. Based on the analysis of the company's visual identity elements and the features of visual identity creation performed in the article, a visual identity project is created, creating visual prototype examples and mock-ups according to the formed project criteria and elements with the help of Artificial Intelligence. The concept of an interactive business card is formed, and the possibilities of applying Augmented Reality technology are analysed. Based on the visual identity project, which includes the company's logo, colour palette and typography, an interactive business card is created, which, with the help of Augmented Reality technology, creates a memorable and engaging experience for users, as well as solving the problem of using the company's large archive of visual information outside of social networks. The work is presented in the format of a simplified style book, defining the style criteria formed for the company for clear and easy application in the company's further activities.

Introduction

Relevance of the topic. In today's world, the Internet plays a major role in the lives of modern people, with 86% of the entire European Union population using the Internet daily in 2023, and this number increases to 97% among young people (EUROSTAT, 2023). Along with the use of the Internet, interest in other information technologies is also accelerating, which are also rapidly developing and starting to integrate into more and more areas of life, including the field of design. Product, multimedia and graphic design are vital design areas that people need in their daily lives, which were greatly influenced by the technological progress of the mid-twentieth century, the spread of personal computers and the emergence of new information technologies, including VR/AR and AI technologies (Schumann, Fuchs, Kollatsch, Klimant, 2021; Karaman, 2024). Computer technologies, which emerged and rapidly entered our lives with the digital revolution, have become an indispensable tool that allows designers to more easily reach their target audience and keep up with the requirements of the new age, which are renewing much faster than before (Çeken, Akgöz, 2024). With the development of AI technologies, the field of graphic design, which requires creativity, is also increasingly influenced by the automation process, experiencing revolutionary changes by integrating AI technologies and facilitating the daily work of graphic designers (Karaata, 2018; Dwivedi, Hughes, Ismagilova, 2021). Thus, the integration of these technologies into the design process is an important aspect in order to create innovative, modern products and services that meet needs, which can more successfully survive, compete and stand out in the ever-expanding market.

The problem of the Work. Despite the research and target group analysis, brands remain very vulnerable - it is impossible to predict how people will understand and use brands, nor changes in public opinion, and in today's highly saturated market, companies also lose a lot of financial resources, time and energy competing with each other in order to stand out (Neamțu, 2024). In order to achieve greater differentiation and market penetration of the company, which helps to attract more attention and attract a larger number of interested parties, it is examined what are the most important and relevant components and factors of visual identity for the company, which can positively affect the company's activities, and how to use AI and AR technologies to reflect the company's visual identity, creating a unique and memorable user experience, helping to ensure the company's uniqueness and allowing the company to use the accumulated and ever-growing archive of visual information outside of social networks.

The object of the Work. Creation of the visual identity of VšĮ "Pas Totorius" using AI and AR technologies.

The aim of the Work is to identify the possibilities of using AI and AR technologies in the process of creating a company's visual identity and to create a visual identity for VšĮ "Pas Totorius" based on the identified possibilities of using AI and AR technologies.

Objectives of the Work:

1. Conduct a theoretical analysis of visual identity and design development aspects in order to determine which visual identity elements have the greatest impact on the success of a brand and identify the possibilities of applying AI and AR in the field of design that can positively influence a company's visual identity and its development process.
2. Form a visual identity concept for VšĮ "Pas Totorius", based on the identified aspects of design development and methods of AI and AR.
3. Create a visual identity for VšĮ "Pas Totorius" by applying AI and AR solutions.

Methods of research

1. Comparative analysis and systematization of scientific literature and online sources.
2. Design-based research on the creation of the visual identity of VšĮ "Pas Totorius" by applying AI and AR technologies.

Summary

The Work is composed of three chapters, each of them analysing the different parts of the design process. Chapter 1 concentrates on the analysis of scientific literature and online sources and is subdivided into three parts. Part 1 focuses on the branding design aspects of visual identity and the impact of various visual identity elements on the consumer. Part 2 defines the concepts of AI and investigates the possible uses of AI applicable to the digital design process, as well as covering the possible concerns regarding the use of AI in a creative field. Part 3 investigates the concept of AR technology and reviews the uses of AR in the digital design field.

Chapter 2 consists of three parts and deals with the visual identity concept creation process for VšĮ “Pas Totorius”. The chapter is subdivided into three parts. Part 1 deals with the analysis of the company’s visual identity elements, defining the base elements of the visual identity creation project. Part 2 outlines the concept of the visual identity of VšĮ “Pas Totorius” by integrating AI tools into the design process to create the base for the company’s logotype. Part 3 focuses on the use of AR technology in the design process by defining a base concept of an interactive business card with integrated AR technology.

Chapter 3 presents the results of the visual identity project for VšĮ “Pas Totorius” and is divided into three parts. Part 1 showcases the logotype of VšĮ “Pas Totorius”, providing several colour variations and further dividing the logotype into additional elements. Part 2 looks at the results of the interactive business card, highlighting the print characteristics as well as demonstrating the integrated AR technology and providing the conducted Usability Testing results. Part 3 reviews the final results of the visual identity project by providing a simplified style book created for VšĮ “Pas Totorius”, showcasing the created logotype with several variations, a colour palette, brand fonts and the business card design.

Conclusions are drawn at the end of the Work, as well as providing recommendations for further implementations of the visual identity project to VšĮ “Pas Totorius”.

Results

The results of the visual identity project for VšĮ “Pas Totorius” are presented in a simplified style book format, preserving the company’s new colour palette and traditional Tatar motifs. First page of the style book showcases the light and dark variations of the main logotype, as shown in Fig. 1.

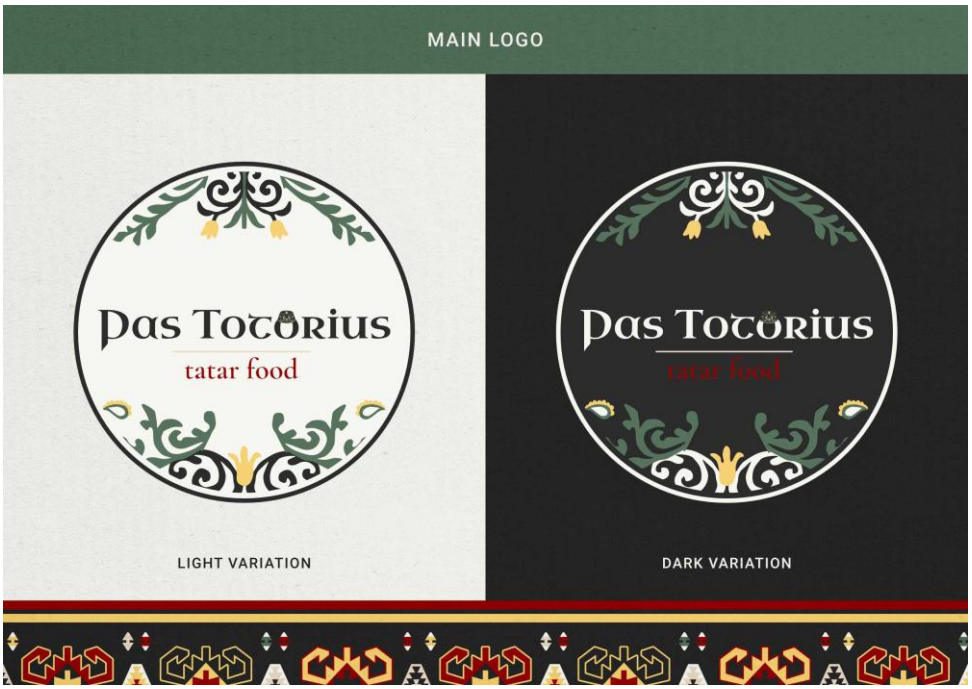


Fig. 1. VšĮ "Pas Totorius" style book - page 1

The second page of the style book showcases the light and dark variations of the simplified secondary logotype, as well as the colour palette with RBG HEX and CMYK colour codes for use in both digitally and printing, as shown in Fig. 2.



Fig. 2. VšĮ "Pas Totorius" style book - page 2

The third page of the style book provides the company's typography information, showcasing the primary and secondary fonts used to display the company's name and tagline, as well as an additional font, used for displaying miscellaneous text in the company's advertisements. Additionally, a full-sized traditional Tatar pattern ribbon, which is commonly used in the company's presentations in the form of tablecloths and rugs is displayed at the bottom of the page, as shown in Fig. 3.



Fig. 3. VšĮ "Pas Totorius" style book - page 3

The final page of the style book is dedicated to showcasing both sides of the interactive business card design as shown in Fig. 4.

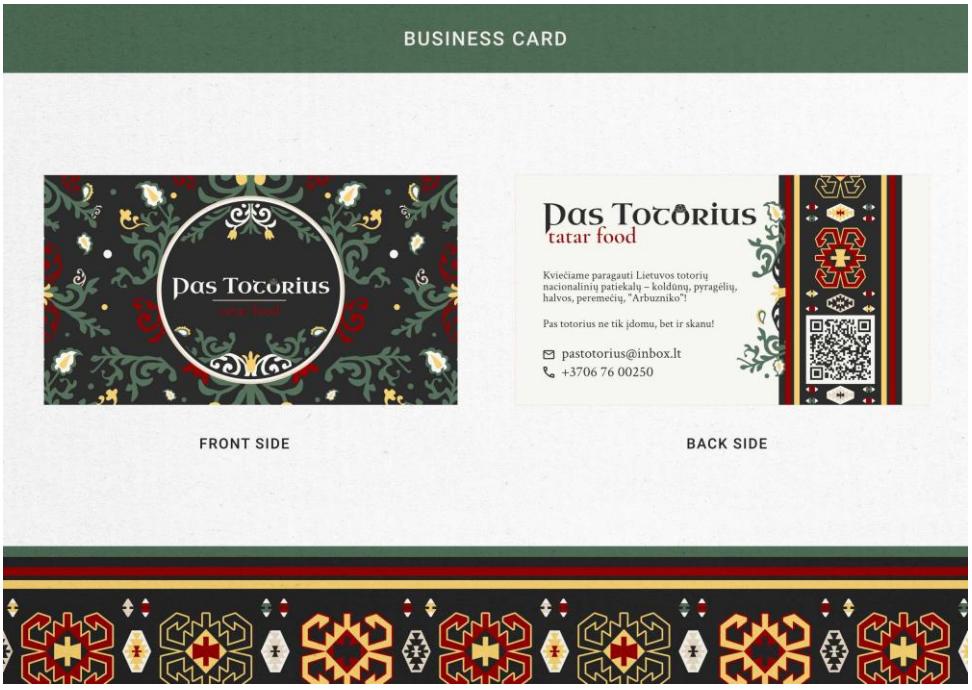


Fig. 4. VšĮ "Pas Totorius" style book - page 4

In order to ensure the optimal conditions for the scanning of the QR code for enabling the AR technology while maintaining the overall design look, appropriate printing criteria were chosen for the realisation of the business card project, shown in Fig. 5:

- **Size**. 90x50mm,
- **Colour**. 4+4 CMYK,
- **Paper**. "Premium" paper, extra white, matte (350gsm, 380 μm) [OnPrint].



Fig. 5. VšĮ "Pas Totorius" interactive business cards

By scanning the provided QR code, the user is directed to the "MyWebAR" website, enabling them to see and interact with the virtual AR elements. The layout of the AR elements in shown in Fig. 6.



Fig. 6. VšĮ "Pas Totorius" interactive business card AR layout [MyWebAR].

Interacting with the provided contact information, the user is subsequently directed to the appropriate contact windows on their mobile devices. Furthermore, the video which demonstrates the company's products and services, can be stopped at any time to further view the provided imagery. The virtual demonstration of the AR element layout is shown in Fig. 7. Additionally conducting an informal usability testing, it is found that while the QR code solution is intuitive for the user, the interactive elements can be further enhanced to emphasize their interactive capabilities, adding additional information or animation to highlight the possibility of interaction.

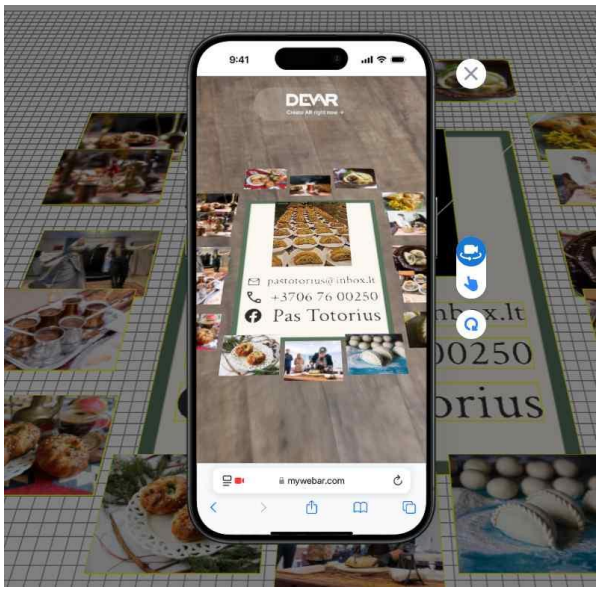


Fig. 7. VšĮ "Pas Totorius" interactive business card virtual demonstration [MyWebAR].

Conclusions

After conducting a theoretical analysis of the aspects of visual identity and design creation using comparative analysis and systematization of scientific literature and online sources, the most important and most influential element of visual identity was identified to be the logotype. Methods for applying AI and AR technologies in the field of design were identified, distinguishing the possibility of AI tools to facilitate the processes of creating visual identity design concepts and visualizations, and the opportunity provided by the integration of AR technology to revive traditional designs, creating exclusive, engaging and consumer-attracting products. Also, additional features of logotype design were identified that are able to influence users and create the desired impression and effect, including colour associations, logo components, choice of shapes and symmetry.

Based on the identified aspects of visual identity creation, after analysing the elements of the company's visual identity and the features of visual identity creation, the visual identity criteria of the Public Institution "Pas Totorius" were refined. Using the identified methods of applying AI tools in the field of design, using "DALL-E 3" and "ChatGPT" AI tools, a concept for the visual identity project of the VšĮ "Pas Totorius" was formed, which includes the company's colour palette, font combination options, style selection, layout options and logo variations. Using the "MyWebAR" website and "DALL-E 3" AI tool, an interactive business card concept was created, combining traditional design with the ability of AR technology to provide additional, virtual space for easily changeable and updated design. It was also found that when working on a project with a specific, cultural theme, AI tools provide inaccuracy in relation to traditional designs, emphasizing the importance of the designer's work in adjusting design elements according to accurate cultural examples, ensuring the cultural compliance of the project.

By applying the AI tools "DALL-E 3" and "ChatGPT" in the visual identity concept, a visual identity project for VšĮ "Pas Totorius" was created, which includes the company's colour palette, typography, logotype and interactive business card with AR content. The visual identity project is presented in the format of a simplified style book, defining the main formed style requirements in terms of the use of colours, typography and logotype variations. The created style book is suitable for the initial representation and application of the visual identity in the company's activities, with the possibility of using the style book as a basis and in the future developing more fully detailed individual style elements and rules for their use, including examples of inappropriate use of colours, logo and typography, a more detailed description of typography and an updated identification symbol, as well as supplementing the style book with the company's history, mission and emphasizing the company's values. Also, by analysing the insights from the interactive business card user experience (UX) testing, additional opportunities for improving the interactive business card design and interactive AR elements were identified. Having achieved the goal of the Work, VšĮ "Pas Totorius" was satisfied with the results of the project, a digital version of the style book and printed interactive business cards

were provided for use in the company's activities, and further cooperation is planned in improving and detailing individual visual identity elements and applying them in the company's activities.

Recommendations

The company was given additional recommendations for website development, creating a corporate website that more clearly defines the company's range of goods and services, price list, and creating the possibility of combining the website with an interactive business card, additionally creating an interactive design for the decorative side of the business card. The possibility of including the price list and the menu of traditional Tatar dishes and drinks offered in the business card after creating the website was also reviewed, creating a virtual menu that can be easily changed according to needs.

The possibility of remaking the brandmark symbol in the future based on the simplified patterns of one of the traditional Tatar hats used by the company was discussed, creating the opportunity to have a clear symbol that could be used in the logo design without causing additional problems in printing overly detailed small graphic elements, as well as allowing the company to include the identity symbol in the QR codes used and the main icons of the website.

Additionally, the possibilities for further filling in and improving the style book are presented, paying special attention to the representation and emphasis of the company's values, harmoniously presenting information according to the defined style requirements and supplementing it with examples of appropriate and inappropriate use of the identity symbol and other elements. Furthermore, the results accumulated during user experience testing and possibilities for improving interactive business card elements were discussed, in order to create a more intuitive design and ensuring a better user experience. It is recommended to adjust the design of the interactive business card by using more intuitive solutions for interactive elements, providing additional animation or information about the possibility of pausing the demonstration video, and interactivity of the company's contact details.

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APPLICATION OF ARTIFICIAL INTELLIGENCE SOLUTIONS IN THE DOCUMENT MANAGEMENT SYSTEM OF UAB "KAUNO BUTŲ ŪKIS"

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Keywords: artificial intelligence, document management, NLP, OCR, automation.

Abstract
The article analyzes how artificial intelligence (AI) solutions can be effectively applied to automate document management processes in a real company—UAB "Kauno butų ūkis". The work examines key AI components such as Natural Language Processing (NLP), Optical Character Recognition (OCR) and large language models (LLMs), focusing on their principles and practical implementation. It discusses the benefits of an automated document analysis system, including the extraction of relevant data, automatic generation of responses and digital archiving. Furthermore, it evaluates how these solutions help save time, reduce the number of errors and optimize employee workload. The study also aims to assess the system's operational efficiency, technical stability and potential adaptability for use in other organizations. Recommendations are provided for system development and integration opportunities in the public sector. This project demonstrates the practical value of AI in transforming traditional administrative workflows through accessible and scalable technology.

Introduction

The document handling process in UAB „Kauno butų ūkis" is primarily manual, involving reading documents, identifying important details and drafting replies one by one. This routine was time-consuming and prone to human error, especially with growing document volumes. Employees would spend up to 33 minutes on a single document, often encountering issues such as inconsistent formatting, missed details, or incorrect dates and addresses.

The objective of this project was to create a functional, easy-to-use system that would automate the document management process without requiring high technical knowledge from the users. The developed AI-based system combines file recognition, information extraction and automated response generation. It ensures consistent quality, significantly reduces the workload for employees, and helps optimize administrative time.

The system uses Optical Character Recognition (OCR) technology to extract text from scanned files. Tesseract, one of the most widely adopted open-source OCR engines, was chosen for its multilingual capabilities and integration with Python-based applications (Tesseract Documentation, 2023). For extracting structured data from unstructured text, the solution uses Natural Language Processing (NLP) with the spaCy library, which enables accurate entity recognition and linguistic analysis even in complex documents (Honnibal & Montani, 2021). To generate replies, OpenAI's GPT-4 Turbo model was implemented—one of the most advanced language models, capable of producing coherent, context-aware text outputs (OpenAI, 2023).

This project shows how combining these tools into a single automated pipeline can significantly improve the efficiency of document workflows in the public sector and demonstrates the practical value of applying AI in real administrative environments.

Data and Methods

The development of the system followed a step-by-step engineering approach and was continuously tested in real-world conditions. The project was implemented using the Python programming language due to its flexibility, extensive library support and compatibility with OCR, NLP and machine learning tools (Python Software Foundation, 2024). The system was designed to work both as a desktop application and as a web-based platform, ensuring flexibility for different user scenarios.

The final solution includes the following main components:

1. Graphical User Interface (PyQt6): a desktop-based interface that allows users to upload documents, enter data manually if needed, choose actions and preview the generated response.
2. OCR Engine (Tesseract): extracts text from scanned PDF documents. It supports multiple languages, including Lithuanian and performs well even with moderately distorted or low-quality scans (Tesseract Documentation, 2023).
3. NLP Module (spaCy): processes raw text and extracts named entities such as addresses, dates, organization names and request topics. The lt_core_news_sm language model was used to support Lithuanian grammar and syntax (Honnibal & Montani, 2021).
4. Text Generator (OpenAI GPT-4 Turbo): generates context-aware, structured and formal replies based on the extracted information and predefined templates (OpenAI, 2023).

5. Flask Server: allows the same system to be run as a web application or deployed as a standalone .exe file.

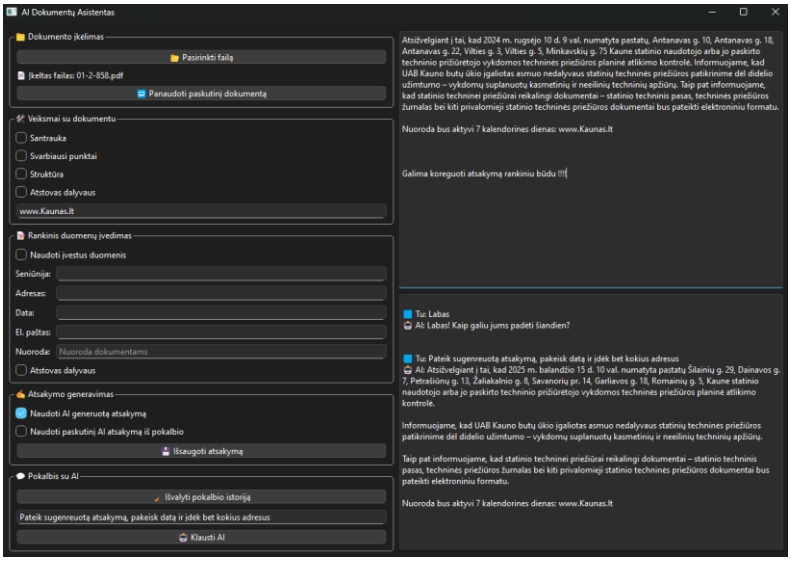


Fig. 1. Main system window after login – document selection, AI chat and reply preview areas (Created by the author, 2025).

To evaluate the effectiveness of the system, we tested it with a dataset of 178 real documents collected from the company's archive. This dataset consisted of 124 PDF files (including scanned documents) and 54 DOCX files (editable formats). Each document was processed manually and then automatically using the AI system, allowing for direct comparison across three metrics:

1. Average processing time per document (manual vs automated),
2. Error rate (missed or incorrect data),
3. Employee productivity (number of documents handled per day).

We also tracked user interaction time, recorded logs and identified edge cases such as illegible scans or unusual document structures. Internal observations and informal employee feedback were collected to assess user satisfaction and system usability.

Results

The testing phase revealed a substantial improvement in speed, accuracy and overall efficiency when transitioning from manual document processing to an AI-based system. The manual process, previously used at UAB „Kauno butų ūkis", involved individually reading documents, extracting relevant data and composing formal replies—a process that took on average 30 to 45 minutes per document, depending on its complexity and structure.

After implementing the new system, the same task could be completed in just 5 to 10 minutes, depending on scan quality and text clarity. This time reduction is primarily due to the automated OCR module, which quickly extracts text from PDF files and the GPT-4 Turbo model, which generates full formal responses based on that text within seconds. Repetitive work such as formatting dates, restating addresses and using official phrases is now handled automatically using predefined templates and language models.

In terms of accuracy, manual processing often resulted in human errors—such as spelling mistakes, incorrect date formatting, or missing key information—which occurred in approximately 10–15% of cases. With the new system, these types of errors dropped to 3–5%, largely due to automated data extraction and NLP-based validation steps. For example, spaCy's entity recognition ensures that all required fields (e.g., date, address, subject) are consistently identified and placed in the correct context.

The most impressive gain was observed in employee productivity. Where a staff member could previously handle 10 to 20 documents per day, the new system allowed that number to rise to 50–70 documents per day, depending on complexity and document type. This over fourfold increase means that routine administrative tasks, which once occupied entire workdays, can now be completed within hours—freeing up time for supervision, error checking and other higher-value tasks.

Table 4

Comparison of Results Between Manual and Automated Processing (Compiled by the author)

Criterion	Manual process	Automated process	Change
Avg. processing time	30–45 min	5–10 min	~70–80% faster
Document errors	10–15%	3–5%	Much more accurate
Daily capacity per user	10–20	50–70	Over 4× increase
Human involvement	Full	Minimal	Significantly lower

In addition to raw performance, users noted improvements in the consistency of response language. Because the system uses standardized phrasing and formatting, the generated replies look uniform and professional—something that was previously difficult to achieve when responses were written manually by different employees.

Some minor limitations were observed. For example, very poor-quality scans or hand-written annotations still require manual intervention and some Lithuanian-specific grammar nuances may occasionally require editing. However, the number of such cases was minimal compared to the overall volume.

Overall, the results demonstrate that AI-driven automation not only increases the speed and accuracy of document processing, but also enhances quality and user experience, making the system a valuable tool for routine administrative workflows.

Conclusions

The developed system has successfully replaced manual document processing with a modern and practical AI solution. It is already being used in real conditions at UAB „Kauno butų ūkis“ and the benefits are clearly visible: employees now spend significantly less time on each document, make fewer mistakes and can handle a much larger amount of work per day.

One of the biggest strengths of the system is its modular structure – it’s built in such a way that new features or formats (like JPG or Excel files) can be added in the future without needing to rebuild the entire system. There’s also the possibility to integrate it with internal databases or even train it further to improve classification accuracy.

The system was developed with real users in mind – it’s simple, clear and easy to use, even for those who have no technical background. This shows that AI can be accessible not just for big tech companies, but also for public sector institutions that want to modernize their work.

Importantly, the system fits well with the broader digital transformation goals that many municipalities and public institutions are pursuing. It shows that even small organizations can start using AI step by step – beginning with repetitive, clearly defined tasks. With time and proper user feedback, the system can grow into a more advanced and strategic tool that helps improve service quality.

Finally, as the system continues to be used, it collects structured data, which can later be useful for performance analysis, internal reporting and quality control**.** In this way, the system not only saves time and resources now but also lays the groundwork for a more transparent, efficient and citizen-friendly digital future.

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ELECTRONIC - SHOP DEVELOPMENT USING PHP PROGRAMMING FRAMEWORK LARAVEL IN "KLAIPĖDOS FM" PUBLIC INSTITUTION

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Keywords: Laravel, Electronic- Shop, Framework, PhP.

Abstract
In the article, during system analysis, functional and non-functional requirements for the "Klaipėdos FM" electronic shop were defined, use cases were developed, and electronic shops of other companies were analyzed. The advantages of the Laravel framework were examined and compared with other PHP frameworks. The electronic shop's database was designed. System development utilized additional Laravel tools - Livewire, TailwindCSS, and Flux UI.
An electronic shop meeting the organization's needs was created, with a payment system integrated using the Stripe platform. An administrative panel was developed to manage products, users, and orders. The electronic shop underwent comprehensive functionality and performance testing.

Introduction

E-commerce offers sellers several advantages over traditional retail. Some of the main advantages are: overcoming geographical constraints, lower costs, 24 X 7 availability, attracting new customers due to better visibility on search engines, creating targeted information, being able to compare goods while shopping and eliminating travel time and costs for customers (Sanyal, 2019).

The availability of information on the internet has revolutionized the purchasing process. Almost everything that can be bought in a shop, including perishable products such as food, can be purchased through e-commerce. And customers all over the world have taken advantage of these opportunities. From customer service to new product development, the impact of e-commerce is already being felt in every industry (Vipin, 2021). The main problem of the article is how to adapt the PHP framework Laravel and create a functional, secure and user-friendly electronic shop that meets the needs of "Klaipėdos FM". The problem is related to the technical development of the system, the design of the store and the implementation of the main functions of the electronic shop (product catalogue, shopping cart, order management, user administration).

The Laravel framework is extensively documented on the official Laravel website ("https://laravel.com/docs/12.x") (Otwell, 2024), which provides detailed information on all parts of the framework and their use. There are also many additional learning resources such as video tutorials on the Laracasts platform ("https://laracasts.com/"), articles on customization for system development in "Design and Implementation of Web Applications Based on MVC Laravel Architecture" (Huynh, 2022) , forums and the book "Laravel: Up & Running: A Framework for Building Modern PHP Apps" (Stauffer, 2019). Research on shop-favourable layouts for online stores "Factors Influencing Online Shop Layout Preferences " (Jach & Kuliński, 2015).

Topic Relevance. ECommerce is growing in importance as companies seek to expand their market (Ingaldi & Brožovà, 2020), reduce costs and improve customer experience. "Klaipėdos FM's" need for a functional, user-friendly electronic shop that is modern. The Laravel framework was chosen because of its efficiency, flexibility and wide range of options for developing modern systems that meet these needs.

Research methods

1. Collecting and analyzing secondary data from scientific literature and articles.
2. Operational research. Analysis of the needs and requirements of "Klaipėdos FM" public institution for an electronic shop.
3. Empirical research. To analyze electronic shops.

System realization

The PHP framework Laravel was used to build the system. Additional tools such as Liwevire, Flux UI, Volt, Alpine JS were also used. The system was developed taking into account functional and non-functional requirements.

Tests

The system was tested on all the basic functions of the electronic shop, such as adding to basket, logging in and out and checkout. The system also tested the administrative functions such as adding products, editing and order management and user administration.

Results

The PHP framework Laravel was used to build the system. Additional tools such as Liwevire, Flux UI, Volt, Alpine JS were also used. The system was developed taking into account functional and non-functional requirements.

For hosting the system there is a choice between Laravel Cloud, DigitalOcean, AWS EC2, Hostinger. Each has its advantages, but it all depends on the price per month:

Laravel Cloud - installation is easiest by connecting a Github account, selecting a database and a virtual disk for hosting (Figure 1). Cons - high fee for running the site without stopping, additional fee for using your own domain.

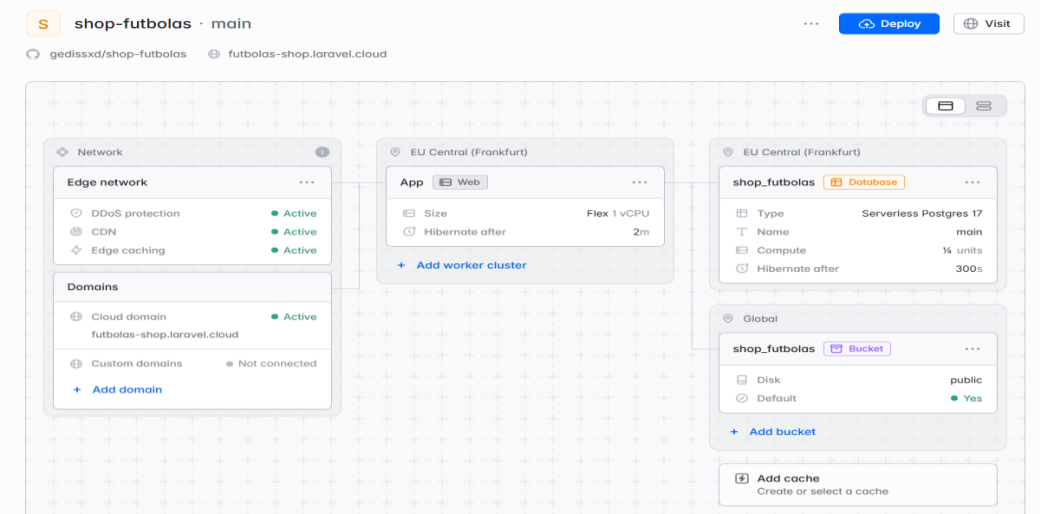


Fig. 1. Laravel cloud page hosting the system

DigitalOcean - to install Laravel you need to know how to use the terminal, it is not easy and takes time. Managing the database is very difficult. Pluses - small fee, website is open 24 hours a day with no extra charges.

Hostinger - easy to install using FTP server, database managed with phpMyAdmin. High minimum fee per month without selecting a year or longer period.

AWS EC2 - uses a terminal to install the system, database management heavy. Expensive monthly payment.

The top part of the page contains the header, which integrates the store logo (on the left-hand side), the main navigation menu ("Home", "Shop", "Cart") and the login and registration buttons, the choice of language and the choice of light or dark theme (Fig. . The active navigation link 'Home' shall be visually highlighted, indicating to the user their current location on the site. Below the navigation there is a video about football and a button in the middle encouraging people to visit the shop. Below the video there is a section of recommended products, where a selection can be made from the control panel.

To create this page, the Blade syntax is used. To avoid duplication of code, a generic "layout" is used, which accommodates the elements of the page without modification. The video is uploaded from the Amazon Bitbucket repository. The Livewire Flux library shall be used to render components. The button shall be assigned the wire:navigate parameter to allow navigation to the next page without a full page reload. The Blade @foreach @endforeach syntax shall be used for the display of products.

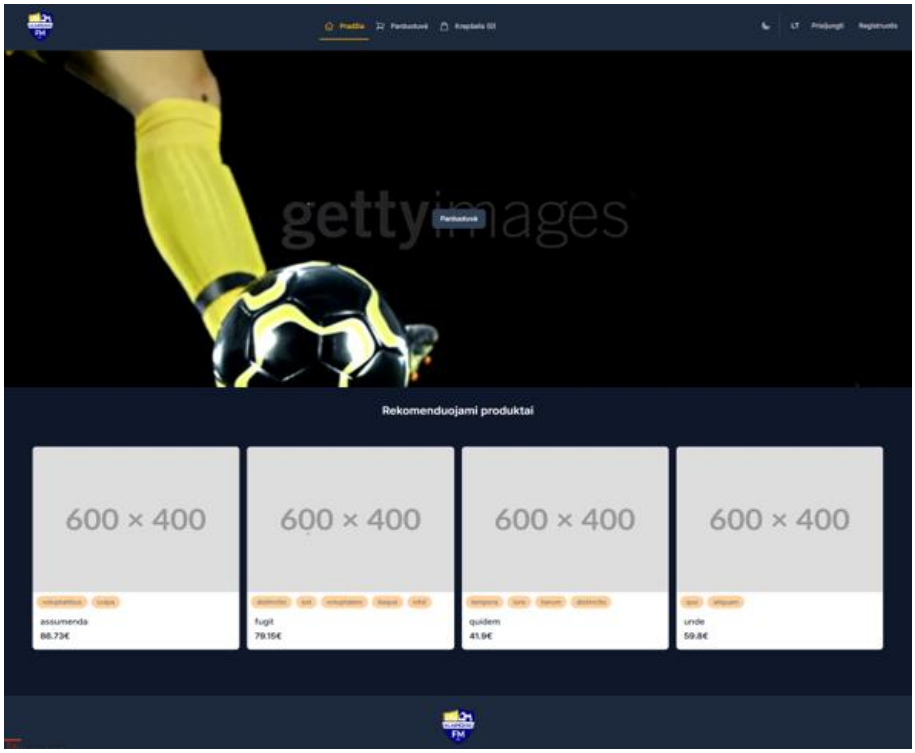


Fig. 2. Front page of the e-shop

The second page shows the product catalogue of the e-shop. This page is accessible to the user by selecting the navigation menu item "Shop" or by clicking on the button next to the video. This is the main place where users can view the full range of products on offer. On the right hand side of the page, under the header, is a button 'Sort by'. This allows users to change the order in which the products are displayed according to different criteria, for example from oldest to newest products.

Laravel also has the Livewire Volt package, which allows you to use both PHP classes and Blade templates in the same file. In this example, the button allows the user to choose the criteria for arranging products. Once the sorting method is selected, a dispatch event is sent which informs the product list component how to display the products in the selected order.

```
 1. <div>
 2.     <div class="grid grid-cols-1 md:grid-cols-2 lg:grid-cols-3 xl:grid-cols-
4 gap-6 container mx-auto px-4 py-8">
 3.         @foreach ($products as $product)
 4.             <div x-data="{ shown: false }"
 5.                  x-intersect="shown = true"
 6.                  :class="{ 'opacity-0 translate-y-8': !shown, 'opacity-100
translate-y-0': shown }"
 7.                  class="transition-all duration-700 ease-in-out flex jus-
tify-center">
 8.                 <x-product-card :key="$product->id" :product="$product" />
 9.             </div>
10.         @endforeach
11.     </div>
12. </div>
```

This code is used to display a list of products. Each product has an animation using alpine.js when it appears on the screen.

The system was tested on all the main functions of the e-shop, such as adding to basket, logging in and out and checkout. The system also tested the administrative functions such as adding products, editing and order management and user administration. As Ian Molyneaux says in his book The Art Of Application

Performance Testing. The critical response time threshold is 2 seconds - interestingly, that's how long the expected response time of an application web page is now. Response times longer than 2 seconds have a definite impact on the productivity of the average end-user (Molyneaux, 2014).

The results of the functionality tests confirm that all the functions of the e-shop work perfectly. Administrators can manage the platform and users can use the shop smoothly. This proves that all functional requirements have been fully implemented.

The findings of the performance tests show that the shop is fast. In order to maintain optimum speed and to ensure a good user experience, it is recommended that the text is presented without bolding and the use of images and videos is reduced.

In conclusion, the e-shop has been successfully developed, fulfils both functional and non-functional requirements and is fully ready for use.

Conclusions

The work successfully achieved its goal - to create an electronic shop for the company Klaipėdos FM, using the PHP programming framework Laravel.

A detailed analysis of the Laravel framework was carried out, evaluating its advantages and architecture. This analysis justified the choice of the Laravel framework and allowed to effectively use its capabilities during the project development.

The needs of Klaipėdos FM public institution were analyzed. Based on this analysis, the functional and non-functional requirements of the system were defined, and a database structure was designed, including products, users, orders and other related models.

Based on the analysis and design solutions, an electronic shop system was developed. The main functionalities implemented were: user registration and authentication, product catalogue display, sorting, shopping cart functionality, delivery method selection and integration with the Stripe payment system. A dashboard has also been developed to manage products, view and manage user data and monitor and change order statuses. Laravel, Livewire, Alpine.js, TailwindCSS and Flux UI technologies were effectively used in the development of the system in order to improve the user experience.

The main objective of the work was achieved - the electronic shop was developed. The developed system is functional, has a clear structure, is user-friendly for both customers and the administrator.

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CREATING AN INFORMATIONAL VIDEO AT „BLANCOMET RECYCLING UK“ LTD

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Keywords: informational video, video production, scriptwriting, company representation.

Abstract
The article formulates the problem of the lack of an informational video at "Blancomet Recycling UK" Ltd. Theoretical aspects related to video production from various Lithuanian and foreign authors have been analyzed. The stages of the informational video creation process, analysis of the audience and business groups, principles of script structure formation, and the importance of visual design are presented.
The article presents a practical experiment on creating an informative video, revealing the significance and progression of the creative process. The video was produced based on video production principles, information presentation strategies, and considering the characteristics of the target audience. Upon evaluation of the created informative video about the company, it was determined that this type of content can be an effective tool for company representation and is suitable for use across various communication channels.

Introduction

The relevance of the topic is evident in the current business environment, where the delivery of information through video format is becoming increasingly important. Companies seek to communicate more effectively with clients from various business groups, both business-to-consumer (B2C) and business-to-business (B2B), and therefore increasingly use informational videos. Such videos not only help to convey information clearly and quickly but also increase brand awareness, reflect the company’s identity, and represent the organization. Technological advancements allow even small companies to create professionally looking videos at low costs. The video trend is confirmed by data from Datareportal: in January 2025, 63.9% of the world’s population used internet networks. According to data from February, the platform with the most users was YouTube, whose content is exclusively based on video and audio material. These data highlight the importance of the topic of informational video creation.

The topic is characterized by a limited number of studies specifically related to the creation of informational videos. Although video content and visual communication are widely examined in marketing, advertising, and general communication fields, the creation of informational videos in the corporate context remains relatively under-researched. Visual materials are often analyzed through the prism of visual identity, revealing broader creative aspects. The literature primarily focuses on video production principles and essential aesthetic decisions, based on sources such as Bordwell, D., Thompson, K., Smith, J. (2017) and Dancyger, K. (2019). However, there is a lack of targeted studies analyzing the effectiveness of informational videos across different business groups — both B2C and B2B segments. The advancement of modern technologies encourages the use of various information presentation formats, yet their purposeful application in the context of informational videos is still insufficiently explored. Therefore, this work contributes to expanding the research on the topic.

The problem addressed in this work is that the company "Blancomet Recycling UK" Ltd demonstrates insufficient activity and visibility in the online space via video format. Currently, there is no representative and informative video that would reflect the company’s operations and help effectively disseminate information about it to different target audiences. Due to this, the company does not fully exploit the potential of social media and other online platforms to strengthen its visibility, which according to Rakauskas and

Labonova (2017) is one of the main means in communication to form an image and maintain relationships with both existing and potential clients.

The objective of this work is to create an informational video that reveals the specifics, values, and visual identity of "Blancomet Recycling UK" Ltd’s operations, and that is suitable for dissemination through social media channels. This video aims to increase the company’s visibility, strengthen relationships with target audiences, and enhance visual communication effectiveness in the online environment.

Object of the Work - informational video for the company "Blancomet Recycling UK" Ltd.

Tasks of the Work:

1. To analyze video production requirements based on scientific literature.
2. To conduct a scenario design analysis focused on specific groups: business-to-business and business-to-consumer.
3. To provide an informational video created for the company.

Qualitative research methods will be applied: literature review, data analysis, target audience analysis, and a creative practice — the creation of an informational video. Scenario design principles will be used for content creation to help structure information and ensure clear and consistent communication flow.

The work consists of three main parts. The first part analyzes scientific literature related to video production principles, their structure, and process, with special emphasis on information presentation features and the importance of visual identity. The second part presents the scenario design process — from idea formation to structuring, based on key creative principles and adapted to different target audiences. The third part describes in detail the informational video creation process and practical implementation stages. The content is visually supported by 25 illustrations and 7 tables, which thoroughly illustrate the essence of theoretical literature, scenario creation specifics, and the video editing process. The conclusions reflect the achievement of the work's aims and objectives.

1. Theoretical Aspects of Video Creation

Concept of Video and Production Stages

The video creation process consists of three stages:

1. Preparatory work – idea formulation, plot development, scriptwriting, filming plan preparation, and budgeting.
2. Filming – recording video and sound, proper shot composition, and lighting.
3. Works – editing, special effects, evaluation, and distribution.

The preparatory stage is the most important because it determines the quality and flow of the entire video. The idea must be relevant, clear, and original, while the plot should be concise and coherent. Editing is one of the key creative parts that helps deliver a clear and convincing story.

Characteristics of Informational Video

Informational video conveys messages through text, speech, sound, or images. Information is vital in all areas of life and is widely shared through media and news. According to Paliulis and Astrauskienė (2003), information includes facts and emotional content shaping opinions. Good information must be accurate, reliable, clear, and appropriate—not overwhelming the audience with unnecessary details, and delivered at the right time. Repšienė (2018) notes, emphasizing quality over quantity. Informational videos should provide clear, timely, and trustworthy content to help the audience understand and use the information effectively.

Visual Design of Informational Video

Creating an informational video requires attention to visual design, including colors, shapes, and text, to make it attractive and memorable. Colors carry emotional and cultural meanings, and the RGB model is commonly used for digital screens. Text and fonts are vital for clear communication and aesthetic appeal. Artistic elements like rhythm and shadows enhance the visual impact and help convey the message effectively. Titles and subtitles improve accessibility, especially for hearing-impaired viewers, ensuring the message is understood without sound. Visual identity—logos, colors, fonts—builds brand recognition. Consistent design in videos supports brand image and complies with laws, avoiding misleading content.

Defining Video Type and Target Audience

Before creating a video, it is essential to define type. Informational videos should be clear, relevant, and tailored to the intended audience. Equally important is identifying the target audience. The tone, visuals, and effects vary depending on who the video is for. A well-defined audience increases the likelihood of reaching the right viewers and getting returns on investment. Platforms like Facebook allow targeting based on location, age, gender, language, and more, once the campaign goals and budget are set.

Technical Requirements for Video Distribution on Social Media

Social media is a key channel for video distribution. Each platform—Facebook, Instagram, YouTube—has unique video specifications and audiences. Facebook supports up to 10 GB MP4/MOV files, 16:9 or 9:16 aspect ratios, max 240 minutes, and stereo AAC audio. YouTube prefers 1080p HD and supports many formats (e.g., MP4, MOV, AVI), recommending uploads match original frame rates (24–60 fps).Before creating a video, choose the target platform, as each has different technical and content standards. Content involving violence, nudity, or harm is not allowed.

Editing Informational Videos Using Software

Editing is a crucial stage in creating informational videos. Popular tools include Adobe Premiere Pro, Final Cut Pro, and DaVinci Resolve. Premiere Pro, part of Adobe Creative Cloud, is widely used for comprehensive video and audio editing. For animations and effects, Adobe After Effects is used as a supplement to Premiere Pro. To achieve high-quality results, it's essential to start with good footage, choose

the right export settings, and keep software updated. Visual design also plays a key role—effective use of color, typography, and layout enhances the video's clarity and emotional impact.

Informational videos should be accurate, timely, and tailored to the target audience. Their goal is not only to attract attention but to clearly communicate a message. Creating quality content and distributing it via appropriate channels ensures broader reach and impact.

2. Analysis of video script design

Concept and Stages of the Script

A script is a fundamental part of video production. Video scripts typically follow three stages, regardless of video type: beginning, middle, and end. According to Shaner (2011):

•Act I (Beginning): Introduces main characters, context, environment, and rules; sets up the inciting incident and gradually reveals the goal.

•Act II (Middle): Develops the story and character changes, adds new characters and details, reaches a midpoint that increases tension or shifts the story direction; this is the longest, emotionally intense part.

•Act III (End): Climax and resolution; concludes character arcs and provides emotional release, also known as catharsis — the psychological cleansing of inner conflicts.

Popular scriptwriting platforms include celtx.com, finaldraft.com, fadeinpro.com, and writerduet.com. These tools support standard formatting (scene headings, actions, characters, dialogue) and offer features like real-time collaboration, cloud sync, commenting, version history, and mobile access. As Vaira and Linkuviene (2013) note, the entire production process should be detailed in the script, reflecting its vital role.

Preparatory Steps Before Writing the Script

Script writing starts with the preparatory phase of video production. First, idea generation is crucial and should focus on relevance, originality, and clarity. Next, gather information about the topic, product, or service to highlight unique features and effectively communicate the message. Blancomet Recycling UK Ltd specializes in recycling catalytic converters and other automotive parts, promoting environmental sustainability. The video is main idea is to present the company.

Identifying the target audience shapes the video’s style. The audience divide into two groups:

- Business to consumer (B2C)
- Business to business (B2B)

This requires creating separate scripts tailored to each group.The video plot should be clear, informative, and straightforward.

Analysis of Business Groups

Before creating informational video scripts for different business groups, it’s important to understand each group’s strengths, specifics, and uniqueness. B2B (Business to Business) involves cooperation between companies, where one uses the services or products of another. Key factors in B2B relationships include loyalty, commitment, quality, trust, and social interaction (Abarytė, 2012). B2C (Business to Consumer) targets individual customers. It involves a broader and more diverse audience with quicker but smaller purchases compared to B2B. Understanding these differences helps tailor video scripts for specific audiences, improving message effectiveness and investment returns.

Script Adaptation for Business Groups

Scripts are tailored to business groups. B2C videos are short (up to 30 seconds), clear, emotional, and designed for social media. They present key product info and encourage action. Subtitles are important since videos are often watched without sound. B2B videos are longer (about 3 minutes), aimed at professional and shared on YouTube. They provide detailed information, emphasizing reliability and cooperation. Both video types follow a three-part structure: introduction, main content, and conclusion. The main goal is to inform and motivate action.

3. Creation of an informational video clip at „Blancomet Recycling UK'' Ltd

Stage I – Idea and Plan Development

The creation of the informational video began with an in-depth familiarization with „Blancomet Recycling UK" Ltd, established in 2009 in the UK, specializing in secondary raw material collection and recycling, with a strong focus on environmental protection and sustainability. The main purchased products are catalysts, lead-acid batteries, copper wires, and aluminum rims. 2024 data helped identify priority product groups for the video content.

Two informational videos were planned: a short, up to 30 seconds, clear and emotional video for the B2C audience; and a longer, 3-minute detailed and professional video for the B2B segment. Both videos follow a three-part structure: introduction, body, and conclusion.

The preparation phase included creating a filming plan (six shots in different locations), assessing technical equipment, and purchasing additional gear (a stabilizer). Safety requirements and weather conditions were considered to ensure high-quality footage

Stage II – Filming

In this stage, the theoretical plan from Stage I was implemented through practical filming based on a pre-prepared shooting plan and script.

Filming principles:

•Consistency with the shooting plan – a checklist was used to ensure all scenes and shots were captured.

•Varied locations – filming took place indoors (warehouse, customer area) and outdoors (industrial yard, company exterior).

•Technical quality – stable, high-quality shots were ensured using both equipment capabilities and natural lighting.

•Multiple takes – shots were filmed several times to guarantee quality and provide editing options.

•Diverse shot composition – a mix of wide, medium, close-up, and detail shots was used to add dynamism and completeness to the video.

Stage II successfully translated the Stage I plans into practical filming, applying theoretical principles regarding camera use, shot composition, lighting, and stabilization. The flexible shooting process allowed adaptation to real work conditions, supported by detailed documentation to minimize risks of missing key content. The collected footage prepares the project for Stage III – video editing and refinement.

Stage III – Editing and Distribution

The final video production stage involved editing, adding effects, reviewing results, and distributing the content. The company's visual style was applied consistently, using logos, colors, fonts, and graphics for a professional look. Footage was reviewed, high-quality shots selected, and arranged in Premiere Pro, editing in Full HD (1920x1080, 29.97 fps) for compatibility across platforms. The video opened with the company building and logo, using mask effects and smooth transitions for a polished feel. Minimal motion templates ensured smooth scene changes. Text effects, logo animations, and achromatic colors highlighted key information during the presentation. Infographics with percentages showcased recycled product quantities. For aesthetics, one segment was replaced with informational text featuring the logo and icons styled to the company's identity. The final frame enlarged the logo to emphasize brand recognition. The video was exported in MP4 via Adobe Media Encoder to ensure quality and compatibility. A shorter video for Facebook was also created, maintaining brand style, dynamic transitions, and clear messaging focused on key products. A split-screen of three videos reinforced information delivery. The closing frame encouraged action with the slogan, "Turn your scrap into value," inviting viewers to contact the company.

Conclusions

After analyzing the theory of informational video creation, three main stages were identified: preparation, filming, and post-production. The key feature of an informational video is delivering the right information at the right time through the right channel. Clarity, reliability, and accuracy are essential. Visual design enhances the message using elements like colors, fonts, and logos.

The main objectives are to inform, present attractively, and showcase visual identity. Based on the target audience, video type, and technical aspects, a suitable creative direction is formed. The second task involved scenario analysis tailored to B2B and B2C models, dividing the structure into a hook, main content, and a call to action. Two separate scripts were developed for different audiences.

Two videos were created for "Blancomet Recycling UK," reflecting practical application of the theoretical process. Applying theoretical knowledge and maintaining creative flexibility were crucial for producing an effective and visually appealing final product.

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COMPUTER NETWORK SECURITY PROJECT FOR UAB "SIUNTOS"

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Keywords: computer network security, pfSense, VLAN, firewall, risk analysis, authentication.

Abstract
This article analyses the importance of computer network security in a modern company's IT infrastructure. It presents key methods for assessing threats and vulnerabilities, reviews international and national security standards, and outlines effective preventive measures. The object of the study is a small logistics company for which the network architecture, risks, and threats were analyzed. Security solutions were proposed by implementing a segmented VLAN network, a firewall based on the pfSense platform, centralized authentication, and employee cybersecurity awareness training.
In the practical part of the thesis, a secure network model was designed and described using technical resources available on the Lithuanian market. Cloud - based solutions and secure remote access measures were included. A list of equipment and technological solutions is provided, along with justification of how each contributes to the overall protection of the company's information assets.
The result of the work is a computer network security project tailored to the needs of a small company and aligned with modern cybersecurity principles.

Introduction

Computer network security is very important for all types of businesses in today's digital world. As companies use more digital tools and online systems, the risk of cyberattacks increases. Small companies face big challenges because they often do not have enough money or IT staff to protect their networks well.

Computer network security means protecting systems and data from hackers, malware and other threats. According to Angelini et al. (2018), good security includes software and hardware tools that stop unauthorized access. Alaqail and Ahmed (2018) say that weak network protection can cause serious financial losses and damage to a company's reputation.

The main goal of network security is to protect data from being stolen, changed or deleted. Easttom (2019) explains that three things are important in cybersecurity: confidentiality (only authorized users can access data), integrity (data must not be changed), and availability (systems must work when needed). Kim et al. (2019) also support this idea, known as the CIA triad.

Small companies often use only basic protection like antivirus software or simple firewalls. But they need stronger solutions like VLAN segmentation, firewall, secure passwords, and training for employees. Guggenmos et al. (2022) mention that most small companies are not fully prepared for cyberattacks.

To improve security, companies should use both technical tools and organizational actions. For example, using secure authentication, staff education and following security standards such as GDPR, ISO/IEC 27001, and NIST guidelines.

The goal of this project is to design a safe and affordable network for a small logistics company. The plan includes network segmentation using VLANs, pfSense firewall, centralized login systems, cloud backups, and employee training. Cisco Packet Tracer was used to test the model and show that it works well in stopping common cyber threats.

Data and Methodology

This research was based entirely on simulation using Cisco Packet Tracer, a network simulation tool that allows users to design, configure and test computer networks in a virtual environment (Helal, 2023). The goal was to simulate a secure network for a small logistics company and test its vulnerabilities and protective measures in different scenarios.

The object of this study is a small logistics company that provides storage, transportation and cargo management services to individual and business clients. The company relies heavily on IT systems to track shipments, manage client information and ensure efficient communication.

The company's network infrastructure includes:

- Network devices
- End – user equipment: employee computers, server, printer
- Software: warehouse and client management system, accounting tools, database
- Security measures: antivirus software, 2FA, regular software updates

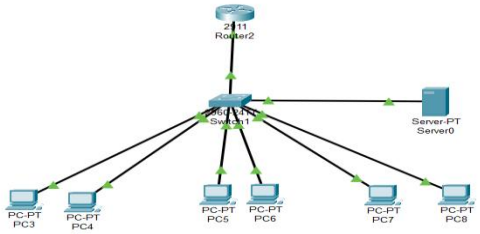


Fig.1. The company's network infrastructure (created by the author)

The initial simulation recreated the company's existing flat network structure, where all devices operate within a single IP subnet. This set up is easy to manage but presents significant security risks. In this unsegmented network, there is no logical separation between departments, and all data flows are unrestricted, no firewall or traffic filtering, no access control, lack of backup policy or monitoring tools.

All configurations and testing were performed in Cisco Packet Tracer and illustrated with corresponding figures. Several examples are presented below.

Implementation of VLANs to logically separated departments. VLANs improved traffic control and security boundaries.

```
Switch>enable
Switch#config
Configuring from terminal, memory, or network [terminal]? t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#name administracija
Switch(config-vlan)#vlan 3
Switch(config-vlan)#name sandelis
Switch(config-vlan)#vlan 5
Switch(config-vlan)#name klientai
```

Fig. 2. VLAN Configuration on Switch

```
Switch(config)#int fa0/1
Switch(config-if)#switchport access vlan 2
Switch(config-if)#
```

Fig. 3. Port Assignment per VLAN

Firewall and NAT configuration using router ACLs to control traffic flow and external access.

```
ciscoasa(config)#interface Vlan1
ciscoasa(config-if)#nameif inside
ciscoasa(config-if)#security-level 100
ciscoasa(config-if)#ip address 192.168.1.1 255.255.255.0
ciscoasa(config-if)#no shutdown
ciscoasa(config-if)#exit
ciscoasa(config)#interface Vlan2
ciscoasa(config-if)#nameif outside
ciscoasa(config-if)#security-level 0
ciscoasa(config-if)#ip address 203.0.113.2 255.255.255.0
ciscoasa(config-if)#no shutdown
ciscoasa(config-if)#exit
ciscoasa(config)#
```

Fig. 4. Firewall Zones and Security Levels

```
ciscoasa(config)#object network internal_server
ciscoasa(config-network-object)#host 192.168.1.100
ciscoasa(config-network-object)#nat (inside,outside) static interface service tcp 443 443
                                                                ^
```

Fig. 5. NAT Configuration Interface

Access control and protocol filtering demonstrated how insecure protocols like Telnet were blocked and replaced with secure alternatives like SSH.

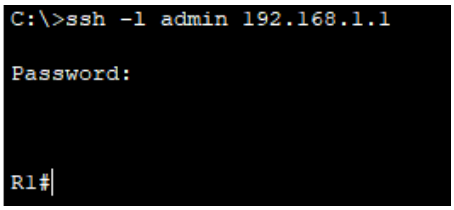


Fig. 6. SSH Secure Login Example

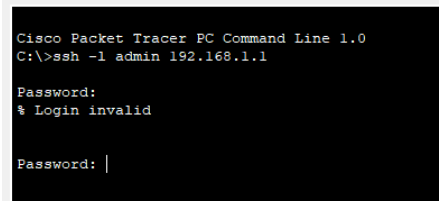


Fig. 7. SSH Login Failure (Wrong Password)

DoS attack simulation was performed by sending multiple ping requests to a single computer.

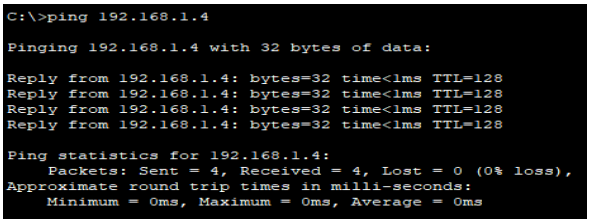


Fig. 8. Normal Ping Response

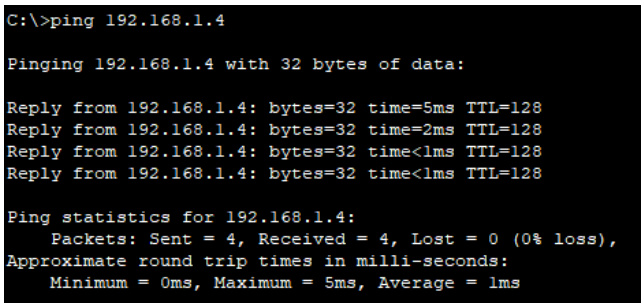


Fig. 9. Increased Latency Detected – 5ms

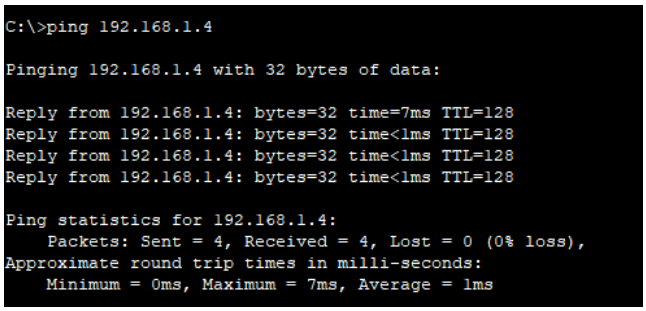


Fig. 10. Critical Latency Reached – 7 ms

A structures risk assessment based on ISO/IEC 27005:2018 was conducted to evaluate the probability and impact of threats, as summarized in the table below.

Table 1

Information Security Risk Assessment

Threat	Likelihood	Impact	Risk Level
Ransomware	High	Critical	Very High
Phishing	High	Medium	High
Weak Passwords	Medium	Medium	Medium
No VLAN	High	Medium	High
No Firewall	Medium	Critical	High
No Backup Strategy	Low	Critical	Medium
Human Error or Insider Threats	Medium	High	High

There are both technical and human – related security weaknesses. The biggest problems are the lack of firewall and no network segmentation. External threats include phishing and ransomware attacks. To reduce these risks, it is important to implement VLANs, ACL rules, and secure remote access.

Results

A secure network model was implemented based on VLAN segmentation, firewall rules, and secure remote access using Cisco Packet Tracer simulation. The goal was to protect the logistics company's IT infrastructure from internal and external threats while ensuring efficiency and scalability.

The new network separates departments using VLANs. This segmentation reduces unnecessary communication between departments and enforces access control. The network layout is shown in *Figure 11*, illustrating the VLAN design with a firewall and central switch.

The pfSense firewall provides several essential security functions: NAT, traffic filtering, VPN and 2FA.

Network management is conducted securely using the SSH protocol. Access is restricted to the Administration VLAN and protected with RSA key authentication and an inactivity timeout, ensuring controlled and encrypted remote configuration.

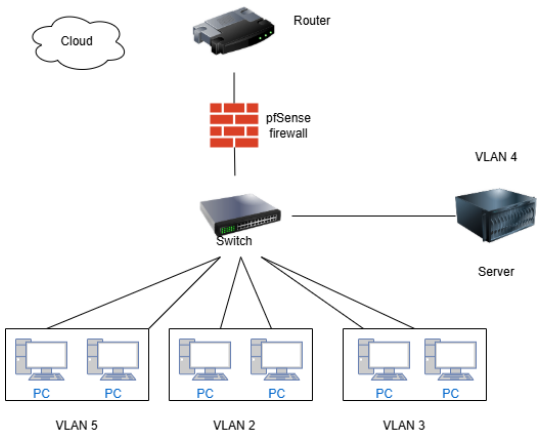


Fig. 11. Secure Network Architecture (created by the author)

Figure 11 shows the final network topology: pfSense is placed between the router and internal switch, VLANs separate departments, and the server is isolated in its own segment. This design improves both security and operational control.

Table 2

Summary of Key Technical Components (source: compiled by the author)

Component	Function
pfSense firewall	Network protection, VPN, NAT, ACL
VLAN segmentation	Logical network separation by department
TP-Link EAP245 (Wi-Fi AP)	Secure wireless access with SSID tagging and WPA2-Enterprise
LDAP + RADIUS	Centralized user authentication
Bitdefender	Endpoint antivirus for 6 devices
Synology C2 Backup	Cloud data backup and recovery

The implemented solution successfully transformed a flat network into a segmented and secure architecture. Configurations were tested in Cisco Packet Tracer, demonstrating risk reduction and improved network efficiency. The final design follows cybersecurity best practices for small and medium – sized enterprises.

Conclusions

This project demonstrated how a secure and segmented network can be implemented in a small logistics company using VLANs, pfSense firewall, SSH, and centralized authentication. The simulation in Cisco Packet Tracer confirmed that proper segmentation, firewall rules, and secure access methods significantly reduce cybersecurity risks.

Additionally, employee awareness training plays a key role in protecting IT infrafrastructure. The proposed solution meets modern security standards and is suitable for small to medium – sized enterprises.

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CREATING A 2D AND 3D ANIMATED BADGE USING ARTIFICIAL INTELLIGENCE AND DESIGN TOOLS AT THE LITHUANIAN COLLEGE OF BUSINESS

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Keywords: Artificial intelligence, animation, 2D and 3D animation, badges, design tools, creative processes.

Abstract
This paper explores the impact of artificial intelligence on 2D and 3D animation, focusing on its benefits, challenges, and implications for creative industries while creating a digital animated badge for the Lithuanian College of Business. Theoretical analysis and practical experiments were conducted to compare traditional animation methods with artificial intelligence powered tools. A digital animated badge was designed using both manual techniques and artificial intelligence platforms, then the creation process was analyzed based on quality, efficiency, and creative control. Results show that while artificial intelligence can accelerate content production and support creators with visual generation, it still lacks the artistic depth and flexibility of human created work. Ethical and legal challenges, such as copyright and authenticity, are also discussed. The findings highlight the evolving role of artificial intelligence in animation, suggesting it can be a valuable assistant but not a full substitute for human creativity.

Introduction

In today's rapidly evolving technological landscape, artificial intelligence has become one of the most transformative forces shaping modern society. From predictive text to virtual assistants, artificial intelligence has already become an integral part of everyday life. At the same time, this technology is driving monumental change across industries, transforming traditional economic models, reconfiguring workforce structures, and altering how value is created in both tangible and intangible domains. In particular, the creative industries have seen a profound shift, with animation standing out as a key sector experiencing the rapid adoption of artificial intelligence powered tools. Where animation once required labor intensive frame-by-frame illustration, artists now have access to artificial intelligence systems capable of generating complex motion sequences, synthesizing effects, and assisting in rigging and rendering tasks with remarkable speed and accuracy. Artificial intelligence automates creative processes, assists in generating special effects and color modifications, thereby reducing creators' labor costs (Jia, 2024). Artificial intelligence models such as generative adversarial networks (GANs), machine learning, and computer vision are enabling automation of complex animation processes, reducing production costs, and accelerating content creation. These tools allow for the creation of visuals that mimic hand-drawn precision, simplify lip-syncing and body movement processes, and assist in generating stylistically consistent artwork. As a result, artificial intelligence has become a powerful enabler, reducing production costs, accelerating timelines, and opening access to professional-level animation capabilities for smaller studios, independent creators, and educational institutions. According to L. Yunpeng (2021), artificial intelligence can support specific decision-making processes such as background design or sound generation. However, there is an inherent risk that it may marginalize human participation in the creative process and diminish artistic expression. As many creative processes become automated, some professionals feel that their jobs are at risk, since artificial intelligence can perform certain tasks faster and more efficiently than humans, which could mean that some job functions will become unnecessary (Hou, 2023). This concern is already manifesting in practice. Jiang et al. (2023) report that in China, some animation studios have laid off up to a third of their illustrators due to the implementation of AI technologies, illustrating a significant trend of job displacement in the creative sector. Artificial intelligence is also changing the technical pipeline of animation production. As Wang and Wu (2024) observe, while AI significantly enhances the speed and visual quality of animation production, it also introduces challenges related to copyright ownership and ethical responsibilities in AI-generated content. Moreover, artificial intelligence and machine learning are now used to automate motion capture, rigging, and rendering tasks, optimizing the creative workflow (Pardeshi & Mude, 2024). Additionally, AI tools can assist in rotoscoping, object tracking, and texture generation, reducing technical workloads while increasing visual realism (Farzadfard, 2024).

However, the rapid expansion of artificial intelligence into the creative domain has not come without concern. Alongside these benefits lie complex ethical and philosophical dilemmas and one of the most critical issues is that of artistic authenticity. When machines can generate images, motions, and designs that appear indistinguishable from those made by human artists, questions arise about originality, creative authorship, and artistic intent. As D. Lim (2023) points out, artificial intelligence may infringe on creators' rights by reusing existing artwork without permission, thus sparking debates around intellectual property and artistic value.

While existing research often highlights the practical advantages of artificial intelligence in animation—such as it‘s ability to automate visual effects, color grading, motion capture, and asset generation, a growing body of academic literature is beginning to interrogate its limitations and unintended consequences. These include concerns about job displacement within animation studios, the erosion of traditional creative skillsets, and the emergence of generative content that, while technically proficient, may lack emotional depth or personal expression. Scholars such as Anantrasirichai and Bull (2022) suggest that artificial intelligence is best used as a complementary tool rather than a creative replacement—enhancing workflows without fully displacing the human artist. Another emerging issue is the challenge of authorship and accountability. As artificial intelligence becomes more capable of producing content with minimal human input, it becomes increasingly difficult to determine who holds creative credit or responsibility for the output. This tension is especially pronounced in generative artificial intelligence art, where the final product may be shaped by an artist’s prompt but executed entirely by algorithmic computation. According to C. Pham et al. (2024), artificial intelligence is capable of analyzing large amounts of data, which it uses to replicate certain styles or even generate entirely new content. This can diminish the value attributed to individual creativity, as artificial intelligence can quickly produce works based on previous examples or even imitate the styles of original creators. Without clear ethical or legal frameworks, creators and institutions face uncertainty in how to protect and value original contributions. Moreover, despite a growing number of international studies, there is a lack of Lithuanian research specifically addressing artificial intelligence integration into 2D and 3D animation and it‘s social and creative consequences.

Thus this paper aims to explore both the opportunities and risks posed by artificial intelligence in 2D and 3D animation. Specifically, it investigates how artificial intelligence based design tools influence the creative process, reshape employment in the creative industries, raise questions about authorship and ownership, and contribute to broader social and cultural transformation. A central component of the research is the practical development of a digital animated badge created for the Lithuanian Business College. This project involved both traditional artistic software and artificial intelligence based generation tools, serving as a hands-on case study for comparing human-centric and artificial intelligence assisted workflows. Through this comparative analysis, the study aims to offer a balanced and critical perspective on the evolving role of artificial intelligence in digital animation—examining whether these technologies meaningfully support human creativity, or risk diluting the artistic essence that defines authentic visual storytelling.

Data and project context

To practically evaluate the impact of artificial intelligence in the animation creation process, this study focuses on the development of a digital animated badge, designed specifically for the Lithuanian Business College community. The project combines both traditional artistic tools and artificial intelligence based technologies to compare their effectiveness, flexibility, and creative control. The badge serves not only as a functional digital product but also as a research instrument for understanding how different tools affect the quality and authenticity of animated content. The main objective of the badge project was to analyze the extent to which artificial intelligence tools can replace or complement traditional hand-drawn and manually animated methods. The research involved creating two versions of the same badge: one produced using conventional software and manual techniques, such as Clip Studio Paint and Live2D Cubism, and another generated through artificial intelligence based platforms such as Leonardo AI, ChatGPT image generation, and animation tools like Runway ML and Deep Motion. This dual approach enabled a direct comparison of the processes and outcomes associated with each method.

In the manually produced version, the process involved several stages: sketching the concept, digital illustration, layer separation, rigging, parameter setting, and animation timeline management. These steps required advanced technical knowledge, artistic skills, and precise control over each visual element. Conversely, the artificial intelligence based version relied on textual prompts to generate static visuals and automate animation effects with minimal manual input. This method significantly reduced production time, but raised questions about aesthetic consistency, artistic intent, and intellectual property. The badge was intended to reflect the values and identity of the Lithuanian Business College while being visually appealing and suitable for use in digital platforms such as social media, messaging apps, or educational tools. In both versions, the badge had to be expressive, contextually relevant, and capable of serving as a recognizable visual identity symbol for the institution. The collected data included not only the technical and visual properties of the two final badge versions but also detailed process metrics: time investment, number of iterations, design flexibility, ease of use, and user control. These data points were crucial for evaluating the effectiveness and

limitations of each approach. Additionally, the study considered qualitative factors such as perceived originality, creative satisfaction, and the interpretative depth of the resulting animations.

By comparing these datasets, the study seeks to understand how artificial intelligence tools are transforming the animation workflow and what implications this has for future creative practices. It also provides insights into the trade-offs between speed and quality, automation and authorship, and innovation versus artistic control.

Results

The creation and comparison of the digital animated badge using both traditional and artificial intelligence based methods provided insightful results regarding efficiency, quality, creative control and more as presented in Table 1.

Table 1

Badges created manually and with artificial intelligence: Analysis of creation processes and results.
Table compiled by the author.

Criterion	Manually created badge	Artificial intelligence generated badge
Software accessibility	Paid programs such as Clip Studio Pain t and Live2D Cubism.	Free and easily accessible online platforms with limited daily generation attempts.
Creative control	Full author control over every element, detail, and creative decision.	Limited control; outcome depends on the artificial intelligence generation model.
Level of creativity	Versatile; the author can choose styles, colors, shapes, and other elements.	Limited; based on prompts and constrained by existing templates and algorithms.
Work duration	Longer; requires careful and detailed work. 1–4 weeks.	Fast output; 3–5 minutes.
Technical precision	High; allows precise control of individual and combined elements, movements, and forms.	Low; lacks precision, with errors in proportions and element definition.
Animation readiness	Easy to prepare for animation; elements are properly separated into layers.	Difficult to animate; image is flat and lacks layer separation.
File format	Supports various formats, such as PSD for editing and GIF for badge animation use.	MP4 or GIF formats, but not always suitable for badge integration.
Result quality	High and aesthetically consistent.	Variable; often lacks consistency.

Through this dual-process approach, it became evident that while artificial intelligence can assist and accelerate some aspects of design and animation, it still lacks the depth, precision, and emotional nuance offered by human creativity. In the manual workflow, the badge was illustrated using Clip Studio Paint, with careful attention given to line quality, color palette, and visual composition. The design was then imported into Live2D Cubism, where each graphic element was separated into layers, rigged, and animated through a combination of mesh deformation and parameter manipulation. This process required a high level of technical skill and artistic decision making, taking approximately 1–4 weeks from concept to completion. The final animation was rich in detail, visually consistent, and capable of responding to specific creative intentions, such as subtle motion effects, timing control, and expressive interactions between visual elements. Hand made animated badge is presented in Figure 1

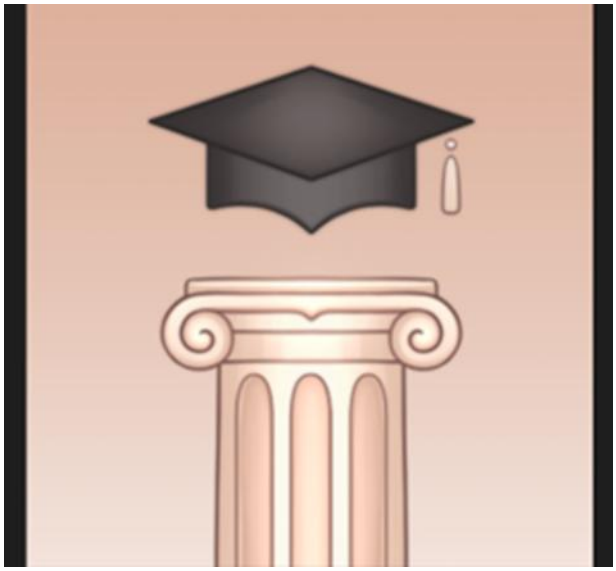


Fig. 1. Authors hand made animated badge.

Conversely, the artificial intelligence assisted workflow utilized platforms such as Leonardo AI, ChatGPT and other image generation, and animation tools like Runway ML and Image AI. These tools allowed for quick visual output often producing results in under five minutes. However, the generated visuals often lacked anatomical or stylistic accuracy. While Leonardo AI and ChatGPT produced coherent images with an acceptable aesthetic foundation, other platforms such as Craiyon and Canva AI yielded incoherent or low-quality results. Artificial intelligence generated badge presented in Figure 2.



Fig. 2. Artificial intelligence generated animated badge.

In terms of animation, Runway ML and Image AI provided only minimal control, often producing fragmented or distorted motion sequences that did not align with the original concept. The key challenges of the artificial intelligence generated animation included:

- Deformation of forms and visual inconsistencies during automated animation;
- Lack of precise layer separation, which is essential for high-quality animation;
- Limited control over motion dynamics, making subtle character movements difficult to achieve;
- Inability to maintain consistent design logic across multiple frames.

And in contrast, the manual method offered:

- Complete creative control over each design and motion element;
- High resolution and rig-ready files, suitable for professional animation applications;

- Precise timing and customization, ensuring the animation reflected the creator's vision;
- Flexibility to adjust individual elements without compromising the overall structure.

Quantitatively, the manually created badge consisted of 56 animation frames and a total runtime of 1 minute and 26 seconds, exported in GIF format for web use. The artificial intelligence based versions, while faster to produce, were often limited in resolution, motion quality, and export formats. The final comparison is summarized in the following findings:

- Speed: Artificial intelligence was significantly faster but at the cost of quality.
- Quality and precision: Manual methods outperformed artificial intelligence in visual clarity and animation smoothness.
- Creative satisfaction: The manual process allowed for intentional artistic expression; Artificial intelligence methods felt restrictive and outcome-dependent.
- Technical compatibility: Manually created assets were more easily integrated into professional animation environments.

Ultimately, the results indicate that artificial intelligence tools may be useful for rapid prototyping or concept visualization, but they currently fall short when high quality, expressive, and technically accurate animation is required. Human creativity, supported by advanced artistic software, remains essential for producing emotionally resonant and professionally viable animated content.

Conclusions

After conducting a comprehensive analysis of artificial intelligence in the context of 2D and 3D animation, it is evident that artificial intelligence offers both powerful advantages and significant limitations. The practical experiment of creating a digital animated badge using both manual artistic methods and artificial intelligence based tools demonstrated that while artificial intelligence can accelerate production and assist in visual generation, it still falls short in areas requiring precision, creative depth, and emotional expression. The manually created badge, designed using tools such as Clip Studio Paint and Live2D Cubism, required more time, skill, and effort, but it provided full artistic control, consistency, and a high-quality result. Every detail starting from the color palette to motion dynamics was guided by intentional creative decisions. In contrast, the artificial intelligence generated version, while much faster to produce, suffered from technical inaccuracies, stylistic inconsistencies, and a lack of control over animation parameters. The artificial intelligence tools often distorted visual elements and were unable to adapt to specific artistic visions, especially when working with layered animations or custom movement logic.

Quantitative and qualitative comparisons revealed that artificial intelligence tools are most effective when used as complementary assistants rather than complete substitutes for human creativity. They are valuable in the early stages of ideation or for generating quick visual drafts but are currently insufficient for producing professional, polished animation content without human refinement. Moreover, ethical and legal concerns especially surrounding authorship, intellectual property, and originality remain unresolved and must be addressed as Artificial intelligence becomes more integrated into creative industries. As global creative industries continue to evolve, it is essential for local creators, institutions, and educators to critically evaluate how artificial intelligence is introduced into workflows and how it reshapes artistic practices. Future research should focus on long-term impacts, including how artificial intelligence affects employment in creative fields, shifts in consumer perception of digital art, and evolving definitions of artistic authorship in an algorithm-driven world. In conclusion, artificial intelligence has the potential to enrich the field of animation when approached thoughtfully and responsibly. It should be seen not as a threat to human creativity, but as a tool that, when guided by artistic intent and ethical awareness, can open new doors in digital design and storytelling.

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EDUCATIONAL INSTITUTION COMPUTER NETWORK MODERNIZATION PROJECT

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Keywords: network infrastructure, internet connection, computer network modernization, active and passive network equipment, network monitoring system.

Abstract
The main objective of the article was to optimize network infrastructure to ensure up to 1 Gb/s internet speed and a reliable and secure connection. To achieve this goal, the focus was placed on internet connectivity and both active and passive network equipment. An updated logical network diagram was created, and a network monitoring system was implemented to help detect and resolve issues faster, optimize resource usage, and reduce the risk of service disruptions. In later stages, network equipment configuration work was carried out, and the results were evaluated. Based on the technical data of the equipment and configuration results, it can be concluded that the designed network meets all the requirements set out in the thesis. Wireless access points ensure a stable connection throughout the building, while Fortinet solutions guarantee secure and efficient operation.

Introduction

This work focuses on the modernization of the computer network at Elektrėnai School-Kindergarten "Žiogelis" to ensure efficient and secure data transmission and network stability. Initially, theoretical aspects of computer networks are analyzed, including network types, topologies and security measures. An assessment of the existing infrastructure revealed that the current equipment is outdated and does not meet modern standards, necessitating its replacement. The implementation of new solutions prioritizes VPN technology, network segmentation, and firewall integration to enhance security. The ultimate goal is to establish a modern, reliable, and scalable network system that meets institutional needs and supports future expansion. The logical scheme is based on VLAN segmentation, which separates different network segments. Additionally, a cable layout plan has been prepared. When designing the network infrastructure, the main focus was on firewall configuration, as it plays a crucial role. The Fortigate firewall manages IP addressing, rule creation, and VPN access. This centralized approach ensures a high level of security and efficiency, guaranteeing secure data flow management and fast resource accessibility both internally and remotely.

Data and methods

During the research process, both theoretical and practical methods were applied, including the analysis of literature sources, the assessment of the existing network infrastructure, the adaptation of network design principles, and the practical implementation of network upgrades. A hierarchical topology was chosen. The main argument for choosing this topology is centralized management. The integration of all main network devices - firewall, patch panels, switch and power panel - into a single switch cabinet allows centralized management and monitoring of the entire network structure, which significantly facilitates administration, ongoing maintenance and fault diagnosis. The hierarchical topology, which divides the network into several logical layers, ensures that the firewall acts as the first security and filtering point, and the switch acts as a center for network segmentation and efficient data transmission.

The logical scheme is based on VLAN segmentation, which separates different network segments. This segmentation ensures that different structural zones are inaccessible to each other without further authentication or defined access rights, thus increasing the overall security and efficiency of the network.

A cable layout/connection diagram has been prepared for the computer network modernization project. The selected cable layout solution is intended for a detailed assessment of the existing infrastructure and orderly distribution of communications between different work areas and departments. The existing UTP cables are already exited, but it is necessary to ensure that their length does not exceed 100 meters - this is important in order to maintain optimal data transfer speed and reduce the risk of signal loss.

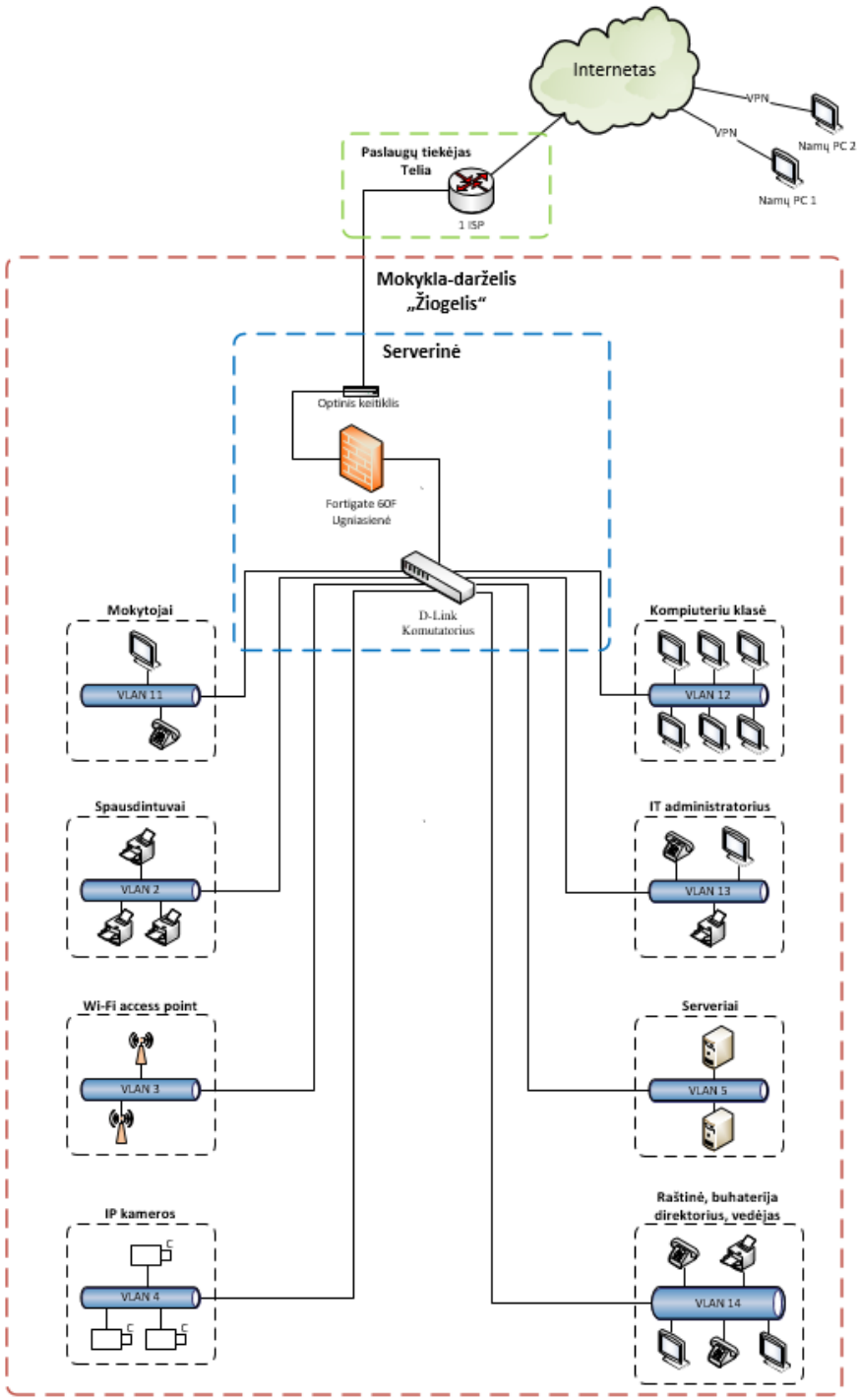


Fig. 1. Logical scheme (made by author)

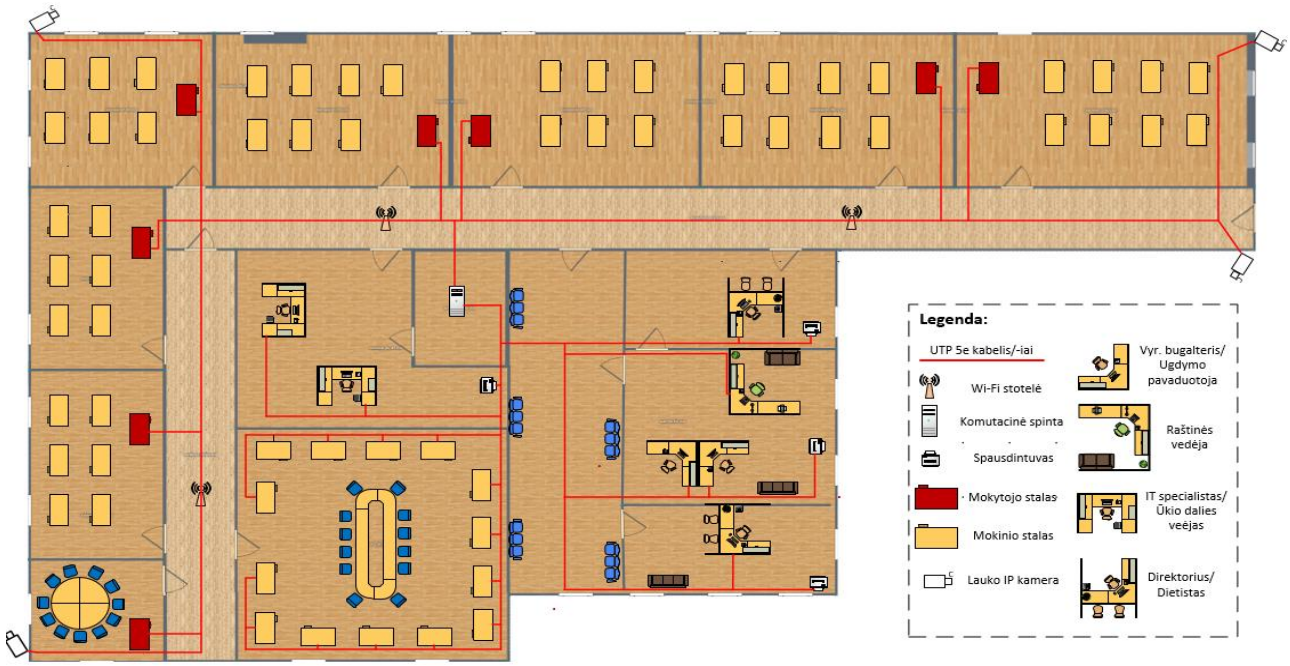


Fig. 2. Network cable layout diagram (made by author)

Results

Configuration process: the configuration process begins by connecting to the router using a web browser via HTTP or HTTPS protocols. The first step is to restore the factory (default) settings. The next important step is to change the default login credentials. This is an essential security procedure to prevent unauthorized access to the device.

After connecting the LAN1 port and ensuring an active internet connection, the local network is configured. First, a Software Switch interface is created, named LAN, and assigned to physical port 1 (port1). This is followed by the creation of VLAN segments, which help organize network traffic and improve security by separating different types of connections. To avoid errors during configuration, a table is first created, which serves as a reference when describing virtual local network segments.

Table 1

Virtual Local Area Network (VLAN) segmentation (made by author)

Segment	VLAN	IP/network	Dinamic / Statis address
IT admin	13	172.16.13.1/29	Static
Teachers	11	172.16.11.1/25	Static
Director/Finance	14	172.16.14.1/25	Static
IT class	12	172.16.12.1/25	Static
Printers	2	172.16.2.1/25	Dynamic
Wi-Fi	3	172.16.3.1/24	Dynamic
IP cameras	4	172.16.4.1/25	Static
Servers	5	172.16.5.1/25	Static

Configuration is being performed:

Each device on the local network is assigned a static IP address to ensure that only authorized devices connect to the network, thereby enhancing overall security and limiting access by unwanted devices.

	Name	Type	Members	IP/Netmask	VLAN ID	DHCP Ranges	Administrative Access
							FMG-Access
	Software Switch 9						
	LAN	Software Switch	internal1	0.0.0.0/0.0.0.0			PING
	IP_Kameros	VLAN		172.16.4.1/255.255.255.128	4		PING
	IT_admin	VLAN		172.16.13.1/255.255.255.128	13		PING HTTPS SSH HTTP
	Kompiuteriu_kl	VLAN		172.16.12.1/255.255.255.128	12		PING
	Mokytojai	VLAN		172.16.11.1/255.255.255.128	11		PING
	Rast_Ved_Direk	VLAN		172.16.14.1/255.255.255.128	14		PING
	Serveriai	VLAN		172.16.5.1/255.255.255.128	5		PING
	Spausdintuvai	VLAN		172.16.2.1/255.255.255.128	2	172.16.2.2-172.16.2.126	PING
	WiFi_AC	VLAN		172.16.3.1/255.255.255.0	3		PING

Fig. 3. VLAN segmentation (made by author)

The next step is to configure zones. Two zones are planned: the equipment zone is for Wi-Fi stations, printers, and IP cameras that perform daily functions and the user zone includes teacher devices, office/director devices, and computer classroom devices.

This method allows for centralized application of security policies and rapid application of changes at the level of all related elements, thus reducing the complexity of administration. In addition, the advantage of using zones is that security policies can be easily applied and changed across the entire network without the need to update the configuration of each individual port. This ensures flexible and consistent network management, which is extremely important for effective infrastructure administration.

To ensure that network traffic is managed strictly according to defined security rules, appropriate Fortigate policies are created, specifying source and destination addresses, target addresses, and permitted services.

	Source	Destination	Schedule	Service	Action	NAT	Security Profiles
	Irangos → Serveriai 2						
5	IP_Kameros address	all	always	PING VNC	ACCEPT	Disabled	SSL no-inspection
6	Spausdintuvai address	all	always	PING MS-SQL SNMP	ACCEPT	Disabled	SSL no-inspection
	Irangos → Telia (wan1) 1						
2	WiFi_AC address	all	always	Web Access	ACCEPT	Enabled	SSL no-inspection
	Naudotojai → Serveriai 2						
3	Rast_Ved_Direk address	all	always	HTTP HTTPS PING RDP Windows AD	ACCEPT	Disabled	SSL no-inspection
4	Mokytojai address	all	always	HTTP HTTPS PING	ACCEPT	Disabled	SSL no-inspection
	Naudotojai → Telia (wan1) 2						
1	all	all	always	Email Access Web Access	ACCEPT	Enabled	SSL no-inspection
7	Rast_Ved_Direk address	all	always	SIP SIP-MSNmessenger tcp_21000-65000	ACCEPT	Enabled	SSL no-inspection
	Implicit 1						

Fig. 4. Policies configuration (made by author)

The main network configuration of the "Žiogelis" institution has already been implemented in the Fortigate firewall. To ensure access to external resources, a VPN connection is being created, based on an IPsec tunnel (version 1). A new subnet 10.99.99.0/24 is established for VPN tunnel users, where internal addresses are securely assigned to external users. After configuring VPN access for remote employees, it is important to verify that the solution functions correctly. The testing is performed using a mobile device: the FortiClient application is downloaded from the official Google Play store.

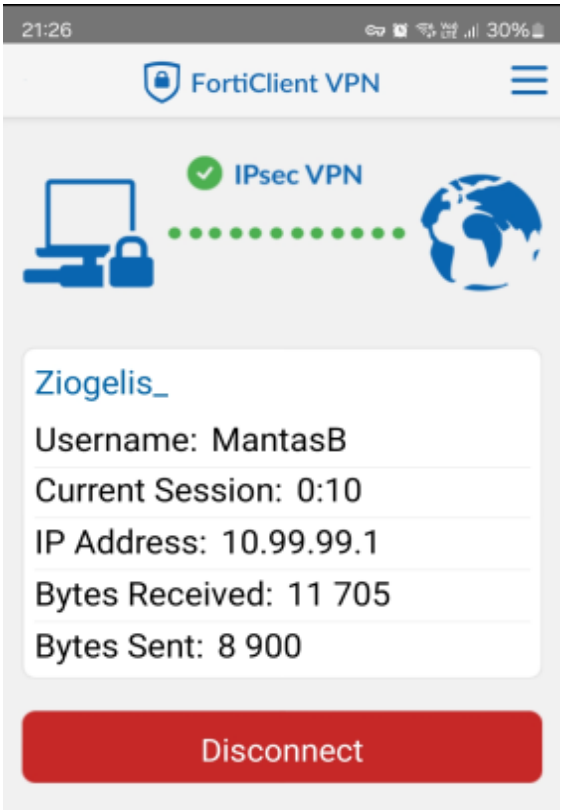


Fig. 5. FortiClient VPN connection confirmation (made by author)

The D-Link switch is configured via the CLI command line using L2 configuration to devolve all network management to the Fortigate equipment. This means that the D-Link device will only perform physical switching tasks, while the basic traffic control and security policies will be managed through the firewall. The switch is configured using the following steps:

- L2-level connection is established with the Fortigate firewall.
- An interface is created between port 52 (Fortigate) and port 1 (IT administrator).
- An interface is created between port 52 (Fortigate) and port 2 (Teacher).
- The process is repeated up to seven times, changing only the port number, as a connection is needed for eight teachers.
- Parallel port assignments are made for another segment configuration.
- Wi-Fi, printers, servers, and IP cameras segmentation is defined.
- The remaining segment, the computer lab, is configured.

Conclusions

Summarizing the network modernization process, it can be stated that a hierarchical topology was chosen. The logical scheme is based on VLAN segmentation, which helps to distinguish individual network segments. A cable layout scheme was additionally prepared. When creating the network infrastructure, the greatest attention was focused on configuring the firewall, which plays a crucial role here. Fortigate firewall, which

manages both IP addressing and the creation of rules and VPN access. Such a centralized approach achieves a high level of security and efficiency, which ensures secure data flow management and fast resource availability in both the internal and remote environment.

Thus, the completed project demonstrated that an integrated approach, combining theoretical knowledge, employee needs analysis, and modern technological solutions, is essential for creating a reliable and secure computer network. The implemented changes allow the institution's network to achieve a higher level of performance, ensure stable data transmission, and enhance security. The entire system is structured so that network administrators can monitor and control network operations in real time. Additionally, the new infrastructure provides conditions for long-term expansion and easy adaptation to evolving technological needs.

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CREATION OF THE WEBSITE FOR FLAMENCO SCHOOL "ROSALINDA"

Mantas Šeirys
Prof. dr. Inga Dailidienė
Keywords: flamenco, website creation, UX/UI design, visual identity, SEO, Wix platform.

Abstract
The article focuses on the development of a functional and aesthetically appealing website for the flamenco dance school "Rosalinda" located in Klaipėda, Lithuania. The theoretical part analyses essential web design elements such as UX/UI principles, color psychology, typography, SEO optimization, accessibility (WCAG), and the importance of logo design for cultural institutions.
The project part includes an analysis of the school's activities, target audience, competitors, and an evaluation of the former website's weaknesses. Based on this, a new visual identity was created, including a modernized logo. The website was developed using the Wix platform and optimized for search engines and mobile devices.

Introduction

In the digital age, a website is an essential communication tool for any organization, including cultural institutions such as dance schools. A well-designed website ensures visibility, credibility, and user engagement, especially for organizations that rely on community involvement and artistic expression. The flamenco dance school "Rosalinda", founded in Klaipėda in 2018, faced significant challenges in this regard. Although the institution provided unique cultural and educational activities, its previous online presence did not reflect its creativity, emotional value, or professionalism.

The mission of "Rosalinda" is not limited to teaching flamenco dance it aims to create a space for personal growth, emotional expression, and community-building through art. The school offers a wide range of activities, including traditional and oriental dance, dynamic movement therapy, and creative workshops. Its primary audience includes women of various ages and children seeking empowerment through dance and creativity. These values, however, were not effectively communicated through the outdated website, which lacked responsive design, structured content, and visual consistency.

As competition in the education and creative industries grows, cultural institutions must use digital platforms strategically. Research shows that 75% of users assess the credibility of an organization based on website aesthetics and functionality (Stanford Web Credibility Project, 2023). Moreover, studies by Eficode (2023) indicate that every dollar invested in UX can return up to 100 dollars, confirming the importance of user experience in achieving engagement and trust. Therefore, this thesis focuses on redesigning the visual identity and creating a modern website for "Rosalinda" to improve its digital communication and broaden its reach.

The project utilized the Wix platform due to its intuitive drag-and-drop editor, flexibility, and suitability for non-technical users. It allowed the prototype, initially created in Figma, to be accurately implemented and adapted to the school's needs. The redesign process included the development of a modern logo inspired by flamenco culture, the application of color psychology, and the integration of accessibility (WCAG) and SEO principles.

By combining visual identity theory with practical implementation, this project not only strengthens the school's branding but also sets a precedent for other cultural organizations aiming to enhance their digital image without compromising their artistic essence.

Design and Implementation of a Dance School Website

The methodological approach of this thesis combined theoretical analysis, design practice, and platform-specific implementation techniques. The project began with a literature review focusing on web design principles, visual identity, color theory, user interface (UI) and user experience (UX), and SEO optimization. Sources such as Gordon (2020), Nielsen and Norman (2021), and Eficode (2023) provided the conceptual foundation for the project's design strategy.

The object of the study was the flamenco dance school "Rosalinda". The analysis included a review of the institution's current digital representation, competitive benchmarking of similar cultural and

dance school websites, and identification of user needs. Target audience profiling was performed based on the school's primary demographics adult women and girls interested in flamenco and oriental dance.

Prototyping was conducted using Figma, which allowed the creation of a user-focused website layout. This included information hierarchy planning, wireframe structuring, and interface sketching. The platform Wix was selected for implementation due to its accessibility, integrated SEO tools, and compatibility with non-code design workflows. Design elements were prepared using Adobe Illustrator and Photoshop, especially for logo creation and photo content editing.

The logo and visual identity were developed following design principles such as balance, contrast, unity, and alignment (Fig. 1.). Color selection was based on color psychology red for passion and femininity, black for elegance and mystery, and white for clarity and space. Typography was chosen to enhance readability and support the brand's emotional tone.



Fig. 1. "Rosalinda" logo created by author

SEO optimization was implemented using Wix's built-in tools, including the SEO Setup Checklist, meta descriptions, alt texts for images, and structured URLs. Accessibility was considered following the WCAG guidelines to ensure that the website could be navigated on both desktop and mobile devices, including touch-friendly navigation through a "hamburger" menu.

Finally, the website was tested on multiple platforms (desktop, tablet, and mobile) to assess responsiveness, usability, and load time. Testing also evaluated the intuitiveness of navigation, visual balance, and alignment with the school's mission and user expectations.

Results

The website for flamenco dance school "Rosalinda" was successfully designed and implemented using the Wix platform. All design elements created in the Figma prototype were transferred into a functional website layout (Fig. 2.). This included a customized homepage, internal service pages, and an updated visual identity based on a newly designed logo, font pairings, and a culturally inspired color scheme.

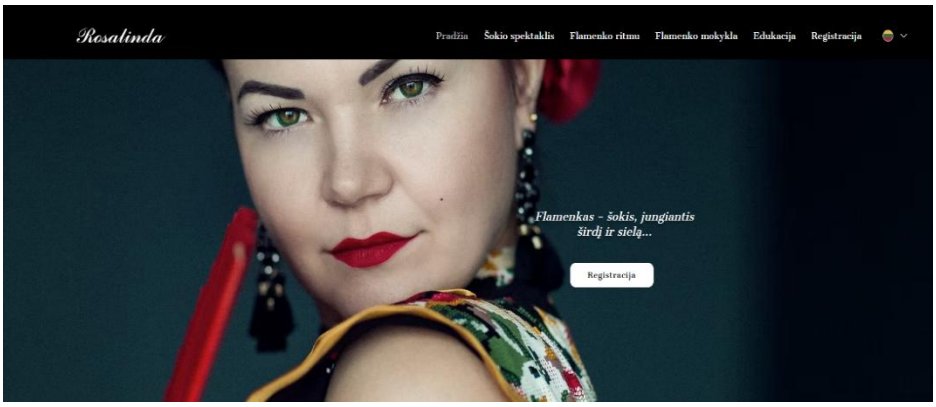


Fig. 2. Final design of the "Rosalinda" website with top menu and main image

The red, black, and white color palette was implemented to reflect flamenco culture passion, tradition, and clarity while grey tones were used for background balance. The new logo was created with reference to flamenco movement and femininity and embedded across the website for brand consistency.

All key UX principles were maintained: intuitive navigation, responsive design for multiple devices, and optimized visual hierarchy. A "hamburger" menu was used for mobile navigation to preserve space and usability. Text readability was improved by adjusting font size, spacing, and alignment.

SEO strategies were integrated during implementation using Wix's built-in SEO Setup Checklist. This included:

- Meta titles and descriptions for each page;
- Alt texts for all images;
- Clean and keyword-rich URLs;

The mobile version was specifically tested to ensure all buttons and menus were easily usable with one hand. Image sizes were compressed to improve loading time without compromising visual quality. Google Maps integration and social media links (Instagram and Facebook) enhanced interactivity and user access to school-related information.

Testing was performed on desktop, tablet, and smartphone devices using real-user simulation. All major functions were accessible, and the design adapted well across screen sizes. The website loading speed, responsiveness, and content clarity met all core web usability criteria.

Feedback from the school's founder confirmed that the website met visual and functional expectations. Improvements in user navigation, structured content, and ease of management via the Wix editor were positively received. The final version of the site not only improved communication with existing clients but also attracted interest from new users, helping the school build a stronger online presence.

Conclusions

This research demonstrated that a well-developed website with a strong visual identity can significantly enhance the digital visibility and communication capabilities of a small cultural organization. The example of flamenco dance school "Rosalinda" shows how design thinking, user-centered methods, and modern web tools can transform an outdated and unclear web presence into a professional, engaging, and accessible digital platform.

The implemented solution achieved all three core goals:

- It provided a modern visual identity with a redesigned logo and color system that reflects flamenco culture and the school's values;
- It ensured website functionality through clear content structure, responsive mobile design, and accessible navigation;
- It increased digital visibility through SEO techniques and integration with social media.

The use of the Wix platform allowed the creation of a fully functioning website without the need for complex programming. Its drag-and-drop environment enabled fast implementation of visual and structural ideas from Figma prototypes. The combination of creative tools such as Adobe Illustrator and practical testing ensured that all technical, aesthetic, and functional requirements were met.

From a design and technology perspective, this work proved that even small-scale projects can successfully apply professional UX/UI and branding principles. By focusing on the user, aligning design with culture, and employing accessible platforms, the project reached a quality standard comparable to commercial solutions.

The project contributes to the broader understanding of how small cultural organizations can strengthen their online presence and audience engagement using modern digital design methods. The resulting website not only reflects the spirit of flamenco but also empowers the institution to manage its digital identity independently.

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DEVELOPMENT OF OPTICAL CABLE WINDING DEVICE AT THE COMPANY "IT LO-GIKA"

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Assoc. prof. dr. Simona Grigaliūnienė
Keywords: optical cable wrapping device, microcontroller, control system, design, programming, automated systems, IT Logika.

Abstract
The article examines the development process of an optical cable winding device, from technological analysis to the implementation of a functional prototype. It provides a comprehensive evaluation of microcontroller technologies and their application in automated cable winding systems. A custom control system was designed for the company “IT Logika,” with a particular focus on the ARM-based STM32 microcontroller, the Octopus V1.1 control board, stepper motor drivers, and the development of a graphical user interface (GUI).
The research methodology combined scientific literature review, comparative technical analysis, system design, and experimental testing. The practical part of the project resulted in a fully functional prototype that integrates both mechanical and software components, including a Python-based GUI with real-time cable tension visualization. Microcontroller integration in automated winding systems is proven to improve performance, reduce human error, and provide cost efficiency (Ganesh and other, 2016).
The results show that the system is efficient, easy to modify, and suitable for industrial use. The article presents recommendations for further system improvement, including the integration of advanced control algorithms and additional sensors to increase the automation level and production efficiency at “IT Logika.”

Introduction

This work presents the development of an optical cable winding device designed for the company “IT Logika”, covering both the hardware and software integration process. The project was initiated to support the company’s drone manufacturing needs, where high-precision cable handling plays a crucial role. The system was designed from the ground up, starting with mechanical frame construction and continuing with the integration of an ARM Cortex-M4-based STM32 microcontroller, Octopus V1.1 control board, stepper motor drivers, and a Python-based graphical user interface (GUI).

During the project, several key technical challenges were addressed, including sensor integration, motor control via G-code, real-time cable tension visualization, and safety mechanisms such as timeout logic and watchdog timers. Similar implementations in industrial environments have shown that modular microcontroller systems increase flexibility and reduce development time (Pietrzak and other, 2024).

The work also shows how microcontroller-based systems can be used in industrial settings. It focuses on building the system in separate parts (modular design), making the software easy to update, and allowing the system to be improved later. These features were tested in different situations and proved that the system is ready to be used in real life and can be improved in the future.

Data and methods

During the development of the optical cable winding device at the company "IT Logika", a combination of theoretical research and practical implementation methods was applied. First, a literature review was conducted to analyze existing applications of microcontrollers in industrial automation, especially in cable handling systems. Sources highlighted the effectiveness of ARM-based architectures in real-time control and power efficiency (Joseph Yiu, 2013).

The next step involved the technical evaluation and selection of components. Based on functionality, flexibility, and availability, the STM32F446ZET6 microcontroller was selected, together with the Octopus V1.1 control board and TMC2209 stepper motor drivers. Comparative analysis was used to determine the optimal combination for real-time control and mechanical accuracy.

The project-based design methodology was employed in both hardware and software development. Mechanically, the device was assembled using aluminum profiles and 3D-printed parts for custom cable holders and supports. Electronics were installed and integrated with sensors such as the YT06-OP-400B-2M-5-24V encoder and stepper motor assemblies. All components were tested for compatibility and mechanical stability.5

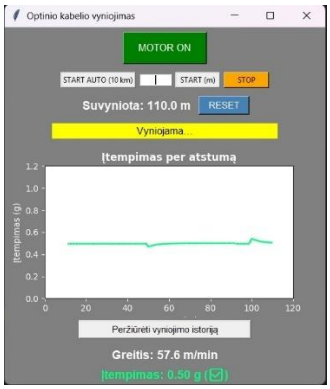


Fig. 1. GUI window used for real-time monitoring of cable tension and winding length. Personal picture

In Fig. 1 you can see GUI interface of the optical cable winding system displaying real-time data: tension over distance, total wrapped length (110.0 m), motor control buttons, and cable speed (57.6 m/min). The green graph line shows that the system successfully maintained the target tension of 0.50 g during operation.

For the software development, the firmware was programmed in PlatformIO, using the Marlin environment to manage stepper motors via G-code commands. The graphical user interface (GUI) was created in Python with Tkinter, allowing the user to start, stop, and monitor cable tension and length in real time. Communication between the GUI and the microcontroller was implemented via USB serial interface.

Finally, an experimental testing phase was carried out to evaluate system performance under realistic working conditions. Tests included motor movement accuracy, encoder signal reliability, GUI responsiveness, emergency stop function, and PID control reaction to tension changes.

Results

During the development of the optical cable winding device, multiple testing stages were carried out to evaluate system stability, control accuracy, and safety logic efficiency. Initially, core components such as stepper motors, the encoder, and communication with the STM32-based Octopus V1.1 board were tested using G-code commands in a terminal interface. These tests confirmed correct device responses and command interpretation. In addition, the system was also tested in simulation mode, introducing virtual values to verify the functional logic without using the actual optical cable. This method helped identify and correct potential software-related issues without using materials, thereby saving money.

The GUI (Graphical User Interface) was tested using a simulation mode, which generated virtual encoder signals and emulated real-world operating conditions. The interface showed stable behavior with a response time of less than 150 ms for updating cable tension and winding data. All signals were correctly visualized in real time, with colored tension graphs displaying safe, low, or critical values.

The system was tested continuously for several hours to check if it works reliably over a longer period. During this test, cable tension remained within ±0.05 g of the target 0.5 g, confirming effective PID control and mechanical stability. No system crashes or logic errors were recorded, and the watchdog timer remained inactive, indicating fault-free operation.

Emergency stop logic was also tested. When encoder response was disabled for over one second, the system triggered automatic motor shutdown and generated a visual warning on the GUI. The response time of the safety routine was measured to be under one second, matching the configured timeout condition.

Also, the code structure's modular design allowed for flexible function testing. The following code fragment (see Fig. 2) illustrates how the GUI sends G-code to the microcontroller while handling real-time updates and user input. Using simulation testing in GUI development ensures robust fault handling and increases debugging efficiency (Yi Zhang, 2022).

The function run() controls the winding process based on target distance and tension. It monitors system state, adjusts motion speed, visualizes values on the GUI, and handles emergency conditions if no sensor feedback is received.

```
54
55  def start_motion(total_distance):
56      if not motors_enabled:
57          return
58
59      def run():
60          global odometer_value
61          emergency_stop.clear()
62          status_label.config(text="Vyniojama...", bg="yellow")
63          steps = int(total_distance / STEP_METERS)
64          send_gcode("G91")
65
66          tension = TARGET_TENSION
67          next_deviation_distance = 50
68
69          for i in range(steps):
70              if emergency_stop.is_set():
71                  send_gcode("M410")
72                  time.sleep(0.1)
73                  status_label.config(text="⛔ Sustabdyta", bg="orange")
74                  return
75
76              send_gcode(f"G1 X{STEP_METERS * 1000} F{FEEDRATE}")
77              odometer_value += STEP_METERS
78              update_odometer()
79
80              sim_speed = FEEDRATE + random.uniform(-200, 200)
81              speed_m_min = sim_speed / 1000 * 60
82
83              if odometer_value >= next_deviation_distance:
84                  tension += random.uniform(-0.2, 0.2)
85                  next_deviation_distance += 50
86              else:
87                  tension += (TARGET_TENSION - tension) * 0.2
88
89              update_graph(tension, odometer_value)
90              update_tension_label(tension)
91              update_speed_label(speed_m_min)
92
93              time.sleep(STEP_DELAY)
94
95          task_done()
96
```

Fig. 2. Python function that manages G-code commands, GUI feedback, cable tension simulation, and emergency stop logic. Personal picture.

Conclusions

The development of the optical cable winding device at the company “IT Logika” demonstrated the successful integration of mechanical components, sensor systems, and microcontroller-based control logic into a functioning industrial prototype. The STM32F446ZET6 microcontroller, combined with the Octopus V1.1 board and TMC2209 drivers, provided stable and precise stepper motor control using G-code commands.

Throughout the testing phase, the system proved to be reliable under long-term operating conditions. The Python-based GUI enabled real-time monitoring and control, with cable tension maintained within the targeted range of 0.5 g ±0.05 g. Visual feedback, emergency stop logic, and timeout mechanisms all functioned correctly and quickly responded to system anomalies. The GUI remained stable, with data updates occurring in less than 150 ms, and no critical errors or system failures were detected during continuous operation.

The modular software design made the system easy to change and expand in the future, allowing new features like diagnostic tools and better data tracking to be added. The design also supports potential upgrades like adaptive PID control, automated coil replacement, and integration with laser-based length measurement systems.

Overall, the prototype meets the defined functional and technical requirements and can be confidently adapted to production environments. The work highlights how embedded systems, when properly designed and tested, can provide efficient, scalable, and cost-effective automation solutions in modern industrial applications.

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THE BENEFITS AND DETRIMENTS OF ARTIFICIAL INTELLIGENCE FOR YOUTH

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Keywords: artificial intelligence, Large Language Models, benefits of artificial intelligence, detriments of artificial intelligence, youth, Chatbot.

Abstract
The rapid development of technology has an impact on education - students and schoolchildren must constantly adapt to the advancements of technology. This affects the shaping of students' personalities and their social relationships. Although artificial intelligence is not a fully developed technology, it can already be used to solve emerging challenges in the education field, create opportunities to apply innovative teaching methods and encourage new advancements in this area. Therefore, it is important to determine what impact artificial intelligence has on young people in this era of technology. In the second part of the article, a quantitative study was done and the results obtained in it were summarized. Based on the hypothesis, the author confirms that the use of artificial intelligence has not only a positive impact, but also a negative one. The third part presents recommendations for the use of artificial intelligence tools for young people and their parents and teachers.

Introduction

The branch of information technology, which studies artificial intelligence, is becoming increasingly popular. Over the past two decades, this technology has improved problem solving in areas such as education, manufacturing, engineering, business, and medicine. It is predicted that in the future, intelligent machines will replace human capabilities in many areas. The introduction of artificial intelligence into new fields is happening unbelievably quickly. Young people adapt best to such changes, since their psychological flexibility and innovativeness are better developed, the youth assimilate digital technologies much faster.

Nowadays, when artificial intelligence is intensively integrated into our everyday lives, it is important to conduct as much research as possible, which could help investigate the impact of this technological invention on young people and society as a whole, education, and work activities. Despite the rapid development and introduction of artificial intelligence, not much interdisciplinary and psychological research has been conducted on this topic.

Data and literature analysis

The literature review, presented in the first part, describes the concept of artificial intelligence, its components, and the main subcategories into which it is divided. An analysis and comparison of language models (LLM) was done. The literature of foreign scientists, which examines the positive and negative aspects of artificial intelligence for young people, was analyzed, and the rules of legal regulations in the field of AI were presented.

A survey was used to collect research data. This method was chosen due to its simplicity and the ability to quickly collect a large amount of data at once. The research was conducted remotely, anonymously surveying the subjects with the provided questionnaire, which the respondents filled out in an electronic space. The questionnaire was created with the online survey creation tool "Google Forms".

Results

To summarize the results of the Klaipėda City Municipality student survey, it was found that the use of AI technologies is a common occurence, students most often use these tools as a help while doing homework (39.4 percent). From this, it can be concluded that students absorb less learning material, because more than half of the respondents confirmed that using AI to complete homework tasks impairs learning of the topic. The study confirmed the issue of privacy described in the literature and revealed that students are indeed worried about privacy and data security when using AI tools (54.9 percent). Comparing this result with the study conducted by Raghuvanshi, Joshi and Shakya in 2024, in which only 25.65 percent of adolescents saw a threat to privacy and data security, a clear difference is visible. The study found that artificial intelligence brings benefits to the majority of respondents, such as obtaining interesting information or learning new things. A survey of students found that as many as 60.6 percent of students using AI feel its negative impact on creativity and critical thinking, but most students do not see negative consequences for mutual relations. Compared to

the previously mentioned study by Raghuvanshi et al., a similar result was obtained, where 46.47 percent of minors feel a negative impact on creativity. After analyzing the results of the study, it turned out that 62 percent of the study participants agree that excessive use of AI can cause addiction. This result confirms the harm of AI described in the article by Nsude 2024. After examining the impact of AI on bullying, it was found that this technology does not have a significant impact on the increased prevalence of bullying, since almost half (49.3 percent) of young people said that AI does not affect bullying. The opposite results are described in Raghuvanshi, Joshi and Shakya 2024. in an article published in 2011, where after surveying 13-17 year old teenagers, as many as 44.98 percent of them considered AI as a potential risk for increased cyberbullying. After conducting the research part of this work, it can be stated that the working hypothesis “if artificial intelligence is used, it can have not only a positive influence on young people, but also a negative one” is confirmed. The third part of the work presents guidelines and suggestions for improving the use of AI for educators, parents of students and students themselves (Table 1).

Table 1

Guidelines for improving the use of artificial intelligence for educators, parents and young people
(made by author)

	Promoting cooperation and problem-solving		
	For educators	For youth	For parents
Recommendations	Artificial intelligence training programs ——— „Experience AI“, „Teachable machine“	Critical evaluation of artificial intelligence responses	Interest in children's online activities ——— Filtering, monitoring programs; Screen time limitation
	Constantly updated learning programs ——— Inclusion of training on artificial intelligence	Online safety ——— Do not share personal information	Educating children about the protection of personal information
	Constantly updated learning programs ——— Preparation of methodological materials for students	Chatbot - just an additional tool ——— Artificial intelligence should not replace the intelligence of students	Teaching about the importance of critical thinking ——— Do not blindly trust AI-generated content
	-	Responsible and creative use of artificial intelligence ——— To maintain academic integrity	-

Conclusions

The study confirmed the privacy concerns described in the literature and revealed that students are indeed concerned about data privacy and security while using AI tools. A student survey revealed the negative impact of AI on creativity and critical thinking and the risk of causing addiction to technology. For most students, according to the results, this technology is useful for completing homework assignments, but it also helps to solve problems and gain a lot of new information. The hypothesis put forward by the author, "if artificial intelligence is used, it can have not only a positive impact on young people, but also a negative one", is confirmed.

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APPLICATION OF VPN SOLUTIONS FOR SECURE CONNECTION TO „INSOFT“ COMPANY'S NETWORK

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Keywords: IPsec VPN, remote-access, multi-factor authentication, network security.

Abstract
The article addresses the problem of reliable and secure remote connection to "INSOFT" internal network resources, which is especially important for the company when handling sensitive state and personal data. A theoretical analysis of VPN technologies and a comparative review of OpenVPN, WireGuard and IPsec showed that IPsec best meets the requirements of high security and performance. Using literature analysis, consideration of requirements and design methods, functional and non-functional requirements were formed, a "remote-access" IPsec solution was designed and implemented in the "FortiWiFi 40F" equipment. The "observe - configure - test" methodology was applied in the practical part. The physical infrastructure was prepared, DDNS, FortiToken MFA, IPsec tunnel and FortiClient client were configured, and then connection, bandwidth, latency, packet loss and network isolation tests were performed. The tests confirmed the success of the work, therefore it can be stated that the designed solution meets all the requirements of the work and is recognized as functional and secure.

Introduction

The article addresses the creation of a secure remote-access environment for „INSOFT“ by designing and implementing an IPsec-based VPN solution that guarantees confidentiality, integrity, and availability of the company’s internal resources. The study first reviews the theoretical foundations of VPN technologies, examining their placement within the OSI model, tunnelling principles, encryption methods, and authentication mechanisms. A comparative analysis of OpenVPN, WireGuard, and IPsec—measured against INSOFT’s stringent security and performance requirements—shows that IPsec offers the optimal balance of maturity, throughput, and multi-vendor compatibility. An audit of the existing network revealed gaps in remote-access security. The practical component therefore centres on deploying a “remote-access” IPsec VPN on a FortiWiFi 40F firewall. The logical design employs VLAN segmentation to isolate traffic classes, while the physical plan details equipment placement and cabling. Key implementation steps include base firewall configuration, user and group provisioning, FortiToken MFA activation, DDNS setup, IPsec tunnel creation, and FortiClient rollout on Windows 11 endpoints. Rigorous tests—covering connectivity, bandwidth, latency, packet loss, and network isolation—confirm that the solution meets all defined functional and non-functional requirements. As a result, „INSOFT“ gains a modern, scalable, and centrally managed remote-access platform that enables employees and partners to connect securely from any location without compromising network performance or data confidentiality.

Data and methods

The study combined theoretical inquiry with applied experimentation. First, an extensive literature review—covering academic papers, industry white-papers, IETF RFCs, and Fortinet documentation—provided the conceptual basis for VPN operation, OSI-layer placement, tunnelling, encryption, and multi-factor authentication. A comparative-criteria matrix was then used to evaluate OpenVPN, WireGuard, and IPsec against „INSOFT“ requirements, this desk-analysis supplied the data for selecting IPsec. Practical work followed an observe – configure – test cycle. The network was modelled in a hierarchical star topology, with VLAN-based segmentation to isolate user, server, and management traffic. Configuration tasks—carried out on a FortiWiFi 40F firewall and Windows 11 endpoints—included base system hardening, IP addressing, FortiToken MFA enrolment, DDNS registration, and IPsec tunnel creation. Verification employed scripted test cases executed with ping to capture connectivity and CloudFlare speed test tool for latency, throughput, packet-loss, also, test cases executed with ping to capture isolation metrics both before and after deployment. Collected quantitative results were compared against predefined functional and non-functional acceptance thresholds, allowing iterative tuning until all criteria were satisfied.

Results

After The practical part of the work showed that the consistently implemented VPN solution meets the security, availability and development requirements set by "INSOFT". The solution was implemented in seven interconnected stages - from the preparation of physical cables and equipment to tunnel testing and documentation - so each important component was tested in real operating conditions.

First, a reliable transmission medium was formed - connecting the ISP-supplied single-mode OS2 (9/125) optical cable to ONU and then via a CAT6a segment to the "Fortinet FortiWiFi 40F" firewall, thus ensuring a gigabit bandwidth reserve and minimal optical distortions. The basic configuration of the FortiWiFi 40F defines WAN/LAN zones, IP addressing, routing and firewall rules, which isolate the internal network from direct external access and form a clear security perimeter. The capabilities of the equipment itself – up to 4.4 Gbps IPsec throughput, 200 gateway-to-gateway and 250 client tunnels – allow not only to meet current needs, but also to anticipate the organization's growth. The IPsec tunnel is created on the "remote-access" principle. The FortiToken multifactor scheme model is applied for user authentication, and the tunnel is given a static DDNS address, which ensures stable availability when the external IP changes. The external FortiClient configuration in the Windows 11 environment exactly replicates the parameters set in the firewall and allows remote users to create an encrypted channel without additional manual changes.

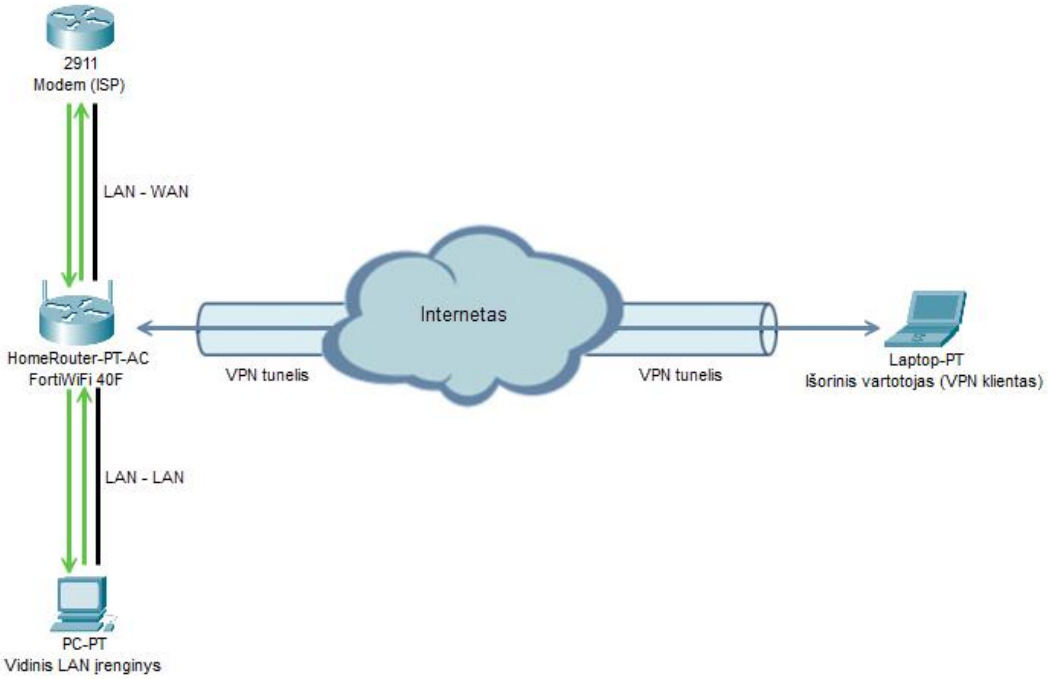


Fig. 1. Remote-Access logical topology scheme (made by author)

Empirical tests, including connection, bandwidth, latency, packet loss, network isolation and MFA operation scenarios, confirmed the reliability of the solution - the established ping sessions returned a 100% success rate both without a tunnel and through the tunnel, showing that the authentic internal address is accessible only through IPsec, and the system response remains stable. The results obtained are supported by the testing methodology, which can be repeated during the development of other tools. Considering the technical indicators and the tests performed, it can be stated that the documentation prepared on a modular basis and the “observe – configure – test” methodology form a repeatable implementation model suitable for use in other INSOFT projects or partner environments. In summary, this practical part has proven that the developed IPsec VPN solution is functional, secure and expandable. It meets the current remote access needs of the company INSOFT.

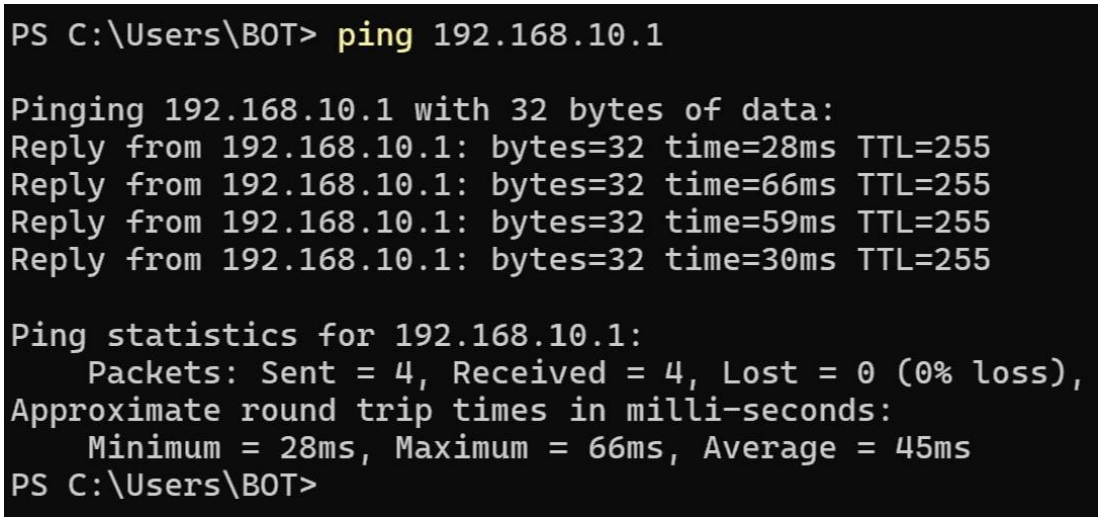


Fig. 2. Test results while reaching to an internal network device whilst connected to a VPN tunnel (made by author)

Conclusion

After analyzing the theoretical aspects of VPN technologies, it was determined that VPN is an essential cybersecurity tool that allows creating encrypted tunnels in a public network and thus ensuring the confidentiality of remote communication, data integrity and protection. The theoretical analysis also revealed that according to the purpose and implementation level in the OSI model, VPN solutions are divided into remote access VPNs, designed for secure connection of individual users to the internal network, and interconnection VPNs, designed for connecting individual local networks via the Internet using the data tunneling methodology. VPN protocols operating at different OSI layers are characterized by different operating principles and security mechanisms, therefore each of them has its own advantages and disadvantages, which determine their suitability in specific situations. After assessing the suitability of VPN solutions for the needs of "INSOFT", it turned out that IPsec technology best meets the high security and performance requirements set by the company. Comparative analysis showed that alternative protocols (OpenVPN, WireGuard) are not comparable to the IPsec solution in certain aspects. The latter is characterized by wide configuration, wide compatibility with the needs of the company and support for additional security functions, therefore, the choice of IPsec for the infrastructure of „INSOFT" is the most optimal. After preparing the project of the selected IPsec VPN solution and implementing it in the firewall, it can be stated that the created remote access infrastructure ensures secure accessibility of "INSOFT" internal network resources via the Internet. The tests conducted confirmed that the implemented VPN solution is functional, secure and meets all the established requirements. A stable connection and sufficient bandwidth are ensured, and such additional security measures as multi-factor authentication and internal network isolation work properly.

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