



RELEVANCE AND RESILIENCE OF REGIONAL MUSEUMS: A SERVICE DEVELOPMENT MODEL FOR CROSS-SECTOR COOPERATION

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Abstract

This applied research addresses the issue of service quality and cross-sector cooperation at regional museums, analysing the case of the regional museums in Lithuania. The study aims to answer the question of how, based on an assessment of visitor behaviour and expectations, the services of regional museums can be systematically improved, thereby increasing their social, educational and cultural value.

The research problem is grounded in the empirical contradiction between the museum cultural and educational potential and its low profile, limited visitor engagement and underutilised service potential. The study assumes that targeted modelling of service quality and possible cooperation, supported by data and the principles of universal design, can become an effective tool for strengthening the activities of regional museums.

The study was conducted using a mixed-methodology approach: a quantitative questionnaire survey, semi-structured interviews and complex research methods (web monitoring, observation (guided tour) and the mystery shopper method) of Suvalkija region museums.

The research findings revealed systemic gaps in the development of regional museum services: limited digital visibility, insufficient tailoring of services to different target groups, a low level of interactivity. Based on the results obtained, an integrated model for improving the operations of a regional museums was developed, encompassing solutions for service content, accessibility, communication and partnerships.

The scientific and applied value of the study lies in the possibility of applying and adapting the proposed model in other regional museums seeking to systematically improve service quality, increase audience engagement and strengthen the role of museums in the region's cultural ecosystem.

Research question: How can evidence from visitor and stakeholder assessments of regional museum service quality be integrated into a systematic operational model that improves museum services through cross-sector cooperation?

Research objective: To develop an integrated model for improving the cross-sector cooperation of a regional museum by evaluating the quality of the museum services based on empirical data.

Hypotheses:

H1: The engagement and satisfaction of visitors to the regional museum depend significantly on the interactivity of services, digital visibility and clearly communicated accessibility.

H2: An integrated model of service quality, accessibility and communication solutions creates the conditions for a regional museum to increase the diversity of its audiences and become a sustainable centre for culture and education.

KEY WORDS: service development, regional museum, tourism resilience, cross-sector cooperation, quality of services.

JEL classification: L80, L14, O35, R58.

Introduction

Regional museums play a vital role in preserving and promoting cultural heritage, but the effectiveness of their operations increasingly depends on their ability to adapt to changing visitor needs, information consumption habits and the context of cultural tourism. In this context, regional museums face the challenges of systematically increasing the accessibility, visibility and visitor engagement of their services whilst maintaining their cultural and educational identity.

The research problem is based on the identified contradiction between the museum cultural and educational potential and its limited visibility, insufficient accessibility of services, and the fragmented application of solutions for improving operations. The current situation indicates that isolated initiatives focused on individual aspects of operations do not ensure a long-term impact on visitor behaviour and the museums' role within the region's cultural ecosystem.

The subject of this applied research is the system of service quality and at a regional museum, analysing the case of the museums in Suvalkija region, in Lithuania.

The aim of the study is to assess the quality and digital visibility of the museum services and, based on empirical data, to develop an integrated model for improving cross-sector cooperation of a regional museum. The study proposes and tests hypotheses regarding the impact of service interactivity on visitor engagement and the sustainability of museum operations.

The study was conducted using a mixed-methods approach, combining quantitative and qualitative research methods. Data were collected using an online questionnaire, semi-structured interviews, web monitoring, observation (guided tour) and the mystery shopper method. This methodological combination allowed for a comprehensive assessment of the museums' activities from the perspective of both visitors and stakeholders, and ensured the systematic nature of the research and the reliability of the results.

The paper aims to contribute to the improvement of regional museum activities by proposing a data-driven, systematic and transferable operational model that can be adapted to other regional museums, taking into account the specific nature of their activities and the structure of their audiences.

Literature Review: The Importance of Ensuring Quality in Museum Services and of Cross-Sector Cooperation

Museums are not merely exhibition halls for historical artefacts, but also open-air exhibits (sculpture parks, miniature parks, ethnographic villages, etc.); they are not only custodians of culture but also play a vital role in education and community engagement. By fostering cultural understanding and empathy, they promote social cohesion. According to Mendoza & Talavera (2025), Velasco-Muñoz et al. (2025), contemporary museums are increasingly viewed as dynamic organisations that play a significant role in public life, whose activities are assessed not only by visitor numbers but also by the quality of the services they provide, their ability to adapt to social changes and to build sustainable relationships with various stakeholder groups. ICM highlights that this transformation reflects a broader shift toward a public value-oriented paradigm, in which museums are expected to contribute to social cohesion, well-being and sustainable development (2026).

Within this context, the concepts of relevance and resilience have become central to museum discourse. Relevance refers to the ability of museums to remain meaningful and accessible to diverse audiences, while resilience denotes their capacity to adapt to external pressures such as financial constraints, technological and digital change and shifting visitor expectations (Chaitas et al., 2024; Nikolaou, 2024). These dimensions are increasingly viewed as interdependent and are strongly influenced by the quality of services provided and the extent of collaboration with external stakeholders.

One of the primary determinants of museum relevance is service quality (Yang & Ai, 2023). Contemporary studies suggest that museum service quality is multidimensional, encompassing visitor satisfaction, engagement, learning outcomes, and emotional impact (Dewi et al., 2026; Luo et al., 2026).

The strategic guidelines for 2022–2025 formulated by the American Alliance of Museums had emphasised that high-quality services are inseparable from the mission of museums – to contribute to public well-being, learning and cultural inclusion (American Alliance of Museums, 2021). Ensuring service quality in museums is understood as an ongoing process, encompassing the identification of visitor needs, adherence to professional standards, and the ability to respond to rapidly changing cultural and economic factors. It should be emphasised that museums must be flexible, capable of creating and applying innovative solutions, and operating as organisations grounded in human experience that actively build and maintain trust through collaboration with the public (Institute of Museum and Library Services, 2022).

Service quality is directly linked to museums' commitment to providing meaningful, ethical and professionally high-quality experiences. Research indicates that the assessment of the quality of museum operations is increasingly based on measurable indicators, such as: large-scale collaborative initiatives, the level of professionalism, expert competence and the ability to ensure consistent improvement of operations. This concept of professionalism in museums means that organisations

must operate according to clear quality standards, continuously assess the effectiveness of their services and, where necessary, adjust their activities to meet public expectations and shift towards evidence-based management approaches that prioritise continuous improvement and responsiveness to audience needs (Yang & Ai, 2023; Pham et al., 2025; Yong et al., 2025). This indicates that museums must systematically evaluate their services in order to ensure high standards and remain competitive within the cultural sector.

At the organisational level, ensuring high service quality requires a broad set of competencies. Professionalism in the museum sector is no longer limited to curatorial expertise but includes skills related to communication, innovation and intercultural engagement (Del Vilar et al., 2025; Bas, 2023; Yang & Ai, 2023). These competencies are essential for addressing the needs of increasingly diverse audiences and for adapting to contemporary challenges such as digital transformation and changing patterns of cultural consumption.

Since museums are generally non-profit organisations, and for a long time their primary task has been to collect and preserve movable and immovable assets of enduring artistic, historical and cultural value, and to carry out educational and scientific work for the benefit of society, it is not surprising that most museums are funded from state budgets, by stakeholders seeking social investment, and from donations (Zmejevskienė, 2023).

At the same time, financial constraints remain a significant challenge for museums, particularly in contexts where public funding is declining (Sharp & Summers, 2025). Museums face increasing pressure to deliver high-quality services while operating with limited resources, highlighting the importance of efficiency and innovation for organisational sustainability (Mendoza & Talavera, 2025).

Recently, the cultural sector has been facing a decline in financial resources, which is particularly evident in Europe, where public investment in cultural services has been systematically decreasing. Such circumstances are prompting museums to seek new funding models and forms of partnership that would help to diversify revenue, engage a wider section of the public and create innovative service solutions. Cooperation with the business sector provides museums not only with financial support but also with strategic value, enabling them to implement projects requiring specialised expertise. Furthermore, museums are increasingly being integrated into urban development initiatives as part of the social infrastructure, contributing to the creation of a sustainable living environment (Chaitas et al., 2024).

In response to these challenges, cross-sector collaboration has emerged as a key strategy for enhancing both service quality and organisational resilience. Recent literature emphasises that collaboration with partners from sectors such as education, technology, health and creative industries allows museums to access new knowledge, resources and capabilities. Economic challenges are encouraging museums to collaborate more actively with organisations in the fields of culture, education, technology and social innovation, as such partnerships help to ensure the continuity and sustainability of services,

diversify funding, and strengthen the role of museums within the cultural ecosystem (Chaitas et al., 2024).

The evolution of contemporary museum activities clearly shows that collaboration with business organisations is becoming not merely an additional opportunity, but a strategic necessity for developing high-quality services and ensuring the institution's sustainability.

Partnerships are important not only for economic reasons – they also make a significant contribution to the fulfilment of museums' social mission. ICOM initiatives, such as the 'Outstanding Museum Practice Award', demonstrate that museums participating in collaborative networks are more likely to develop inclusive and socially responsible programmes that promote dialogue, cultural diversity, equality and community empowerment. These practices demonstrate that partnerships help museums not only to enhance the quality of their services but also to become active agents of social change, capable of responding to the needs of society (Cotter, 2025).

In recent years, the potential of unconventional forms of partnership has also been highlighted. A special issue of Museum International (2025) documents museum collaboration with the gaming, hospitality, health, cinema, real estate and environmental sectors – such intersections enable the creation of new service models, but at the same time require clear ethical guidelines and risk management (International Council of Museums, 2025). Communication and public relations practices also show that organisations are seeking meaningful and engaging experiences (Vázalová Gartnerová, 2025). A shift from 'repositories of artefacts' to events and night-time programmes based on stories, community and technology, which broaden the composition of the audience and the ways in which they participate (Doxanaki & Pappa, 2025).

The focus of collaboration between business organisations and museums is complemented by efforts to strengthen the cultural competence of the organisations' staff. Research on intercultural literacy in museums emphasises that the skills of educators and visitor services teams – flexibility, openness, facilitating dialogue, and dynamism – are critical to creating an engaging, evidence- and reflection-oriented visitor experience (Bas, 2023).

In summary, it can be said that the quality of museum services and collaboration are interrelated processes that determine a museum relevance and resilience. High-quality services create value for visitors, whilst sustainable partnerships enable museums to adapt, expand their activities and participate in broader cultural and social processes. In today's museum sector, these two aspects are no longer a choice but a necessity if museums are to remain relevant and valued by society.

Research methodology

The research problem is that regional museums increasingly seek to improve service quality and audience engagement, yet existing research rarely integrates visitor and stakeholder evidence into a systematic operational model based on cross-sector cooperation. This creates a gap in understanding how evidence-based service assessment can be translated into coordinated improvements in regional museum operations. The

problem is based on an identified discrepancy between the content of the services provided by the museum and their perceived relevance to different target audiences, as well as between the declared accessibility and its actual visibility to visitors.

Research object: The system of service quality at regional museums (analysing the case of the Suvalkija region museums in Lithuania) and their potential for the cross-sector collaboration.

Research objective: To develop an integrated model for improving the cross-sector cooperation of a regional museum by evaluating the quality of the museum services based on empirical data. The following hypotheses are tested in the study:

H1: The engagement and satisfaction of visitors to the regional museum depend significantly on the interactivity of services, digital visibility and clearly communicated accessibility.

H2: An integrated model of service quality, accessibility and communication solutions creates the conditions for a regional museum to increase the diversity of its audiences and become a sustainable centre for culture and education.

Research methods and design: to achieve the research objective and test the hypotheses, a mixed-methods design was employed, combining quantitative and qualitative methods. This methodological approach allowed not only for the assessment of statistical trends but also for the exploration of deeper aspects of the perception, use and evaluation of services.

The study was conducted in three stages, ensuring data triangulation and the reliability of the results.

Stage I – quantitative research (questionnaire survey)

In the first stage, a quantitative study was conducted – an online questionnaire survey. The study population consisted of residents of Lithuania, from cities like Vilnius, Kaunas, Klaipėda, Šiauliai, Panevėžys, Marijampolė, Alytus and Prienai. The study sample comprised 417 respondents.

The questionnaire comprised 33 questions covering museum-visiting habits, evaluation of services, information dissemination channels and motivation to visit museums, especially in regions. The questionnaire included screening and leading questions, which allowed respondents to be categorised according to their experience with regional museums. Suvalkija region was not emphasized at this stage of the research.

The sample size was calculated using the Paniotto formula, applying a 5% margin of error and a 95% confidence interval (minimum sample size – 384). The survey link was distributed between December 2024 and January 2025, in compliance with personal data protection requirements.

Due to the use of convenience sampling, the demographic structure of the sample reflects digital accessibility and respondent reachability, resulting in a predominance of youth and working-age individuals. Due to the small absolute number of retirement-age respondents ($N = 9$, i.e., ~2.1%), this subgroup is insufficient for a standalone statistical analysis or comparative hypothesis testing; therefore, when evaluating age-related factors, the data were aggregated into broader age categories.

The data obtained were processed using statistical analysis methods with the IBM SPSS, whilst graphical data visualisation was carried out using MS Excel. The results of the quantitative study were used to test hypothesis H1.

Stage II – qualitative research (semi-structured interviews with representatives of the business and tourism sectors)

In the second stage, a qualitative study was conducted using the semi-structured interview method. This method aimed to reveal the experiences, expectations and attitudes of representatives from the business and tourism sectors towards regional museums as partners in services and cooperation. At this stage, the study was conducted on a national scale, covering all regions of Lithuania rather than focusing solely on the Suvalkija region.

Two types of interviews were conducted – interviews with companies organising outbound events and interviews with experts in local and inbound tourism. During the first round of interviews, representatives from six companies were interviewed; the questionnaire consisted of seven questions. During the second round of interviews, four tourism experts were interviewed; the questionnaire consisted of six questions. The interviews took place remotely between December 2024 and January 2025. The interview recordings were transcribed and analysed using thematic analysis. The data from this stage were used to interpret hypothesis H2 and construct the model.

Stage III – complex research methods (web monitoring, observation (guided tour) and the mystery shopper method)

The Complex research methods (web monitoring, observation (guided tour) and the mystery shopper method) were applied in the third stage. The main focus was on Suvalkija region museums in Lithuania, analysing their service delivery process, structure, visitor engagement and accessibility elements. The focus on museums in Suvalkija region was motivated by their geographical distance from Lithuania's major urban centres (Vilnius, Kaunas, and Klaipėda), which face greater challenges in attracting visitors, increasing visibility, and ensuring long-term financial sustainability. Limited tourist flows and smaller local populations increase the importance of innovative development strategies and external partnerships for these museums. Consequently, cross-sectoral collaboration may play a particularly significant role in enhancing their attractiveness, competitiveness, and long-term financial sustainability. Furthermore, the findings derived from the observation of museums in Suvalkija region are not limited to this specific geographical context. This stage allowed for an assessment of the actual implementation of the service and a comparison with the stated service descriptions.

Research ethics. The principles of research ethics were adhered to throughout the study. Respondents and informants were guaranteed anonymity, and data was used only in aggregated form.

Research results

In analysing the current aspects and indicators of the regional museum activities, three studies were conducted: a quantitative study (questionnaire survey of respondents in Lithuania), a qualitative study (interviews with representatives of the business and tourism sectors) and complex research methods (web monitoring, observation during the guided tour and the mystery shopper method). Due to the limited scope of this article, the results of the third stage of the research are not discussed in detail. However, the findings of this study contributed to the development of the proposed model.

Results of stage I: Summary of the questionnaire survey

First, general data was analysed in order to gain a clear understanding of general trends in the museum market. One of the indicators for evaluating museum activities is visitor frequency. Table 1 below presents the relevant data.

Table 1. Frequency of museum visits (N=417)

Frequency of visits	Percentage
Several times a month	6%
Several times a year	39%
Once a year	22%
Rarely or not at all	33%

Based on the data, it is noted that the largest proportion consists of people who visit several times a year – this group accounts for 39%. This indicates that for most respondents, visits are not regular, but there is an interest, albeit not a strong one.

22% of respondents stated that they visit once a year. This group reinforces the trend of irregular visits and, together with the 'several times a year' category, constitutes a clear majority. This suggests that sporadic/occasional visits predominate over regular ones. The smallest proportion – just 6% – consists of respondents who visit several times a month. This indicates that there are very few regular, frequent visitors, so the loyal audience segment is weak or very narrow.

In summary, it can be said that infrequent or moderately frequent visits predominate, whilst the proportion of regular visitors is minimal. This may indicate a need to strengthen the motivation to visit more often, improve the attractiveness of the offering, or increase the dissemination of information about the activities or services provided.

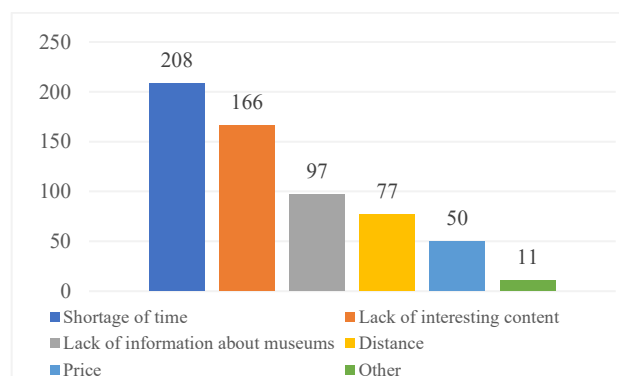


Fig. 1. Reasons for not visiting museums (N=417)

The respondents' answers reveal the most common obstacles of visiting museums: a lack of time, which was mentioned by as many as 208 people, who emphasised that their daily commitments prevent them from setting aside time for visits. Furthermore, as many as 97 respondents indicated that they lack information about museums' activities and events, which points to insufficient communication between museums and the public. These reasons help to explain why many people are not frequent visitors. To increase visitor numbers, museums could take greater account of visitors' needs by offering more interesting exhibitions and, most importantly, by disseminating information about their activities more actively, especially in social media.

It is noted that, in the respondents' opinion, the weekend is the best time to visit museums (79%), particularly Saturday (42%) – this is the most popular time for museum visits. On weekdays, visitor numbers are significantly lower, reaching up to 18%.

The next aspect examined is who visitors most often visit museums with.

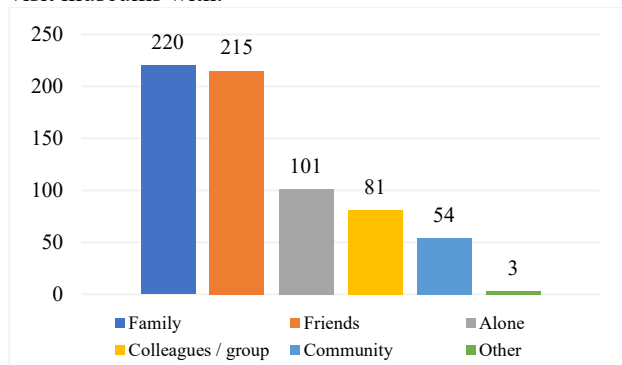


Fig. 2. Companions for museum visits (N=417)

Most people visit museums with their family (220 respondents) or friends (215 respondents), which reflects a very strong social and community aspect. Individual and group visits are less common, but still significant for certain visitor groups. These responses provide museums with an opportunity to tailor their offerings to different groups – families, groups of friends and individual visitors alike. It can also be observed that museums should do more to encourage group and community visits by organising special events or group activities.

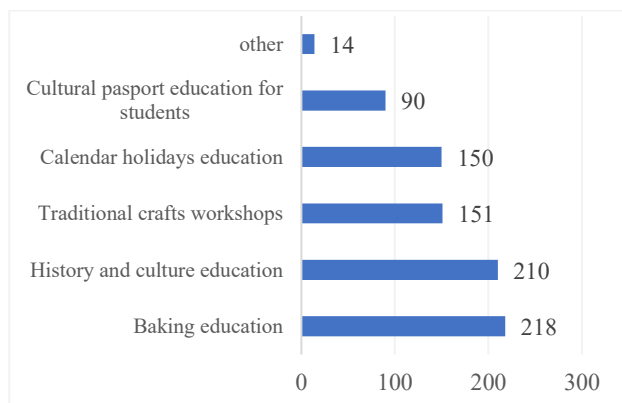


Fig. 3. Interest in educational, traditional, and ethnographic activities (N=417)

The data reveals that the main focus of interest in regional museums is on education through tradition and experience. Visitors most highly value activities that allow them to experience culture through practical participation; practical and culturally rich activities are most highly valued, and this forms a solid foundation for fostering ethnographic identity. By strategically strengthening these activities and integrating them even further not only into formal education but also into collaboration with other market participants (travel agencies, tourist information centres, business organisations), it is possible not only to increase visitor engagement but also to ensure the long-term continuity of traditions.

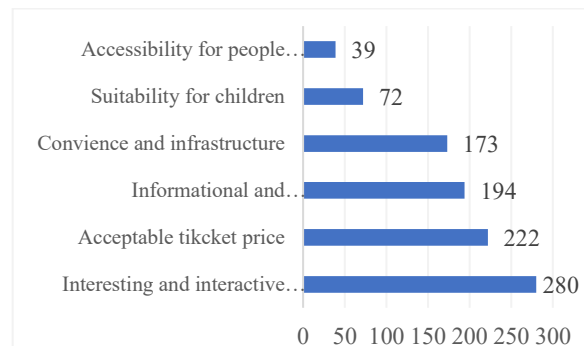


Fig. 4. Most important aspects when visiting a museum (N=417)

When visiting museums, respondents place the greatest emphasis on interesting and interactive exhibitions – these were mentioned by 29% of respondents. This indicates that visitors value the opportunity to engage directly with the exhibits, experience interactive activities and gain more information through various technologies that allow for a deeper understanding of the objects on display. Informative and educational value was important to 20% of respondents. This indicates that visitors wish not only to view the exhibits, but also to gain knowledge and experience that would be useful both in terms of learning and personal development. Museums are regarded not only as custodians of cultural heritage, but also as educational institutions. An affordable ticket price was important to 23% of respondents. This indicates that museum visits must be accessible to a broad section of the public, and that ticket prices can have a significant influence on people's decision to visit. This view may reflect concerns regarding accessibility and the economic ability to participate in cultural activities. Convenience and infrastructure were important to 17% of respondents. It is important to visitors that museums are convenient not only because of the exhibitions, but also because of various additional services, such as rest areas and toilets. This indicates that convenient facilities ensuring comfort are essential to guarantee a positive experience. Child-friendly facilities were important to 7% of respondents, whilst facilities for people with disabilities were important to 4% of respondents. This indicates that museums must be as accessible as possible to everyone, including families with children and people with special needs, to ensure equal access and inclusion.

The summary of the survey results shows that the most important factors for respondents are interesting and interactive exhibitions, as well as the informative and

educational value that allows them to delve deeper into cultural heritage and learn. Affordable ticket prices and convenience are also important factors that influence people's decision to visit regional museums.

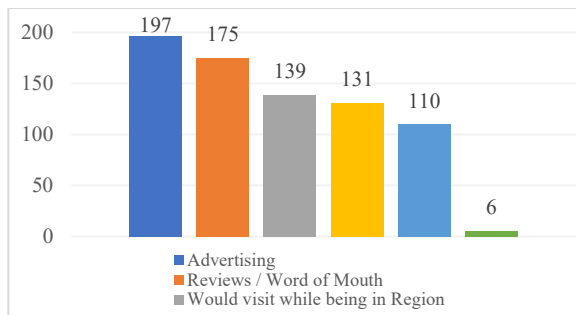


Fig.

5. Factors encouraging respondents to visit museums (N=417)

The survey data show that the reasons prompting people to visit the museums are advertising (197 votes), word of mouth (175 votes), a chance visit whilst in Region (139 votes), events (131 votes), and educational activities (110 votes).

When asked, “What is the regional museums lacking in order to attract more visitors?”, 198 respondents felt that the museum needs more publicity, events, new exhibits and educational activities. A higher number of visitors would be achieved if themed exhibitions, cultural events and interactive displays were organised, engaging audiences of different ages and interests. The need for educational programmes was also highlighted: creative workshops, history lectures and themed tours could not only enrich the museum activities but also encourage visitor engagement and learning. These results indicate that regional museums have great potential to become a vibrant space for cultural and educational activities, which not only preserves heritage but also encourages community engagement and active participation.

When asked about the reasons that would encourage more frequent visits to regional museums in Lithuania, 217 respondents expressed their views, accounting for 52% of all survey participants. Among the suggestions mentioned were insufficient advertising and dissemination of information; many emphasised that there is a lack of attractive, easily noticeable advertising about museum activities, and that the use of social media or other modern means of communication is inadequate. Some even admitted that they were unaware of the existence of certain museums. Furthermore, a lack of time was frequently mentioned, as museums often operate during hours when most people are busy. Consequently, the suggestion to

extend opening hours or better adapt to visitors' needs was one of the recurring ideas. Equally important is the fact that visitors are looking for interesting activities and exhibitions tailored to audiences of all ages. Interactive exhibitions, innovative presentations or the opportunity to get directly involved in activities were frequently highlighted as features that are lacking but highly desired. The importance of events and special offers was also highlighted. Many stated that they would visit museums more often if themed events, concerts or other special activities were held there. Free admission or special promotions were also mentioned as effective measures. Another important factor is recommendations from friends or acquaintances. Respondents acknowledged that they are more likely to choose a museum based on recommendations from friends and family or those spotted on social media. Finally, accessibility and infrastructure have a significant influence. Museums should be easily accessible, with clearly marked routes, convenient transport and free parking. Ticket prices also received considerable attention, with many citing them as too high, particularly when compared to the value received.

In summary, it can be said that to attract visitors, museums should place greater emphasis on advertising, innovative exhibitions, themed events and more visitor-friendly conditions. More flexible opening hours, more affordable prices and relevant activities would undoubtedly increase museum attendance.

Based on the survey data (N=417), the demographic structure of respondents is revealed. The largest proportion consists of working people (46.5%; N=194) and students (41.7%; N=174). A significant proportion is also made up of visitors without children (20.1%; N=84) and families with children (15.3%; N=64), which indicates a need to plan activities tailored to both families and individual visitors. A smaller proportion of respondents are unemployed individuals (5.5%; N=23) and pensioners (1.9%; N=8), the inclusion of these groups reveals opportunities for the museum to develop targeted initiatives, such as special events or pricing strategies.

Correlation and statistical association analysis of survey data

To examine associations among visitor characteristics, museum experiences, and behavioral outcomes, a correlation analysis was conducted using the quantitative survey dataset. Only statistically significant associations meeting the predefined effect-size threshold ($r_s \geq 0.25$) were retained for interpretation. Spearman's rank correlation coefficient (r_s) was applied to assess relationships between ordinal and numerical variables (Table 2).

Table 2. Statistically Significant Spearman Rank Correlations ($r_s \geq 0.300$, $p < 0.05$) (N=417)

Variable 1	Variable 2	r_s	p-value	Statistical Interpretation
Staff helpfulness	Recommendation likelihood (NPS)	0.727	< 0.001	Strong positive: visitors who rated staff more positively were substantially more likely to recommend the museum.
Awareness of museum	Actual visit to museum	0.697	< 0.001	Strong positive: greater awareness was associated with actual museum visitation.
Age	Recommendation likelihood (NPS)	0.537	< 0.001	Moderate positive: older visitors reported higher recommendation intentions.
Ticket price rating	Staff helpfulness	0.413	< 0.001	Moderate positive: more favorable evaluations of staff helpfulness were associated with more positive ticket price perceptions.
Age	Staff helpfulness	0.311	0.008	Moderate positive: older visitors tended to evaluate staff helpfulness more positively.

The correlation analysis identified staff helpfulness, museum awareness, and visitor age as the factors most strongly associated with positive visitor outcomes. The strongest relationships were found between staff helpfulness and recommendation likelihood ($r_s = 0.727$) and between museum awareness and actual museum visitation ($r_s = 0.697$). Older visitors were more likely to recommend the museum and rate staff service positively. Additionally, favourable perceptions of staff helpfulness were associated with more positive evaluations of ticket prices, while museum visit frequency and awareness showed weaker but significant associations with recommendation likelihood.

Results of stage II: Summary of the interview analysis

The study conducted – comprising interviews with representatives of businesses and experts in local and inbound tourism – revealed key areas for improving the museum operations and untapped potential for collaboration. The research results show that the museum has a strong educational and cultural foundation; however, to achieve long-term sustainability and higher visitor numbers, it is essential to systematically develop partnerships with the tourism and business sectors.

Interviews with companies revealed that the most important criteria in organising team-building events are the needs, interests and motivation of employees. Events are most often perceived not only as entertainment, but also as a means of strengthening cooperation, improving mutual communication and creating a positive emotional atmosphere within the team. Most companies emphasise the importance of striking a balance between education, active pursuits and relaxation, so that the event is beneficial without being overloaded. The business sector is seeking experiential, interactive and engaging activities that combine education, an informal setting and leisure.

Off-site events are most often organised in natural surroundings or out-of-town locations, which allow participants to step away from their everyday working environment. Logistics, a comfortable setting, high-quality catering and the right timing are cited as essential conditions for a successful event. Although regional museums are not yet a common choice for such events, they are seen as having potential, particularly if the activities on offer were tailored to an adult audience, were more flexible in terms of group size and timing, and if the services included additional elements such as catering, creative workshops or unconventional spaces. This underlines the need for the museum to collaborate more actively with businesses and develop service packages tailored to them.

When considering museums as potential team-building venues, it emerged that some companies have already tried such events (e.g., at technical or history museums) and view them positively due to their educational value. Nevertheless, museums are not yet a natural choice – companies more often opt for the outdoors. However, the potential of museums is recognised if interactive, engaging activities tailored to an adult audience are offered, and conditions for informal interaction are created.

Tourism organisers emphasised that regional museums' appeal increases significantly when it is integrated into broader local tourism itineraries and service

packages alongside other regional attractions, such as manor houses, catering establishments or natural sites.

According to tourism experts, the planning of tourist itineraries is based on travellers' needs, the type of group, thematic coherence, logistical convenience and value for money; therefore, elements such as the interactivity of the destination, professional guide services, infrastructure (toilets, catering, parking) and flexibility when working with groups are of particular importance. Logistics, infrastructure, flexibility of services, clear presentation of offers and smooth communication with tour operators are also cited as key factors determining the inclusion of the museum in tourism programmes.

Regarding museum awareness, experts frequently emphasised that individual sites become significantly more attractive when integrated into broader regional itineraries that combine cultural heritage with local dining and other points of interest.

Experts also emphasise the importance of communication – timely responses to enquiries, a clear description of services and active cooperation with tour operators are essential for the museums' successful integration into the tourism market. It is also noted that educational programmes are currently more focused on schoolchildren, resulting in a lack of clearly defined and attractive offers for adults.

To summarise the findings of the study, regional museums are inseparable from active cooperation with tourism companies, local businesses and institutions. The regional museum has the potential to become not just a single tourist attraction, but an integral part of the local tourism product – a stop-off point on routes, educational trails and themed tourism packages. Such a model of cooperation would increase the museum visibility, attract new visitor groups, diversify revenue streams and strengthen the museum role in the region's cultural, social and economic development.

Results of hypothesis testing

Based on the results of the quantitative and qualitative research, an analysis of the proposed hypotheses was carried out and their validity assessed.

Results of the testing of Hypothesis H1

H1: The engagement and satisfaction of visitors to the regional museum depend significantly on the interactivity of services, digital visibility and clearly communicated accessibility.

The results of the quantitative study revealed that the most important elements of the museum experience for visitors are interactive exhibitions, informational and educational value, and the convenience of services. As many as 29% of respondents cited interactive and engaging exhibitions as the most important factor, whilst informational and educational value was significant for 20% of those surveyed. These figures confirm that visitor engagement is closely linked to the format in which content is presented and the level of interactivity.

The survey data also showed that the frequency of museum visits is low: only 6% of respondents visit museums several times a month, whilst as many as 33% visit rarely or not at all. One of the main reasons for this is a lack of information about museum activities, which was

cited by 97 respondents. This confirms the importance of digital visibility and communication for visitor behaviour. In light of these results, hypothesis H1 is considered to be confirmed.

Results of the testing of Hypothesis H2

H2: An integrated model of service quality, accessibility and communication solutions creates the conditions for a regional museum to increase the diversity of its audiences and become a sustainable centre for culture and education.

The results of the qualitative research (interviews with business representatives and tourism experts) revealed that a museums' appeal increases significantly when it operates not as an isolated entity but as part of a broader system of services and experiences. Tourism experts emphasised that museums are more frequently included in itineraries when they offer clearly defined, themed, interactive solutions tailored to different audiences.

The interviews revealed that the business sector views museums as a potential space for team-building and experiential activities, but there is currently a lack of clearly structured offerings for adult audiences, flexibility in group sizes and complexity of services. This highlights the need to integrate educational, cultural, communication and partnership measures into a unified service development model.

Quantitative research data also confirms the potential for audience diversity: the museum is relevant not only to schoolchildren and families, but also to working people, students, business representatives and regional tourists. The factors cited by respondents as encouraging a visit to the museum (advertising, events, educational activities, recommendations) indicate that the systematic combination of these elements can have a long-term impact on visitor numbers.

Summarising the results of the quantitative and qualitative research, it can be stated that fragmented, isolated solutions (e.g. merely increasing advertising or merely improving infrastructure) are insufficient. Meanwhile, an integrated model of service quality, accessibility and communication creates the conditions for increasing the diversity of the museum audiences, strengthening its educational and social role, and ensuring the sustainability of its operations. In view of this, hypothesis H2 is considered to be confirmed.

Integrated operating model for a regional museum

The integrated regional museum operational model presented here is based on the results of scientific research and summarises the identified patterns regarding the structure of museum visitors, service quality, communication and operational improvement. The model reflects the relationships identified on the basis of empirical data between external environmental factors, regional museum strategic management decisions and the visitor experience.

The research findings revealed that regional museums visitors are characterised by social engagement, geographical diversity and varying expectations regarding museum services. These data support the need to plan museum activities systematically, integrating the dimensions of culture, tourism and services, rather than treating them as separate areas of activity.

The upper part of the model highlights the external environment, encompassing the regional context, the local community and tourism flows. The research data shows that a significant proportion of visitors come not only from the museums' region but also from Lithuania's major cities, particularly Vilnius; therefore, the museum activities must be oriented not only towards the local audience but also towards the national cultural tourism context. This allows the museum to be positioned as a regional attraction with the potential to operate within a broader cultural and tourism system.

The central axis of the model is strategic management, based on data-driven planning and decision-making. The study found that the dominant visitor groups are working people and students; therefore, strategic decisions must be geared towards the needs of these audiences, including the scheduling of activities, service formats and targeted communication. This part of the model emphasises that strategic management is not static but changes in response to shifts in visitor demographics and environmental factors.

The model identifies three interrelated functional areas: communication and marketing, service content, and accessibility. The research findings showed that visitor segmentation by age, social status and place of residence dictates the need to differentiate communication tools and service provision. The participation of families with children, individual visitors and groups of adults in the study underscores the importance of developing educational and experiential activities tailored to different segments. The dimension of accessibility encompasses not only physical but also social and digital accessibility, which, according to the study's data, has a direct impact on the use of the museum services.

The results also revealed the regional museums' potential to develop a collaborative ecosystem. Considering the geographical origin of visitors and their travel motives, the integration of the museum into local and regional tourism routes, educational trails and comprehensive tourism packages becomes a key area of focus. Cooperation with tourism organisations and businesses for regional museums creates the conditions for attracting new visitor groups and increasing the use of the museum services.

The visitor/customer experience is central to the model and, according to the research findings, is directly linked to visitor satisfaction, loyalty and the museums' appeal. The inclusion of different demographic and social groups in the study suggests that a positive visitor experience must be created considering the diversity of audiences and individual needs.



Fig. 6. Integrated operational model for a regional museum

The novelty of the proposed model lies not in introducing cross-sector cooperation as a new concept, but in positioning it as a structural and functional component of regional museum service development. The ultimate outcome of the integrated regional museum operating model is regional cultural, social and economic added value, manifested in higher museum attendance, a broader audience and a stronger role for the museum within the region's cultural and tourism ecosystem. The model is transferable and can be adapted to other regional museums, taking into account their operational context and audience structure.

Conclusions

The applied research confirmed that the effectiveness of a regional museums' operations is determined by a complex interplay of service interactivity, digital visibility and clearly communicated accessibility, whilst isolated, fragmented solutions have no long-term impact on visitor engagement.

The research results showed that there is a contradiction between the positively rated visitor experience and the museums' low profile, leading to the conclusion that the main operational problem lies not in the content of the services, but in their accessibility and communication system.

The mixed-methods research data confirmed that the regional museums' audience is characterised by social and geographical diversity; therefore, the regional museums' activities must be planned on the basis of data-driven strategic management that integrates the needs of the audience.

The hypotheses tested during the study were confirmed, and an integrated model of regional museum operations was developed on this basis, summarising the relationships between the external environment, strategic

management decisions, functional areas of activity and the visitor experience.

The model developed has methodological value and can be transferred and adapted to other regional museums, considering their operational context and audience structure.

Recommendations

Adopt an integrated approach to planning the activities of regional museums, in which service content, accessibility and communication are assessed as an interrelated system, and decisions are based on empirical visitor data.

Systematically apply audience segmentation and data-driven decision-making in museum strategic documents to ensure the relevance of services to different social and age groups.

Promote the integration of regional museums into local and regional tourism ecosystems, strengthening cross-sectoral cooperation as a long-term factor in increasing visitor numbers.

Use the developed integrated model of regional museum operations as a methodological basis for further applied research and practical solutions aimed at increasing the accessibility of cultural services and the social value of museums.

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