

ISSN 1648-7974

**LIETUVOS VERSLO KOLEGIJA**  
**LITHUANIA BUSINESS UNIVERSITY OF APPLIED SCIENCES**



# VADYBA

**2019 Nr. 1 (34)**

*Journal of Management*



Name of publication: **Journal of Management** (ISSN: 1648-7974)

Issue: Volume 34/Number 1/2019

Frequency: Semianual

Languages of articles: English,

Office of publication: Klaipeda University Press

Herkaus Manto 84

LT-922294, Klaipėda

Lithuania

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**Journal of Management Homepage:** <https://www.ltvk.lt/VADYBA>

The journal is reviewed in:

Index Copernicus (IC) database <http://www.indexcopernicus.com/index.php/pl/>,

<https://journals.indexcopernicus.com/search/details?jmlId=24783103&org=VADYBA,p24783103,3.html/>

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<http://www.mab.lt/lt/istekliai-internete/mokslo-zurnalai/282>

Every paper is revised by two reviewers.

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ISSN 1648-7974 (Print)

ISSN 2424-399X (Online)

Leidinio pavadinimas: **Vadyba** (ISSN: 1648-7974)  
Leidimas: Volume 34/ Number 1/2019  
Periodiškumas: Leidžiamas dukart per metus  
Straipsnių kalba: Anglų  
Leidėjo adresas: Klaipėdos universiteto leidykla  
Herkaus Manto g. 84  
LT-922294, Klaipėda

Redakcijos adresas: doc. dr. Jurgita Martinkienė  
Mokslo-taikomųjų tyrimų skyrius  
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Turgaus g. 21, LT-91429  
Klaipėda

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Elektroninis paštas: jurgita.martinkiene@ltvk.lt

**Žurnalo internetinio puslapio adresas:** <https://www.ltvk.lt/VADYBA>

Žurnalas referuojamas:

Index Copernicus (IC) database <http://www.indexcopernicus.com/index.php/pl/>,  
<https://journals.indexcopernicus.com/search/details?jmlId=24783103&org=VADYBA,p24783103,3.html/> <https://journals.indexcopernicus.com/search/formjml>

Central and Eastern European online Library (CEEOL) database <http://www.ceeol.com/>

EBSCO Publishing, Inc. Central & Eastern European Academic Source  
<https://www.ebscohost.com/titleLists/e5h-coverage.htm>

<http://www.mab.lt/lt/istekliai-internete/mokslo-zurnalai/282>

Kiekvienas straipsnis yra peržiūrimas dviejų recenzentų.

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ISSN 1648-7974 (Print)  
ISSN 2424-399X (Online)

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Vadyba  
Journal of Management  
2019, Vol. 34, No. 1  
ISSN 1648-7974

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## EDITORIAL

“VADYBA” / Journal of Management is periodically published applied sciences journal by Lithuanian Business University of Applied Sciences. Continuous journal publications established since 2002 has accumulated a lot of experience and international recognition. The journal has been positively evaluated by foreign scientists and number of international scholars more than once as the publishing keeps constantly increasing.

“VADYBA” / Journal of Management is published periodically at a second and the fourth quarters of the year. One of the utmost discussed topics are the problems of the economy, management and technology that are constantly investigated by ever increasing number of publications in this journal. These include the research works of high schools of Lithuania, scientists of various science institutions and foreign countries. However, the anonymous reviewing system applied for this journal withstands the highest and most modern standards of publishing.

This journal is a part of multiple scientific databases such as: the catalogue of the electronic library (<http://www.eLIBRARY.LT/>), The Wroblewski Library of the Lithuanian Academy of Sciences (<http://www.mab.lt/>), Index Copernicus, CEEOL and others.

Currently, the 34th number of the journal has been published. Once again providing an opportunity for academics and professionals to interact and communicate in international forum. Applied research “VADYBA” / Journal of Management Editorial Board seeks that all published articles would include foreign countries economical, business and technological environment analysis, which would benefit international stakeholders.

We hope that the published publication will be interesting and useful to all followers - not only the scientists or the students, but also the businessmen, politicians and all those who are in a toe to toe with an ever changing global environment. According to Socrates it is to wander the unknown that makes us profound.

Prof. Dr. Inga Dailidienė  
Editor-in-Chief



## SELF-EMPLOYMENT OF THE POPULATION IN THE REGIONS OF LATVIA

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### Abstract

The Republic of Latvia is divided into four historical regions. The capital of Latvia – Riga is the most economically developed and largest industrial centre. The income of many rural regions of Vidzeme, Zemgale and Kurzeme is approximately € 550 per person, while in Latgale it does not reach € 450. Self-employment in the modern economy is not only a way to reduce the unemployment rate, but also one of the ways to solve the socio-economic problems of the population. *The objective of the research* is to establish the degree of influence of various factors characterising the self-employment of the population in the regions of Latvia on the main socio-economic indicators of the population's life. *The novelty of the research* lies in the fact that for the first time a comparison and analysis of the factors characterising the self-employment of the population in different regions of Latvia have been performed. *The research methods* include the analysis of statistical data of the State Revenue Service (SRS) and of the Central Statistical Bureau of Latvia (CSB) using multidimensional scaling. The income of people self-employed in the regions and the taxes derived from it are important statistical indicators related to the employment of people. The research also uses indicators of income and taxes per self-employed taxpayer in each region to compare and analyse the self-employment of the population. A distance model of the Euclidean distances has been constructed. The main indicator of the accuracy of the distance model is the so-called "stress": the smaller it is, the better the model. To assess the quality of distance models, the research also uses the Coefficient of Determination (RSQ). The analysis of the distance model has demonstrated that the factor of tax from the self-employed person is closest to the unemployment factor. To identify similarities and differences in the regions of Latvia, taking into account the main factors characterising the self-employment of the population, the model of Euclidean distances between regions in a two-dimensional space has been constructed. Riga and the region (negative pole) and Latgale region (positive pole) are located at the opposite poles of scale 1 of the model. Kurzeme and Zemgale are located side by side on the distance model, which is explained by similar conditions of self-employment of the population. All five regions of Latvia differ significantly from each other in terms of the development of self-employment as an alternative to unemployment. To stop the departure of the economically active population of Latvia to countries with a higher standard of living it is necessary to develop self-employment of the population. The main factors hindering the development of self-employment of the population in Latvia and, owing to this, the reduction of unemployment are rather large taxes on employees, instability of tax policy. It is necessary to develop with the participation of the state and public organisations a program for the development of self-employment of the population.

KEY WORDS: self-employment, regions of Latvia, development, income, unemployment.

### Introduction

Latvia is located on the eastern shores of the Baltic Sea, where Northern and Eastern Europe intersect. The parliamentary republic of Latvia borders with Estonia in the north, Russia and Belarus in the east and Lithuania in the south, and has a sea border with Sweden in the west. The length of the coastline of Latvia is 498 km. The Republic of Latvia is divided into four historical regions, which are not administrative territorial units, but officially recognised by the constitution. Vidzeme region is located in the north-eastern part of the country. Latgale region occupies the territory of Eastern Latvia and is called the "Land of Blue Lakes". Kurzeme region is located in the western part of the country. Zemgale region is the smallest historical region of Latvia, stretching along the southern border of the country, along the left bank of the Daugava River. Riga, the capital of the country, and Riga region are located on the southern coast of the Gulf of Riga.

Each municipality in Latvia annually submits a report, which lists budget revenues derived mainly from personal income tax, as well as real estate tax. The sum of these revenues also shows the richest regions and cities of Latvia (SRS 2017, CSB 2018). The capital of the country, whose tax revenues, for example, in 2017 amounted to € 683.7 million, wins the lead. Compared to 2016, this amount increased by € 57 million. Jurmala – a resort

town, known for its rather high real estate prices – wins the second place. However, due to a significantly smaller number of inhabitants, its revenues, compared to Riga, turn out to be much more modest, i.e., amounting to € 59.3 million in 2017. Daugavpils that is the second largest city in Latvia wins the third place. Daugavpils collected taxes in the amount of € 44.8 million. Other large cities of Latvia are in the top five: Liepaja (€ 43.7 million) and Jelgava (€ 42.6 million). The major cities of Latvia show relatively stable development, and the residents of the country tend to move there, willing to improve their financial situation, to find a higher-paying job (Kochetkov 2015).

The capital of Latvia is the most economically developed and largest industrial centre, attracting a large amount of labour. About 60 % of Latvian enterprises operate in this city and adjacent territories, more than half of the working-age population is employed. As a result, the lowest unemployment rate is recorded in Riga – at the end of December 2017, only 4 % of the economically active residents of Riga aged 15 to 64 years did not have a job, whereas the national average was 6.8 %. In other major cities of Latvia, the situation is different: the standard of living of the population is lower than in Riga, but significantly higher than in the rural municipalities that border with them. The most prosperous cities are Ventspils and Valmiera, with an income of € 943 / person and € 811 / person, strongly standing out against less

wealthy regions in the neighbourhood, the residents of which tend to leave.

The situation in Jekabpils (€ 573 / person), Rezekne (€ 571 / person) and Daugavpils (€ 530 / person) is somewhat worse. The income of many rural regions of Vidzeme, Zemgale and Kurzeme is approximately € 550 per person, while in Latgale it does not reach € 450. Latgale is the region with the highest unemployment rate in the country – 15.8 % of economically active residents living there did not have a job at the end of December 2017. The largest proportion of long-term unemployed is observed in Latgale, which is not conducive to improving the well-being of residents. In Daugavpils and Rezekne, the employment situation is slightly better. However, compared with other cities of republican subordination, they are far behind.

High unemployment rate, low wages and, consequently, a low standard of living will never lead to an improvement in the economic performance of the region, but drag the region deeper and deeper into the quagmire of poverty, prompting residents to leave. According to the Central Statistical Bureau of Latvia (CSB), since 2010 Latgale has lost 14 % of its inhabitants — more than any other territory of the country. This is not surprising if people cannot find work in their own region, then the most capable ones leave, and the remaining population is gradually dying out (Invest...2018).

The last wave of emigration began in 2009, and it was based on purely economic factors. Since 2009, the CSB notes, Latvia has lost more than 200 thous. inhabitants. In the past three years, the rate of emigration declined slightly. In the period from 2014 to 2016, the negative migration balance was 8–12 thousand people per year. For comparison: during the crisis years (2009–2010), Latvia lost 35 thousand people a year due to negative migration. The Central Statistical Bureau of Latvia notes that, on average, 55 people leave Latvia every day due to emigration: 25 men, 22 women and 8 children. Most often all of them (except children) are of working age. Especially a lot of people aged 25 to 29 years leave the country (in 2014 there were 18.2 %, in 2015 – 18 % and in 2016 – 17 % of all emigrants) (CSB 2018).

**Subject and relevance.** Almost 2 million people live in Latvia, of which more than half live in the capital, the centre of business and cultural life — Riga, or in its district. The population of the second largest city in the country, Daugavpils, is about 86 thousand inhabitants. Due to its relatively small population, Latvia is not a large market. The main advantage of the country is its location, providing access to nearby neighbours. Latvia also stands out due to the two main criteria that satisfy the requirements of investors: infrastructure and relatively cheap labour. The experienced and multilingual workforce, the beautiful nature and the strategic position of Latvia form the basis for the country's economy and make Latvia a good place for business development (Kochetkov et al 2016).

At one time, the economy of Latvia had one of the highest GDP growth rates in Europe: from 2005 to 2007, the average annual GDP growth rate exceeded 10 %, since large inflows of foreign capital stimulated a significant increase in consumer spending. In 2008, in Latvia, as in many other countries of the world, the economic crisis began as a result of the instability of the

trade deficit, the collapse of the real estate market and a large number of non-government loans subject to risks. During the crisis, GDP fell by a quarter, foreign debt doubled, the number of employed people declined by 16 %, and real wages decreased by 12 % (Sventitskaya et al, Problems... 2018).

Latvia successfully overcame the crisis at the end of 2010, and economic growth resumed mainly due to the growing role of exports (Aliev et al 2018). From 2011 to 2013, GDP grew by an average of 4.4 % per year. In 2015, GDP grew by 2.7 %, whereas in 2016 — by 2.0 %. The slowdown in recent years is due to trends in global commodity markets, slower economic growth in the EU than expected, as well as the deteriorating economic situation in Russia. It should be noted that current exports exceed pre-crisis levels by more than 25 %.

The monthly salary in Latvia ranges from a minimum salary of € 430 gross for low-skilled workers in the manufacturing and retail sectors to over € 10,000 gross for top managers in branches of large international companies. According to the Central Statistical Bureau of Latvia, in the third quarter of 2017 the average monthly salary in Latvia was € 925 gross, the net salary of which was € 664. Salary in Riga region is about 10 % higher than the average salary in Latvia, in other regions salary is 15 %–30 % lower than the average level; the lowest salary is in Latgale.

This does not refer to highly qualified specialists that are in great demand. For example, highly qualified engineers and production management personnel are often hired in Riga for work in the regions by maintaining appropriate salary levels. Survey on salary confirms that the total wage rate in Latvia increases annually by 4 %–6 %. However, this is only a trend, wage growth is becoming increasingly related to the individual performance of employees and the overall results of the company. As a result, it is possible to foresee the growing difference in wages at different qualification levels of employees in the future. Sectors with a wage level above average: IT / telecommunications, pharmaceuticals, financial operations, construction, representative offices of wholesale companies. Compared to other EU countries, the overall wage rate is low in Latvia (Sventitskaya et al 2017). For example, the level of remuneration of unskilled labour is three to four times lower in Latvia than in such countries of Western Europe as Germany or France.

At present, the state of the labour market in Latvia is characterised by a rather high rate of unemployment, a low level of real wages, a mismatch between the structure of supply and demand, a large number of inefficient jobs and other features. This leads to the fact that in many cases employment is not able to perform its main function — the satisfaction of the material and non-material needs of employees.

Self-employment in the modern economy is not only a way to reduce the unemployment rate in the labour market, but also one of the ways to solve the socio-economic problems of the population. Self-employment, being a transitional form from hired labour to entrepreneurship, is the basis for the formation of the middle class. Global experience suggests that neither the government nor large business in any country is able to

create enough jobs. Therefore, emphasis should be placed on the development of small and micro businesses based on self-employment of the population (Sventitskaya et al, Self... 2018).

At the present stage, entrepreneurs and self-employed persons (the most numerous and mobile layer) are socially “invisible” in Latvia. For government agencies, they are only a source of tax revenue. For some economists, they are an insignificant addition to the overall picture. At the same time, exactly this layer ultimately interacts most massively with the consumer; it is a real rather than a nominal indicator of the standard of living of the population and the state of the market. Under current conditions, when the state is unable to reliably ensure a guaranteed minimum standard of living, personal social security of citizens and stability, self-employment becomes one of the central elements of solving not only employment problems of the population, but also allows solving socio-economic problems (Ivanova 2015).

High rate of unemployment has not only negative economic, social, but also moral consequences. There is an increase in crime rate, professional and social degradation of the population, the outflow of qualified personnel. One of the promising areas for solving the above-mentioned problems is the development of various forms of self-employment of the population.

Self-employment is such a form of employment of the population, when a person independently finds for him/herself a certain type of activity, organises a labour process, the results of which provide him/her with a certain monetary or in-kind income. Self-employment implies a cardinal change in work motivation, a person’s work behaviour due to his/her full responsibility for positive or negative work results.

Self-employment is a type of economic activity of citizens, expressed in the independent organisation of the production of goods or services, often without the use of hired labour in order to generate income. Self-employment covers, as a rule, those activities where a significant concentration of production is impossible and personal labour (consumer services, consulting services, etc.) plays the main role in the production of goods or services. Self-employment, as a rule, involves using the place of residence as a workplace, which is associated with cost savings and the nature of work activities.

The development of micro and small businesses has a positive effect on the state of demand for labour and reduces unemployment, being one of the forms of economic self-activity of the population, aimed at providing employment and income (Horvath 2018).

Small business plays a social role in a market system, expressed in the ability of each capable individual to be the owner of the business, to demonstrate their individual talents and capabilities most efficiently.

*The objective of the research* is to establish the degree of influence of various factors characterising the self-employment of the population in the regions of Latvia on the main socio-economic indicators of the population’s life.

*The object of the research* is a cluster of enterprises owned by self-employed persons in the regions of Latvia.

*The novelty of the research* lies in the fact that for the first time a comparison and analysis of the factors characterising the self-employment of the population in different regions of Latvia have been performed.

*The goal of the research* is to identify the features of the general structure of the regions of Latvia, taking into account the self-employment of the population, and to develop recommendations for improving the situation.

*The research methods* include the analysis of statistical data of the State Revenue Service (SRS) and of the CSB using multidimensional scaling.

### Calculations and analysis

Each of the five regions of Latvia has its own characteristics of the development of the economy, culture and social life. The unemployment rate of the population in the region plays the most important role in assessing the quality of life of people, social and economic development of the territory (Kochetkov 2015). For example, it is known that in the capital of the country and Riga region the unemployment rate was the lowest in all the years after the restoration of Latvia’s independence. The standard of living of people in the metropolitan area has always been the highest in the country. At the same time, Latgale region is considered depressed; there has always been the highest unemployment rate and, accordingly, low income of people and their standard of living.

According to the State Revenue Service and the Central Statistical Bureau of Latvia, the income of people self-employed in the regions and the taxes derived from it are important statistical indicators related to the employment of people. The research also uses indicators of income and taxes per self-employed taxpayer in each region to compare and analyse the self-employment of the population. For example, Table 1 shows the statistical data for the regions of Latvia in 2016 relating to the sphere of self-employed persons.

**Table 1.** Statistics of the self-employment cluster in the regions of Latvia

Regions	Unemployment, %	Income of 1 taxpayer, €	Tax from 1 taxpayer, €	Total income, thous. €	Total tax, thous. €
Kurzeme	10.1	5370	204	66116	2510
Latgale	17.9	5662	119	58318	1230
Riga & district	7.2	9212	1015	382280	42134
Vidzeme	9.4	5254	238	54145	2448
Zemgale	12.3	5843	228	52047	2034

An analysis of the correlation dependencies between the actual factors (Table 1) has shown that there is no multivariable correlation of such an important indicator as the unemployment rate from the other factors. This is due to the multicollinearity of factors, i.e., the presence of a fairly significant level of correlation between the actual factors affecting the unemployment rate. It has been established that the paired regression dependencies of these factors are mostly non-linear. Therefore, the methods of correlation and regression analysis have not been used within the framework of the research.

To identify the features of the general structure of the main factors of self-employment of the regional development of Latvia, the method of multidimensional scaling (Alscal procedure-SPSS) has been used in the research (Davison 1992). The initial information for multidimensional scaling is data on differences or degree of proximity of factors. A distance model of the Euclidean distances has been constructed, characterising the degree of proximity and mutual influence of factors on each other in the reconstructed space. The distances between the factors in this space are a function of the degree of interconnections and differences between objects: the farther apart are the points on the distance model corresponding to certain factors, the less communication and mutual influence between the factors, but more differences and vice versa.

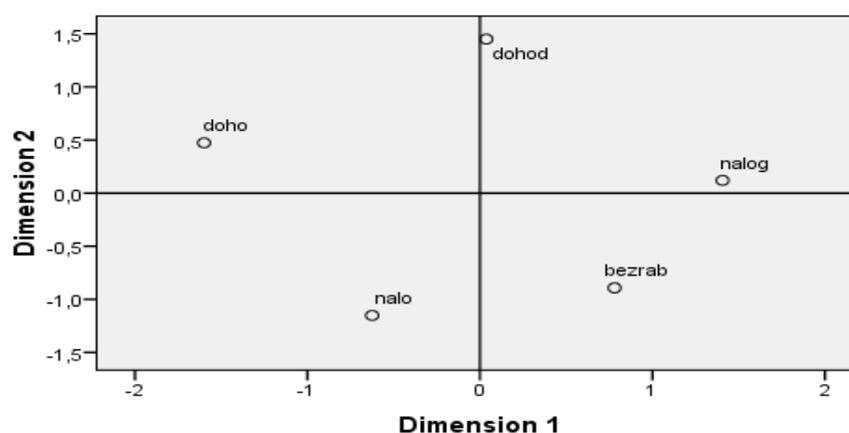
The distance model is based on three matrices of differences corresponding to the data of 2014–2016, by calculating the Euclidean distances between the factors in a two-dimensional space. Matrices of differences were square and asymmetrical. The main indicator of the accuracy of the distance model is the so-called “stress”: the smaller it is, the better the model. Calculation of stress has been performed by Young’s S-stress formula in the Alscal procedure. Stress is a measure of the deviation of the final configuration of model objects from the initial estimates of their differences.

Therefore, the multidimensional scaling algorithm is aimed at finding estimates of the coordinates of factors in space that minimise the value of stress. The magnitude of the stress reduces in the process of calculations by the method of iterations. This provides improved accuracy of the distance model. Using the method of multidimensional scaling, it is desirable that the stress value does not exceed 0.2 for the considered case of two-dimensional models.

To assess the quality of distance models, the research also uses the coefficient of determination – the square of the correlation coefficient RSQ, which characterises the proportion of dispersion in the matrix of differences for a particular model. The closer RSQ is to one, the more accurately the model reproduces the differences between the factors studied. It is usually accepted that RSQ should be at least 0.7 for distance models.

During the calculations, the value of the S-stress convergence has been assumed to be 0.001. The number of integrations has been 8. The fit condition has been specified: the entire matrix (Conditionality: Matrix). A comparison of the cells of three matrices corresponding to 2014–2016 has been performed. As a result of the calculations, optimally scaled matrices of differences have been obtained by year.

The average indicators of the quality of calculations: stress – 0.20055, which is acceptable for the configuration of factors in two dimensions; RSQ=0.84607 (more than 84.6 % of the variance of factors in the original matrices correspond to the calculated distance model). Given the fairly accurate fit of the parameters of the distance model to the original data, it can be used for a meaningful analysis of the situation (Fig. 1). Notation: doho - the total income of self-employed people in the region; nalo - the total self-employment tax in the region; bezrab - the unemployment rate; dohod - income per self-employed taxpayer; nalog - tax from one self-employed taxpayer.



**Fig. 1.** Euclidean distance model of the main factors characterising the self-employment of the population in the regions of Latvia.

The analysis of the distance model has demonstrated that the factor of tax from the self-employed person is closest to the unemployment factor, which indicates their certain good relationship. The factor of total tax from

self-employed persons in the regions is located somewhat farther from the unemployment factor. The total income of self-employed persons in the regions and individual income are far away from the unemployment factor than

the tax factors. Moreover, total income is located at the largest distance from the unemployment factor compared to all other factors. This suggests that unemployment is less related to the total income of self-employed persons.

Individual income of self-employed persons is located at almost the same distance from the factors of total income, total tax and unemployment, which indicates a practically equal degree of influence. Taxes paid by self-employed persons are somewhat closer to individual income. This suggests a greater degree of influence of individual taxes on the income of self-employed persons. It is known that Latvia, compared to other EU countries, has rather large taxes on employees.

In general, the total income (negative pole) and individual taxes from self-employed persons (positive pole) are located at the opposite poles of the scale “1” (Dimension 1). The remaining factors take an

intermediate position. This indicates that individual taxes have little to do with the total income of the self-employed population. At the scale “2” (Dimension 2), individual income (positive pole) and total tax with the unemployment factor (negative pole) are at the opposite poles. Thus, individual income is little related to total tax and the level of unemployment in the regions; unemployment is most associated with taxes paid by self-employed persons.

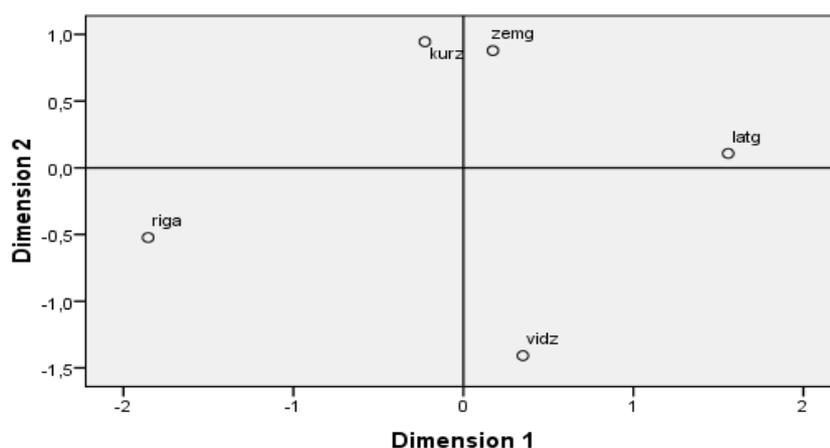
To identify similarities and differences in the regions of Latvia, taking into account the main factors characterising the self-employment of the population, the model of Euclidean distances between regions in a two-dimensional space has been constructed based on the Alscal procedure using the data of Table 2. Table 2 demonstrates the average statistical data for regions of Latvia for 2014–2016 (CSB 2018).

**Table 2.** Average annual statistical data on self-employed persons in the regions of Latvia

Regions	Vidzeme	Latgale	Zemgale	Kurzeme	Riga & district
Employment, %	88.5	81.9	87.7	88.7	92.6
Income of 1 taxpayer, €	4957	5316	5474	4981	8102
Tax from 1 taxpayer, €	186	96	177	146	484
Ratio of self-employed persons to economically active residents, %	11.8	8.26	7.83	10.9	8.03
Total number of economically active residents, thous.	96	132	119	121	523

As a result of the calculations, the average quality indicators of the distance model (Fig. 2) are good: stress – 0.109 and RSQ = 0.965. Notation: riga - Riga & district; kurz – Kurzeme; zeng – Zemgale; latg – Latgale; vidz –

Vidzeme. In calculations using the method of multidimensional scaling, the fit condition has been taken “across rows” (Conditionality: Row); the number of iterations has been 14, S-stress convergence – 0.001.



**Fig. 2.** Euclidean distance model of the regions of Latvia depending on the factors of self-employment of the population.

Given the good fit (stress and RSQ) of the distance model to the actual source data, it can be successfully used to analyse the situation. Riga and the region (negative pole) and Latgale region (positive pole) are located at the opposite poles of scale 1 (Dimension 1) of the model. The distance between these regions according

to the model is the greatest, which confirms the differences that exist. The signs of the scales (plus and minus), as for the first model (Fig. 1), do not matter here. Only the distance between the model objects is important. In Riga and Riga region, self-employed persons make up 8.03 % of the economically active population; in Latgale a little bit more – 8.26 %. At the same time, the income of self-employed persons in Riga and the region is on average 1.524 times more than in Latgale, and the taxes paid by self-employed persons in Riga and its region are 5.04 times higher than in Latgale (Table 2). The unemployment rate in Latgale is 2.446 times higher than in Riga. These differences explain the large distance on the distance model between Riga and Latgale.

The other two regions, i.e., Kurzeme and Zemgale are located side by side on the distance model, which is explained by similar conditions of self-employment of the population. Kurzeme and Zemgale are located on the positive pole of scale 2 (Dimension 2); Vidzeme region occupies the negative pole of this scale. The distances from Vidzeme region to Kurzeme and Zemgale regions are very close in size. Consequently, Vidzeme region has similar differences from both regions: Kurzeme and Zemgale. The two regions – Zemgale and Vidzeme – are located on the model almost at the same distance from Riga and its region. Kurzeme region is located on the model closest to Riga region. Such proximity suggests that the conditions for the development of self-employment of the population in Kurzeme are more similar to those in Riga and the region than in other regions of Latvia.

## Conclusions

All five regions of Latvia differ significantly from each other in terms of the development of self-employment as an alternative to unemployment. The considerable differences are observed between Riga and its region and Latgale region. Riga and its region are the most prosperous in terms of self-employment of the population, and to a large extent due to this aspect the unemployment rate is the lowest here, and the income of people is on average the largest in the country.

To stop the departure of the economically active population of Latvia to countries with a higher standard of living, especially in depressed regions of the country, it is necessary to develop self-employment of the population. This will help level the living standards of people in different regions of Latvia. As the experience has shown, the campaign devoted to returning people who went abroad to their homeland with the payment of special benefits to them is not very effective. A more promising, albeit costly, way to combat unemployment and the departure of the population could be the replacement of unemployment benefits for those who are willing to do their business by giving them subsidies and loans guaranteed by the state to organise self-employment

of people following the example of France. For the successful implementation of this idea, it is necessary to organise special training courses for those who are willing to run their “business” and create preferential tax conditions in the first few years of operation of these start-ups (in different regions – in different ways).

The main factors hindering the development of self-employment of the population in Latvia and, owing to this, the reduction of unemployment are rather large taxes on employees, instability of tax policy and a cumbersome reporting system. It is necessary to develop with the participation of the state and public organisations a program for the development of self-employment of the population, taking into account the specific conditions for each region of Latvia. State guarantees can be that in the first years of work self-employed persons will be provided with free health care and social protection, based on the minimum wage in the country.

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RECEIVED: 27 April 2019

ACCEPTED: 5 June 2019

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## PRODUCT DEVELOPMENT METHODS WITHIN THE ICT INDUSTRY OF LATVIA

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### Abstract

The purpose of this research is to examine information technology and communications (ICT) product development methods and management principles within the ICT sector of Latvia. This paper introduces definitions of innovation and startup, identifies the main product development methods used in order to develop innovative products with high added value, and examines other methods used by the established enterprises to develop new products. Literature review is supported by findings from semi-structured interviews with 10 international ICT industry experts. Research results suggest that the most common ICT product development methods are related to Lean Startup frameworks by Blank (2010, 2018), Ries (2008), and Value Proposition Canvas by Osterwalder (2010). The specifics of ICT companies focused on software development are related to use of Waterfall, Agile, Scrum and Kanban methodologies. Established enterprises are likely to use such methods as internal incubators, internal and external hackathons, and even setting up of external venture fund in order to scout relevant innovations and technologies in early development stages to be commercialized and added to their business portfolios.

KEY WORDS: innovation, startup, ICT, product development, lean, agile

### Introduction

The research of ICT sector is important due to its growing contribution to Latvia's GDP. In 2016, the turnover of ICT sector enterprises in Latvia has reached 3.47 billion EUR in 2016, almost doubling from 2009 when it was 1,82 billion EUR, and thus contributed 14% of country's GDP of 24,925 billion EUR in 2016, an increase from 9,7% in 2009 (Central Statistical Bureau of Latvia, 2018).

1,67 billion EUR or 48% of this turnover is created within ICT services activities category, 1,52 billion EUR or 43% is generated by ICT wholesale, and 281 million EUR or 8,1% is generated by ICT manufacturing activities. The focus of this research is on the ICT services activities segment that contributes almost half of entire ICT sector and has shown steady year-over-year growth (See Fig. 1).

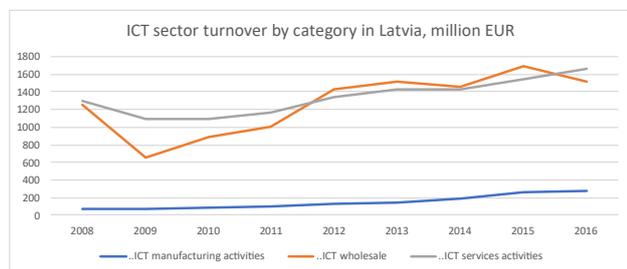


Fig. 1. ICT sector turnover by category in Latvia. (Central Statistical Bureau of Latvia, 2018)

Further analysis of ICT services activities category reflects that the highest contribution is brought by Telecommunications segment (47,3% or 789 million EUR in 2016), which has been fluctuated around this level without much change since 2009. It is followed by rapidly growing Computer programming, consulting and

related activities segment (36,8% or 613 million EUR in 2016), reflecting increase of almost 3 times since 2009 when it was at 232 million EUR level, and Data processing segment contributing 14,5% or 242 million EUR in 2016, increase of almost 4 times from 64 million EUR in 2009 (see Fig. 2).

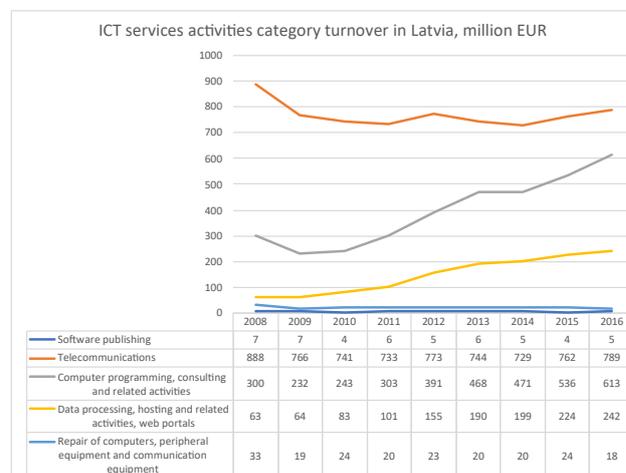


Fig. 2. ICT services activities category turnover in Latvia (Central Statistical Bureau of Latvia, 2018)

As noted by several telecommunication industry experts, the only possibility for telecommunication segment participants in Latvia to grow their business on top of rather saturated traditional telecommunication business lines (e.g. voice, cable Internet, etc.) is by introducing new product and service lines and come up with innovative solutions that would differentiate them from competitors.

The innovation management and new product development has become a prerequisite for survival and

improvement of competitiveness of almost every ICT sector company, but essentially for ICT services activities segment companies, because of rapidly evolving technological advancements and the speed at which new products are being delivered to market by both, start-up companies and also well established and mature corporations. For telecommunications companies the innovations and new product development is a question of survival, while for other companies – the growth opportunity.

The continuous increase of computer programming and data processing segment turnovers is just a logical consequence to growing importance of ICT as embedded part of any business. As noted by Andreesen (2011), almost every company is becoming a software company: “Software is eating much of the value chain of industries that are widely viewed as primarily existing in the physical world. In today’s cars, software runs the engines, controls safety features, entertains passengers, guides drivers to destinations and connects each car to mobile, satellite and GPS networks. The days when a car aficionado could repair his or her own car are long past, due primarily to the high software content. The trend toward hybrid and electric vehicles will only accelerate the software shift — electric cars are completely

computer controlled. And the creation of software-powered driverless cars is already under way at Google and the major car companies”.

Therefore, ICT industry and sector as such is likely only to increase in the nearest future, and the challenge is to identify the ways for ICT companies to launch innovative products and successfully manage innovation creation in long run to maintain competitiveness in long run.

## Research methodology and organization

This study is a result of a systematic literature overview by analysis of scientific articles, monographs, conference materials and other relevant literature. In addition, expert opinions were gathered during 10 expert interviews with senior ICT company executives and representatives of ICT industry stakeholders (academic, startups, venture capital, NGOs, etc.) in Latvia and USA.

In total 10 experts representing various ICT industry stakeholders were approached between September 2017 and July 2018. The list of experts, reflecting information on the stakeholder represented, the position of the expert in the organization, and its country of origin, is summarized in Table 1.

**Table 1.** List of experts

Nr.	Stakeholder	Position	Country
1	Academia	Managing director of alliances	USA
2	Academia	Manager of IP transfer	Latvia
3	Venture Capital	Partner	Latvia
4	Technology Scouting	Cofounder	Latvia
5	Startup	Cofounder	Latvia
6	Startup	Product manager	USA
7	NGO supporting startups	CEO	Latvia
8	Hackathon organizers	VP of strategic partnerships	USA
9	Telecommunications	R&D manager	Latvia
10	Telecommunications	Director of business development	Latvia

During the semi-structured interviews and networking experts were asked to share their experience regarding general ICT product development trends, insights from internal and external innovation management practices in their own companies and ICT industry in general.

The research problem is related to need to distinguish between innovation and start-up concepts, describe the main innovation tools and product development frameworks used by employees to create new ICT products. The research objective is to identify methods used to introduce innovations and develop new ICT products with high added value.

## Theoretical background

According to Schumpeter (1934), the function of entrepreneurs is to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, opening a new source of supply of materials or a new outlet for products, by reorganizing a new industry. This idea was elaborated further by management consultant

Drucker, who was influenced by ideas Schumpeter. He stated that the innovation concept does not refer to company’s age or size, but to a certain kind of activity, where at the heart of that activity is innovation – the effort to create purposeful, focused change in an enterprise’s economic or social potential (Drucker 1985).

Rivette and Kline (1999) suggest that firms continuously generate new knowledge, develop a new intellectual capital in the form of copyrights, designs, know-how, patents, and technology demos that could be packaged into new products and service offers outside the traditional boundaries of existing business operations, and this is the true essence of innovation.

More recent research by Chesbrough (2003) has introduced concepts of open and close innovation, where open innovation refers to “combining internal and external ideas as well as internal and external paths to market to advance the development of new technologies”, thus, including a clear reference to the role of IT and technologies for innovation creation. The comparison of principles behind open and closed innovations is summarized in Table 2. This approach and categorization are regarded as one of the first attempts to show how a

company can use its business model to identify a more apparent role for R&D, better manage and access intellectual property, advance its current business, and grow its future business. Chesbrough shows how open innovation can unlock the economic value in a company's ideas and technologies by replacing the traditional model for innovation, which has been largely internally focused, closed off from outside ideas and technologies, and is becoming obsolete (Chesbrough 2003).

A clear distinction between invention, innovation and innovation management was introduced by Maital and Seshadri, who state that invention is “the creation of novel services, products and production techniques”, innovation relates to “the practical refinement and

development of an original invention into a usable technique or product, or, a process in which creativity is applied to every facet of an organizations value chain, from beginning to end, to develop new and better ways of creating value for customers”. Innovation management is related to “the process of creating and implementing a business design surrounding a creative idea, with the goal of transforming an invention into an innovation, and ultimately to achieving sustained competitive advantage, leading to growth and profit, in the marketplace” (2012, 5).

**Table 2.** Differences between open and closed innovations. Source: Chesbrough (2003).

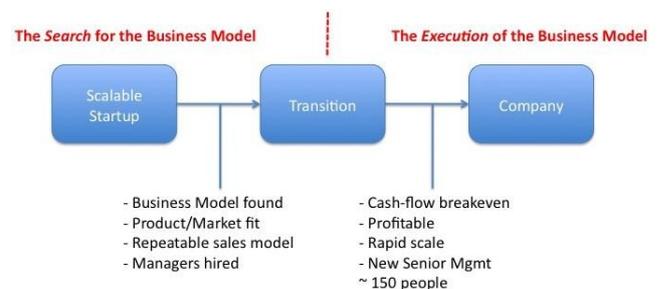
Closed Innovation Principles	Open Innovation Principles
The smart people in the field work for us.	Not all the smart people work for us, so we must find and tap into the knowledge and expertise of bright individuals outside our company.
To profit from R&D, we must discover it, develop it, and ship it ourselves.	External R&D can create significant value: internal R&D is needed to claim some portion of that value.
If we discover it ourselves, we will get it to the market first.	We don't have to originate the research to profit from it.
The company that gets an innovation to the market first will win.	Building a better business model is better than getting to the market first.
If we create the most and the best ideas in the industry, we will win.	If we make the best use of internal and external ideas, we will win.
We should control our intellectual property (IP) so that our competitors don't profit from our ideas	We should profit from others' use of our IP, and we should buy others' IP whenever it advances our business model.

### Innovations in start-up vs. enterprise

In the era of Internet, the discussion on innovations is often related to the concept of a startup. Blank (2010) defines a startup as an organization formed to search for a repeatable and scalable business model. A business model describes how the company creates, delivers and captures value. A founder starts out with: 1) a vision of a product with a set of features, 2) a series of hypotheses about all the pieces of the business model: Who are the customers/users? What's the distribution channel. How do we price and position the product? How do we create end user demand? Who are our partners? Where/how do we build the product? How do we finance the company, etc.

The job of a founder is to quickly validate whether the model is correct by seeing if customers behave as your model predicts. Most of the time the customers don't behave as one has predicted. According to Blank, startup transforms into a regular company once it has found a sound business model, product/market fit, repeatable sales model and achieved cash-flow breakeven, become profitable and has replaced initial founder team with new senior management team. The change happens when startup focus shifts from the search of the business model to the execution of the business model (see Fig. 3) and this also corresponds to the

previously introduced definition of innovations management by Maital and Seshadri (2012).



**Fig. 3.** Difference between a startup and a company. Source: Blank (2010).

The available statistics from Investment and Development Agency of Latvia (LIAA, 2018) show that there were around 350 startups in Latvia in 2017 from various industries, and their number is growing year by year. LIAA has included in this count only those startups that have attracted at least 50'000 EUR risk capital investment.

The startup concept in the context of innovation management is essential to consider since one of the strategies utilized by established corporations is a technology scouting and external search for innovative

new companies (startups) to be taken over through acquisitions or offered open partnerships for helping to contribute to development of innovative products and services by large corporates. According to Imaginatik and MassChallenge (2016), there can be different models behind partnerships between startups and corporations. Corporations and startups have begun working together in fundamentally new ways, with a focus on flexible, early-stage, open-ended partnerships. Early adopter corporations have been engaging with startups for many years, but behaviors are only now starting to change. The trend towards early stage interactions is pivotal. Most corporations are well-versed in acquiring startups (once the startup has already built and proven its value to the acquirer); yet, times are changing. A growing proportion of corporations now also seek flexible upstream partnerships with startups, in which both sides take risk and share in the rewards.

Imaginatik and MassChallenge (2016, 7) also indicate three different types of innovation objectives (see Fig. 4):

1. Improve core business: The simplest aim is to improve the core business—e.g., cutting costs, boosting margins, expanding market share.
2. Moonshot innovation objectives: focused solely on disruptive industry shifts and are often accountable to no one except the CEO and Board. Insurance companies, increasingly threatened by fintech and insurance startups, are a good example.
3. Technological or product innovation is the objective most familiar to many organizations: particularly in high-tech and engineering-heavy manufacturing industries.

	Core Business	R&D Product	Moonshots
Objective	Leverage startup capabilities to improve operations, costs, or digital technologies within the core business(es)	Work with startups to accelerate new technology development / product innovation	Gain a foothold or strategic presence in disruptive new technology or market spaces
Staff	Project managers and startup scouts	Technologists, data hackers, startup scouts	In-house entrepreneurs, designers, marketers, startup scouts
Mode	Startups as business execution lever	Startups as technology/product development accelerator	Startups as disruptive ecosystem partners / accelerants



Fig. 4. Three types of innovation objectives. Source: Imaginatik and MassChallenge (2016, 8).

Although most companies maintain a strict focus on one of the above objectives, it is becoming more common to manage a blended portfolio of objectives. However, doing so requires an associated mix of team skills, scaling levers, and types of relationships into and out of the mainline business. Most companies are still building assets required to coordinate a portfolio with that degree of sophistication (Imaginatik and MassChallenge 2016, 8).

**Innovation management**

Drucker (1985) suggests that for company managers seeking innovation, engaging in disciplined work is more important than having an entrepreneurial personality. He describes the following major sources of opportunities for innovation on the company level: unexpected occurrences, incongruities of various kinds, process needs, or changes in an industry or market. Outside the company possibilities of innovation creation arise from demographic changes, changes in perception, or new knowledge. These seven sources overlap and the potential for innovation can be found in more than one area at a time. Those innovations based on new knowledge tend to have the greatest effect on the marketplace, but it often takes decades before the ideas are translated into actual

products, processes, or services. However, this indicates only the possible sources of innovations, but not the entire sequence of activities to be implemented for coming up with a new business model for the innovative product or service and follow up with its proper management.

The findings by Echendu and Rasetlola (2011) suggest that there are two approaches to technology commercialization, which implies bringing the findings of either internally developed by R&D or externally scouted technology to the market: (1) a linear approach featuring sequential interactions and linkages, and (2) a functional approach where activities are not necessarily performed in any predetermined order or chronological sequence but follow the dictates of entrepreneurial flair.

Often established companies like large telecommunications corporations are launching sales of standardized and tested product lines using a linear approach with clear processes and structured project management flow, while for entirely new product innovation launch and unique technology commercialization the functional approach would be more suitable using methodology similar to innovation pipeline by Blank and Newell (2017).

Blank and Newell state that as organizations have moved from individual innovators working alone to

adopting innovation tools and activities and then to teaching teams about evidence-based innovation, the most important realization has been that having skills/tools and activities are critical building blocks, but by themselves are insufficient to build a program that delivers results that matter to leadership. It's only when senior leaders see how an innovation process can deliver stuff that matters at speed, that they act to change the processes and procedures that get in the way (2017).

It is noted that the next big step is to get teams and leaders to think about the innovation process from end-to-end – that is to visualize the entire flow of how and from where an idea is generated (the source) all the way to deployment (how it gets into users' hands) (See Fig. 5), including the following stages of pipeline (Blank 2018):

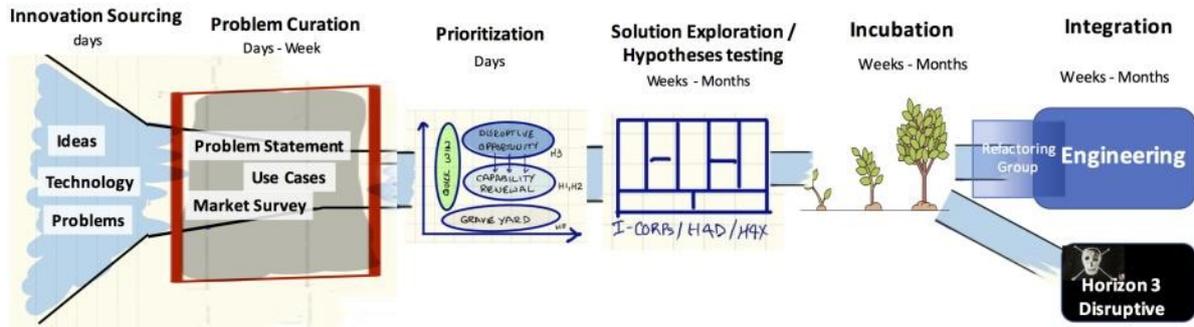


Fig. 5. Innovation pipeline. Source: Blank (2018).

1. Innovation sourcing: Over a period of days, a group generates a list of problems, ideas, and technologies that might be worth investing in.
2. Curation: For a few days or even a week, innovators get out of their own offices and talk to colleagues and customers.
3. Prioritization: Once a list of innovation ideas has been refined by curation, it needs to be prioritized. One of the quickest ways to sort innovation ideas is to use the McKinsey Three Horizons Model (Coley 2009). Horizon 1 ideas provide continuous innovation to a company's existing business model and core capabilities. Horizon 2 ideas extend a company's existing business model and core capabilities to new customers, markets or targets. Horizon 3 is the creation of new capabilities to take advantage of or respond to disruptive opportunities or disruption.
4. Solution exploration and hypothesis testing: This six to ten-week process delivers evidence for defensible, data-based decisions. For each idea, a business model canvas by Osterwalder and Pigneur (2010) needs to be filled out.

5. Incubation: Once hypothesis testing is complete, many projects will still need a period of incubation as the teams championing the projects gather additional data about the application, further build the MVP, and get used to working together. Incubation requires dedicated leadership oversight from the horizon 1 organization to insure the fledgling project does not die of malnutrition (a lack of access to resources) or become an orphan (no parent to guide them).
6. Integration and refactoring: At this point, if the innovation is Horizon 1 or 2, it's time to integrate it into the existing organization. Horizon 3 innovations are more likely set up as their own entities or at least divisions. Trying to integrate new, unbudgeted, and unscheduled innovation projects into an engineering organization that has line item budgets for people and resources results in chaos and frustration.

Blank and Newell conclude that innovation requires a rigorous process. It starts by generating ideas, but the most effort should be put in prioritizing, categorizing, gathering data, testing and refactoring (2017).

## Findings from expert interviews

### Switch to open innovations

Majority of experts confirmed that ICT companies are very active in utilizing approach of open innovation and, instead of relying on internal R&D alone, are actively using external sources for innovation scouting, sourcing, acquisition and general partnerships. If historically the focus was on hiring the brightest and smartest employees alone, then nowadays the idea that if companies make the best use of internal and external ideas combined, they can

outcompete isolated market players, thus confirming open innovation principles by Chesbrough (2003).

### Internal activities

Common methods for internal innovation sourcing relate to creation of idea banks, where employees can submit their ideas, organizing of so-called "hackathons" in length from 48h to several months to generate and test hypothesis for innovation creation, and also creation of internal incubators where employees can work at their initiatives in parallel to their daily duties.

Demand for such activities has created a new segment of service providers who offer internal and external,

offline and online hackathon management for any customer from ITC and related industries. One of the leading global hackathon organizers are AngelHack, based in USA, while in Latvia such services are offered by accelerator and consulting like StartupWiseGuys (based in Estonia), Garage48 (based in Estonia), and Choice (based in Latvia) and other.

### External scouting

Experts noted that in case of larger ICT companies it is common practice both, worldwide and in Latvia, to use also external scouting to identify possible innovations in the market. Similarly, to hackathon organizers, there are numerous companies offering innovation scouting worldwide (e.g. The Floor for fintech solutions (based in Israel), Vertical VC for variety industries (based in Finland), etc.)

On the other hand, one of the largest Latvian telecommunications companies Lattelecom has used approach of establishing an independent investment fund Overkill together with several partners to focus on start-up acceleration by providing support to those technology startups that could be possibly aligned with general corporate development strategy of Lattelecom and M&A activities.

### Partnerships with academia

Academic institutions like Massachusetts Institute of Technology (MIT) have been historically cooperating with industry on fundamental research that has been properly developed further and transformed into commercially viable by spin-offs. In 2017 there has been signed an agreement between MIT and IBM corporation on 10-year partnership for joint research in the field of the artificial intelligence (AI), which implies forming of researcher group from MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL) and IBM that will collaborate to come up with fundamental research findings within the field of AI that can be transferred from academia to industry and commercialized by launching innovative products or services within ICT industry.

Another major partnership project by MIT was launched in 2018 to address issues related to advances in automating and digitizing financial services that have largely changed how we use technology to make fiscal decisions. MIT's CSAIL recently launched a research-industry collaboration focused on creating financial technologies that will be able to open up new business models, gain new data insights, and improve security. The initiative will span topics that include artificial intelligence, cryptocurrencies, blockchain foundation and applications, machine learning, multi-party computation for superior security and privacy, data management and analytics, natural language processing, and cyber-risk management, among others (Conner-Simons and Gordon 2018).

Some of telecommunications companies have implemented successful research projects together with the Latvian State universities for coming up with applied research findings that can contribute to technology commercialization and introduction of new innovations to the ICT market (e.g. LMT in co-operation with Riga technical University).

In addition, some State universities (e.g. Riga Stradins University, Riga Technical University) have established separate departments aimed to facilitate knowledge transfer and co-operation with industry for creation of new spin-offs.

Therefore, partnerships with academia can be regarded also as one of the ways for innovation sourcing and obtaining different inputs from new ideas to technologies.

### University incubators

Nowadays, most universities have own business incubators or labs to encourage students and researchers to provide the necessary support, financial aid and know-how for innovation commercialization to anyone having a viable business idea. For instance, The Harvard i-lab is a resource available to all current students from any Harvard school who is looking to explore innovation and entrepreneurship at any stage. It provides all the physical and intellectual resources current Harvard students need to develop and grow, including advising, office hours with industry experts, workshops, an incubator program, and competitions. Open co-working space is also available for any Harvard student looking to grow as an innovator (Harvard University, 2018).

Most of Latvian universities now have established business incubators with similar infrastructure and intent of providing the environment that supports development of innovative products, including those from ICT sector. Here students can obtain theoretical knowledge on innovation tools, necessary mentoring and access to business network, and receive financial support for their startup ideas.

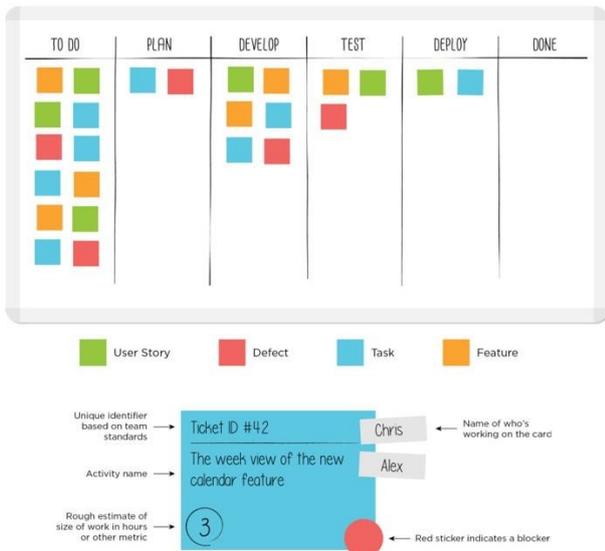
### Innovation tools

Most of experts noted that nowadays it has become a rather common thing for ICT companies of different sizes from early startups to mature corporations use the startup innovation tools like Business Model Canvas and Value Proposition Canvas (see Fig. 6) by Osterwalder et al. (2010, 2014) for business model generation and hypothesis testing for validating assumptions behind possible innovation. These tools are commonly used also within business incubators where experienced instructors are educating entrepreneurs with little experience and previous entrepreneurial background to test their ideas and validate assumptions before starting actual development of product or service prototypes.



**Fig. 6.** Business Model Canvas and Value Proposition Canvas. Source: Osterwalder *et al.* (2010, 2014).

Another commonly used tool is a Kanban board - a work and workflow visualization tool that enables users to optimize the flow of the work. Physical Kanban boards (see Fig. 7) typically use sticky notes on a whiteboard to communicate project status, progress, and issues.



**Fig. 7.** Kanban board. Source: Leankit (2018).

The Kanban technique emerged in the late 1940s as the Japanese car maker Toyota rearranged its approach to manufacturing and engineering. Line-workers displayed colored kanbans (actual cards) to notify their coworkers that demand existed for parts and assembly work. Kanban is the Japanese word for "visual signal" or "card." The

system's visual nature allowed teams to communicate more easily on what work needed to be done and when, and it also standardized cues and refined processes, which helped to reduce waste and maximize value (Leankit 2018). Experts noted that Kanban boards are more commonly used by startups and software development teams.

**Methods of software product development**

Experts reflected that there exists difference between innovation scouting and sourcing methods for general start-ups, and the methods for product development in case of software engineering, which are commonly associated with innovations management, but actually represent how the process of their development is managed.

Experts outlined that the main approaches for software development historically utilized by ICT companies relate to Waterfall method (Royce 1970), which describes a method of development that is linear and sequential, and Agile methodology that follows an incremental approach and where developers start off with a simplistic project design, and then begin to work on small modules (Fowler and Highsmith 2001). The work on these modules is done in weekly or monthly sprints, and at the end of each sprint, project priorities are evaluated, and tests are run. These sprints allow for bugs to be discovered, and customer feedback to be incorporated into the design before the next sprint is run.

Larger ICT companies, particularly in software engineering, are providing so called "sandboxes" – the environment that can be used to develop software prototypes using application programming interface (API) provided by the host company. API is a set of protocols, routines, functions and/or commands that programmers use to develop software or facilitate interaction between distinct systems. APIs are available for both desktop and mobile environments and are typically useful for programming GUI (graphic user interface) components, as well as allowing a software program to request and accommodate services from another program (Techopedia, 2018). Therefore, sandbox can be considered as an innovation creation tool for software companies and also companies from other industries (e.g. financial) that are using IT systems for provision of their core services and that can be developed using input from external partners.

**Acknowledgments**

This research has been funded by the European Union Post-Doctoral program. Project number: 1.1.1.2/VIAA/1/16/089.

**Conclusions**

The growth of Latvian ICT industry is mainly due to increase of turnover in telecommunications segment followed by computer programming, consulting and related activities segment.

The research results suggest that the main new product development methods used by corporates and start-ups are related to use of Lean Startup methodology

originally developed by Ries (2008) and Blank (2010), which has been recently extended into Innovation pipeline by Blank and Newell (2017).

It is very common for companies of different sizes to utilize innovation tools like Business Model Canvas and Value Proposition Canvas developed by Osterwalder et al. (2010, 2014) for generation of ideas and testing of hypotheses for new business models to come up with innovations with commercial potential.

The methods related to product development at software start-ups relate to Waterfall (Royce 1970), Agile and Scrum frameworks and provision of so-called “sand-boxes” for enabling safe access to the infrastructure by external software developers for safe prototyping.

Larger companies are likely to use such methods as internal incubators, internal and external hackathons, and even setting up of external venture fund in order to scout relevant innovations and technologies in early development stages to be commercialized and added to their business portfolios.

The innovation sourcing, scouting and management methods used by ICT companies in Latvia do not generally differ much from those implemented by ICT companies worldwide. However, additional research is needed to analyse the nature of innovations management, similarities and differences between start-up companies and larger ICT corporations in Latvia.

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RECEIVED: 15 April 2019

ACCEPTED: 5 June 2019

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## OPPORTUNITIES OF E-RECRUITMENT THROUGH SOCIAL MEDIA PLATFORMS AND ITS DEVELOPMENT IN LITHUANIA

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### Abstract

Scientific article is dedicated to the identification of the opportunities of e-recruitment through social media platforms and its future development in Lithuania. The research highlights the concept of e-recruitment, factors that influence e-recruitment through social media platforms. Theoretical aspects of hiring personnel through e-platforms were analyzed: definition of recruitment, channels of hiring personnel and advantages and disadvantages of e-recruitment. The methodology of expert evaluation was used in the paper. The factors influencing e-recruitment through social media platforms were presented and analyzed according to expert evaluation, opportunities of further development were presented as well. After the theoretical, methodological and empirical part conclusions for successful e-recruitment through social media platforms were presented.

KEY WORDS: recruitment, e-recruitment, social media platforms.

### Introduction

Recruitment has always been a fundamental function of labor market, it used traditional tools for closing vacancies such as advertising in social media, search through job agencies, labor exchanges or converting to the word of mouth. In the new millennium new technologies have changed the way people get their job done. Internet has opened access to a completely new world: world of information, fast and even instant communication and multimedia content. Social networks made a significant impact in the way recruiters look for new employees, as much as they have dramatically changed the way job seekers find new places of work. Miller et al. (2016) also noted that social media platforms ought to be viewed not only as the platform where people post ideas and information on but also the as one of largest content databases in history. This research concerns the discussion of social media platforms usage in recruitment and employer's image in a corporate environment. Social media and recruitment will be correlated, the need in e-recruitment for business will be explained.

After the scientific literature analysis these directions of the research have been found:

- Flippo (1986), Sivabalan, Yazdanifard and Ismail (2013), Devi and Banu (2014) and others analyzed definition of recruitment personnel.
- Kumar and Gang (2014), Plessis (2007) analyzed traditional channels and methods of hiring personnel.
- Schwabel (2011) and others analyzed innovative channels and methods of hiring personnel.
- Chen and Haymon (2016), Verhoeven and Williams (2008), Ramaabaanu and Saranya

(2014) analyzed advantages and disadvantages of e-recruitment.

Nowadays there is a certain gap in the scientific literature on the subject of e-recruitment due to the certain novelty of it, especially in such small open economies like Lithuania. Due to that fact the scientific research problem can be formulated: can e-recruitment through social media platforms become a substitute for the other ways of recruitment in open small economies and highly developed ICT countries like Lithuania?

Research goal of this scientific article is to present the recommendations for increasing the process of e-recruitment through SMP development after the identification of e-recruitment opportunities in Lithuania.

Research objectives:

1. To analyse theoretical aspects of opportunities of e-recruitment development;
2. To present the methodology of opportunities of e-recruitment development in Lithuania;
3. To identify the opportunities of e-recruitment development in Lithuania.

Comparative and systematic scientific literature review, expert evaluation were chosen as research methods.

### Theoretical aspects of hiring personnel through e-platforms

Recruitment personnel is one of the most important and fundamental human resource management function and it can impact crucially on the organization's performance. Gwazzawi et al. (2014) states, that the ability of an organization to stay on top of customer's demand and to grow has always relied heavily on the quality of its people.

According to Edwin B. Flippo (1986), recruitment is nothing but the process of searching the candidates

for employment and then stimulating them for jobs in the organization. Recruitment process links employers and job seekers, thus it is very serious for organization to make the right choice and reduce costs for further search and selection. According Sivabalan et al. (2013), "recruitment is the process of generating a pool of capable people to apply for employment to an organization." (p. 178).

According to Devi and Banu (2014), the process of recruitment begins from new people are being sourced and ends up with their applications being submitted. After that, selection process starts.

Selection is the second stage of hiring process - managers and human resource specialists use specific tools to make the right choice for the vacancy from the list of applicants. They need to choose a person who will most likely to succeed in the job.

Recruitment and selection both form a key process in any business.

According to Garcia-Izquierdo and Vilela (2015), recruitment has changed. Traditional face-to-face interviews are still being used, but the range of assessment processes which inform the candidates regarding the selection is increasingly diverse, taking advantage of new methods and strategies, such as online personality and assessment testings and including in the process more of electronic-based tools.

According to Kaur (2015), "e-recruitment is the process of personnel recruitment using electronic resources, in particular the internet." (p. 3).

According to Sharma (2016), in the process of e-recruitment, job vacancies are usually uploaded on the job portals, where applicants must attach their CV to attract their potential employer. Selection is usually done by inserting the keywords to make the search faster and to get more accurate results as soon as possible. It can be helpful in decreasing the search effort and gives the organization a positive outcome. The selection process usually starts when the analysis on the data or candidate helps in the decision making process. The next method can be online testing, due to which a broad pool of candidates is reduced to a smaller group and candidates having more potential. It helps to assess the candidate's ability, critical thinking as well as its self-assessment of their potential. Subsequently, online interviews are being held in some cases as a method to make the selection easier. The techniques used should be well up to date. An accurate job description and specifications needed should be incorporated in order to reduce a huge amount of ineligibile candidates and to hire right talent.

There are four the most common ways to use e-recruitment (Unadkat, 2012):

1. Corporate websites, where the e-recruitment phenomenon appeared;
2. Online recruitment portals, which gather the job advertisements from various companies in one place;
3. Hunting for the candidates over the Internet (head hunting) (this method way is also being used in traditional recruitment);

4. Social media platforms, which is the newest way for e-recruitment.

In conclusion it is needed to say, that recruitment process links employers and employees, after recruitment phase is finished, selection process begins, where companies are determining which person they will hire. E-recruitment is the phenomenon, which appeared with the Internet development, because it is impossible to e-recruitment to exist without using electronic resources.

### Channels of hiring personnel

According to Plessis et al. (2007), traditional recruitment process was paper-based and was tied to geographical location of the employer. Usually the companies used also labor exchange offices, recruitment agencies for the recruitment, which can be time consuming. The process included many steps, such as determination of employment needs, choice of advertising source, advertising itself, receiving of responses and dealing with candidates by phone or live before the actual interview, storage of paper CV's. In those conditions the loss of a potential employee was very much possible, because when an HR get a lot of CV's at once, the easiest way was to select only a limited number of them for potential interviews. Thus candidates can make their CVs look outstanding for the selection, but not to have real competencies for the job. The whole process was slow, costly and sometimes ineffective to both employer and job-seeker.

According to Plessis et al. (2007), word of mouth, recommendations and head hunting are also considered as traditional channels of recruitment. These ways are being used nowadays and are not being completely replaced by e-recruitment, because they can guarantee candidate's skills and quality with higher probability, than other ways of recruitment.

E-recruitment channels differ from traditional ones and they all include using Internet while recruitment:

- corporate websites;
- online recruitment platforms (cvonline.lt, cvbankas.lt, etc.);
- professional social media platforms (linkedin.com, xing.com, etc.)
- social media platforms (facebook.com, twitter.com).

In this scientific article it was chosen to consider social media platforms due to the novelty of this channel and lack of scientific literature.

According to Society of Human Resource Management Survey (2018), 95 percent of 541 HR managers and specialists being asked, answered that they used LinkedIn for candidate's research, also:

- 58 percent used Facebook while recruiting;
- 42 percent used Twitter.

According to Schwabel (2011), a lot of organizations believe that the person's profile on LinkedIn will replace usual CV's. But still most use SMP as means of support to traditional ways of recruitment. E-recruitment is the present and the

future, but some aspects of traditional recruitment are here to stay.

According to Broughton et al. (2013), almost 100 per cent of job seekers under the age of twenty five would prefer the communication with employers online and not via phone and/or other sources.

According to Bhupendra and Gairola (2015), social media networks allow users to build online profiles where individuals can communicate via social media tools. Initially social media networks were designed for socializing with family and friends but now these networks have become a real vital professional tool, especially in field of recruitment. Social media networks for jobseekers act as a marketing tool, because they use social networking sites to connect themselves to potential employers and vice versa. Facebook, LinkedIn, Twitter, Instagram etc. are examples of social media networks. They act as a screening tool through which employers can use necessary information, which is available in social media networks. This information is cheap and also it is easy to get a broader opinion of an applicant as compared to traditional recruitment methods.

To conclude, SMP brought a lot of advantages in comparison with traditional channels of recruitment, but a lot of organizations still prefer to use it in combination with traditional ways of recruitment.

#### **Advantages and disadvantages of hiring through social media platforms**

According to Chen and Haymon (2016), "Current offline solutions (such as newspaper postings, job boards, recruitment agencies, or simply knocking on doors) are expensive, slow, and often ineffectual" (p. 2). Nowadays people are becoming more and more digitally connected, even older generation is using Internet on daily basis. This creates a very useful advantage for the platforms – accumulation of job seekers' profiles, employers and their job positions in one place in a large database. Also technologies allow people to create personalized and detailed searches, which are aimed only on a person's goal.

After scientific literature analysis (Chen and Haymon (2016), Zide et al. (2014)), the main advantages of e-recruitment have been identified (see Table 1):

- Democratized information.

Due to open sources and easy access, people can easily know about company's reputation and job conditions, which make employer to maintain their brand as an attractive company for best talents. Also this easy access closes the gap between applicants who had greater connections in comparison with ordinary specialists. This increases chances for employee to be hired and for employer to hire the most suitable worker.

- Expenditure for job search is much lower.

If to compare with traditional channels of recruitment, platforms dramatically reduce time and money for job seeker and employer. Digital space suggests faster communication, easier assessment,

screening and matching. Huge databases allow a more qualitative search for their needs. Employers and job seekers can stop spending their money for the access to agencies' databases.

- More possibilities for job seeker to show its skills.

According to Chen and Hayman (2016), "job seekers can showcase their skills, experience, references, and other traits (e.g., soft skills, digital badges that validate a specific skill) to a wide set of potential employers, and freelancers can display their work and provide recommendations." (p. 4). For instance, in LinkedIn a person can verify the skills, which are indicated on a person's profile, Xing also has tools to prove competencies.

- Wiping the geographical borders.

Now it is not necessary that a company can only hire a local required specialist. By using job seeking platforms and modern means of communication, employer can assess a person online and send him a job offer. It stimulates employees to have better skills and competencies, by knowing that they can be relocated anywhere in case of enough experience. Bhupendra and Gairola (2015) adduce similar list of main advantages of using social media networks:

- Applicants can be found across various locations and with better accuracy than before.
- Vacant positions can be filled within less time than in case of traditional recruitment because of the fact that social media networks are used by people more often than any other means of media and it leads to faster responses from the candidates.
- Social media networks make recruitment much cheaper.
- Social media platforms became very trendy younger population which makes them best solution for hiring fresh talents.
- Social media platforms enhance the employer's brand visibility online and establish a cutting edge image for the brand.
- Positions can be viewed by a larger number of candidates due to a broader coverage of social media networks around the world, which allows hiring and applying even outside the country.

According to Verhoeven and Williams (2008), despite the e-recruitment's positivity, there are also disadvantages (see Table 2):

- Lack of privacy

Since the development of social networks, recruiters can check applicant's profiles not only on professional platforms, but also on Facebook, Instagram and other websites. Matching candidate's personal professional lives can create a wrong image of a person, which will bring forward a possible loss for the firm.

- The choice can become too wide.

This factor from an advantage can become a disadvantage if an unexperienced specialist will search for a perfect candidate. Screening CV's and

checking their profiles in social networks can be time consuming for an organization.

- High volume responses from low-qualified job seekers.

Because of a high accessibility of the Internet, everybody who saw an advertisement can easily apply for it just in one click. Not to miss a great candidate responsible specialist will spend a lot of time for the review.

- False profile keywords.

According to Ramaabaanu and Saranya (2014), employers mostly rely on keywords while searching for candidates, but often job seekers add some skills to profiles for the appearance of the CV in the search. Therefore, recruiters have to call the candidates, which do not meet necessary job requirements.

- Website malfunctions.

Due to technical errors, applicants sometimes can't reach employers through online job applications. People apply once, if the system denied, they can try second time, but after a significant part of candidates will stop attempts. Eventually the company can lose a potential winner for the company.

- E-recruitment can be too impersonal.

By emails, phone calls and Skype interviews a company can assess a job seeker's adequacy, literacy of speech and grammar and his "hard" skills. But it is impossible to feel what kind of person the applicant is, to "feel" him, what would be possible during a personal meeting. According to Jobvite, (2016) "60% of recruiters believe culture fit is of highest importance when making a decision whether to hire or not.", which proves the problem during online interviews.

- Legal issues.

According to Chen and Haymon (2016), certain regulations, which forbid any kind of racism can be dangerous for the employers, in case the job seeker will find out that the reason of denial was checking his/her page in SMP.

**Table 1. Advantages of e-recruitment through social media platforms**

Author, year	Advantages of e-recruitment
Chen and Haymon, 2016	Democratized information
Chen and Haymon, 2016	Expenditure for job search are much lower
Zide et al., 2014	More possibilities for job seeker to show its skills
Chen and Haymon, 2016	Wiping the geographical borders
Bhupendra and Gairola, 2015	Vacant positions can be filled within less time than in case of traditional recruitment
Bhupendra and Gairola, 2015	Social media networks enhance the employer's brand visibility online

Bhupendra and Gairola, 2015	Positions can be viewed by a larger number of candidates due to a broader coverage of SMP
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**Table 2. Disadvantages of e-recruitment through social media platforms**

Author, year	Disdvantages of e-recruitment
Verhoeven and Williams, 2008	Lack of privacy
Verhoeven and Williams, 2008	The choice can become too wide
Verhoeven and Williams, 2008	High volume responses from low-qualified job seekers
Verhoeven and Williams, 2008	False profile keywords
Verhoeven and Williams, 2008	Website malfunctions
Verhoeven and Williams, 2008	E-recruitment can be too impersonal
Chen and Haymon, 2016	Legal issues

In conclusion it is needed to say, that like all other methods e-recruitment through SMP has its own advantages and disadvantages, but still many authors consider e-recruitment through SMP more perspective than other ways of recruitment.

**The methodology of expert evaluation**

According to Benini et al. (2017), the method of expert evaluation is considered as one of the most common insights methods that are being used to help to close the determined knowledge gap. According to Burinskiene and Rudzikiene (2009), the goal of experts' evaluation is "getting, encoding, structural processing and interpretation of knowledge of an expert".

An expert (lat. expertus – experienced) basically means a specialist with experience in particular field. In order to make a qualified decision to a specific problem, it is dramatically important to consider the professional's opinion, which is called expert's expertise (Remeikiene and Gaspareniene, 2017). Experts' estimation shows a combination of various opinions of individual experts, which eventually allows to formulate a joint solution. There are several presumptions, on which the methodology of experts' evaluation is grounded:

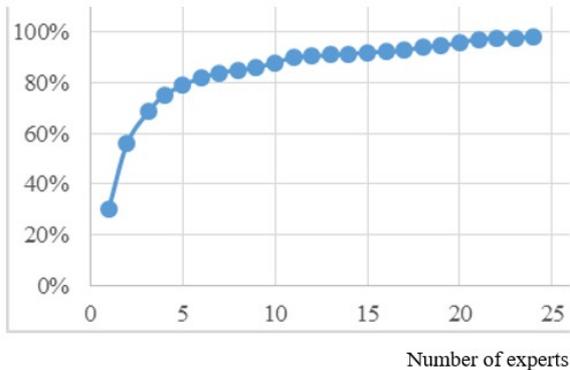
- A big amount of rationally processed information has been accumulated by the expert, that is why the expert can be considered as a source of quality information;
- The opinion, which has been expressed by the group of experts, is not differs much from the solution of the problem in reality.

According to Libby and Blashfield (1978), the higher number of accuracy of the opinion, made by

the experts, can happen in case of asking from 5 to 9 experts. If the accuracy of the results produced by the experts is not adequate, it is advised to improve the experts' competency, but not to increase the number of experts.

The impact of the number of experts on authenticity of evaluation is shown on Figure 1.

Reliability solution



**Fig. 1.** Reliability solution (percentage). Source: created by the author, based on Libby and Blashfield, (1978)

Figure 1 shows that starting from 5 experts, the reliability of experts' solution is higher than 75%. It is recommended to include at least 5 experts into the experts' group in order to have accurate and reliable results.

According to scientific literature (Libby and Blashfield, 1978), the professionalism of the experts plays a key role on the reliability of the final results, which is why the attention in this research was focused not on the amount of the experts, but on their experience in HR sphere. Taking into account the abovementioned standards, 6 people were included into the expert group. The accurate criteria for the experts was defined:

- An expert can represent the HR sphere, which specifically means that he/she has necessary knowledge about recruitment and e-recruitment;
- An expert's current experience must be no less than 5 years;
- An expert must currently work in Lithuania.

Survey questionnaire was sent by email, messages in SMP (LinkedIn and Facebook) and were performed indirectly. Survey questionnaire was prepared in advance (see Appendix 1) and scripted in surveygizmo.com.

The website had been used because it allows to export gathered data from the survey to Excel and SPSS. Also this website is used by professionals for conducting surveys in market research sphere. This website is device agnostic, which means that the survey can be made using phones, tablets and computers.

The experts' questionnaire consists of three parts. The aim of the **first part** was created to gather general information about the experts.

*In the first question (closed question)* experts were asked to provide their professional experience in HR sphere. The question is considered to be relevant because the appropriate level of experience is necessary to receive the trusted results.

*In the second question (closed question)* experts were asked to indicate the size of the company they work in at the current moment. This question was asked in order to understand the influence of the size of the company on e-recruitment through SMP and to provide the recommendations accordingly.

*In the third question (closed question)* experts were asked to provide business sector, where they are currently working to find out whether there is dependence of business sector and e-recruitment through SMP. Also as the experts were found through different business sectors, and in case the experts are different, common recommendations can be provided, whereas the experts would be from one business sectors.

*In the fourth question (closed multiple-choice question)* experts were asked which of the proposed SMP they use for recruitment. The question is considered to be important, as it will help to find out the most popular SMP for recruitment.

**In the second part** of the questionnaire experts were asked to identify the popularity of SMP for recruitment. The questions were formed after careful literature review. In this part it was important to define the advantages of SMP over other ways of recruitment and also to define whether SMP can be used to hire general population of Lithuania.

*The first question (closed question)* was dedicated to understand the popularity of various ways of recruitment, which experts might use for recruitment. The experts were asked to evaluate ten ways of recruitment (traditional and innovative altogether) in order to reveal the current trends in recruitment in Lithuania.

For evaluating the factors radio button grid had been chosen and the selected factors had to evaluate all factors from 1 to 5 (numerical value 1 – "Completely disagree", numerical value 5 – "Totally agree"). Also depending on the strength of the experts' opinion, they could choose the intermediate values (2 – "Disagree", 3 – "I do not have an opinion", 4 – "Agree").

*In the second question (closed question)* experts were asked to evaluate seven statements that compare recruitment through SMP and traditional ways of recruitment. This question was asked in order to understand the advantages of SMP over traditional ways of recruitment.

Radio button grid had been used as well and the same evaluation system as in question 1 had been applied.

*In the third question (closed question)* the experts were asked to evaluate fourteen demographical statements, which can help to define the portrait of the person, who can be hired through SMP. This question had been included in order to understand whether general population of Lithuania can be covered for

recruitment by SMP – it is important to know whether age, gender and candidate’s location can influence e-recruitment.

Radio button grid had been used as well and the same evaluation system as in question 1 had been applied.

In the third part experts were asked to identify the main twelve characteristics of a candidate and main factors and of SMP, which influence successful selection of a person. This part leads to the conclusions about what should be improved in the process of recruitment through SMP, what recommendations can be also provided to general population of Lithuania, when people are trying to find a new job, as the experts were asked regarding the main factors, which influence successful recruitment in order to correlate these factors with SMP features. Also the recommendations for successful e-recruitment through SMP from the experts were gathered.

In the first question (closed question) experts were asked to estimate the importance of twelve characteristics, which influence the final decision. The characteristics were taken not only related to e-recruitment, but in general.

Radio button grid had been used as well and the same evaluation system as in question 1 (part II) had been applied. The experts had a possibility to write-in their own option.

In the second question (closed question) the experts were asked to estimate eight features of SMP, which can influence on the selection. This question has been asked in order to understand what importance has every of those features for the experts. Radio button grid had been used as well and the same evaluation system as in question 1 (part II) had been applied. The experts had a possibility to write-in their own option.

In the third question (closed question) the experts needed to evaluate five statements regarding the main drawbacks of e-recruitment through SMP. The options proposed were gathered carefully from different sources to reveal the most important drawbacks.

Radio button grid had been used as well and the same evaluation system as in question 1 (part II) had been applied. The experts had a possibility to write-in their own option.

In the fourth question (closed question) experts were asked to provide their own opinion about the future replacement of other ways of recruitment by SMP. This question was included to be estimate whether there is potential in further development of e-recruitment through SMP in Lithuania.

In the fifth question (closed multiple-choice question) has been designed to figure out the experts’ recommendations for the successful e-recruitment through SMP. The recommendations can be significantly valuable for further development in Lithuania.

The experts were suggested four recommendations and also a write-in option.

The gathered data had been analysed and calculated using statistical program SPSS and Microsoft Excel software package. The evaluated numerical values are listed in a table (see Table 3).

**Table 3. The matrix of the results of expert’s evaluation**

Experts	Factors (V)					
	1	2	...	i	...	N
1	V <sub>11</sub>	V <sub>12</sub>		V <sub>1i</sub>		V <sub>1n</sub>
2	V <sub>21</sub>	V <sub>22</sub>		V <sub>2i</sub>		V <sub>2n</sub>
...						
J	V <sub>j1</sub>	V <sub>j2</sub>		V <sub>ji</sub>		V <sub>jn</sub>
...						
M	V <sub>m1</sub>	V <sub>m2</sub>		V <sub>mi</sub>		V <sub>mn</sub>
Sum						
Cronbach’s Alpha	For the whole questionnaire					
Kendall’s coefficient of concordance, W	For the whole questionnaire					
p-value	V <sub>p1</sub>	V <sub>p2</sub>	...	V <sub>pi</sub>	...	V <sub>pn</sub>
Indication frequency						

In Table 3, V<sub>jn</sub> shows what level of importance was assigned by the j-th expert to the n-th statement in the survey. V<sub>mn</sub> represents the indication of the n-th factor in the survey, V<sub>pn</sub> – the significance of n-th factor.

For performing the results of the expert questionnaire it is important to focus the attention on interpretation of Cronbach’s alpha coefficient. This coefficient determines whether the questionnaire reflects the research topic precisely. There are arguments among the scientists regarding Cronbach alpha coefficient: according to Nunnally and Bernstein (1994), this coefficient should be no lower than 0.7, while Malhotra and Birks (2003) write that the critical value of the coefficient is 0.6. So the choice of the value becomes a subjective matter, and the specifics of the study can be taken into account while choosing the limit. 0.6 was chosen as the lowest value of Cronbach alpha coefficient has been selected for this empirical study.

Kendall’s coefficient of concordance (W) reflects the statements’ concordance and importance of the expert’s opinions, it had been determined in the scientific article. This coefficient may vary in the range of 0 ≤ W ≤ 1. If the ratio is closer to 1, it indicates that there are more opinions of the experts coincide. If the ratio is ≤ 0.6, it can be considered, that the experts’ evaluation is not reliable.

For hypothesis testing, 0.05 was selected as the level of significance. Indicator distinctions were taken statistically significant if  $p < 0.05$ .

The final stage of empirical study consists of confirmation or rejection of the hypothesis and development of conclusions. The accuracy depends on the quality previous steps have been done. It is obvious that wrong conduct of empirical studies or mistakes in calculations may become a reason of false hypothesis results, as the same time improperly formulated hypothesis can create irrelevance of conclusions.

Overall, experts' evaluation method has been chosen to understand the main trends in current recruitment, to evaluate the popularity of SMP for e-recruitment and its rate of success, also to define whether all the general population can be employed by using SMP only. The main drawbacks and recommendations for the successful recruitment had been defined in second and third parts, which can help to provide recommendations for the future development on e-recruitment through SMP. Questionnaire results were processed by SPSS and Excel programs.

### The results of expert's evaluation

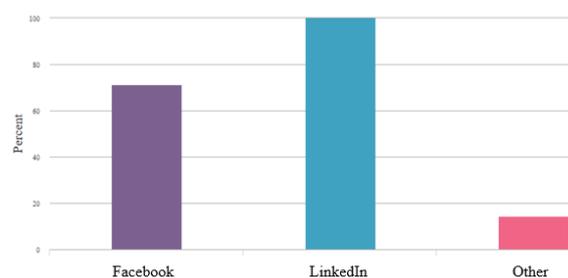
Cronbach's Alpha for the whole survey had been calculated, the result, which was obtained, showed that Cronbach alpha = 0,6595, which means the questionnaire reflects the researched object as according to Malhotra and Birks (2003), the critical value of the coefficient is 0.6.

The first part of the questionnaire has been designed to collect general information about the experts. The main idea was to have the answers from the experts, who are proficient in HR sphere, especially in recruitment. The minimum experience of five years for the participation was set. 12.5% are having experience in HR from 10 to 15 years.

Defining the size of the company, where expert currently operates, has been also considered as an important information in order to follow the trends in various-size organizations. 12.5% of experts are working in a large company, 37.5% are working in a medium-sized, 37.5% - small and 12.5% are working in a micro company.

*Third question* of the first part of the questionnaire has been dedicated for defining the business sector, in which experts work. 12.5% specified, that they work in accommodation services, 37.5% specified, that they work in legal services, 12.5% are working in IT, 25% are working in banking services, 12.5% marked "other" and specified, that they work in telecommunications.

*In the last question* of the first part experts were asked to answer which of the suggested SMP their organization uses for recruitment. 100% of the experts answer, that they usually use LinkedIn, 71.4% answer that they use Facebook, and 14.3% specified, that they use MeetFrank (see Figure 2). According to meetfrank.com, it is an app, where organizations and job seekers can anonymously register and get job offers directly, by specifying their relevant experience only. This can not be considered as a SMP, because the users are using it only for one goal – job seeking and are not able to communicate with each other. Also it was noticed, that nobody from the experts had marked the options "Xing" and "Twitter", which means, that these SMP are not popular for recruitment in Lithuania.



**Fig. 2.** Most popular SMP, which are used by the experts for recruitment (percentage). Source: created by the author, based on the results of the experts' evaluation

**The second part of the experts' evaluation** was dedicated to identification of the popularity of SMP for recruitment.

*In the first question* experts were asked evaluate the popularity of traditional and innovative ways of recruitment (see Table 4).

According to Remeikiene & Gaspareniene (2017), if the mean value equals to 3.5 and less, it is considered that the factor is not important. If the mean value is equal to 3.51 or more - the suggested statement is confirmed. The answers are relevant, although experts' opinions' concordance is weak (Kendall's W = 0,457). Factors three, four, five, six, seven, nine and ten gathered high score: usage of word of mouth for recruitment has mean value of 3.83; online recruitment platforms – 4,67; professional social media platforms for recruitment – 4,83; social media platforms for recruitment – 4; internal recruitment within the organization – 4,50; head hunting – 3,67; recommendations from other people – 4,67. The high p values for factors three, four, five, seven and ten are emphasizing their significance, but factors six, eight and nine are not statistically significant. The rest of the factors marked by number one, two and eight had weak mean values and factors number two and eight are not statistically significant, while factor number one has a high p value.

**Table 4. Popularity of various ways of recruitment**

Factor	Kendall's W = 0,457		
	Mean rank	Mean value	p value
You use newspapers, magazines, paper-based advertisements for recruitment.	2,1	1,7	0,04
You use labor exchange office for recruitment.	3,3	2,2	0,31
You rely on word of mouth when recruiting new people.	4,8	3,8	0,09
You use online recruitment platforms (cvonline.lt, cvbankas.lt, etc.).	7,2	4,7	0,00
You use professional social media platforms for recruitment (linkedin.com, xing.com, etc.).	7,8	4,8	0,00
You use social media platforms for recruitment (facebook.com, twitter.com, etc.).	6,3	4,0	0,17
You look for the employee from the current employees internally.	6,7	4,5	0,00
You use recruitment agencies.	4,3	3,3	0,61
You use head hunting.	5,5	3,7	0,39
You use recommendations from your colleagues, friends, family.	7,1	4,8	0,00

*In the second question* of the second part of the questionnaire, experts were asked to evaluate the statements, that compared hiring through SMP and traditional ways of recruitment.

The answers are relevant, although experts' opinions' concordance is weak (Kendall's W = 0,366). All of the factors from one to six gathered high score: SMP are faster for recruitment – 3,83; SMP are cheaper for recruitment – 4,17; hiring through SMP is more efficient – 4,33; opportunity to know the candidate better through SMP – 4,17; wider choice of applicants in SMP – 4,17; better allowance of presenting company's values – 4,67, more trustability – 3,50. The high p values for factors one, four, five are emphasizing their significance, while factors number two, three and six are not statistically significance. Factor number seven has weak mean value, but high p value.

*In the third question* had to help in defining the portrait of the person, who can be hired through SMP. The answers are relevant, although experts' opinions' concordance is weak (Kendall's W = 0,403). All of the factors from one to six, eight, nine, ten, twelve, thirteen and fourteen gathered high score: SMP can be used to hire males – 3,83; SMP can be used to hire females – 3,83; SMP can be used for hiring people of 18-65 y.o. – 3,50; 18-29 y.o. – 4,83; 30-39 y.o. – 4,50; 40-49 – 4,33; SMP can be used for hiring people outside Lithuania (worldwide) – 4,67; hiring through SMP can be used to hire people from all of counties in Lithuania – 4,50; only from big cities – 3,67; secondary education – 3,83; secondary vocational (professional) education – 4; people with higher education – 4,67. The high p values for factors number four, five, six, eight, nine, thirteen and fourteen are emphasizing their significance, while

one, two, three, ten, twelve are not statistically significant. Factors number seven and eleven have both weak mean values and too low p values.

**In the third part of the questionnaire** experts were offered to identify the main characteristics of a

candidate and main factors and drawbacks of SMP, which influence the successful selection of the candidate.

*In the first question* experts had to define the characteristics, which influence taking final decision regarding the candidate.

The answers can be accepted as relevant, because experts' opinions' concordance is strong enough (Kendall's W = 0,678). Factors three, four, five, six, seven, eight, nine, ten gathered high score: education – 4,33; previous working experience – 4,83; relationship with previous employer – 3,67; background – 3,67; appearance – 3,83; behavior – 4,83; conversational skills – 4,67, proof of skills – 4,33. The high p values for these factors number three, four, six, seven, eight, nine are emphasizing their significance, while factors number five, ten, are not statistically significant. Factors number one and two, eleven and twelve have both weak mean values, although factor number two is statistically significant.

*In the second question* experts had to answer what features of SMP are helpful for selection process.

The answers can not be accepted as relevant, because experts' opinions' concordance is weak (Kendall's W = 0,540). Factors one, two, five and six gathered sufficient mean value score: photos – 3,50; information about the education/skills – 4,33; information about previous work experience – 4,83. The high p values for factors number two, five, six are emphasizing their significance, while factor number one is not statistically significant. Factors number

three, four, seven and eight have a low mean value, while factor number four is statistically significant.

*In the third question* experts had to evaluate the statements, regarding the main drawbacks of e-recruitment.

The answers can be accepted as relevant, because experts' opinions' concordance is strong enough (Kendall's  $W = 0,657$ ), which means that question reflects the researched object. Factors from one to three gathered high score: privacy settings – 4; accuracy of online information used in HR decisions – 3,50; incomplete candidate's pool coverage (there are candidates who are not using social media) – 3,58. The low p value for factors two and three is emphasizing its insignificance, while factor number one is statistically significant. Factors number four, five have both weak mean values and too low P-values.

*In the fourth question* of the third part, experts were asked to provide their opinion whether SMP can replace all other ways of recruitment. 66.7% of experts answered, that it would be possible for SMP to replace all other ways of recruitment, 16.7% answered, that it would not be possible, 16.7% clicked "other" and specified, that to some extent it is possible

*In the fifth question* experts were asked to mark the recommendations for the successful hire through social media platforms. All the options, provided to the experts, were taken from the scientific literature. 83.3% marked that it is necessary to increase a social media presence of the company. 50% of the experts agreed, that it is necessary to verify the accuracy of the information regarding the candidates. 50% marked that it is important to compare assessment of social media pages with alternatives like personality tests.

Explanation of the recommendations:

- According to the Davison et al. (2012), an organisation could verify the accuracy of the information, stated by the candidate, by incorporating social screening policies.
- According to Kroeze (2015), establishing criterion-related validity could prevent the organisation could prevent discrimination, inaccuracy, inconsistency.
- Davidson et al. (2016), offers to invent alternative predictors as a recommendation for successful recruitment.
- Masa'd (2015), states, that social media presence of the company can bring more niche candidates to the social media.

**Summing up** the results of the experts' evaluation, the following conclusions can be made:

- All experts were competent enough to represent HR sphere.
- The experts are operating in various sized companies and in various business sectors, which is why the general recommendations for all companies can be provided in this research paper;
- Although the value of concordance is weak for questions one, two, three in the second

part of the questionnaire, for question two in the third part of the questionnaire, Cronbach's alpha coefficient for the survey is strong, which means that it reflects the topic precisely. Also p-value is significant, which means that the experts have different opinions, but the answers are reliable.

- LinkedIn and Facebook are the most popular SMP, which are used by the experts for recruitment;
- Online recruitment platforms, professional SMP and recommendations from other people are the most popular ways of recruitment.
- Experts believe, that SMP help to present company's culture and values better, than traditional ways of recruitment.
- Both males and females aged 18-49 can be hired through SMP. Also experts stated, that people from all over the world and all of the counties of Lithuania can be hired through SMP. Experts also believe that people with higher or secondary education can be hired using SMP.
- Candidate's behavior, previous working experience and conversational skills play the most important role in taking the final decision regarding the candidate.
- Information about previous working experience, publications in the news feed and information about a person's education/skills are the most important features of SMP, which are helpful for selection.
- Privacy settings is the main drawback of hiring through SMP.
- The majority of the experts think that SMP can replace all other ways of recruitment.
- Experts mostly recommend to increase a social media presence (83.3%) of the company in SMP for successful recruitment. However, they also put comparing assessment of social media pages (50%) with other alternatives and verification of the information regarding the candidate (50%) also high.

## Conclusions

After scientific literature review and empirical research the main advantages (allowance to present company's culture and values, it is cheaper and faster) and disadvantages (privacy settings, incomplete candidate's pool coverage) of e-recruitment were revealed.

The methodology of the opportunities of e-recruitment through SMP had been presented and expert evaluation was used for the empirical research.

It was identified from the survey for experts that traditional ways of recruitment are not popular anymore, except recommendations from other people, innovative ways of recruitment took the first plan in HR. Experts decided that Facebook and LinkedIn became the leaders for recruitment. It was revealed,

that the main concern regarding the e-recruitment through SMP is incomplete candidates' pool coverage. Also in is not so easy to target candidate of over 30 years old not from big cities and employed by the public companies or having their own business with secondary education. Online recruitment platforms can be not that efficient in case of hiring people outside Lithuania, because the foreigners can be not aware of the existence of certain website, while Facebook makes it easier with the possibilities of groups and communities and "sharing" among followers and friends.

Answering the scientific research problem, in future SMP can replace and become a substitute for all other ways of recruitment in Lithuania due to many factors, but especially their internationality and efficiency. It is not needed to pay as much, as for online recruitment platforms for posting the advertisement and the most narrow specialists and professions can be found there.

The research has a practical value and can be used for business, as human resource managers and business owners can see the situation and current trends on labor market. Also in the future study the survey can be made for other countries, such as Estonia and Latvia in order to cover Baltic region, after which the business model of e-recruitment channels and peculiarities can be created.

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**RECEIVED: 3 March 2019**

**ACCEPTED: 5 June 2019**

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## FACTORS INFLUENCING CORRUPTION MEASUREMENT IN LITHUANIA

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### Abstract

Corruption is one of the oldest human problems that poses a serious threat to the process of economic growth. Corruption in recent decades has been highlighted in many studies. Some corruption studies were focused on the decline of economic indicators, other studies have shown that corruption can increase economic efficiency. Later studies were performed using statistical analysis. The purpose of this article is to assess the level of corruption in Lithuania, identifying the main factors of the emergence of the shadow economy. Having analysed the level of corruption in Lithuania, it was found that in Lithuania between 1999 and 2016, the corruption perception index reached an average of 4.96 points, therefore, it can be argued that Lithuania faces large corruption problems and is not able to bring down corruption.

KEY WORDS: corruption, corruption perceptions index, Lithuania, Transparency International.

### Introduction

Corruption is a phenomenon common to the society from old times, for which contemporary democratic states devote particular attention to efforts to prevent and control corruption. This is what concerns not only the states themselves, but also international organizations such as the World Bank, the United Nations, and others. However, even with these anti-corruption initiatives, this phenomenon remains one of the most pressing problems (Kaušlyaitė, 2009).

According to Buinickienė (2017) the phenomenon of corruption is very widespread in the world and in Lithuania, and its consequences seriously damage the state and its citizens financial, legal, social, moral and other aspects.

In Lithuania, like in many other countries, corruption exists as a problem, and its quantity is difficult to predict. An official, legal proof of the existence of corruption is an official, according to separate articles of the law (including corruption), statistics of recorded and identified crimes, as well as analysis of convictions handed down in courts, following a criminal investigation into such criminal cases (Jagėla, 2005). Corruption undermines good management and the rule of law, which adversely affects the quality and effectiveness of services and jeopardizes the principles of democracy, justice and economy. Parties capable of controlling corruption can make more efficient use of their human and financial resources, attract more foreign and domestic investment and accelerate growth.

Successful anti-corruption efforts are often accompanied by a "related coalition"- politicians and senior government officials, the private sector, citizens, communities and civil society organizations. Increasingly, tackling corruption will require a

coordinated focus on governments and businesses and the use of advanced technologies to collect analyse and exchange information to prevent, detect and sanction corrupt practices. Most of the world's largest corrupt practices could not happen without the wealthy state institutions: private-sector enterprises that provide large bribes, financial institutions that receive money, and lawyers and accountants who facilitate corrupt transactions. Data on international financial flows shows that money is being transferred from the poor to rich countries in such a way as to be detrimental to development. Corruption is a global problem requiring global solutions (The World Bank Anti-Corruption Report, 2017).

The **problem** of this article is: why is it important to assess the main factors of corruption and to anticipate the prospects for their reduction?

**The main aim of the article is** to evaluate factors influencing corruption measurement in Lithuania.

#### Tasks:

1. To present the most important corruption theoretical aspects.

2. To prepare corruption assessment methodology.

3. To carry out an assessment of corruption in Lithuania based on the main indicators of corruption assessment.

4. Identify the relationship between components of the offenses of a corruptive nature: (bribery, abuse, subornation, trade impact, fraud and legalization of money or property acquired through criminal activity), based on the model of multiple linear regression.

#### Research methods:

1. Analysis, systematization and generalization of scientific literature sources.

2. Comparative analysis of statistical data.

3. Traditional methods of research, such as data comparison, grouping, analysis and graphical presentation of information.

4. Statistical methods: graphical representation of data, analysis.

## Literature review

The concept of corruption is derived from the Latin word "corruption", which means damage, bribe. International word dictionary (1985) provides the following definition of corruption: corruption is the use of official rights for profit purposes, the bribe of an official or political actor. Another International Words Dictionary (1999) extends the interpretation of corruption and states that corruption is the taking of bribes by an official or political actor of a state institution for the performance of his duties or for violation of the law in order to benefit himself or herself from mutual benefits, bribery.

According to Gavelis (2006), corruption is an extremely difficult social phenomenon. This problem is being addressed by specialists from various fields—lawyers, economists, psychologists, mathematicians and others. Nevertheless, the cause and effect of corruption are unavailable, and the problems raised by it are only rising. This could be explained by the fact that corrupt relations can transform very quickly and gain new forms of expression, which requires time and effort to be determined. Gavelis (2006) also emphasizes that corruption is a symptom that indicates that something has failed in the state management mechanism, and part of civil servants and officials use their official powers to satisfy unwarranted interests and to suppress the functions of competition. This interferes with full manifestation of market elements (such as demand, supply, price, costs and profit). The high rates of corruption cause disruption of demand and supply, which reduces the pace of economic growth and causes stagnation. All of this suggests that research into the impact of corruption on the economy needs to be expanded, since it provides an effective framework for preventing and controlling corruption. Corruption is not just a problem for underdeveloped countries. Its impact on the economy and society is increasing. The devastating impact of corruption on the social and political development of countries is nowhere inevitable; it is equally thriving in both rich and poor countries. The weakest and poorest classes of social society suffer most from corruption. The impact of corruption began to be studied in more detail in the 20th century. Initially, the focus is on the causes of corruption, and then it was aimed at figuring out how corruption affects the economy.

According to Special Investigation Service of the Republic of Lithuania the definition of corruption is indicated as corruption, direct or indirect aspiration, demand or acceptance of property or other personal benefits (gifts, services, promises, privileges) by a public servant or equivalent person to himself or another person for performance or failure to act in accordance with current duties, as well as acts or failures of a public servant or equivalent, in order to require the property or

other personal gain for the benefit of himself or another person, or the direct or indirect offering or award of a civil servant, or other personal benefits (gifts, services, promises, privileges) for performance or non-performance of acts in the capacity of a civil servant or equivalent person, as well as mediation in the conduct referred to in this paragraph.

In 2012 Special Investigation Service of the Republic of Lithuania in The activity report distinguishes the following offenses of a corruptive nature:

1. Bribery;
2. Trade impact;
3. Subornation;
4. Other criminal offenses if committed in the public administration or in the provision of public services for the benefit of themselves or others:
  - 4.1. Abuse of official position;
  - 4.2. Excessive powers;
  - 4.3. Misuse of official authority;
  - 4.4. Falsification of documents or instruments;
  - 4.5. Fraud;
  - 4.6. Asset misappropriation or Wasting;
  - 4.7. Disclosure of professional secrecy;
  - 4.8. Providing Incorrect Income, Profit, or Property Data;
  - 4.9. Legalization of money or property acquired through criminal activity;
  - 4.10. Interference with the activities of a public servant or a person performing public administration functions or other criminal acts, when such acts are committed or demanded for bribery, or to conceal or disguise bribery. The public opinion and market research centre "Vilmorus" conducted a sociological survey "The Lithuanian Corruption Map 2016", initiated by the Special Investigation Service of the Republic of Lithuania in 2016, which identified highly corrupt institutions in Lithuania, such as: Lithuania's „Seimas“, parties, courts, government, city and district municipalities, police, ministries. For all these corruptive acts listed below, the responsibility of the Criminal Code of the Republic of Lithuania is at risk.

Regarding the links between corruption and the shadow economy, in theory, corruption and the shadow economy can complement each other or even be a substitute for each other. Choi and Thum (2005) provide an example where corrupt government officials need to reduce the need for bribes if companies manage to operate in a shadow economy rather than in the formal marketplace. Dreher et al. (2009) has expanded the model to a clear institutional quality specification. This model shows that corruption and the shadow economy are substitutes because the existence of a shadow economy reduces the tendency of officials to demand bribes. Johnson et al. (1998) on the contrary other authors, have added a pattern of corruption and a shadow economy. In their full employment model, the workforce can be used in the official sector or in the shadow business. And this means that shadow economy growth always diminishes the size of the official market. Under this model, corruption increases the shadow economy, since corruption can be seen as one particular form of taxation and regulation. According to Hibbs and Piculescu (2005) corrupt bureaucrats can ignore informal production in

exchange for bribes, and corruption increases the size of the illegal activity sector. Hindriks et al. (1999) also argues that the shadow economy is complementary to corruption. This is because, in this case, the taxpayer cooperates with tax inspectors secretly, so the inspector does not take tax payers into account in exchange for a bribe. According to Kiyak et.al. (2013) in countries where the shadow economy holds a large share of the market, there is an additional impact of corruption, which can be partly attributed to the inherent features of the political-economic system and the mentality of society.

Regarding the prevalence of corruption in the world, it is distributed in almost all countries of the world, but some countries in the world are more corrupt than others. Corruption and economic disturbance often take place in parallel. In many countries of the world, corruption plays an important role in promoting escalating poverty and weak economic systems. Often this phenomenon is the ability of the people to function.

In theory, the relationship between corruption and the shadow economy is unresolved. However, there are reasons to believe that the ratio may differ between high and low income countries. In countries with high incomes, the official sector provides residents with public services that are a state under the rule of law, as well as contract enforcement and police protection. Typically, only certain employees or very small businesses choose to operate illegally. In this case, the shadow economy is hiding from tax inspectors and other officials. In other words, bribes are not necessary for the benefit of the official sector. High-income countries - usually showing a relatively low level of corruption - individuals who are confronted with corrupt state officials have the right to go to court. In addition, in high-income countries, the bribery of officials seeking to obtain large and profitable public projects (such as the construction sector) that are considered official and generates millions of dollars in profits. In other words, corruption in high-income countries can be a means of reaching certain beneficial agreements or projects that make work easier in the formal economy, for example, an enterprise obtains a permit for large construction projects by winning a public project, avoiding operating taxes. Schneider and Enste (2000) point out that even two thirds of the revenue earned by the shadow economy is spent in the official sector.

Meanwhile, in the low-income countries, the situation is the opposite, when there is anticipated the dominance of different mechanisms. Instead of working in the official sector and offering additional metropolitan services in high-income countries, companies are fully engaged in shadow activities. For example, most illegally operating businesses are restaurants, bars, hairdressers, and sometimes even larger manufacturing companies. According to Statkienė and Granickas (2017) illegal work is an act, which negative consequences are a failure to pay taxes to the state budget and obligations arising from a failure to implement legal contract relationships with employees and the state, as a consequence it violates legitimate interests of employees, the state and society as a whole. One of the possible reasons for this is the public goods offered by the official sector in many developing countries are less effective compared to high-income

countries. Large companies often try to bribe in order to avoid taxes and penalties for hiding them, thus increasing corruption. Corruption allows us to avoid liability and fines for unlawfully carried out economic activities. In this case, the shadow economy and corruption are mutually reinforcing, since corruption is necessary in order to expand the shadow economic activity, from which development is an integral part of bribes. In order to receive additional income from shadow economy executing entrepreneurs, public officials request bribes to benefit from the shadow market. Low-income countries are expected to have a positive (complementary) link between corruption and the shadow economy, according to Choi and Thum (2005), Dreher et al. (2009).

According to Kiyak et.al. (2013) low-income countries are more sensitive to tax and regulatory increases, inefficiencies of institutions and manifestations of corruption in political and economic activities.

### Methodology

Corruption and the shadow economy are two inseparable significant social-economic phenomena. However, it is to be emphasized that the phenomena of corruption and the shadow economy are considered separately, without interconnecting these phenomena, while examining their impact on other economic and non-economic phenomena. In practice, the main indices of corruption perception assessment are distinguished:

1. ICRG index;
2. IMD index;
3. Transparency International corruption perception index.

Corruption Perceptions Index (CPI) is a derived indicator that allows countries to be classified according to perceived corruption prevalence among public sector employees and politicians. The international organization „Transparency International“ conducts business surveys and other expert studies each year to find out how corruption is understood in each country. Foreign, local experts, correspondents and business leaders take part in these surveys. Transparency International's annual publication of the Corruption Perceptions Index by the International Organization „Transparency international“ divides the world's nations into the perception of how corruption is widespread among public sector employees and politicians. Table 1 shows Transparency International's Corruption Perception Index Survey Sources.

**Table 1.** Corruption perception index survey sources

SOURCE	SURVEY RESPONDENTS
1. Bertelsmann Foundation. Bertelsmann Transformation Index. 2010	Experts and correspondents inside and outside the organization
2. Economist Intelligence Unit. Country Risk Service and Country Forecast. 2009	Experts

3. Freedom House. Nations in Transit. 2009	Experts living in or from the country under investigation
4. IMD, the Institute for Management Development, Lausanne, World Competitiveness Yearbook. 2008	Top and Middle-level local and international business companies
5. IMD, the Institute for Management Development, Lausanne, World Competitiveness Yearbook. 2009	Top and Middle-level local and international business companies
6. World Economic Forum. Global Competitiveness Report. 2008	Experienced leaders of local and international business companies
7. World Economic Forum. Global Competitiveness Report. 2009	Top and Middle-level local and international business companies
8. Global Insight, formerly World Markets Research Centre. Country Risk Rating's. 2009	Experts

(Source: Transparency International)

Corruption Perceptions Index (CPI) is derived from experts and businessmen surveys. CPI is evaluated on a scale from 0 to 10, where 0 indicates a high level of corruption in the country, and 10 is practically absent in the country of corruption.

In order to determine which of the corruptive nature of the criminal acts: bribery, abuse, subornation, trade impact, fraud and legalization of money or property acquired through criminal activity has a major impact on the model of multiple linear regression (MLR) for the corruption. Also, the linear multi-regression model will be used to determine which of the corruptive nature of the criminal acts on the corruption.

According to Bagdonas (2009), the model of linear regression is a generalization of one variable linear regression model in which there are more than one variable.

**Hypothesis.** Higher level of subornation are associated with a higher level of corruption.

To determine the relationship between variables, first need to select the appropriate variables. To determine whether there is a linear regression analysis between the corruption and corruptive nature of the criminal acts: bribery, abuse, subornation, trade impact, fraud and legalization of money or property acquired through criminal activity. Will be estimated regression model according to the following criteria:

1. **The coefficient of determination  $R^2$ .** This coefficient is the most important characteristic of the linear regression model for prediction data, which is mandatory in all regression model descriptions. The determination coefficient compares the differences between the Y values when taking into account the regression model, with the differences between the Y values when the model is not taken into account. A very approximate interpretation of  $R^2$ , which helps to understand its meaning, is as follows: how many percent of Y behaviour explains the behaviour of variables X.

2. **ANOVA p-value.** When calculating the multiple linear regression (MLR) among variables based on p (Significance F), the hypothesis must be tested:

Hypothesis  $H_0$  is rejected, if  $p < \alpha$ .  $\alpha$  in this case, the materiality level chosen is 0,05.

Hypothesis  $H_0$  is not rejected, if  $p > \alpha$ . In this case, the null hypothesis is rejected, which means that the regression model is inappropriate.

3. **Regression coefficients and their significance.** The Pearson correlation coefficient will be used to determine the relationship between the selected dependent and independent variables. When calculating the relationship between variables, the values obtained are estimated: the correlation coefficient, or -1, the stronger the negative connection bound to the variables, the more this coefficient is closer to 1, the stronger the positive relationship immediately connects the variables.

#### 4. Record linear regression equation.

$$y = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_jx_j$$

Where: y - is the dependent variable,

x - is the explanatory variable,

a - is the intercept,

b - is the slope of the line.

According to Čekanavicius and Murauskas (2014), a good regression model is that the determination coefficient  $R^2$  is greater than or equal to 0.20 and the ANOVA p value is lower than the chosen level of significance, which is chosen in this study 0.05.

### Corruption Perception Index Analysis

Regarding corruption, one of its most important indicators is the Corruption Perception Index. The Corruption Perception Index (later-CPI) is a complex indicator that allows countries to be ranked according to their level of corruption assessment. This index shows how governments succeed in controlling corruption in the public and policy sectors. CPI score scale is 0 to 10. Ten points mean that the state is extremely "transparent" and corruption does not exist in practice. Countries with a CPI of no more than 5 points are considered to face major corruption problems and fail to stop corruption.

Meanwhile, 0 means that there is a high level of corruption in the state. Figure 1 shows the change in the Lithuanian Corruption Index in 1999 - 2016.

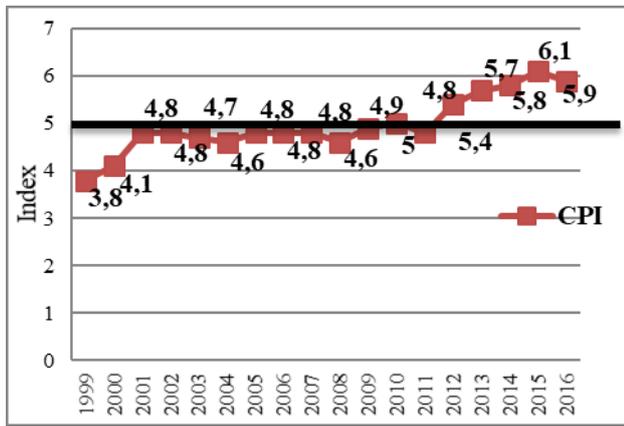


Fig. 1. Lithuanian Corruption Perceptions Index for 1999-2016

(Source: Transparency International)

The picture shows that during the whole analysis period, the lowest CPI in Lithuania was in 1999-2000 and correspondingly stood at 3.8 - 4.1 points. Since 2001 by 2010, CPI have changed very slightly: 2001 - 2002 was stable and reached 4.8 points, 2003-2004 slightly decreased to 4.7 and 4.6 points. Since 2005 The Lithuanian CI rose to 4.8 points and remained until 2008. 2001 to 2015 the increase in the Lithuanian CPI is noticeable, which means that the level of corruption in the country has been decreasing and the country's economy has been "transparent". 2015 According to the CPI study, Lithuania has achieved the highest ever rating.

In comparison, Figure 2 shows the change of the other two Baltic States - Latvia and Estonia in the CPI 2012 - 2016. It is advisable to compare the Corruption Perceptions Index of these 3 countries, as these are young states who have regained independence less than a decade ago. During the entire period of independence, Lithuania, Latvia and Estonia experienced a lot of instability, ranging from growth to a sharp fall in 2008, which was due to objective reasons - the global financial crisis that began.

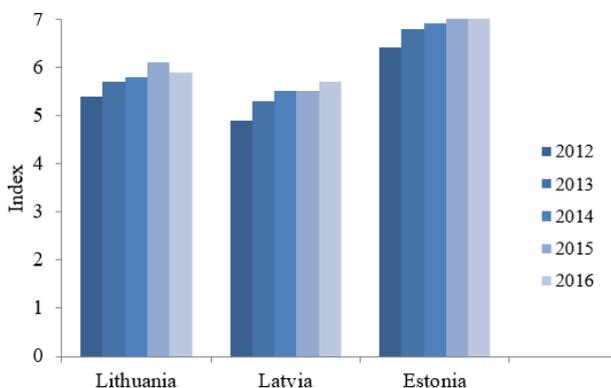


Fig. 2. The change of the perception index of the Baltic States in 2012-2016.

(Source: Transparency International)

Based on the picture above, we can see that in the whole analysed period, the highest CPI indicator was in Estonia. Every year from 2012 by 2015 the indicator

increased from 6.4 to 7. 2016 CPI remained stable and reached 7 as of 2015.

As for Latvia in 2012-2014 The CPI indicator is growing every year: in 2012 it reached 4.9 and in 2014 has grown to 5.5. 2015 the indicator remained stable, but in 2016 the indicator rose to 5.7.

The CPI indicator in Lithuania has been growing like in Latvia since 2012 till 2015 However, in 2016 the indicator slightly decreased compared to 2015 and amounted to 5.9. Based on „Transparency International“2012-2016 survey in the three Baltic States, Estonia has the lowest level of corruption, followed by Lithuania, and followed by Latvia.

Table 2. Lithuania's place in the region according to the corruption awareness index for 2007-2016 between the European Union and other Western European countries

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Lithuania's place in region	25	27	23	No information	22	23	20	20	15	16

(Source: Transparency International)

In Table 2 below, we can see what place Lithuania occupies in 2007-2016 according to the Corruption Perceptions Index compared to the European Union and other Western European countries, are ranked in total by 30 countries. The lowest ratings for CPI in Lithuania are from 2007 to 2008, when Lithuania ranked 25-27 out of 30 countries. 2011-2012 Lithuania was ranked 22-23 by the CPI, while in 2013-2014, remained at 20th place. According to the submitted table, Lithuania occupied the highest place in 2015. - 15th place, and 2016 16th place It can be assumed that in recent years, Lithuania has the lowest level of corruption during the 10-year period analysed.

Figure 3 shows the number of registered criminal offenses in the public service and in the public interest.

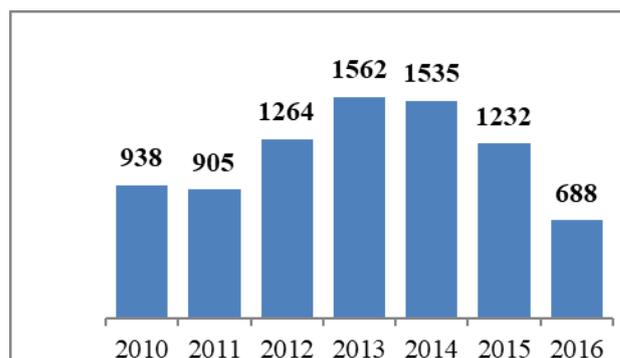


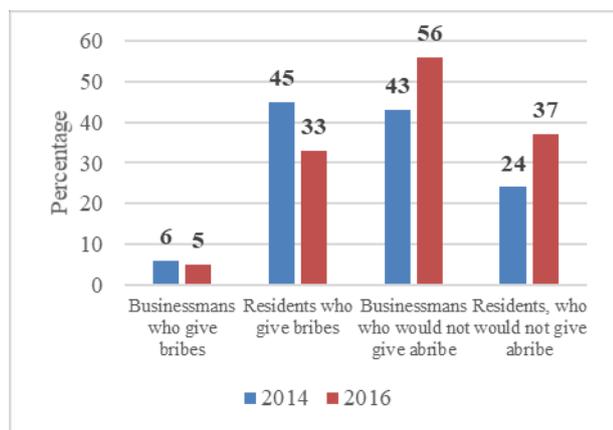
Fig. 3. Statistics on registered criminal offenses for the civil service and public interests

(Source: concluded on the basis of data of the Prosecutor's Office of the Republic of Lithuania)

Based on the data presented in Figure 3, in 2010, In Lithuania, 938 criminal offenses were registered to civil service and to public interest. 2011 this number has fallen by almost 4% and amounted to 905. In 2012 the number of criminal offenses to the public service and public

interests increased significantly to 1264, which is almost 40% more than in 2011 2013. The number of registered criminal offenses for the civil service and public interests was the highest during the whole analysis period and reached 1562, which is almost 24% more than in 2012. From 2014 the number of registered criminal offenses for the civil service and public interests declined annually. 2015 compared to 2014 this number has already dropped by almost 20% and reached 1232. Meanwhile, in 2016 the number of registered criminal offenses for the civil service and public interests was the lowest during the entire period under consideration, and amounted to just 688, which is almost 45% less than 2015.

The Special Investigation Service of the Republic of Lithuania presented a study "Map of Lithuania's Corruption 2016". The results of this study are presented in Figure 4.



**Fig. 4.** Lithuanian Corruption Map in 2016 (Source: concluded on the basis of data of the Prosecutor's Office of the Republic of Lithuania)

According to Fig. 4, we see that in 2016, as many as 13% of the population said they would not bribe in order to solve certain problems and to benefit themselves. It also increased significantly in 2016 compared to 2014 entrepreneurs who say they would not give a bribe. 2016 as compared with 2014, the percentage of people who gave bribes decreased, in 2014 it reached 45%, and in 2016 already 33%. According to the survey data, the percentage of entrepreneurs who gave bribes remained almost the same: in 2014, amounted to 6% and in 2016 5 percent. Summarizing the results of the investigation of the 2016 Lithuanian Corruption Map, it can be stated that in 2016, in Lithuania, the situation among the population and businessmen who have given a bribe has decreased compared to 2014.

Research company „Transparency International” announced a report on „World Corruption Barometer 2016”: Europe and Central Asia. This report reveals some positive changes in Lithuania's corrupt situation. For example, the report states that in Lithuania in 2013, compared with 2016 the population dropped by almost four times (from 23% to 6%), who have faced a bribe when encountered with traffic police. There is also a decrease in the number of people who have given bribes in health care institutions (from 35% to 24%). According to the report of the World Corruption Barometer 2016, in Lithuania only 7% of the informal tax has been reported

to the relevant institutions by a civil servant or equivalent person, and one of the main reasons preventing the population from reporting more intensively about corruption is the fear of consequences. The positive trends of the conducted social studies suggest that the decrease in the number of corruption-related criminal acts in Lithuania is largely due to preventive activities carried out - various social advertising campaigns, anti-corruption education programs, etc.).

In order to determine which of the corruptive nature of the criminal acts: bribery, abuse, subornation, trade impact, fraud and legalization of money or property acquired through criminal activity has a major impact on the model of multiple linear regression (MLR) for the corruption. In order to determine the relationship between corruptive nature of the criminal acts and the selected variables, the Pearson correlation coefficient was calculated. The Pearson correlation coefficient allows one to determine the different variables (strong, weak, positive and negative). Regression analysis allows one variable to be predicted for another variable. Table 3 provides a correlation analysis of the variables of the corruptive nature of the criminal acts.

**Table 3.** Correlation analysis of the corruptive nature of the criminal acts

	Corruption	Bribery	Abuse	Subornation	Trade impact	Fraud	Legalization of money or property acquired through criminal activity
Corruption	1						
Bribery	0,857	1					
Abuse	0,515	0,034	1				
Subornation	0,844	0,967	-0,021	1			
Trade impact	0,919	0,948	0,297	0,868	1		
Fraud	0,449	0,137	0,862	-0,036	0,424	1	
Legalization of money or property acquired through criminal activity	0,374	0,526	-0,191	0,566	0,332	-0,190	1

(Source: own)

The Pearson Correlation Coefficient allows you to estimate the strength of the linear coupling between variables. How this factor is closer than 1, the linear relationship between variables is stronger. From the table 3 we see that strong positive correlation is between bribery and subornation, with a correlation coefficient of 0,967, also between bribery and trade impact with a correlation coefficient of 0,948 and trade impact and corruption with a correlation coefficient of 0,919.

Average linear positive correlation is between abuse and corruption with a correlation coefficient of 0,515 and between Legalization of money or property acquired through criminal activity and Subornation here correlation coefficient is 0,566. Weak linear positive correlation is between fraud and corruption with a correlation coefficient of 0,449, also between legalization of money or property acquired through criminal activity and corruption with a correlation coefficient of 0,374. Very weak linear positive correlation is between abuse and bribery with a correlation coefficient of 0,034 also between trade impact and abuse with a correlation coefficient of 0,297.

**Hypothesis testing.** After calculating the values of the suitability corruptive nature of the criminal acts variables, we obtained a Significance F value of 0, 007.  $\alpha$  is the materiality level chosen in this case, which is equal to 0,05.

The following results were obtained after calculating the values. ANOVA:  $F = 115,69$  and  $p = 0,007$ . Since  $p < 0,05$ ,  $H_0$  is rejected, due to the fact that there is a statistically significant linear relationship between the corruption and corruptive nature of the criminal acts.

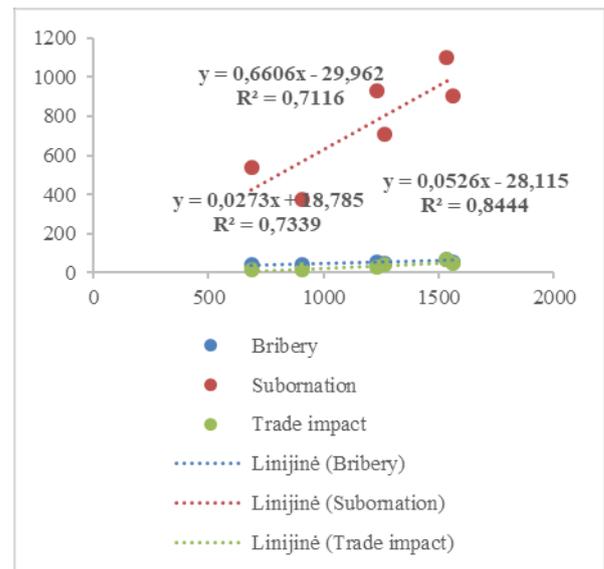
**Regression model evaluation.** After checking the hypothesis, the determination coefficient  $R^2$  is calculated. Determination coefficient shows the significance of the independent variable, in this case, of the corruption dependent variables - bribery, abuse, subornation, trade impact, fraud and legalization of money or property acquired through criminal activity. Table 4 presents a summary of the linear regression model indicators, which shows how the dependent variables explain the change in the independent variable.

**Table 4.** Summary of indicators of the linear regression model of the corruptive nature of the criminal acts (Source: own)

Regression Statistics	
Multiple R	0,999
R Square	0,998
Adjusted R Square	0,989
Standard Error	35,895
Observations	6

From the table below we can see that the calculated coefficient of determination is equal to 0, 9989. The literature states that the higher the coefficient value, the model is better suited for the data. If  $R^2 = 0,89$ , one can assume that the model describes the data very well. In this case, the estimated  $R > 0,89$ , therefore, it can be stated that the linear regression model is valid.

Figure 5 illustrates the linear regression of the three most influential factors for corruption: bribery, subornation and trade impact.



**Fig. 5.** Linear regression equations for corruptive nature of the criminal acts (Source: own)

Based on the linear regression equation for the equations for corruptive nature of the criminal acts, we can see that the regression equation can be applied to all variables, because determination coefficient  $R^2$  is high, which means that bribery, subornation and trade impact affects corruption.

## Discussion

Corrupt offenses are very diverse and sometimes difficult to identify. Corruption risk indicators are measured indirectly by assessing the most risk-prone areas of corruption: public procurement, supervision of companies and institutions controlled by the municipality, transparency, openness and accessibility of services, taking into account violations detected by the competent authorities and other discrepancies in legal norms and anti-corruption activities of the municipality. Corruption indicators can be assessed in two ways. First of all, these are objective data that show concrete corruptive facts and the level and prevalence of criminal acts in the self-government. However, knowing the latency of corruption-related crimes (only one case of corruption is detected in 100), one cannot categorically deny corruption phenomena, even if, during a certain period of time, there was no corruption in a municipality's territory.

## Conclusion and recommendations

Having analysed the level of corruption in Lithuania, it was found that in Lithuania between 1999 and 2016, the corruption perception index reached an average of 4.96 points, therefore it can be argued that Lithuania faces large corruption problems and is not able to stop corruption. For comparison, the analysis of corruption in Latvia and Estonia in 2012-2016 has been carried out, which revealed that in Estonia the corruption perception

index in the study period averaged 6.82 points, while in Latvia it was 5.38.

According to the Corruption Perceptions Index calculated by „Transparency International“, it was noted that in Lithuania CPI average was 4.96 points, which means that Lithuania faces corruption and is not able to stop it. Special Investigation Service of the Republic of Lithuania is proposing a digitization of government procedures as a possible anti-corruption measure. This measure can be a very effective tool for both the possibility of corruption and the reduction of corruption itself. The key idea and driving force is that electronically supplied and fully automated public services can eliminate the key factors that create positive conditions for corruption to emerge.

Based on the correlation between components of the offenses of a corruptive nature: (bribery, abuse, subornation, trade impact, fraud and legalization of money or property acquired through criminal activity), strong linear positive correlation is between bribery and subornation, with a correlation coefficient of 0,967, also between bribery and trade impact with a correlation coefficient of 0,948 and trade impact and corruption with a correlation coefficient of 0,919. Average linear positive correlation is between abuse and corruption with a correlation coefficient of 0,515 and between Legalization of money or property acquired through criminal activity and Subornation here correlation coefficient is 0,566. Weak linear positive correlation is between fraud and corruption with a correlation coefficient of 0,449, also between legalization of money or property acquired through criminal activity and corruption with a correlation coefficient of 0,374. Very weak linear positive correlation is between abuse and bribery with a correlation coefficient of 0,034 also between trade impact and abuse with a correlation coefficient of 0,297.

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RECEIVED: 27 October 2018

ACCEPTED: 5 June 2019

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## TRENDS IN THE MANAGEMENT CONSULTING OF HRM SERVICES IN THE LIGHT OF EMPIRICAL RESEARCHES

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### Abstract

This study deals with the tendency of companies to use external providers in managing Human Resources, and with the way in which this has changed in the years following 2008 and the arrival of the economic crisis. Although outsourcing is often seen primarily as a cost-cutting exercise, the study reveals that, when HRM is concerned, external providers are widely used for higher value-added HR activities, such as the development, provision and operation of specialized HR IT systems. Further, larger companies and those with developed HR departments were more likely to make use of such services, and companies in peripheral economies less likely. At the same time, we have found that, in the aftermath of the global economic crisis, the use of external providers declined. This would suggest that even if external HR providers add value, they remain in the eyes of many companies, a luxury which can be readily jettisoned in adversity. This paper aims to show both the common and distinctive features of HR consultancy which can be identified in the various regions of the world in these early years of the 21<sup>st</sup> century. However, among the regions examined, special attention is paid to, the former socialist countries of Central and Eastern Europe (CEE).

KEY WORDS: Management consultancy, HR, outsourcing, external provider, Cranet

### Introduction

Management Consultancy is more than one hundred years old (Kubr 1996, Niedereichholz, Ch.; Niedereichholz, J. 2012). Management consultancy for the purpose of this submission is defined as: Management consultancy is the rendering of independent advice and assistance about management issues. This typically includes identifying and investigating problems and/or opportunities, recommending appropriate action and helping to implement those recommendations (Biech, 2007; Sturdy et al., 2013; FEACO, 2016). Theoretical and practical development of management consultancy can be traced into five major views (Kipping, M.; Clark, T. 2012). The first wave was that relating to 'scientific management' and generated by Taylor, Bedaux and Maynard. (Fink, 2004; Niedereichholz, 2008). This movement continues today in methods such as BPR (Business Process Reengineering) Six Sigma, Kaizen (Toyota System), TQM (Total Quality Management), etc. The second wave related to Human Relations. The best known advocate of this approach is George Elton Mayo, who noted the link between efficiency and mental health and made proposals to decrease workplace stress (Block,

1981). The third wave was that of the growth of *strategy consulting*. This field and its advocates (McKinsey, Boston Consulting Group, Bain Corporation, A.T Kerney) have long played the most significant role in consulting. This movement is still dominant, but its prime was in the past decades. The growth of *consulting in accountancy firms* was the next wave. In the 1960s the rise of Information Technology encouraged standardization in accounting services and the general reduction of client fees in the 1970s and 1980s. This, in turn, led to diversification among accountancy firms in terms of "added value".

On the other hand, technological evolution also led to *IT consulting and outsourcing*, and this forms the fifth wave. Market research shows that, today, the size of market for the general Management Consulting sector has been overtaken by IT consulting services. Today's accelerating changes in the global environment pose huge challenges to companies in the field. The most significant changes occur in digital economy and have had an enormous impact on the development of the consultancy industry. In previous years, clients employed consultants

and relied on their advice to provide effective recommendation and feasible implementation ideas based on their broad theoretical knowledge and experience from other clients. This time is over. Today, clients are expecting effective value creation from consultants in a global environment. (Hodges, 2017).

*We are also completing the aforementioned five trends with a sixth trend: the People and Knowledge Management movement.* A new recognition of recent years shows that capital, technology and financial resources are becoming less of a competitive advantage. The real distinctive factor among companies is the human resource, human capital and knowledge. Review of the literature reveals a number of authors who have suggested that a critical element of success for business organizations is the effective management of people and knowledge (Ulrich et al., 2009; Torrington et al., 2014; Armstrong and Taylor, 2017). The classical representatives of human resource consulting on an international level are AON-Hewitt, Hay-Kern Ferry, Mercer, Towers-Whyte, etc. Beside these companies, other consultancy companies also recognized business opportunities in the trend indicated.

Moreover, consultants must meet new requirements. Consultancy must be outcome-oriented rather than problem-oriented. Using a problem-oriented approach,

the consultant identifies problems and offers solutions. However, it is more efficient when the consultant helps the client to identify problems himself and to achieve outcomes. Additionally, an erroneous problem definition can be eliminated by this approach.

Another requirement is that consulting must be focused on the co-creation of new knowledge rather than on expert knowledge. Expert or process knowledge is not sufficient, since, to understand an organization appropriate questions need to be asked. The resources which already exist can be mapped – a potentially useful building-block in the consulting process.

Further, in our uncertain world, knowledge is dynamic rather than static. The regular consulting models are based on the paradigm that it is possible to influence the environment, but this view has now been discredited and there is no single solution which is good for all situations. Consultants are advocates of knowledge, but this is not simply one-way traffic. (Sturdy, 2011)

The relationships between consultants and clients also become more personal rather than merely professional, and all of these changes in the client’s requirements lead to the Inquiry Model of Consulting (Table 1), which meets the challenges of a more complex and uncertain world. (Brooks, K.; Edwards, K. 2014).

**Table 1.** Roles and models of management consultancy

Consultant Emphasis	The Advice (expert) Model	The Process Model	Inquiry Model
What is the consultant task?	Solve problem	Solve problem	Achieve the Client’s desired outcome
What should the relationship between Consultants and Clients?	Consultant transfers or delivers knowledge to Client	Consultant and Client work together on human relationships and organization dynamics	Consultant and Client are partners on technical and social/human dimension of change
Who is the expert?	Consultant is the expert brings knowledge and best practice	Consultant is a „helper” or process expert	Client and Consultant each bring different types of expertise to bear on achieving the outcome
How should the Client’s capacity be increased?	Transfer knowledge in form of product or service	Help clients learn to more effectively work together	Client and Consultant co-create knowledge needed to achieve the outcome
How much attention should the Consultant give to the uniqueness of each Client organization or community?	Low (knowledge transferable across contexts)	High	High

(Source: Brooks, A.K.; Edwards, K. 2014.)

According to this, specification will also become more important in consultancy – as asserted by Harvard University researchers. (Clarck et al, 2015)

Additionally, we meet changes in the area of capitalist orientation and the transformation of social management, together with the internationalization and globalization of enterprises and organizations. All of these influence our culturally complex environment, and the overall effect on the industry has been strong. These factors have had a huge impact on the consulting industry, on advisory

processes and on advisors alike – although this is not exclusive to HR consulting (Ennfellner et al., 2014).

This study deals with changes in the use and uneven impact of outsourcing of the HR function, whether in basic administrative roles or in the use of management consultants to add value to higher-end or more strategic areas of HRM. At the beginning of the 1980s, as Drucker (2003) noted, HR strategy gained importance and consequently HRM became more valuable in Management Consultancy also. Although there has been a proliferation in both the use of consultants and

outsourcing since the early 1990s, distribution remains uneven, and there is considerable debate as to their real contribution to organizational effectiveness or the sustainability of such practices (Belcourt 2006; Lievens, F.; de Corte, W. 2008; Crawshaw, 2017). Indeed, whilst outsourcing is often driven by a desire to cut costs, there is some debate as to how effective this has proved in a range of different contexts (Harrison and Kelly, 1993). Again, it can be argued that consulting represents a relative “luxury” which is likely to be trimmed in a period of austerity. The study explores the impact of the last 15 years on the relative inclination of companies to off-load parts of the HR function to external providers. The case of post-state-socialist Central and Eastern Europe is a particularly salient one, given that many organizations have faced ongoing and acute crisis of competitiveness since the early 1990s and, of course, many have met oblivion (Kornai, 2008). HRM played an administrative and political role in CEE countries (Kazlakauiste et al, 2013), whilst the traditional Taylor-line (Gross, A. C.; Poór, J. 2008) was represented by management consultancy in Eastern Europe. In general, before the political changes at the end of the 1980’s, in most Eastern-European countries consulting service was rendered by sector research institutes controlled by the state, or by departments of different ministries. In numerous countries management training and consulting centers were established with the support of the International Labor Organization (ILO) (Kubr, 1996), or that of UNIDO (United Nations Industrial Development Organization). As a summary, we can say that in the previous regime the characteristics of modern management consulting were very scarce in these countries.

An increasing number of theorists and experts claim that privatization and ownership change do not automatically improve the effectiveness of the government, the companies, and the social welfare systems (Piispanen-Krabe, 1990; Claessens, S.; Djankov, S. 2002). On the contrary, it may well increase opportunities for corruption and bribery. When a company is privatized or managed by Western-type business rules, there is no guarantee that the values and mindsets of the people will change along with it. The adaptation of all the financial, legal, technical and sales frameworks in a privatized local company or in companies with foreign participation represents only the first stage in the creation of a Western-type enterprise. Once all this is in place, one must start to consider how to get the people and the organization to perform in a competitive way. Even the best financial infrastructure in the world will not turn companies around from command economy to market economy if the people and the organization do not perform appropriately.

On the one hand, this might suggest that organizations operating in the region have most to gain from the infusion of external expertise. On the other hand, if locked into survival mode, organizations may lack the resources to secure such expertise, and concentrate their attention on the basic managerial and administrative functions necessary for survival. Hence, in looking at changes in the use of external providers of HRM services, we accord particular attention to this region. As Lievens and de Corte (2008) note, much of the existing literature

focuses on the rationale behind the initial decision to engage in outsourcing, rather than whether and how such relations persist. Generally speaking, consulting is “a knowledge-based service; it can be bought and sold, but it cannot be dropped on your foot, and it cannot be displayed in a shop-window. The service of a consultant is often intangible, hard to store and/or transport, and it is difficult to demonstrate its advantages to potential clients” (Miles, 1999). Sveiby (1992) describes a knowledge-intensive organization as one in which the majority of employees are highly educated, where the product is not standardized but involves a high degree of problem-solving skills and information manipulation. In respect of such services, we need to highlight certain important elements in the following areas:

- human capital features and knowledge intensity,
- a high level of intangible activities and services,
- difficulties in standardization,
- intensive interaction between consultants and clients.

Besides traditional management consulting (e.g. strategy, organisation, HR, change management, IT advice and project management) new service lines (e.g. development and integration (excluding software development) and outsourcing as well coaching and humble consulting (Brooks, K.; Edwards, K. 2014 and Schein, 2016) also belong to this profession (FEACO, 2016 and Hodges, 2017).

### The Outsourcing of HRM Functions

Belcourt (2006) notes that companies engage in outsourcing of HR functions to save money, to free up core HR staff to deal with strategic issues, to access new technology and capabilities or simply to improve overall functionality. HR outsourcing includes a broad range of internal HR functions and the respective, externally procured personnel services such as temporary agency work, payroll accounting, interim management, outplacement services, HR consulting, placement services (Alewell, et al.; 2009). As Poór and Gross (2010) note, outsourcing falls outside a strict definition of consultancy, but in practice, the use of external providers to fulfil aspects of the HR function may, in some instances, constitute outsourcing. In contrast, outsourcing may be defined as “the practice of providing assistance towards organizational improvements” or the provision of services that add value beyond the basic maintenance activities of day-to-day personnel administration (Sturdy, 2011). Outsourcing assumes a consulting dimension when it adds value to the HR function and/or new specialized expertise (Sheehan, 2009), rather than when simply replicating it outside of the walls of the organization. Moreover, other work would suggest that a major driver of HR outsourcing remains aggressive cost cutting, with possible effects on overall effectiveness (Beregszaszi, J.; Polay, D.H. 2012). This might indicate that, given relatively marginal gains or high risks, it may be the kind of activity readily jettisoned in difficult times. Lievens and de Corte (2008) argue that outsourcing relationships are more likely to persist when they are multi-faceted, and when HR managers perceive the outside providers as sharing similar values. Although

Cooke, Shen and McBride (2005) found widespread use of external providers for at least one HR function, take-up rates varied greatly between contexts.

## HR Consultancy

Although management consultancy has a long history, as Grint and Case (1990) note, the 1980s saw the rise of a new wave of “bellicose” managerial consultancy; the latter was characterized by a focus on targets and measurement, coupled with aggressive rhetoric centering on short-term value release. Such consultancy sought to enhance all the functions of management, but, as employees are the main non-owner stakeholders with sunk capital in the company (Goergen, et al. 2012), it could be argued that the increased role of consultants in managing a company’s people is vested with particular importance; indeed, Briscoe et al. (2009) note that consultants have become a ubiquitous feature of organizational life across the developed world. Looking at the case of Australia, Sheehan (2009) found that larger companies were more likely to make use of HR consultants in order to secure new specialized skills. Although this particular service field was rarely seen in the ex-socialist countries prior to 1990, the political transition in these countries opened the door to external HR consultants, who are now similarly active across the region (FEACO, 2014).

## External Providers and Setting

The External HR consultancy encompasses many dimensions ranging from those providing special functions - for example, recruitment by head-hunters, through logistics services to strategic inputs - and is an activity embracing not only traditional HR consultancy companies, but also head-hunters, training companies, employment agencies, HR-IT service companies and - in recent years - an increasing number of outsourcing providers (Poór et al., 2016). The ubiquity of external providers for HRM services does not mean that it lacks political, ideological and value dimensions (Kipping, 2002; Grint, K.; Case, P. 1998). As the literature on comparative capitalism alerts us, specific national institutional contexts are more conducive to particular types of practice than others (Hall, P.; Soskice, D. 2001; Whitley, 1999), and it is likely that, common pressures notwithstanding, the uptake of such services is likely to remain even, both within and between types of national economy. Hall and Soskice (2001) argued that the most developed sets of mutually supportive practice will be encountered in the mature economies in contrast to the Mediterranean and (Eastern and Central) European Emerging Market Economies (Hancke et al., 2007). Indeed, as Poór (2002) notes, it was only with the relaxing of Soviet control in Eastern Europe in the 1980s, that professional management consultants emerged in the latter. More recent work has pointed to the convergence of a number of Eastern and Central European economies with more mature ones, most notably Estonia, Slovenia, and Slovakia (Lane 2007). However, as the range of external HR services offered growth, the development paths of some countries also show common features

including time cycles and culture and institution related specifics of the regions in question (Christensen et al, 2013). If we take a longer-term perspective, it becomes clear that the evolution of different fields of the consulting industry and of its pre-eminent companies are closely linked to the development of management practice and ideology (Kipping, 2002).

## Context to research

The development of the consultancy business in Eastern Europe was greatly affected by the facts that, after WW2, the management principles which were adopted were those practiced in the Soviet Union, and so the independent incidence of a management and organization science including general and HR consultancy was considered absolutely unnecessary. Professional management and HR consultancy performed by a third-party organization for different clients only became fashionable again in Eastern Europe in the mid-1980s, and this has meant that the last twenty years have seen faster development here than in the developed countries (Poór, 2010).

The one-party political and power system in CEE countries collapsed at the end of the 1980s and these countries are now well on their way in the move from dictatorship to democracy. The dizzying speed of the capitalist renaissance in the past 20 years has tied a number of countries – ten new EU members (the Czech Republic, three Baltic States, Hungary, Poland, Slovakia, Slovenia, Romania and Bulgaria) – more closely to the West than at any time in previous decades. Such a rapid transition from centralized state control and national economic planning to free-market, globally competitive capitalism is unprecedented in history. This difficult political and economic process has, however, had its consequences, as shown below (Roaf, et al., 2014).

First, the political and administrative map of the region has undergone drastic change. Before the sweeping political transformation, eight countries existed in this region; now, besides the Eurasian region of the former Soviet Union, there are 16 different sovereign states with a combined population of more than 200 million. Before these changes, from a cultural perspective, the whole region had been treated in a very similar manner by the Western world, all being considered to be “behind the Iron Curtain”. These nations all belonged to the socialist bloc. We have to recognize that, behind the new borders, there is an environment which is - historically and culturally - highly diverse (Berend, 1996). Recognizing the complexity of this increasing regional diversity (both perceived and real) is critical to understanding the different management practices and their logical consequences on management consulting.

The second major consequence of the transition has been privatization. The private sector has become dominant in GDP terms in the EE countries, with the highest level of privatization appearing in the Czech Republic, Poland and Hungary. An important characteristic of Central and Eastern European privatization is that, in addition to internal forces (management and/or employee buy-out) (Peng, 2000),

foreign capital played a key role in the process, with some Western politicians refusing to introduce a new Marshall Plan. Foreign Direct Investment (FDI) in CEE countries gradually increased from the early 1990s when these countries abandoned their socialist systems and introduced market-oriented reforms (UNCTAD, 2011, 2012). According to data gathered by Lewis (2005), some US\$260bn of FDI arrived in the CEE region over the last 15 years, the expectation for CEE countries being that investment by multinational companies (MNCs) would fill the gap.

The third consequence was that the transition was overshadowed by high inflation and a drastic decrease in output performance during the 1990s, with more and more countries in the region trying to halt the trend. Today most of these economies have started to grow. However, despite this economic growth and lower rates of inflation in many EE countries, a wide range of differences in GDP and GDP per capita remains between the old and the new EU members.

## Research method

The question is often raised in human resource management - especially in multinational companies or during the application of a rule of the EU - is whether the most effective method or rule would be a universal choice or a country-specific solution. For a long time, the universal logic of Americans was the standard. The followers of this way of thinking thought that HR solutions developed and applied in the United States could be used anywhere in the world (Beer et al., 1984; Fombrun et al., 1984). In this context, researchers have conducted a number of more complex comparisons on the use of US HRM models in different cultures and in exploring the causes of similarities and differences (Budhwar, P.S.; Sparrow, P.R. 2002).

The Cranet network, which has been operating for more than thirty years now, is one of the few international research organizations whose recurring surveys offer not only spatial but also time-based comparisons, i.e. longitudinal analyzes (Lazarova et al., 2008). Other similar research projects include CEO (Lawler, E.E.; Boudreau, W. J. 2018) and Saratoga (Fitz-enz, 1995, 2000) - Today, this network involves almost every country in Europe (including Hungary), so that the opportunities of exploring Western European HR practices in the early decades and identifying the different features of the American model (Brewster, et al. , 1994) are expanding.

Our study is based on three recent rounds of the global Cranet HRM survey (2004-05, 2008-10 and 2015-16) which provide the background to our empirical analysis. We highlighted basic fields of the whole Cranet survey and tried to give an in-depth analysis of the selected fields. We analyzed business areas where controlled research by randomization is hardly possible (Ghuri-Gronhaug, 2010), and, in line with more orthodox management science principles, control

variables are used based on repeated trials at the time (Reeb et al, 2012). Cranet is the world's largest research network of HRM, and it brings together researchers from 41 countries (Lazarova et al., 2008). The Cranet research methodology (Brewster et al., 1991; Brewster et al., 1994; Mayrhofer, 1998) has remained remarkably stable since the early surveys. Some revisions have been made to the questionnaire over its various iterations, but the research dynamic is characterized by expansion from Western Europe into a number of nations and regions in the rest of Europe and around the world. The standardized Cranet questionnaire, which serves as the basis for our current research, contains seven parts and poses almost 60 questions to explore HRM practices. Surveys offer both cross-sectional (country and region) and longitudinal analysis.

The Faculty of Economics at the University of Pécs and the Faculty of Economics and Social Sciences at Szent István University from Hungary, as members of the international research network of Cranet, have conducted three survey rounds of human resource management in Hungary, which is part of the international comparative studies since 2004.

### *Country clusters*

The basis for cluster generation was the analysis of the organizational and cultural traits of the respondents (Hofstede, 1980). The country cluster is shown in Table 1. As a result of this, we identified six regions. In this study, the West European (WE) category consists of Austria, Belgium, France, Germany, and Switzerland; the total number of organizations surveyed in 2004/05 was 1,271, and in 2008/10 it was 1,119 - 23% of the total sample in both periods, whilst it was 991 16% in 2014/15. The North European (NE) cluster comprises Iceland, Norway, Sweden, Denmark, and Finland, with 1,609 (29%); 1,016 (21%) and 738 (12%) organizations in the sample in 2004/05, 2008/10 and 2014/15, respectively. The EE category included 826 (2004/05), 978 (2008/10) and 979 (2014/15) organizations in six former socialist countries from Central and Eastern Europe (Bulgaria, the Czech Republic, Estonia, Hungary, Slovakia, and Slovenia). The Eastern Europe category was supplemented by a further 2 countries Latvia and Lithuania in 2014/15 because Bulgaria and the Czech Republic did not participate in the survey in 2014/15. The USA appears as an individual cluster by having 260 (5%) and 1,052 (22%) participating organizations, which became 381 (6%) in 2014/15. The United Kingdom (UK) cluster was represented by 1115 (20%) in 2004/05, 218 (4%) in 2008/10 and 182 (3%) in 2014/15 respectively. Finally, we identified a peripheral region which included Cyprus, Greece, and Israel. In the 2004/5 research period 527 organizations from those three countries filled out the questionnaire, comprising about 9% of the sample, whilst in the 2008/10 research period 478 companies from these 3 countries made up some 10% of the respondents, followed by 352 (6%) in 2014/2015 (Table 2).

**Table 2.** Composition of sample (2004/05; 2008/10; 2015/16)

Country Cluster/period	West European	Nort European	Eastern European	Periphery region	United Kingdom	United State of Amerika
2004/05	Austria Belgium Franc Germany Switzerland	Iceland Norway Sweden Denmark Finland	Bulgaria Czech Republic Estonia Hungary Slovakia Slovenia	Cyprus Grace Israel	UK	USA
2008/10	Austria Belgium Franc Germany Switzerland	Iceland Norway Sweden Denmark Finland	Bulgaria Czech Republic Estonia Hungary Slovakia Slovenia	Cyprus Grace Israel	UK	USA
2015/16	Austria Belgium Franc Germany Switzerland	Iceland Norway Sweden Denmark Finland	Estonia Latvia Litvania Hungary Slovakia Slovenia	Cyprus Grace Israel	UK	USA

Source: Authors' own edition

## Hypotheses development

For the purpose of this study the authors decided to explore the changes in the use of HR outsourcing in relation to the effects of the economic crisis, as a macroeconomic trend, and as organizational factors of the companies included in the research. There are three possible explanations of the impact of the crisis on the relative tendency of companies to outsource and/or seek external expertise in fulfilling HR tasks. The first is that the use of external knowledge providers is a relative luxury which is easily dispensable in hard times. This would suggest that HR departments with a more strategic or knowledge-intensive function are more likely to be kept in-house in hard times, and in contexts where the global recession is most felt. Again, if a company is locked into a basic survival mode, it may be reluctant to engage in significant new initiatives (Hitt, 1995).

H1: *The effects of the financial crisis have led to the decreasing use of external service providers*

The second is that recession-driven cost-cutting may make for more outsourcing, rather than less, with as many functions as possible outsourced to low cost external providers. It also may be that at such times, companies need to enhance their capabilities from whatever source is possible, in order to survive and compete (Whetten, 1980). These two tendencies may be complementary (Delmotte, J.; Sels, L. 2008; Whitford, 2005).

H2: *The incidence of an HRM department increases the likelihood of using external service providers*

Third, it may be that the relative tendency to ask external providers to offer aspects of HRM work will be affected by the size of the company, the sector, and

whether it has an HRM department or not: Research from Lithuania suggests that medium-sized and private organizations tend to use more external providers for payroll than their smaller counterparts (Kazlauskaitė, R.; Buciuniene, T. 2010). If HRM outsourcing contributes to the effectiveness of the HRM department and frees up staff to deal with strategic challenges (Delmotte, J.; Sels, L. 2008), it is more likely to be encountered in larger organizations that have the capabilities to develop large HRM departments with strategic capabilities and greater wherewithal to secure the best expertise wherever found.

H3: *Larger organizations more frequently use external service providers in the 3 sample periods*

However, this hypothesis should not imply that smaller companies without an HRM department cannot perform effective HRM work (Kim and Lee, 2012)

## Results

In our study we show the results of the last three surveys of external service providers in the HR field. There was no HR department in 8% (2004/05), 20% (2008/10) and 11% (2014/15) of the total sample. The data show that numerous companies have opened an HR department in the last five years.

According to the survey results (Cranet 2004, 2008 and 2016), the most common size of a HR department stands at 1-5 personnel - 50% (2004/05), 43% (2008/10) and 44% in (2015/16). In the USA (0% -6%-14%), and in Western Europe (5%-5%-5%) very few organizations operate without an HR department, and most of these are located in Eastern Europe (12%, 36%, 19%) and in countries on the periphery (19%, 30%, 19%). The results show that since 2008, in Eastern Europe the presence of

the number HR departments in firms has increase, especially in smaller firms (with HR departments from 1-5 members). Interestingly, the US shows the presence of HR departments declining slightly in firms overall,

especially in those firms with small HR departments of 1-5 members, exactly the opposite of Eastern Europe (Figure 1).

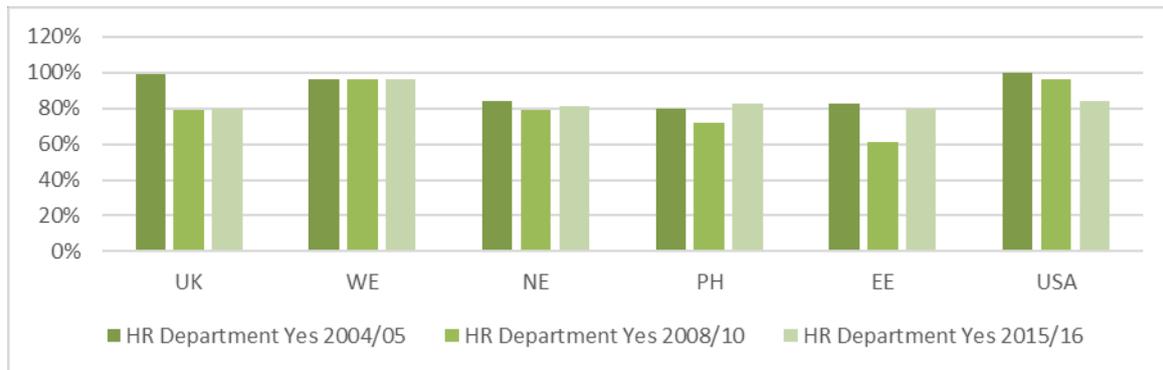


Fig. 1: Companies/organizations with active HR departments (%)

Source: Authors' own edition

Our analysis demonstrates the current situation among companies with and without HRM departments. The number of organizations with separate HRM departments significantly decreased in all clusters after the financial crisis, although there has been an increase in Eastern Europe and in the peripheral region over the last five years.

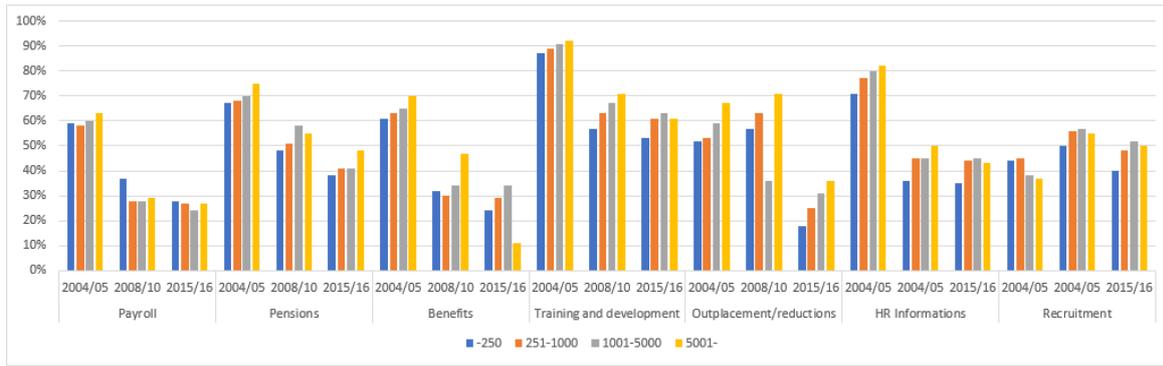
In this sample, in 2004 89%, in 2008 62% and in 2016 64% of the organizations reported that they used external service providers in the fields of training, education and development, whilst 76% (2004/05) 42% (2008/10) and 46% (2015/16) used external service providers in the field of HR information system services. In EE countries, however, the use of external service providers for any HR function is less common than in the other clusters following the economy crisis, and so training and development, with HR information system services, are the most frequently used fields for employing external services in all three periods. (Figure 2). There is a significant relationship between the clusters and the use of external service providers (according to the Chi-square test). The most significant relationship lies in the field of retirement Cramer's V (2004) = 0.379, Cramer's V (2008) = 0.334 and Cramer's V (2015) = 0.411, and in the field of benefits Cramer's V (2004) = 0.204, Cramer's V (2008) = 0.291 and Cramer's V (2015) = 0.364 (Table 3).

Table 3: The Cramer's V test

Cramer's V Test/Period	2004/05	2008/10	2015/16
Retirement	0.379	0.334	0.441
Benefits	0.204	0.291	0.364

Source: Authors' own edition

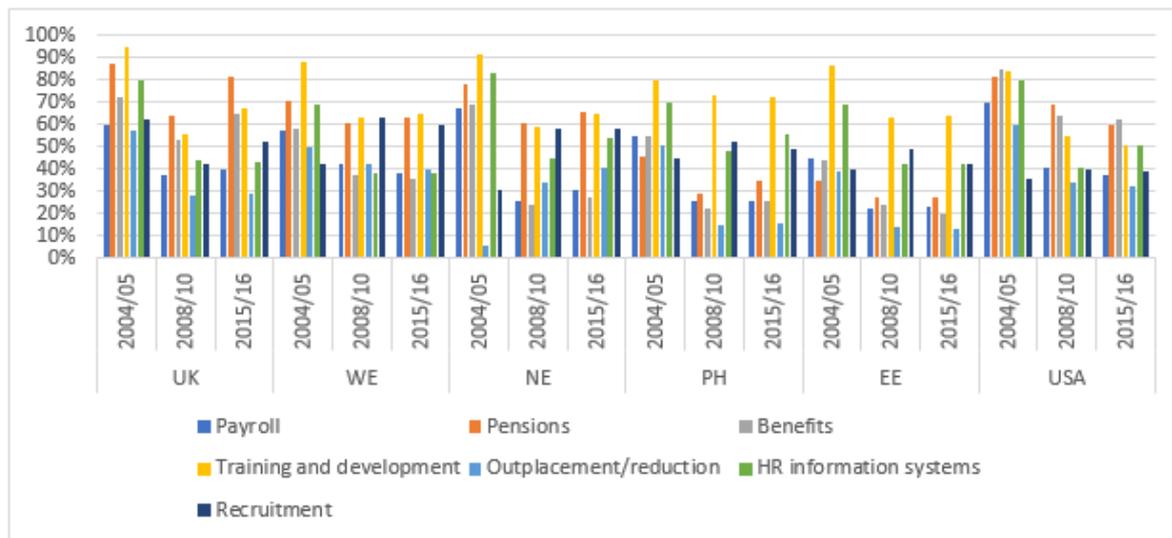
The Cranet survey examines the use of external providers to perform HRM functions in four broad areas in 2016. Firstly, there is the use of external providers to administer Pensions and Rewards, which may incorporate significant financial decision-making. With the general decline in defined benefits pensions, the actual amount which employees receive has become increasingly difficult to estimate, and the use of external providers may place such arrangements at arm's length from the company although this could have negative consequences for employee morale and retention (De Thierry et al., 2014). Secondly, it examines the use of external providers for Training and Development, as well as for managing the Reduction or Outplacement of the workforce, both areas having far-reaching implications for the interdependence of employers and employees. Again, such activities are likely to be vested with indirect or direct strategic importance (Holton and Yamkovenko, 2008). Thirdly, there is outsourcing - which encompasses technology and the use of external providers for HRM Information Systems (Sheehan, 2009). We found that companies were more likely to outsource Training and Development and HRM Information Systems than other functions. Finally, there is Recruitment and Selection - which is hugely important and where external providers use a wide range of selection practices. This may be since these areas are knowledge-intensive and require skills not readily available in many HRM departments. (Sheehan, 2009). The use of external providers of HRM services is multi-dimensional, and we will devote due attention to variations in the relative use of these dimensions.



**Fig. 2.** Use of external providers by HR area (%)  
Source: Authors' own edition

Analyzing the East European cluster, we can see a weaker trend in the use of external service providers in the three periods (Figure 2). Similar to the trends in the other clusters, organizations with more than 5,000 employees in the EE cluster used external service providers for Training and Development and for HR Information System Services before the crisis. In the EE cluster the negative effects of the crisis appeared more dramatic when compared to the total sample. Moreover, the demand for external services did not increase in the EE cluster. In 2004/05 there was no significant relationship visible between the company's size and the use of external service providers (except for HR Information Systems), but this became significant in three

areas (Payroll, Pensions, HR Information Systems). An interesting fact was that larger organizations imposed the largest cutbacks in employing external service providers. In 2015/16, we saw no more radical changes in external services than in 2008/10. Further, most companies have used external service providers in the area of Training and Development and HR Systems. We divided the organizations into four size categories (by the number of employees, as follows: 1–250; 251–1,000; 1,001–5,000; >5,000). According to the survey results, the chi-squared test showed a significant correlation between the headcount of an organization and the use of external service providers (Figure 3).



**Figure 3:** Use of external services in HR areas by client company size (%)  
Source: Authors' own edition

The connection is very weak on the basis of Cramer's V in 2005/04 and 2008/10, but the connection is of medium size strength in 2015/16. Figure 3 shows the ratio of use of external service providers in terms of the size of the hiring organization. Analyzing the 3 sample periods, we can see that larger organizations more frequently demand external services than do smaller entities, although, after the crisis, the number of external service contracts declined in all size categories. However,

the area of Benefits showed the greatest decrease in larger organizations in the last five years. In most cases there is a significant, but relatively weak relationship between the elements of the matrix.

This may reflect the extent to which larger organizations are more likely to take HR issues seriously, and the smallest concentrate on the basic administrative elements of the function, paring costs down to such an

extent that the use of external providers would provide few if any savings.

With one exception, we also found a significant correlation between the HRM department and the use of external service providers. The Cramer's V values show a weak relationship, but generally the companies with HRM departments are more likely to use external service providers although the relationship is of medium strength in 2015/16.)

**Conclusions**

Our study clearly shows that the economic crisis has had a major impact on companies' HR activities and on the use of external HR services providers. The most significant change came after the economic crisis in each country group reduced the number of companies with HR departments, but Eastern Europe and the peripheral countries experienced the largest cut-back. In this respect pre-crisis East European companies were not significantly different from each other and even ahead of the North European and peripheral countries. However, more than one-third of the respondents have no HR department and these have become laggards in the clusters studied. Similar trends can be seen in the peripheral countries and the United Kingdom. The impact of the crisis was strongly reflected in every cluster and in most HR fields. The consensus is that external providers

were replaced by internal HRM or external providers were not used.

The number of companies employing external HR services providers declined by 50% even 66%. In some cases even greater cutback has occurred. But in the last period, the employing of external HR service provider's number has increased. However, the companies with HR departments use external service more readily than the others during all these three periods. In Eastern Europe compared to the other groups the use of external suppliers is less typical. But three fields of external services can be expected (HR information systems, training and development, and recruitment), during these three periods, especially at companies with an HR department – they showed significantly higher use of external providers. Most typical of large companies are the hiring of external professionals in all three periods. Although each respondent category reduced the use of external provider in 2008/10 and 2015/16, for most service providers their major setbacks occurred in respect of smaller companies. East European respondents rarely used external service providers but the largest companies employing more than 5 000 people were the exception. In the last five years numerous UK companies have used external service providers in respect of Pensions. By contrast, the growth was not observed in this area in the other clusters.

**Table 4.** The results of the hypothesis analysis

Hypotheses	Explanations	Validation		
		True	Partially true	Not true
H1: The effects of the financial crisis have led to the decreasing use of external service providers	Expectations for recruitment in all clusters. Most HR fields have seen a dramatic fall in the number of organizations in the 2008/10 period. Now it seems that a number of companies use external providers expect East European cluster.	X		
H2: The incidence of an HRM department increases the likelihood of using external service providers.	In cases where the organization has an HR department the use of external services providers remained almost at the same level as before the crises but in last two period (2008/10 and 2015/16) it seems that number of companies do not use external services providers.		X	
H3: Larger organizations more frequently use external service providers in three samples periods	The larger organizations demand external services more often than smaller ones during these three period.	X		

Source: Authors' own edition

**Acknowledgment**

As members of the Cranet network, we would like to express our deep thanks to the other members of the Cranet Network for the use of the data they collect.

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RECEIVED: 27 April 2019

ACCEPTED: 5 June 2019

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## IMPORTANCE OF MANAGERIAL COMPETENCIES AND MANAGEMENT IN EMPOWERMENT

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### Abstract

The article presents an analysis of the importance of managerial competencies and management in empowerment; it analyses the domain and typology of the concept of a managerial competence – empowerment and includes a quantitative survey on the core managerial competence and management in empowerment in the organization. The research has shown that empowerment is one of the most recent managerial competencies, and the role of leaders in empowerment is obvious. The respondents emphasised the importance of the leader's behaviour as well as of the prevailing management style in the organization. The research has shown that the respondents only partly understand the notion of empowerment and its difference from motivation. According to the respondents, empowerment is one of the core competencies in today's context of the leader's management role when striving for successful performance results. According to the respondents, the charismatic and cooperative management styles are favourable for empowering. To attain efficacy in empowerment of human resources, further fostering of employees and leaders should be considered as an appropriate instrument along with implementation of certain measures.

KEY WORDS: managerial competencies, management, empowerment.

### Introduction

Ability of the leader and an employee to understand each other and to successfully work together as a team is crucial for every successful organization. Managerial competencies and the leader's role in empowerment constitute the key factor of such success. Recently, a new managerial competence – empowerment has become increasingly emphasised and analysed, i.e. the leader's actions in regard of employee in order to ensure successful implementation of organizational goals. The article formulates the problem: what managerial competence discloses the impact of management? The article presents an assessment of the core managerial competence and management in empowerment.

Various authors (J. Martinkienė, 2014, M. Fabijonavičius, 2014) present a definition of *managerial competence – empowerment* in their works, however, there has been little in-depth research among foreign and Lithuanian research publications that would present a ranking and characterize managerial competencies, i.e. the ones that correspond with the needs of the labour market. The methods of the research include systemic, comparative analysis of research literature references, a questionnaire survey, statistical data analysis, SPSS analysis, expert survey.

### Concept of managerial competence in the management context

To successfully implement the aims and objectives of organization it shall be led by the leader, who possesses managerial competencies, i.e. – the leader, who predicts and clearly formulates the direction to be pursued by the organization.

Analysis of research literature (R. E. Boyatzis (1982, 2002, 2008), L. M. Spencer, S. M. Spencer (1993), L. A. Collins (1997), J. Sokol (2001), H. Minzberg

(2004), U. Rajadhaksha (2005), Le Deist and Winterton (2005). I. Bakanauskienė, E. Bartnikaitė (2009), N. Petkevičiūtė, E. Kaminskytė (2003), V. Darškuvienė, D. Kaupelytė, N. Petkevičiūtė (2008), J. Pacevičius, J. Kekytė (2008), M. Cambal, D. Caganova, J. Sujanova (2012), J. Martinkienė (2014), S. Anwar, N. Haider, N. Iqbal (2015) allows noticing that *managerial competence* has become an area of increasing research interest focusing on its novelty. Although managerial competence and its concept has been analyzed by a number of researchers from various countries, the ongoing discussions have not yet resulted in a commonly agreed definition of its meaning and constituent elements. The issue is still widely discussed because a lot of authors try to define the concept in terms of various aspects. Besides, in terms of the inter-cultural dimension, one has to realise that in different languages the term *managerial competence* has different meanings. In the English language *managerial competence* means competence in management, in the French language – *compétences managériales* – management skill, in German – *management-kompetenz* – competence in management,, in Russian – *управленческая компетенция* – competence in management.

Already in 1973, one of the first researchers, D. McClelland, linked the concept *competence* to personnel management based on high professional and occupational proficiency, knowledge, skills, etc. (McClelland, 1973). However, an American researcher R. E. Boyatzis (1982) was the one who made the most significant contribution to competence research, according to which, competence – underlying characteristics of a person, which are causally linked to more effective or superior performance in a job. It is defined by various terms: characteristics, traits, personal qualities, body of knowledge, skills and motives, which

are causally linked to superior performance in a managerial job.

Referring to analysis of research publications, the definitions of the concept of managerial competence are presented in Table 1.

**Table 1.** Definitions of the concept of managerial competence

No.	Author	Definition of the concept of managerial competence
1.	N. Petkevičiūtė, et al. (2003)	<i>Managerial competence</i> – ability allowing accomplishing effectiveness in a particular organization by adequate methods in order to achieve the strategic aims of the organization.
2.	A. Petasis (2003)	<i>Managerial competence</i> – capability to perform specific work tasks applying the entirety of knowledge, aptitude, skills and personal qualities.
3.	B. Karlof et al. (2006)	<i>Managerial competence</i> – ability to use knowledge, skills and experience in problem-solving when striving for the aims of the organization.
4.	J. Pacevičius, J. Kekytė, (2008)	<i>Managerial competence</i> – a set of professional skills, knowledge and abilities and capability to apply them taking into account the requirements of job environment.
5.	A. Mažonienė, L. Rupšienė, (2011)	<i>Managerial competence</i> – a set of knowledge and skills, capability to apply them in particular circumstances taking into account constraints of the environment and situation in order to ensure results of the organization.
6.	X. Mamaqi et al. (2011)	<i>Managerial competence</i> – attitude, skills and aptitude that may be used in job performance.
7.	I. Matonytė et al. (2011)	<i>Managerial competence</i> – ability to strive for the set goals of the company on the basis of professional knowledge, skills and competencies.
8.	M. Cambal et al. (2012)	<i>Managerial competence</i> – a manager’s ability to apply professional knowledge, skills, personal qualities in practical work and to achieve the desired results of the company’s performance.
9.	J. Martinkienė (2014)	<i>Managerial competence</i> – a person’s multidimensional ability determined by professional knowledge, skills, personal qualities, experience in management acquired by the person and allowing him/her to competently perform a managerial operation or task when acting in real or simulated environment.

Analysis of research publications allows noticing that on the background of new changes in organizations and in the human resource management process, use of a term of managerial competence – *empowerment* has become increasingly common. For the first time the term „to empower” was used by a British writer Herbert L’Estrange. In fiction it meant “to authorise”. In social sciences this concept is used in particularly broad sense and across various disciplines: sociology, economics, educology, management, political sciences, gender studies, minority studies (Hur, 2006). Each of the above

subjects interprets the term „empowerment” in its own way. In everyday language, the term „to empower” is often used as a synonym of the sayings “to authorise” or „to confer responsibility “ (Tvarijonavičius, 2014).

Analysis of management research publications (ESCI-U SAQ typology (*Emotional and Social Competency Inventory, Self Assessment Questionnaire*, Goleman, Boyatzis, 2007), PLUM typology of managerial competencies, M. Woodcock and D. Francis (1982), which was adapted for businesses in Lithuania by A. Balažentis (2006), H. Mintzberg (2004), M. Tvarijonavičius, J. Martinkienė, 2014) allowed us to present the typology of managerial competencies having introduced a new managerial competence – empowerment; the typology is provided in Table 2:

**Table 2.** Typology of managerial competencies

No.	Elements
1.	planning
2.	problem solving
3.	dealing with information
4.	conceptual thinking
5.	result-oriented approach
6.	setting of strategic aims
7.	conceptual thinking
8.	entrepreneurship, delegation
9.	organizational skills
10.	negotiations
11.	management
12.	motivation
13.	conflict management
14.	organizational awareness
15.	creativity and innovations
16.	focus on innovative knowledge
17.	risk management
18.	quality assurance
19.	work with personnel
20.	change management
21.	visioning
22.	performance assessment
23.	empowerment

Source: modified by the authors, according to J. Martinkienė, 2014

The notion of empowerment is rather new and does not have a traditionally established unequivocal concept. Over recent decades the concept of empowerment has been changing and evolving. Referring to the authors that analysed the empowerment (Gupta and Kurian, 2006), a few stages of evolution of the employee empowerment concept can be historically discerned in the research studies of Western researchers. The key practical purpose of each such stage – disclosure of the potential of employee productivity at work:

I. Encouragement of employee participation, activity – the 1970’s and earlier.

II. Employee involvement into decision making – the 1980’s.

According to M. Tvarijonavičius (2015), the terms “empowerment“, „empowered“ have already found their place in the vocabulary of managers and consultants of Lithuanian organizations. The problem is that people imply a lot of different things under the term „empowerment“. Sometimes empowerment is used to describe actions aimed at encouraging the employees to assume more responsibility; in some other cases, empowerment is used as a synonym of „authorisation“,

while sometimes – as a synonym of „motivation“. Having read a lot of publications, communicated with the USA and European researchers, worked with managers and human resource specialists, it may be maintained that empowerment may be defined in a lot of very different ways (Tvarijonavičius, 2015).

According to M. Tvarijonavičius (2015), empowerment is presented from a dyadic approach. The first component is the state of employee – state of *psychological empowerment*. The second one means various tools of empowerment to enhance this state (empowering management, empowering character of work, empowering organizational environment).

The concept of empowerment is often identified with employee motivation or their promotion; however empowerment is a much broader concept than motivation.

Analysis of the concept of empowerment explicitly shows that human resources in the organization are empowered by the leader; empowerment depends on management style, character of impact on employees and style of behaviour. Employee empowerment in the organization should be a continuous process depending on the management traits and qualities of the leader and through various tools provided by the leader to employees: required information, various trainings, employee promotion and motivation would develop an empowered employee, who is able to address various encountered problems much more promptly in a self-directed way, to offer various problem solving methods and to strive for the aims and objectives set by the organization.

Employee empowerment may be understood as a dyadic phenomenon: as a management practice aimed at increasing autonomy and responsibility of employees, and as a proactive individual attitude to the job. Empowered persons find meaningfulness in the work they perform, feel competent to perform their role, are able to make decisions facilitating the achievement of the set goals, think that they may have real impact on achievement of the organizational objectives (Boudrias et al., 2009 p. 625-638).

According to Peterson et al. (2005), empowerment is a social-action process, whereby people acquire more control, efficacy and social justice.

*Empowering leader behaviour – leader’s actions enhancing employee empowerment: enhancing the meaningfulness of work perceived by an employee, encouraging participation in decision making, allowing employees to act autonomously, expressing confidence in employees and their capability to perform a job* (Ahearne et al., 2005) (Tvarijonavičius, 2014).

Empowering leader behaviour manifests itself through four major dimensions, i.e. enhancing the meaningfulness of work of the organization’s human resources, fostering participation in decision making, the leader’s confidence in high performance of employees and provision of autonomy to employees.

**Table 3.** Dimensions of empowering leader behaviour

Leader’s behaviour	
<i>Enhancing the meaningfulness of work</i>	How much the leader helps an employee to understand how the objectives, performance and performance results of the latter correlate with the organization’s aims, performance and results; how much the leader helps an employee in other ways to see higher meaningfulness at work.
<i>Fostering participation in decision making</i>	How much the leader makes decisions together with his/her subordinates.
<i>Expressing confidence in high performance</i>	How much the leader is assured that his subordinates will be capable to meet the requirements of job tasks. How much the leader, by his own behaviour, demonstrates confidence and trust in high performance of subordinates.
<i>Providing autonomy from bureaucratic constraints</i>	How much the leader allows employees to act autonomously, in their own way, without restricting them by bureaucratic constraints.

Source: M. Vaikšnoras, 2018

Referring to the characteristics of the leader’s empowering behaviour, empowerment may be defined through the following dimensions: delegation, accountability for outcomes, encouragement of employee self-directed decision making, information sharing by the leader with employees, employee skill development and coaching for innovative performance.

**Table 4.** Characteristics of the leader’s empowering behaviour

Leader’s behaviour	
<i>Delegation</i>	The leader’s behaviour, whereby he/she delegates authority to his/her subordinates.
<i>Accountability for outcomes</i>	Responsibility for outcomes of the actions delegated by the leader to subordinates.
<i>Self-directed decision making</i>	The leader’s behaviour encouraging the employees to make decisions independently from the leader, on their own initiative and within their competence.
<i>Information sharing</i>	Sharing experience or other information by the leader with employees, which allows them to perform according to the organization’s standards.
<i>Skill development</i>	The leader’s actions promoting employee development. It means that development required for the employees is ensured through facilitation of the development process rather than through orders or control
<i>Coaching for innovative performance</i>	The leader’s behaviour, which encourages reasonable risk taking by subordinates, their new ideas and ensures feedback on their performance, when mistakes and failures of subordinates are treated as opportunities to learn.

Source: prepared by the authors, according to M. Tvarijonavičius, 2014

Analysis of the characteristics and dimensions of leader’s empowering behaviour and their comparison with traditional and modern management styles allows maintaining that no characteristics and dimensions of employee empowering behaviour have been observed in the autocratic and bureaucratic management styles; while in the charismatic, cooperative and liberal management styles they have been noticeable (Vaikšnoras, 2018). The conducted analysis of the typology of the managerial competence – empowerment has clearly shown that human resources in the organisation are empowered by

the leader, and it depends on various management characteristics and qualities of the leader. Empowerment is a process initiated by the leader; it starts with understanding of the objectives, comprises of certain activities and ends with successful performance results in the organization. Employee empowerment in an organization should be a continuous process, which depending on the management traits and qualities of the leader, through various instruments provided by the leader to employees (human resources of the organization), i.e. through provided resources, required information, various trainings, provided autonomy to employees in decision making and accountability for the made decisions, coaching for innovative performance of employees, employee promotion and motivation, forms an empowered employee able to solve various encountered problems much more promptly in a self-directed way, to offer various problem-solving methods and to strive for the aims and objectives set by the organization.

### Results of the research on empowerment and management in the organization

A two-stage quantitative research was conducted to analyse the chosen organization and to find out whether the managerial competence – empowerment is one of the core competencies and what type of management prevails in human resources (employee) empowering in the organization.

The first stage aimed at identifying whether a managerial competence – empowerment is one of the core competencies.

The research instrument had been modified prior to conducting the quantitative research that covered the Western Lithuania region (21 leaders of organizations). The quantitative research was aimed at evaluating and discerning the core managerial competencies according to the provided list of MC (typology), rating the most important one by Likert scale. Importance of MC was graded to levels taking into account the level of significance of the competencies: core competencies, moderately important and the least important ones; the research also included characterization of the trends of the competencies that are presented in Table 5.

**Table 5.** Level of significance of the managerial competencies

No.	Level	Professional competencies	Min.	Max.	Mean	St. deviation
1.	<i>Least important</i>	Quality assurance	1,00	5,00	3,79	1,11
2.		Management	1,00	5,00	3,67	1,09
3.		Organizational awareness	1,00	5,00	3,64	1,07
4.		Entrepreneurship	1,00	5,00	3,64	1,19
5.		Visioning	1,00	5,00	3,56	1,08
6.		Delegation	1,00	5,00	3,53	1,09
7.	<i>Moderately important</i>	Conflict management	3,00	5,00	4,42	0,63
8.		Organizational skills	1,00	5,00	4,30	0,87
9.		Focus on innovative knowledge	3,00	5,00	4,27	0,70

10.		Conceptual thinking	2,00	5,00	4,20	0,87
11.		Change management	1,00	5,00	4,17	0,97
12.		Planning	2,00	5,00	4,17	1,01
13.		Risk management	2,00	5,00	4,15	0,77
14.		Goal-setting	1,00	5,00	4,11	0,78
15.		Creativity and innovation	3,00	5,00	4,08	0,76
16.		Strategic thinking	2,00	5,00	4,08	0,78
17.		Performance assessment	2,00	5,00	4,02	0,84
18.		Negotiations	2,00	5,00	4,00	1,05
19.	<b>Core</b>	<i>Empowerment</i>	4,00	5,00	4,89	0,34
20.		Result-oriented attitude	4,00	5,00	4,86	0,35
21.		Work with personnel	3,00	5,00	4,64	0,59
22.		Dealing with information	3,00	5,00	4,58	0,58
23.		Problem solving	3,00	5,00	4,55	0,56

The research results show that the following managerial competencies are considered to be the core ones by the respondents: *empowerment* ( $\bar{x} = 4,89; s = 0,34$ ), the respondents stressed that particularly this competence is important for employees, as they acquire skills to autonomously make decisions, also they included *result-oriented attitude* ( $\bar{x} = 4,86; s = 0,35$ ), *information handling* ( $\bar{x} = 4,58; s = 0,58$ ), *problem solving* ( $\bar{x} = 4,55; s = 0,56$ ). The major part of the respondents were of the opinion that the ability to deal with information is extremely important for employees, since one can quickly get lost in its abundance, therefore it is important to be able to select required information and to systemize it. Some respondents pointed out that it is important to be able to formulate questions, to have logical thinking skills and quite a broad general outlook.

The following managerial competencies were attributed by the respondents to moderately important ones: *conflict management* ( $\bar{x} = 4,42; s = 0,63$ ), *organizational skills* ( $\bar{x} = 4,30; s = 0,87$ ), *focus on innovative knowledge* ( $\bar{x} = 4,27; s = 0,70$ ), *conceptual thinking* ( $\bar{x} = 4,20; s = 0,87$ ). The respondents emphasised *planning* ( $\bar{x} = 4,18; s = 1,01$ ), stating that the following managerial competence is important for an employee – instead of participation in formation of the overall *company's* objectives to be able to formulate the goals at a *subdivision* level, daily tasks, to make agendas. The mean score of significance of the rest managerial competencies mentioned by the respondents, such as *creativity*, *strategic thinking*, *negotiations*, amounted to 4,08–4,00 only, but their reliability coefficient was quite high, mean square deviation value being 0,91.

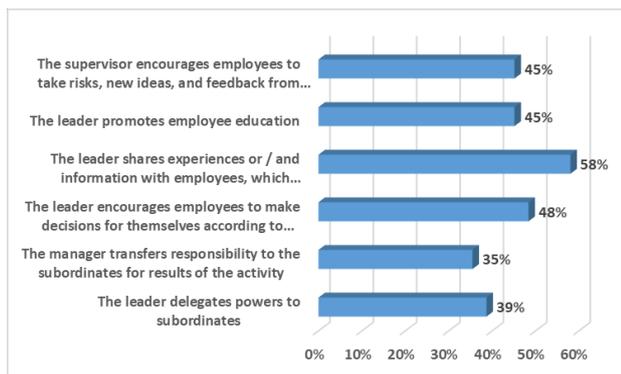
When naming the least important MC, the respondents' opinions varied greatly, since the limit values of the gradation of the competencies ranged from 3,53 to 3,79; it was also showed by variation of standard deviation values from 1,09 to 1,11, as presented in Table 5.

The second stage comprised of the assessment of management in the empowerment of human resources (employees) in the organization; a quantitative research method – questionnaire survey was chosen to that purpose. The questionnaire comprises of a few blocks of questions:

- questions that explain the key concepts used in the research,
- questions designated to discern the notion of empowerment from motivation,
- questions designated to identify the prevailing management style in the analysed organization,
- questions designated to determine the importance of human resources in the organization,
- questions designated to determine whether employees feel empowered by the leader in the chosen organization and what tools are used by the leader to empower the organization’s employees,
- questions identifying the respondents’ demographic characteristics: job position, education, gender and age.

The analysed organization carries out the following main activities: fundamental and applied research, higher education, adult professional training and qualification development. Our calculations allowed estimating that a sample size has to be at least 29 respondents. Our research sample included 31 respondents (their age ranged from 20 to 60 and more years): administrative staff, lecturers, middle and top level managers; their education ranged from professional bachelor to doctoral degree. The results of the research were processed by SPSS software, applying two methods of statistical analysis: Chi square test and Spearman correlation.

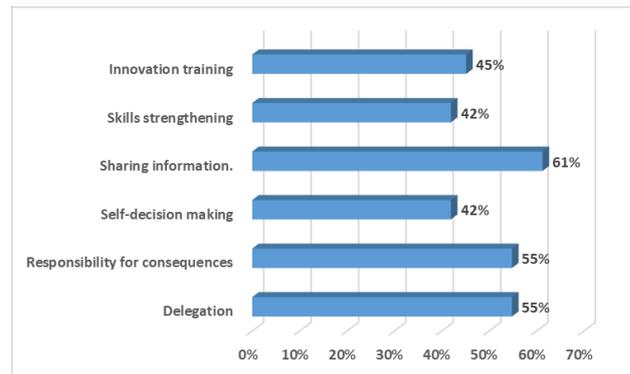
During the research, the respondents identified the empowerment tools applied by the leader, which, to their opinion, have impact on successful job performance.



**Fig.1.** Distribution of the respondents by the empowerment factors that have impact on their performance success, in per cents.

The respondents noted that the fact that the leader shares experience and/or information with employees has impact on successful performance results and ensures performance to the organization’s standards. According to the respondents, another factor also contributing to successful performance results is that the leader encourages employees to take risk, to present new ideas, ensures feedback with subordinates on their performance,

considers mistakes and failures as the possibilities to learn (Fig. 1.).



**Fig.2.** Distribution of the respondents by the characteristics of empowering behaviour applied by the leader in the organization, in per cents.

The respondents identified the following characteristics of the leader’s empowering behaviour applied by the leader in the analysed organization: i.e. the characteristics of information sharing, delegation and responsibility for outcomes (Fig. 2).

**Table 6.** Correlations of the research results (N=31)

Correlating factors	Chi square test	Level of significance (p)
Relationship between perception of the empowerment notion by the respondents and attribution of the charismatic management style to traditional or modern management style	19,960	0,003
Relationship between perception of the empowerment notion by the respondents and attribution of the bureaucratic management style to traditional or modern management style	14,215	0,027
Relationship between perception of the empowerment notion by the respondents and the prevailing management style in the organization	24,393	0,039
Relationship between the empowerment tools applied by the leader and the prevailing management style in the organization	20,533	0,036
Relationship between the respondents’ job position and the empowerment tools applied by the leader in the organization	34,259	0,012
Relationship between the respondents’ age and the empowerment tools applied by the leader in the organization	24,468	0,035
Relationship between the respondents’ education and the empowerment tools applied by the leader in the organization	20,034	0,031
Relationship between the characteristics of empowering behaviour applied by the leader in the organization and perception of the empowerment notion by the respondents	22,840	0,008
Relationship between the characteristics of empowering behaviour applied by the leader and the prevailing management style in the organization	34,604	0,014

Source: prepared by the authors

SPSS analysis – Chi square test showed a relationship between distribution of the respondents when attributing the charismatic management style to traditional or

modern one and perception of empowerment notion by the respondents – ( $p=0,003$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents when attributing the bureaucratic management style to traditional or modern management style and perception of empowerment notion by the respondents – ( $p=0,07$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents when identifying the prevailing management style in the analysed organization and perception of empowerment notion by the respondents – ( $p=0,0039$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents by their choice of the prevailing management style in the analysed organization and distribution of the respondents when identifying the employee empowerment tools applied by the leader – ( $p=0,036$ ).

SPSS analysis – Chi square test showed a relationship between distribution of the respondents by their job position in the analysed organization and distribution of the respondents when identifying the employee empowerment tools applied by the leader – ( $p=0,012$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents by age in the analysed organization and distribution of the respondents when identifying the employee empowerment tools applied by the leader – ( $p=0,035$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents by education and distribution of the respondents when identifying the employee empowerment tools applied by the leader – ( $p=0,031$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents by their choice of the characteristics of empowering behaviour applied by the leader in the organization and perception of the notion of management by the respondents – ( $p=0,008$ ), when  $p<0,05$ .

SPSS analysis – Chi square test showed a relationship between distribution of the respondents by their choice of the characteristics of empowering behaviour applied by the leader in the organization and the respondents' distribution when identifying the prevailing management style in the organization – ( $p=0,0014$ ).

Analysis of SPSS analysis – Spearman correlation showed a relationship between distribution of the respondents by age and the status of the respondents' empowerment in the organization, the compared characteristics are inter-related.

The following relationships were found between the empowerment characteristics and the respondents' distribution by age: there is a significant ( $p=0,022$ ), direct, moderately strong relationship ( $r=0,411$ ) between the respondents' age and how much they feel committed to work; there is a significant ( $p=0,016$ ), direct, moderately strong relationship ( $r=0,430$ ) between the respondents' age and how much they feel like having competence to perform their work; there is a significant ( $p=0,040$ ), direct, moderately strong relationship ( $r=0,371$ ) between the respondents' age and how much

they feel willing and capable to perform their work; there is a significant ( $p=0,018$ ), direct, moderately strong relationship ( $r=0,422$ ) between the respondents' age and how much they feel being able to enhance their skills in professional performance; there is a significant ( $p=0,040$ ), direct, moderately strong relationship ( $r=0,371$ ) between the respondents' age and how much they feel like having career opportunities in the organization.

**Table 7.** Status of the respondents empowering in the organization (N=31)

Statements	Mean	St. deviation
Employees may make decisions autonomously	3,74	1,09
Employees may assume personal responsibility	4,26	0,86
Employees feel commitment	4,35	0,80
Employees feel meaningfulness of work	4,03	0,87
Employees feel like having power	3,29	1,16
Employees feel like having competence to perform their job	4,10	0,83
Employees feel willing and able to perform their job	4,16	0,86
Employees may develop their skills	3,97	1,11
Employees may perform challenging work tasks	3,94	0,93
Employees have access to all required information	3,81	1,17
Employees feel support and get advice from other co-workers	4,00	0,93
Employees may implement their ideas	3,97	0,91
Employees have career opportunities	3,71	1,32

Analysis of the respondents' empowerment status in the analysed organization, i.e. whether the leader, in employee opinion, applies empowerment as a promotion tool (1 – certainly not, 2 – certainly yes), showed that the leader of the organization, on the whole, applies the following empowerment tools: allows employees to make decisions autonomously ( $\bar{X}=3,74$ ;  $s=1,09$ ), allows to take personal responsibility for the performed job tasks ( $\bar{X}=4,26$ ;  $s=0,86$ ), builds accountability for the performed work ( $\bar{X}=4,35$ ;  $s=0,80$ ), develops meaningfulness of work ( $\bar{X}=4,03$ ;  $s=0,87$ ), allows them to feel having power ( $\bar{X}=3,29$ ;  $s=1,16$ ), allows them to feel having competence to perform their work tasks ( $\bar{X}=4,10$ ;  $s=0,83$ ), employees feel willing and capable to perform their work ( $\bar{X}=4,16$ ;  $s=0,86$ ), employees may develop their skills ( $\bar{X}=3,97$ ;  $s=1,11$ ), may perform challenging work tasks ( $\bar{X}=3,94$ ;  $s=0,93$ ), they have access to all required information ( $\bar{X}=3,81$ ;  $s=1,17$ ), they feel support and get advice from other co-workers ( $\bar{X}=4,00$ ;  $s=0,93$ ), they may implement their ideas ( $\bar{X}=3,97$ ;  $s=0,91$ ), employees feel like having career opportunities in the analysed organization ( $\bar{X}=3,71$ ;  $s=1,32$ ). It may be maintained that the organization's human resources are empowered by the leader of the organization (Table 7).

## Conclusions

Summarising various concepts, insights, theories and typologies of *managerial competence*, we can observe the emergence of a new term – *Empowerment*. *Empowerment* is a recent managerial competence, insights on which have not been widely found yet in contemporary *management research literature*.

Analysis of research literature allowed understanding and recognising that *Empowerment* is a process initiated by the leader; it starts from understanding of aims, leads to certain activities and ends with successful performance results in the organization. Employee empowerment in the organization should be an ongoing process, which, depending on the leader's role in management as well as on the tools provided by the leader to employees (human resources of the organization), i.e. provided resources, required information, various trainings, autonomy provided to employees in decision making and responsibility for their decisions, defines the basic characteristics of empowerment.

Analysis of the characteristics and dimensions of the leader's empowering behaviour and their comparison with traditional and modern management styles allows maintaining that the autocratic and bureaucratic management styles have not demonstrated any characteristics and dimensions of empowering behaviour in regard of employees, while such characteristics are observed in the charismatic, cooperative and liberal management styles.

The first stage of the conducted quantitative research allows maintaining that the respondents discerned empowerment from the given typology of 23 managerial competencies as the core managerial competence in the labour market; that this competence not only implies new trends, but also that freedom in decision making is very important for employees in today's organizations.

The results of the research showed that empowerment is one of the key tools in the context of contemporary management in order to ensure successful performance results. According to the respondents, the charismatic and cooperative management styles are favourable for empowerment. To attain efficacy in empowerment of human resources, further fostering of employees and leaders should be considered as an appropriate instrument along with implementation of certain measures, such as: allowing employees to make self-directed decisions, to assume personal responsibility for performed tasks, to build accountability for the performed work, etc.

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RECEIVED: 1 April 2019

ACCEPTED: 20 April 2019

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## ENHANCING LEARNING OUTCOME OF BUSINESS SIMULATION GAMES VIA PROCESS FEEDBACK

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### Abstract

From the establishment of business simulation games in the '50s, there were several reports which concluded how many business faculties were using simulation games in at least one course. Studies made in the '60s found that in the United States of America the usage of business simulations is above 90% in business schools. In a comprehensive study, Wellington et al (2010) examined 160 studies. Those studies measured the effect of simulations on the tests' results written at the end of school-year by pupils. Based on these measurements they found that in 46.9% of the cases simulation-based lectures were more effective than traditional forms of teaching. 16.9% of the studies said that traditional ones were more effective and in 36.3% of the cases, there was no significant difference in the results perceived. In the background of the different results, there can be various effects. Based on Goosen (2002) the main factor is how the simulation is implemented in the lecture (Gold, 2015). This emphasizes the importance of giving feedbacks.

Educational business simulations are usually designed to enhance learning outcome and skill development in case of managerial and entrepreneurial skills. Skill development is usually measured with surveys; there is a lack of methods for measuring players' thinking with in-game evaluations. The aim of the study is to explore the possibilities of constructing a method to measure rationality with in-game evaluating methods to help teachers be able to give better and more useful feedbacks to enhance learning outcome of business simulation games.

KEY WORDS: management education, entrepreneurial skills, business simulation games, feedback, rationality.

### Introduction

Greco et al. (2013) define business simulation games within the games, as a combination of serious games, simulation games and management games (Figure 1).



Fig. 1. The categorization of business simulation games within games Source: Greco et al (2013)

Going deeper, within business simulation games there can be further categories made. In this paper the aim is not to present a wide taxonomical spectrum of business simulation games, only to define it precisely what kind of business simulation games we want to analyze.

In business simulation games students can test themselves as managers without taking real financial risk. Business Simulation is a modeled, virtual platform, where acting as leaders of companies, players can test their strategic and analytical skills through decision-making situations. During the simulation, there are financial, human resources, marketing, inventory management, commercial, etc. decisions to be made. The players also have to adapt to changing market environments.

Characteristics of the business simulations focused by this study:

- Computer-assisted simulation;
- Multiplayer, the opponents are students, not AI;
- Turn-based, where players make decisions any time until the deadline of the given round and lack new information until results are not simulated based on the decisions;
- Strategic decisions are to be made;
- Players' companies are starting from the same, initial position;
- The simulated market environment is oligopolistic with 5-6 teams per market.

The first use of business simulations in business schools can be dated to 1957 (Watson, 1981). From the establishment of business simulation games in the '50s, there were several reports which concluded how many business faculties were using simulation games in at least one course. Studies made in the '60s found that in America the usage of business simulations is above 90% in business schools (Dale & Klasson, 1962, Graham & Gray, 1969, Day, 1968). Since the '80s almost all the AACSB (Association to Advance Collegiate Schools of Business) schools (95.1%) were using business simulations (Faria, 1987), and this number even rose to 97.5% in 1994-1995 (Faria & Nulsen, 1996). That means business simulation is a widespread method used in business education. However, there are regional differences. According to Boda (2018) in Hungary the usage of business simulation games in academia has still room to grow both in quality and in quantity: "only 45% of the institutions having a serious ratio of business education in their curricula and/or playing an important

role in the business education of Hungary provide courses built on business simulations”.

In a comprehensive study, Wellington et al (2010) examined 160 studies. Those studies measured the effect of simulations on the tests' results written at the end of school-year by pupils. Based on these measurements they found that in 46.9% of the cases simulation-based lectures were more effective than traditional forms of teaching. 16.9% of the studies said that traditional ones were more effective and in 36.3% of the cases, there was no significant difference in the results perceived.

In the background of the different results, there can be various effects. Based on Goosen (2002) the main factor is how the simulation is implemented in the lecture. (Gold, 2015)

In a simulation game, students are able to perceive the status of their company from the inside, and, in the absence of external feedback, they can get false conclusions. A good instructor should pay attention to this problem and motivate the students to develop themselves and their thinking based on the right feedbacks.

Why feedback is critical for proper learning to take place after an experience is formulated by Gentry (1990): “The student should not be allowed to conclude what was learned without receiving feedback; there is too much evidence that human beings do not do this properly.”

Tunstall and Gipps (1996) divided teacher feedback into two main kinds: evaluative feedback and descriptive feedback. Evaluative feedback - including rewards, general praise, like, punishments, general criticisms - judges student performance. Descriptive feedback has two main parts: achievement feedback and improvement feedback. Descriptive feedback focuses on what was done well and why and what to do in order to improve. (Brookhart, 2008, Schinske & Tanner, 2014) Focusing on digital game-based learning, it can be stated that if learners are given regular feedback about their performance, the entertainment instruction results in deep learning (Erhel & Jamet, 2013).

### **How to improve the value of feedbacks? Evaluating process instead of evaluating the outcome**

In a competition or in a game reaching a good or bad position or making good or bad profit alone does not provide enough feedback about performance to improve in the future. Alone building on this information it cannot be stated what is needed to improve.

Itself the process of experiential learning, the way business simulation games are working gives a lot of feedback during the game. As Gentry & Burns (1983) point out, “most learning occurs through outcome feedback - an action is taken and we observe the outcome.” Also, he adds, that “in many cases, we judge the quality of the decision by the favorableness of the outcome.” This is problematic because “outcomes frequently depend on factors outside the control of decision makers (e.g. Emery & Tuggle, 1976), and that we should evaluate the decision process rather than the outcome. In the long run, a good decision process should

result in more profit, but this may not be true in the short run.”

Although process feedback is much more valuable than outcome feedback, the outcome feedback is used more frequently, because “it is simpler to observe their game-end profit or their recommended case solution than it is to delineate the process used to bring about these outcomes. Further, far less effort is required to critique the outcomes than to critique the process.” (Gentry, 1990)

Although there are a lot of researchers who identified that analysing the profit alone is not sufficient, and now game designers use broad-based scoring systems for assessment, using 5-10 or more variables (Teach & Patel, 2007), but these performance measures are still outcome-based instead of process-oriented ones.

In a business simulation game to diagnose how a student can improve, first, we have to analyse what faults were committed by the student. Generally, amongst the decisions of the players, it is needed to find those where the player made a mistake. Superficial feedbacks do not provide a real impact on students' improvement (e.g. Snowball & Mostert, 2013). In order to provide feedback promoting real progress of the students, teachers need plenty of time and excellent analytical skills and also to have experience with the simulation itself to know what to look for during the analysis.

If the instructor does not have the sufficient analytical skills or experience with the simulation or time to do the analysis, it can work too that the most frequently committed mistakes are presented on group level. Although the personal feedback would be more effective because it fosters the learning outcome of experiential learning. There is an improvement opportunity also, when not the teacher is who finds and draws attention to mistakes, but the students formulate their questions and they get answers to them. Here, it is important to note that formulating questions work well mainly only by those students who are aware enough with the simulation to formulate a question. Furthermore, there are a lot of students who avoid asking a question due to both individual characteristics and characteristics of the classroom (Ryan, Gheen & Midgley, 1998).

Besides feedback, process-oriented mindset (instead of outcome-oriented) is also needed during grading to enhance the motivation of students. Results based grading can have two forms, such as ranking based or relational grading (Biggs, 1978), both are using the practice of grade curving. Although “the practice of grade curving has had unfortunate and often unintended consequences for the culture of undergraduate science classrooms, pitting students against one another as opposed to creating a collaborative learning community (Tobias, 1990; Seymour and Hewitt, 1997). [...] Moving away from curving sets the expectation that all students have the opportunity to achieve the highest possible grade.” (Schinske & Tanner, 2014) This also implies that process analysis would be needed instead of rewarding the outcome. This affects collaborative work, motivation, and thus learning outcome too; “constructing a grading system that rewards students for participation and effort has been shown to stimulate student interest in improvement” (Swinton, 2010).

## Automatic measurements are required

To resolve the problems mentioned before a solution is needed where the teacher's obligation is not looking for mistakes but to teach, nor the students have to ask questions to raise a problem, but a software solution makes this automatically.

There are a lot of mistakes to find (e.g. if there is a lack of stock, the company can lose customers). Some of the mistakes are easy to identify. In many cases deciding on a value whether it was a mistake or not, depends on the applied strategy and the purpose of the player.

First, it is needed to decide that a player is acting rationally or not. This paper emphasizes the importance of measuring rationality.

Quantitative measurements are a key factor to reasoning more effectively the superiority of business simulations in business education (Scherpereel, 2005). Also, the comprehensive study of Chin et al (2009) reviewing 40 years of the journal *Simulation & Gaming* states that assessments primarily are focused to ensure this goal. Although there are a lot more to measure in the case of business simulations. From this point of view, not just measurements of the effectiveness of the simulations are needed but assessment of the students' performance as well.

Measuring performance with only the managed company's output (e.g. with profit) may lead to false conclusions about rational decision-making. Measuring rationality does not mean measuring efficiency. Neuert et al (2015) state that there is "no linear function between decision making efficiency and the decision making rationality". A team playing in a business simulation game can fail with rational thinking as well and can have good results in short-term without any rational strategy at all with some luck too.

The purpose of the paper is to support an aspiration of future development of an analytical system that makes it possible to measure decisions according to whether they are consciously grounded or random, heuristic and can be placed on a scale between these two endpoints in a business simulation game not specifically designed to measure rationality but to enhance learning outcome and skill development in case of managerial and entrepreneurial skills.

## Rationality measurements in business simulation games: where are we now?

There are already existing methods for measuring rationality in general, such as the Afriat Efficiency Index (Afriat, 1973), the Houtman-Maks Index (Koo, 1963; Houtman & Maks, 1985), the Money Pump Index (Echenique, Lee & Shum, 2011) and Minimum Cost Index (Dean & Martin, 2016), although in case of business simulations there are much fewer attempts to measure rationality.

As Scherpereel (2014) states educational simulation games are designed to create a complex and uncertain environment. Simulation game developers expect that the players will use rational analysis as the preferred decision process. Although, "when faced with the complex decision environment of a simulation most players seem

to forget the analytical tools they acquired during their education and resort instead to ad-hoc intuition or heuristic processes. [...] In response to the uncertain and complex environment of a simulation game, student teams seek a straightforward yet reliable decision-making model. Because they are not confident they can correctly apply the analytical tools to make the simulation decisions, they rationally choose to ignore the methods they have learned and employ simplifying rules and heuristics." (Scherpereel, 2014). As Scherpereel argues, intuitive decisions can be rational as well, and perhaps when faced with significant uncertainty and complexity, intuition is more valuable than analysis.

This argument makes even harder to establish a methodology on how to measure rationality in business simulation games.

Various measurement techniques have been developed to diagnose the personal style of information processing, i.e. intuitive, quick, unconscious and affect-based of first cognitive system, or logical, conscious, slow and reason-based, "rational" of second cognitive system in Dual-Process Theories (e.g. Epstein, 1994, Stanovich & West, 2000, Kahneman, 2003); two classes of these measurements can be distinguished: self-reported inventories and task solving tests (Sleboda & Sokolowska, 2017).

Lukosch et al (2018) state we can represent rational choices and model behavior in simulation games. Business simulations can provide a sufficient environment to measure rationality if they are expressly developed with this aim, but if so, it is more like a task solving test (Sleboda & Sokolowska, 2017). But what if the primary motivation behind simulation development serves other educational purposes (such as enhancing entrepreneurial skills or help to understand the business acumen) and measuring skill development or measuring rationality is only a secondary goal? It seems to be a more complex question.

The other measurement technique mentioned before is the self-reported measurement. Usually learning benefits of business simulations are measured with self-reported surveys (e.g. Dhatsuwan & Precharattana, 2016, Wellington, Hutchinson & Faria, 2017) which may lack the objective perspective. Also, students are usually asked to reflect on their own decision-making abilities e.g., were they rational or intuitive decision makers (e.g. Costin et al, 2018) which is still a very subjective methodology. As Reeder (2013) states, actors compared to observers are more likely to explain their own behavior rational by citing good reasons for their actions, due to they are motivated to portray themselves as rational; which strengthens there is a need for objective solutions. Also, as Mayer (2018) formulates, the "use of questionnaires also contradicts the key principle of gaming, namely that the game play itself should be the assessment". Although he adds that today "a triangulation of data based upon self-reporting, personal observation, and digital observation is highly necessary for various practical, theoretical and ethical reasons" (Mayer, 2018).

Assessing with digital simulation games have the fundamental advantage of data can be gathered unobtrusively (Mayer, 2018, Mayer et al, 2014), although

there is a little evidence that these data would be used to evaluate the rationality of players' decisions.

The primary focus of participant assessments in business simulation games is how players' skills were developed (e.g. Teach & Patel, 2007). There are a very few studies deal with the decision process itself. For example, Rashid et al (1988) proposed an expert system model for making "first-period" pricing decisions.

Musshoff et al (2011) analyzed boundedly rational behavior (Simon, 1956) in business simulation games. The study provided a results-based analysis instead of a decision-process based solution (i.e. authors compared achieved results with achievable results if uncertainty in case of price forecasts would be eliminated).

Kuperman's (2009) findings suggest that in business simulations, searching for strategies that satisfy normative standards would be justifiable: As students were able to learn from experience and improve their policies, it was expected that they should eventually discover an appropriate policy that maximizes their payoffs. However, in the research, the majority of the subjects failed to reach optimal strategies. "It appears that there is a preferred bias toward choosing particular types of strategies that satisfy normative standards, even though these strategies produce lower payoffs."

The "degree of rationality and the degree of decision-making efficiency depend on the situational and structural context of the decision making [...], indicating that professional decisions are generally conducted more along rational reasoning than private decisions (Neuert et al, 2015)." This statement also indicates that decisions made in a business simulation environment should be assumed more rational than the private ones. Although Wolfe (2016) notes that rational decisions in business simulations are affected by the level of engagement.

Wolfe (2016) states that "Those who were completely engaged in the experience obtained superior economic results and created strategies and implementations that were rational, goal-oriented and correct for the simulation's modeled competitive environment." Which implies that one key element of rationality is engagement, and based on this, rationality measurements could lead to active participation/engagement assessments too.

In case of evaluating the simulation performance in a classroom environment, in order to maintain motivation, instead of achieved results (such as profit) rational decision-making as an indicator seems to be a better element to evaluate because it values more the efforts taken.

### How to measure rationality in business simulation games?

Students can receive useful feedbacks and do not draw false conclusions solely based on the results. The aim of the rationality measurement supplemented by giving detailed feedback is supporting students in identifying where their thinking has gone wrong and promote learning.

In the case of rationality, it is assumed that there should be consciousness as well. To be able to measure consciousness on database level, first, understanding the decision-making process of the players is critical.

Generally it can be stated that decision-making methodology can vary from one decision maker to other but the essence of the decision-making process is similar. The following phases can be separated (Fig. 2):

- analysis at the beginning of the round, where it is analysed how results met previous plans;
- defining strategic directions and goals, adjusting to the actual and expected situation;
- operational support of implementing the strategy;
- make the actual decisions.



Fig. 2. The usual phases of decision making in BSGs

Also, generally, it can be stated that players usually determine an important decision point in their decision-making process and then adjust the other decisions of the company to this first decision point, as it is presented in Fig. 3.

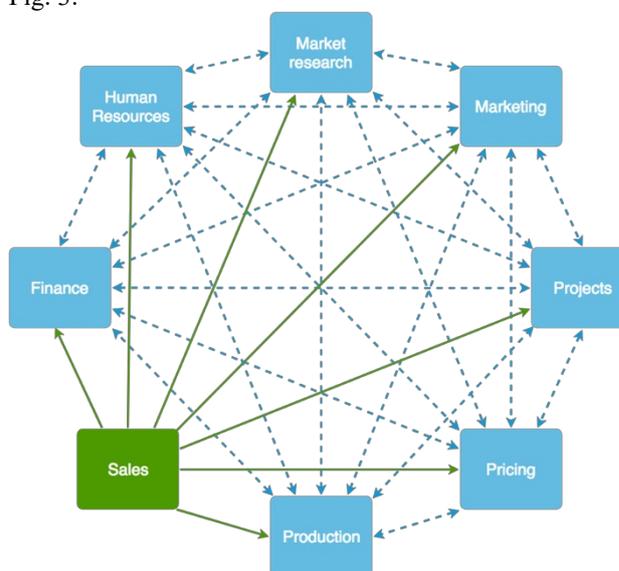


Fig. 3. Players first choose a factor to decide on, other decision points are adjusted to this first decision.

To define what measurements are appropriate for assessing consciousness or rationality, exploratory interviews are needed to be made with good business simulation players, who have deep insight as a user how decision-making in a business simulation works.

Based on the interviews a survey can be made to quantify what aspects are important to different players in different situations when they make decisions. Using the responses of the survey it is planned to build a model where virtual agents are formed and these agents make decisions instead of real players.

The decisions made by the agents can be inserted as an input into a business simulation game and the results can be generated. This way after running thousands of simulations we get patterns that help to identify that in specific situations how should different players act.

Later, comparing these patterns with real players' decisions we should find out what decision motivation was in the head of the decision maker. Statistical analysis methods are needed to investigate whether any strategy

was clearly applied by players. Data is available on each round of the game on database level. It can be also traced how the players in each round had information about their own team and their competitors, and it is also known what they had decided in these situations.

## Conclusions

Players in business simulation games usually create a strategy based on analysis. Players are assumed to be more rational in business simulation games. Rational decision-makers in business simulations build their decisions on analytical considerations - where it is possible. Teams mostly analyse their own company and their market as well. How they adapt to the market situation and to what extent they tend to be rational varies a lot. There is not a single good choice for strategy creation, several strategies can work as well. In terms of rationality, the decision-maker can apply a variety of rationality models. There is a need for a program that is able to find successfully what kind of decision models were used in a specific situation.

Based on the exact decision models were used by the players, more specific feedback can be generated by the teacher which improves the learning outcome.

With the automatic rationality analysis, not only the learning outcomes can improve based on process feedback instead of outcome feedback, but the students' motivation is also increasing by overshadowing curving in grading. Thus, teamwork can be strengthened during the learning process. In addition, the grades would have a more valid meaning because the results are far less depending on the level of opponents.

Although it is assumed that patterns of rationality can be identified, further quantitative study is needed to prove whether it can be determined on database level analyses or not if any pattern of rationality correlates with the actual decisions of a player.

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**RECEIVED: 15 April 2019**

**ACCEPTED: 5 June 2019**

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## ONTOLOGICAL APPROACH TO PSYCHOLOGICAL SELF-MANAGEMENT REGARDING THE SEAPORT

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### Abstract

The object of this article is psychological self-management regarding the seaport. The purpose of the research is to conduct a theoretically heuristic investigation of psychological self-management regarding the seaport at the ontological level. The type of the research is theoretically descriptive. The main method of the research is heuristic analysis. The basic methodological principle is existentialism. Psychological self-management regarding the seaport is discussed from the point of view of the concept of a personality and his/her moral self-development, ideological marine self-liberation for independent decision-making, the seaport symbolism and personal resistance to defense mechanisms, personal self-concept regarding the nature of psychological terror, and marine ecological self-identification in accordance with self-esteem.

KEYWORDS: seaport, self-management, psychology, ontology.

### Introduction

**The relevance of the research.** The seaport is characterized by intensive activities of cargo handling, warehousing, ship agency, forwarding, etc. A skilled seaport employee must survive in stressful situations because of mentioned activities.

Personal self-management is a psychological tool in order to maintain the direction of one's own professional career and to survive in critical, unusual and stressful situations.

The most important condition for psychological self-management is ontologically based self-motivation as a psychological mechanism that encourages a personality at existential valuable level to somehow think, to do or not to do so.

One of the greatest opportunities for creating existential self-motivation is studies, higher education, where young people can:

- Achieve professional competencies;
- Realize their personal, individual interests;
- Raise exciting questions;
- Receive intelligent answers based on science;
- Experience intellectual satisfaction, which helps develop their motivation, relevant for their psychological self-management.

There is a great possibility to get intellectual satisfaction while studying, especially when students can learn almost everything they are interested in. This is the most important factor that encourages a person to think, to feel, to do, and he/she gets motivation to overcome professional challenges regarding the seaport activities (in this case).

From the ontological point of view of the seaport, we should understand that the transport does not carry the goods but people do.

So, the ontological approach to psychological self-management regarding the seaport includes the concept

of the personality in terms of dignity of difference, moral development as personal self-liberation for one's own maturity, ideological marine self-liberation for independent decision-making, relationships between a person and the seaport in anthropological psychoanalysis, resistance to defense mechanisms in relation to the anthropological symbolism of the seaport, personal self-concept regarding the nature of psychological terror, and marine ecological self-identification.

The ontological approach to psychological self-management regarding the seaport relates to the anthropological investigations (Freud 1930; Levi-Strauss 1967; Corbin 1994; Jovaiša 2001; Beresnevičius 2002; Goldschmidt 2003; Kaufmann 2006; Schmid-Höhne 2006; Tenzer 2007; Chiesa 2014; Lileikis 2011, 2015; Mega 2016).

Especially worthy ontological insights we can get from the investigations of C.G. Jung (*The Earth Has a Soul* 2016).

**The object** of the research is psychological self-management regarding the seaport.

**The subject** is an ontological level of scientific insights.

**The purpose** of the research is to conduct a theoretically heuristic investigation of psychological self-management regarding the seaport at the ontological level.

**The type** of the research is theoretically descriptive.

**The main method** is heuristic analysis of theoretical investigation of psychological self-management regarding the seaport at the ontological level.

**The main methodological principle** of the research is existentialism, which emphasizes the freedom of a personality and his/her noble activities including psychological self-management. Despite the many stressful situations that arise when working in the seaport, a skilled employee is able to base his/her life on values

and perceive the meaning of his/her daily life as well as of his/her professional activities.

Psychological self-management regarding the seaport in this article is ontologically discussed from the point of view of the concept of the personality and his/her moral self-development, ideological marine self-liberation for independent decision-making, the seaport symbolism and personal resistance to defense mechanisms, personal self-concept regarding the nature of psychological terror, and marine ecological self-identification in accordance with self-esteem.

### **The concept of the personality and his/her moral self-development**

Ontology requires a deep approach to the possibility of personal self-management. So, first of all, it is appropriate to define the concept of personality. In order to be able to apply psychological self-management, an employee must be allowed (by his/her boss in the port company) to be himself/herself, i.e., to be different than others. It helps him/her to be self-confident and to believe that he/she can manage himself/herself and his/her personality is a value, and solidity along with endurance is right for him/her.

Personality in psychology means individual uniqueness. The prerequisites for a personality, who works in port companies, from the point of view of humanistic psychology are as follows – he/she is original, stable and valuable.

Each personality is characterized by his/her unique differences – physical (e.g., a human body, face), mental (e.g., professional approach) and social (e.g., the way of communication). Each person is not only different from others but also he/she is unique and only this makes him/her a personality (Sacks 2002).

The personality perceives himself/herself and is able:

- To project his/her personal and professional life;
- To take personal responsibility.

He/she can talk to himself/herself:

- “I am the boss in my life, in my decision-making process and in my professional career”.
- “I am CEO (Chief Executive Officer) for me”.
- “I can decide”.
- “I am able to learn what is needed”.

Business management, seaport management, personnel management, technology management start with personal self-management. The motto is: *“If I can manage myself, I can manage the technology and processes at work”*.

From this point of view, moral development is a personal self-liberation for one’s own maturity. Psychological self-management is based on personal independence (psychological freedom) but it must have some limits because the seaport is characterized by very fast activity, technological and social tensions and many stressful situations.

Mature psychological self-management can have problems with obedience of a subordinate to his/her boss but obedience is very important despite personal self-management because of technological and social tensions (extreme situations) in the seaport.

How can the psychological self-management of a subordinate be reconciled with his/her obedience to the boss?

The ability of self-management is naturally related to flexibility in communication and teamwork:

- You can manage yourself because you are an independent person;
- A higher level of your psychological self-management is when you (being independent) can obey your boss.

Democracy with time for discussions is very limited in the seaport. So, there is an art of cooperation in order to flexibly combine:

- Limited business discussions,
- Independent decision-making of a subordinate,
- His/her obedience to the order of the boss.

Psychological and moral development of a person is based on L. Kohlberg’s Moral Development Theory:

Level 1 (*Pre-Conventional moral*):

– Obedience from fear of punishment (a person is obedient because he/she wants to avoid punishment for disobedience);

– Self-interest orientation (“what’s in it for me?”).

Level 2 (*Conventional moral*):

– Interpersonal accordance and conformity (social norms affect behavior);

– Law and social order (obedience to the law without great awareness and questions about the correctness of the law).

Level 3 (*Post-Conventional moral*):

– Social contract (a person asks questions about the correctness of the law and its conformity, e.g., to democratic values);

– Universal ethical principles – principled conscience does not allow enforcing the law, which is unacceptable because it can violate human rights (Kohlberg, Hersh 1977).

Mature personal decisions as a direction of psychological self-management do not contradict the mission of the port company or the decisions of the boss.

### **Ideological marine self-liberation for independent decision-making**

An employee of a port company, who is well educated in the field of marine culture history and is able to identify himself/herself ideologically, can be stronger by applying psychological self-management because he/she feels his/her professional mission.

Marine self-concept of a personality was historically developed from ancient pagan to Christian, i.e., Judeo-Christian and then post-Christian one. Personal pagan self-concept was limited by naturism and animism as faith to spiritual beings, gods, demons (Durkheim 2007). The main ideas of the pagan mentality are as follows:

– A person considered himself/herself as part of nature only;

– His/her self-concept was oppressive (Durkheim 2007);

– Pagan ideology without transcendence (experience beyond the physical level of existence) did not allow mental freedom;

– Impersonal gods ruled the whole life of an ancient man;

– Natural cycles overpowered the person, so that the ability of free and conscious psychological self-management was not allowed (Guardini 1994).

There are some aspects of pagan civilizations:

– Ancient civilizations had very strong systems of tribal life and work (e.g., great architecture in Greece or India) and rituals according to closed natural cycles and experience of cosmic time;

– Ancient civilizations had no possibilities of a free moral culture, of respect for others who are different, and to have personal approach in the tribe with customs, which were mandatory for all its members;

– Naturism and animism as ideologies offered no opportunities for the dignity of personal difference;

– The ancient people had no opportunity to distance themselves from ordinary tribal thinking and doing;

– A pagan man considered the sea according to his/her mental tribal tradition;

– He/she could not free himself/herself from this tradition;

– A man was subordinated to the sea as part of nature;

– There was no experience of super-nature (Šliogeris 2011);

– A pagan person was completely dependent on nature, which was a great mystery for his/her consciousness and feelings (Guardini 1994).

There are limited self-esteem and perception of one's own "Ego". There is a lack of imagination, freedom for decision-making as well as self-management. A man is very active and creative but only as part of a closed natural cycle and rhythm determined by cosmic laws. Pagan self-concept existed only within the limits of the experienced natural environment.

The sea was religiously considered. It was full of impersonal gods. The ancient people had rituals, that the sea would be calm during their travels. The sea was great and magic but the sea itself and its gods were not independent. The whole cosmos was characterized by gods and the sea represented their influential powers (Šliogeris 2011).

With the Judaic and Christian monotheism, the sea is no longer the house of gods. There are several innovations:

– Freedom of thinking and of creativity;

– The concept of an organized nation of free people;

– The transcendental perspective of life, the meaningful history of humankind and constructive exploitation of nature (Rubšys 2009).

Personal self-concept frees from the absolute natural determination. A spiritually liberated person can experience his/her dignity and dignity of other people. A person becomes free from complete dependence on nature, he/she perceives his/her uniqueness and becomes able to decide and to manage himself/herself by creating European history (Guardini 1994).

Man can mentally leave the universe by entering transcendence (psychological self-liberation), e.g., Christian sea-missions were characterized not only by invasions and robberies but also by:

– Ethnographic investigations,

– The chronicles of customs of tribes,

– Schools and hospitals (Braunstein, Phan 2001).

Christianity spread monotheism. God was not perceived as part of nature but as the personal Creator of the universe. This new ideology frees a person from complete dependence on nature. He/she feels his/her personal freedom to decide, to critically examine things and to see his/her own existence *as from outside* (Guardini 1994).

Self-management, from the ontological point of view, was eventually based on personal freedom for independent decision-making by experiencing one's own significant role in the professional creation of the marine culture of the port business.

### The seaport symbolism and personal resistance to defense mechanisms

The possibilities of psychological self-management in the seaport depend on one's own professional self-identification. The port staff has a spiritual opportunity of professional self-identification according to the seashore symbolism.

A person psychologically sees things as human forms, e.g., the seaport is like a man, it was made by a man and has got a human substance. It is based on Freud's psychoanalysis but especially – on Jung's analytical psychology, where the main role is played by subconscious parallels.

A person as well as a seaport is a part of nature. A human being and a seaport are dual structures:

– A man is an integral system of body and soul;

– A seaport is manifested in relationships between land and sea.

The destructive tension between land and sea can contribute to the human creative tension in order:

– To survive in a dangerous port environment;

– To build a positive approach.

An intelligent port employee is able to see the seaport as a border (between land and sea), which historically symbolizes great maritime discoveries when a man physically lived on land but spiritually craved to discover another shore.

The creative approach allows the personality to realize and continue the human seaport history with his/her own productive contribution. The perception of existential analogy between a person and a seaport can help develop eco-awareness and psychologically adopt the Green Port concept based on a comprehensive approach (Green Port: Balancing Environmental Challenges with Economic Demands 2017).

Existential psychotherapy is also characterized by natural parallels:

– The human nature relates to the seaport nature;

– The seaport as an existential dual model helps perceive the opposition and harmony of one's body and soul (harmony can consist of differences only).

Strong port embankment is a successful result of the technologically developed seashore symbolizing a skilled port employee who is a result of his/her developed personality. Reflection of natural parallels helps calm down a long-term stress recognizing the commonality of human nature, seaport nature and nature itself.

Human integral duality refers to the professional vocation. The dual working environment meets the dual human nature. Thus, the seaport can be ontologically characterized by the best professions.

Greater understanding of existential parallels between a skilled employee and a seaport can provide:

- A more complete professional identification;
- A mature professional self-motivation;
- A wider professional responsibility.

All this can enrich a port employee's personality creating a better ability of his/her psychological self-management.

It is also appropriate to study psychological self-management as resistance to defense mechanisms in relation to the anthropological symbolism of the seaport. Anthropological symbolism means a parallel between human nature and seaport nature. It is based on psychoanalysis.

Psychoanalysis emphasizes:

- The role of subconscious (approx. 90% of all human activity);
- Permanently active childhood experience (e.g., a kid is afraid of his/her father, and then, as a port employee, he/she is irrationally afraid of his/her boss);
- Very natural semi-unconscious defense mechanisms.

Subconscious is invisible but it is mostly active, e.g., handwriting is caused by one's emotional state, invisible genes and experiences of the past, like sea-waves as a natural "handwriting" designed not only by the wind but also by invisible depths, underwater currents, etc.

Psychological defense mechanisms are natural and important because help survive but they disturb the smooth collaboration in a work-team, e.g., a person, being guilty and succumbing to the projection, blames another.

Stressful situations prevail in the seaport and promote the expression of defense mechanisms, i.e., avoidance, transference, denial, repression, regression, restitution, sublimation, conversion, projection, opposite reaction, rationalization, compensation.

An embankment must resist the sea waves, that symbolize psychological defense mechanisms, against which a mature person can resist being in stressful situations.

There are several examples:

- Avoidance mechanism – a young employee is afraid of criticism and is not doing, what he/she should do;
- Transference mechanism – an employee in a conflict feels as a victim of the chief and vents his/her anger on another person, e.g., on a weaker colleague or a family member;
- Compensation mechanism – if a chief does not have moral authority, he/she can naturally portray a boss;
- Denial mechanism – the wish to deny one's own mistake;
- Repression mechanism – a person forgets his/her unpleasant experiences that remain and manifest by anxiety and/or terrible dreams;
- Opposite reaction – one person hates another but panders to him/her;

– Conversion mechanism – an employee confuses in nonstandard situations but is afraid to ask for help and becomes sick;

– Restitution mechanism – a person feels guilty and manipulates others with apologies;

– Rationalization mechanism – a person, who has behaved inappropriately, is seeking to rationally justify himself/herself;

– Regression mechanism – immature people like children shout on each other in a conflict situation;

– Sublimation mechanism, e.g., an employee of a port company feels bad (dissatisfied, aggressive) and he/she begins to work too much.

What should we do? First of all, it is appropriate to recognize the specific defense mechanism emerged. Psychological self-management begins with the ontological recognition of individual inner activities.

### **Personal self-concept regarding the nature of psychological terror**

It is appropriate to discuss a non-traditional approach to psychological terror (e.g., bullying) according to the humanistic research of Truskauskienė (2012).

There are three introductory theses:

– The research of the nature of terror is most important (human nature and the nature of terror belong to the same psychological system);

– A person naturally has a tendency to terrorize others (it is as if in our "DNA");

– Psychological self-management begins with the correct approach to the essence of psychological terror.

Let's talk about the general points. A human being is characterized by symbolizing his/her own experience. A person needs the symbols because of his/her personal nature, e.g., the sea-storm is an ancient symbol of life problems, and a seaport symbolizes personal comfort.

A dissatisfied aggressor is looking for a victim who can symbolically be a "seaport of comfort" for him. A seaport was designed as a ship service system. A person develops his/her values and friendship in order to get a service system in stressful situations:

– The internal service system is values;

– The external service system is friends as well as victims.

People naturally use both systems in order to survive.

Now, let's talk about specific points. In the case of psychological terror:

– We cannot change others;

– We can change our approach and reaction.

There are traditional and non-traditional ways to discuss this problem. The traditional way to understand psychological terror is this:

– The aggressor is "bad, guilty and must be punished";

– The victim is "good and does need to be saved".

This approach is good but not complete. The non-traditional way allows to recognize human nature in general, opportunities for a victim, human nature in terms of the fact that psychological terror partially characterizes all people worldwide, and unconscious motives of an aggressor (what he/she really wants).

The opportunities for a victim are as follows:

- To understand the communicational mechanisms;
- To perceive the hidden motives of an aggressor;
- To understand the victim's reactions as personal indicators.

Persons, who are attacked, usually differ in the group. They are smarter, successful in life, loser or unable, etc.

But a personality must be different. He/she has the right, duty and honor to be different (Sacks 2002).

Psychological terror is not just a provocation for a victim but it also manifests the problematic mental state of an aggressor. The phenomenon and its interpretation are not the same, e.g.:

- A victim says: *"He/she is bullying me"*.
- An aggressor says: *"I'm just kidding"*.

But why is the aggressor joking? Why cannot he/she be quiet without joking?

There are some real motives of the aggressor who wants:

- To communicate and be accepted;
- To discover the secret of a victim's personality;
- To find and confirm his/her status in the group;
- To identify himself/herself;
- To hide his/her real feelings;
- To hide his/her social feelings;
- To show that he/she can no longer hide his/her feelings (Truskauskienė 2012).

Constructive self-management is developed when a person (victim) tries to recognize the real motives of the aggressor, to identify his/her (victim's) own feelings, to perceive his/her (victim's) own reactions in terms of personal dignity.

The victim should consider the aggressors as deficient people and himself/herself as an enriched person who can generously share his/her social wealth experiencing personal dignity. Only in front of deficient people (aggressors), a person (victim) can realize, how rich his/her personality is (Truskauskienė 2012).

Therefore, if any employee of the port company creates problems and attacks you, it is appropriate not just to follow legal instructions but firstly, in terms of psychological self-management, it is appropriate to perceive yourself, to realize your advantage and enjoy, and only then decide, what to do in a particular situation.

### Marine ecological self-identification in accordance with self-esteem

The development of ecological self-concept begins with an orientation in the valuable and psychological fields. The exploitation of nature and its pollution have mainly increased over the past 200 years, e.g., Aral Sea ecological catastrophe, an island formed from plastic waste in the Pacific Ocean, mass extermination of marine sanitation – sharks, whales and dolphins, etc. (Great Pacific Shame 2017).

The historical development of marine mentality is characterized by:

- Paganism – the sea is divine;
- Judaism – the sea is no longer divine;
- Christianity – man is divine;
- Atheism – a person denies God;
- Postmodernism – unclear individualized freedom.

After paganism, Judeo-Christianity and atheism, modern generations of polluters are characterized by relative approach. There is no objective truth and there is nothing holy or eternal. There is lack of self-respect and accuracy and lack of thinking about new generations.

The oceans are massively polluted. From ships and industries, the sea receives plastic waste, paints, lubricants, various trash, etc. The meaning of the work becomes uncritically narrow and only as a primitive exploitation. Without critical, strategic, cultural thinking, only manipulative actions remain.

Business and culture should be integrally united in accordance with social responsibility. The professional sector is often not characterized by ecological self-concept around the world. The principle, prevailed in the seaport, is: *"Higher, faster, forward!"* (Gerstenberger, Welke 2008).

The development of harmony culture as well as of sustainability is important for the continuity of humankind. International conventions dedicated for the protection of the marine environment have been announced but waters are still polluted.

Conventional protection of the sea based on sanctions:

- Is not effective,
- Does not offer a sincere desire for implementation of the conventions.

Responsibility can be developed on a valuable basis only. It is appropriate to solve the environmental problems with comprehensive education, development of global empathy, ecological education and development of personal maturity.

Developing person respects himself/herself and his/her environment, and behaves properly without a supervising security officer. There are important ecological development of a person, development of culture of spiritual and technological harmony, and improvement of working conditions.

Just conventions are not enough for the people to follow them. A person wants rights but he/she does not want obligations but if a person respects himself/herself, he/she does not need conventions because he/she does not allow himself/herself to pollute the sea and its environment.

The natural law of ecological maturity expresses the behavior of a mature individual based on highest values, and pollution of the sea is unacceptable because it would violate the principles, on which his/her life is based. Human behavior shows his/her values.

Opportunities for the development of ecological harmony are as follows:

- Mass level – usual, conventional, formal, mandatory education is not effective;
- Individual level – people can existentially perceive environmental problems.

What contributes to a sustainable human action? Self-esteem and desire for long-term happiness. Higher education helps (or should help) to experience intellectual satisfaction, to love and appreciate one's own life and get up after some unavoidable disappointments at work.

A spiritually impoverished person:

- Does not appreciate his/her personality;
- Pollutes his/her thoughts or language;
- Pollutes his/her natural environment.

Psychological projection can explain the pollution: a person assigns his/her negative qualities to others and accuses the environment. A primitive individual cannot live purely. He/she defensively pollutes the sea and himself/herself by semi-conscious showing his/her disappointment in life.

A mature person can develop himself/herself:

- Physically (technologically);
- Psychologically (positive feelings);
- Spiritually (noble and meaningful life).

A person protects what he/she loves, and what increases his/her self-esteem. Human ecological harmony is characterized by personal noble values, ecological self-motivation, intellectual satisfaction in studies and comprehensive (universal) approach to life, to nature and to one's own meaning of existence. Marine ecological self-identification in accordance with self-esteem by applying a conscious psychological self-management helps to avoid the desire to pollute the marine environment.

## Conclusions

The concept of the personality and his/her moral self-development enrich the possibilities of psychological self-management regarding the seaport because freely different and self-confident person can apply universal ethical principles. His/her mature decisions as a direction of self-management do not contradict the mission of the port company or the decisions of the boss.

Ideological marine self-liberation for independent decision-making refers to the mental transformation from paganism to monotheism, where psychological self-management was eventually based on personal freedom for independent decision-making by experiencing one's own significant role in the professional creation of the marine culture of the port business.

Greater understanding of existential parallels between a skilled employee and a seaport can provide a more complete professional identification, the mature professional self-motivation and a wider professional responsibility. All this can enrich a port employee's personality creating a better ability of his/her psychological self-management, which begins with the ontological recognition of individual inner activities. It is appropriate to recognize the specific psychological defense mechanisms.

Personal self-concept regarding the nature of psychological terror is associated with the possibility not just to follow legal instructions but firstly, in terms of psychological self-management, to perceive oneself, to realize one's advantage, to enjoy and only then decide, what to do in a particular situation.

Ecological self-identification in accordance with self-esteem by applying a conscious psychological self-management helps to avoid the desire to pollute the marine environment.

The results of this study can be applied training future skilled seaport employees in the field of higher education.

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RECEIVED: 27 April 2019

ACCEPTED: 5 June 2019

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## THE ROLE OF THE BANKING SECTOR FOR SUSTAINABILITY OF THE FINANCIAL SYSTEM IN LITHUANIA

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### Abstract

Performance of banks has a substantial impact on the growth of economy; since commercial banks accumulate free funds, redistribute financial resources, issue credits to businesses and private persons that promote consumption, economic development, innovations and growth of economy. However, operations of banks are subject to control as no other sector of economy, with particular attention being placed on the supervisory system. As a number of research studies show, the economic recession was triggered by irresponsible behaviour of commercial banks in terms of lending that had led to “overheating” of the economy and resulted in, above all, a crisis of the financial system, which was followed by an economic crisis and a political crisis.

**Key words** : sustainability of the financial system, liquidity, liquidity coverage ratio, the Basel III requirements, capital adequacy, buffer capital.

### Introduction

**Relevance.** The commercial banking sector is one of the most regulated ones, since performance of banks directly affects entire economy of a country. Basically, regulation of commercial banks is implemented through the established regulatory thresholds/ratios for limitation of operational risks, with the aid of which a commercial bank is ready to absorb a certain level of risk. Supervisory authorities (the Bank of Lithuania, ECB, etc.) oblige commercial banks to comply with the established regulatory ratios that indicate whether a commercial bank is ready to offset the assumed risk. The European Central Bank is developing new requirements designated for limitation of operational risks of commercial banks in order to establish the best possible regulatory framework, which would allow avoiding bankruptcy of commercial banks and strengthening of the sustainability of the commercial banking system.

The issue of the minimum requirements for limitation of operational risk is not a new one in the scholarly studies. Over the recent decades a lot of literature has been published (scientific articles, official documents, studies by international organizations, guidance materials, etc.) that provide analysis of the minimum requirements for limitation of operational risk. Regulatory ratios were analysed by such foreign authors as: C. H. S. Bowman (2009), F. Hausa (2014), J. Hagendroff, M. J. Nietto ir L. D. Wall (2012), C. Shmieder, H. Hesse, B. Neudorfer et al. (2011), C. Puhr and D. J. Elliot, M. Farag ir D. Harland (2011), T. Jokipii ir A. Milne, S. Heffernan, A. Elizalde, R. Repullo (2009) and national authors as A. Lileikienė (2014), A. Kovalčik (2014), A. Likus (2011), etc. However, the studies by the above authors still display certain limitation of the analysis, since they mostly focus on the analysis of the effectiveness of the Basel II – III directives. Nevertheless, there has been little research including the analysis of the minimum

requirements for operational risk limiting after mergers of commercial banks, during the period of an economic recession/ crisis, designated to ensure the sustainability of the banking system and the directions of improvement. Recently, the effectiveness of the Basel III and its impact on the minimum requirements for operational risk limiting that ensure sustainability of the financial system as well as the entire banking system *has been discussed* by a great number of authors. The above referred regulation is relevant for Lithuania, since the single rulebook – the commercial banking union that governs the operations of commercial banks across the entire European Union has come into force; the single rulebook comprises of: 1) single supervisory mechanism; 2) single mechanism for commercial banks’ recovery; 3) measures strengthening the deposit guarantee system.

Implementation of the Basel III directives through CRD IV package, i.e. the single rulebook of the financial regulations that would allow increasing resilience of the commercial banking sector against economic crises and the sustainability of the entire financial system will take place over a 7-year period, i.e. in 2013 – 2019. The CRD IV package limits competence of the member states to adopt individual national norms of law regulating the commercial banking sector, thereby aiming at the maximum convergence across the European Union. The reform of the framework of the thresholds/minimum requirements for limitation of the operational risk of commercial banks is crucial as the global financial crisis has revealed.

**Aim of the research:** to define the role of the banking sector for the sustainability of the financial system.

To achieve the aim the following **objectives** have been formulated:

- To make a review of research literature and to identify conceptual trends

- To make an assessment of the impact of bank performance on the sustainability of the financial system.

### The concept of regulatory requirements for operational risk of banks

Liquidity is one of the key ratios limiting the operational risk of a commercial bank. For a long time, the liquidity ratio established by the Central Bank of Lithuania for commercial banks has differed from the one in other European Union member countries. This gap will have to be filled by integration of the Basel III and CRD IV package across all European Union countries, whereby unification of the liquidity ratio for commercial banks across the member countries will be achieved. Although many national economists and representatives of the European Central Bank maintain that the new liquidity metrics is effective, however, the benefit of convergence of the regulatory liquidity standard for the sustainability of the commercial banking system across the European Union is doubtful. The latter approach is validated by such foreign authors as R. A. Nowak (2011), P. Legland (2012), J. M. Liang (2012) and F. Housa (2014), E. Pana (2009), Miller (2000). According to the above authors, the effectiveness of convergence of liquidity ratio when striving for the sustainability of the financial system has not been clear yet. R. A. Nowak (2011) argues that the new liquidity metrics is more likely to be an ambitious project, which may not produce the desired outcomes. O. P. J. König (2010), P. Legland (2012), J. M. Liang (2012) and F. Housa (2014) disclose another problem related with the new regulatory ratio since the most profitable assets are the most risky ones, however their liquidity is low, therefore, to ensure profitability of operations, commercial banks tend to distribute assets in such a way that they would yield higher profit, and the new requirement for liquidity ratio obliges banks to form “a buffer” of „good“ liquid assets. S. Taraila (2001) analyses a model of the relationships between liquidity, profitability and safety. Notwithstanding the fact that commercial banks have to comply with the liquidity ratio requirement, every commercial bank aims at maximum profitability. Negative correlation between liquidity and profitability was confirmed by P. Vadova (2011). According to A. Lileikienė and A. Likus (2011), A. Kovalčík (2014) in order to maintain the required liquidity level, commercial banks must optimize the number of short-term loans, which is not profitable due to lower interest rates. It means that a negative dependency between liquidity and profitability has been validated over entire process of commercial banking evolution, therefore, according to researchers, the compliance with the new liquidity ratio requirement would not only result in “cleansing” of commercial banks from „bad“ assets and liabilities, but also in eventual insolvency of commercial banks.

A commercial bank faces a wide range of operational risks; therefore, commercial banks may suffer losses, which are primarily amortized through liquid assets, and in the case of the worst scenario – through the capital of the commercial bank. In that case, the capital adequacy ratio of a commercial bank is as if a „buffer“ to cover

unforeseen losses. R. Herrala (2012) argues that players of financial market asymmetrically view each other, i.e. shareholders of a commercial bank can be interested in higher risk, while deposit holders – both private persons and legal entities strive for safety, therefore the maximum trust in the financial sector is guaranteed only through the capital adequacy ratio established for commercial banks. R. Herrala’s approach has been contested by particularly strong counter-arguments of researchers T. Jokipii and A. Milne (2009). According to these authors, regulation of capital adequacy reduces the degree of general risk across all assets of a commercial bank, however, when striving for maximization of the profitability function, commercial banks „distort“ portfolio of loan assets by more risky instruments thereby worsening the capital base and calculation of the associated requirements for operational risk limitation. The authors A. Pana, J. Park, T. Query (2009), B. Oppliger, D. Martin (2009) discern the negative aspects of capital adequacy after the Basel III integration: drop in profitability of a commercial bank, lower return on shares, constant inspections by supervisory authorities, increase in capital price will result in extra fees for customers, diversion of financial resources to updating of information technologies. The above shortcomings have also been highlighted by P. Allesandri and M. Drehmann (2008), J. Bullow, B. Klemperer (2013), however at the same time they note that the new capital adequacy metrics will increase the sustainability of the commercial banking system. Thus, the benefit of the Basel III liquidity and capital adequacy metrics for the sustainability of the commercial banking system is doubtful, since growth of the regulatory ratios is neutralized through the calculation methods.

Stability of the banking system is also affected by changes in the macroeconomic processes, often creating the prerequisites for systemic risk. Changes in the microenvironment in terms of systemic risk are interpreted by such national author as V. Vasiliauskas (2013) and foreign authors A. G. Halande and R. M. May (2011), L. Allen, T. G. Bali and Y. Tang (2012) and G. N. F. Weis, S. Neuman, D. Bostandzic (2014). As practice shows, exogenous failures of a single commercial bank have local effect, but larger deviations from the norms turn into systemic risk. To disclose the contents of the systemic risk, it’s worth analysing various research approaches to the issue. Most foreign authors, such as D. Hendricks, J. Kambhu, P. Mosser (2007), E. Cerutti, C. Claessens and P. McGuire (2011) and the European Central bank (2012) agree that systemic risk arises when operational problems in one commercial bank affect performance of other commercial banks and having transcended the exogenous boundaries of a single country start spreading globally thereby affecting start the sustainability of the financial system as well. Their argument is supported by the Bank of Lithuania through relevant resolutions of its Board (2008, 2009, 2010, 2011) as well as such national authors as E. Martinaitytė, A. Keleras, V. Katkus and G. Nausėda (2012) and T. Ambrasas (2014), V. Deltuvaitė (2009). As the research studies show, both foreign and national authors unanimously agree that systemic risk at the context of commercial banks is understood as a chain

reaction triggered by insufficient liquidity of one participant of the financial market affecting the sustainability of the entire financial sector.

### Analysis and trends of performance of the banking sector

As the conducted research studies show, after injection of the Basel III directives the capital adequacy ratio will increase up to 10,5 %. The capital adequacy analysis was performed pursuant to the requirements of the Capital Requirement Directive (CRD IV), section 8 of the Capital Requirement Regulations № 575/2013 (CRR) and the implementing technical standards and regulatory technical standards (ITS/RTS) of the European Banking Institution (EBI).

The capital adequacy ratio is established for the tier I capital, tier II capital and the total capital value to risk-weighted assets. The capital adequacy ratio shows how a commercial bank implements strategic business decisions. The dynamic analysis of SEB bank capital adequacy ratio and its trends are shown in Table 1.

As the results of the research show, in the year 2017 as compared to 2016, SEB bank had Tier I capital ratio exceeded by 0,7 percentage point, i.e. in 2016 the capital adequacy surplus amounted to 14,8 % at the required 4,5 % ratio, and in 2017 – 15,2 % excluding the reserves.

Analysis of capital adequacy of the commercial banking sector as a whole is presented in Figure 1.

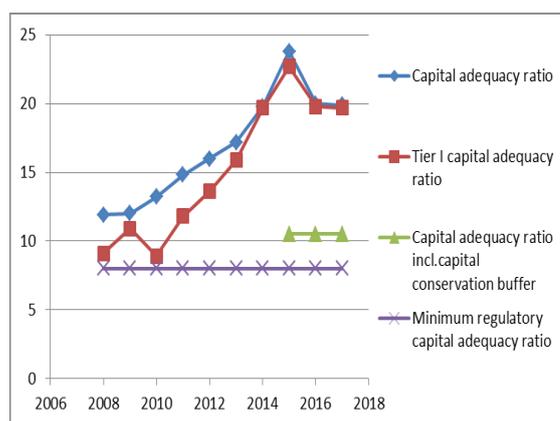


Fig. 1. Dynamic analysis of the capital adequacy of the banking sector for the period 2008-2017

### Analysis of non-performing loans in the banking system

The management of the banking risk mechanism is represented through the ratio of non-performing debt instruments of the banking sector ( Fig. 2 )

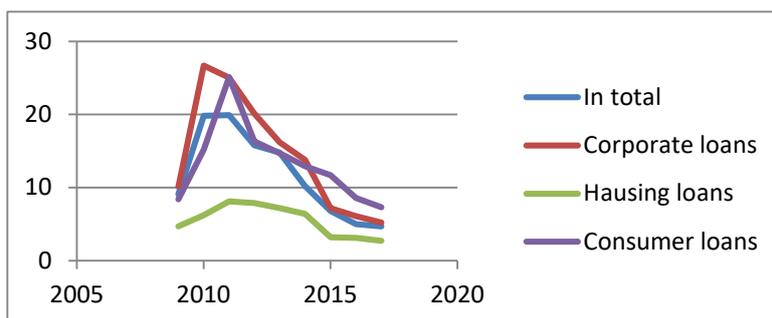


Fig. 2. Non-performing debt instruments ratio of the banking sector (percentage in comparison with the total value of loan portfolio)

Source: Data of the Bank of Lithuania

The present research has disclosed the trend that while ensuring the compliance of commercial banks with the regulatory liquidity requirement, a loan ratio, including loan substitutes such as leasing, has been decreasing in recent years, especially in the post-crisis period; if in 2014 this ratio amounted to 108 %, then in

2017 it did not even make 98 %, that creates the preconditions for assurance of the banks' compliance with the regulatory liquidity requirement and stability of the banking sector.

1 Table. Analysis of SEB bank's capital adequacy for the period 2016-2017

Indicators ( in thous.Euros)	Year 2016	Year 2017
Tier I capital	657385	647260
Tier II capital	7378	9675
Total capital	664763	656935
Amount of risk-weighted assets	3411093	3288180
Tier I capital ratio ( %)	19.3	19.7
Total capital adequacy ratio ( %)	19.5	20.0
Surplus of Tier I capital ( %)	14,8	15,2

## Conclusions

Referring to the theoretical framework, international and national research studies, the following conclusions can be made:

1. Both national and foreign authors unanimously agree that the sustainability of the commercial banking system is affected by compliance with the operational risk limiting requirements; i.e. systemic risk arises, when operational problems in one commercial bank affect performance of other commercial banks, such problems transcend the exogenous boundaries of a single country and start spreading globally thereby affecting the sustainability of the financial system.

2. One of the key ratios limiting the operational risk of a commercial bank is liquidity, the rate of which was established by the Bank of Lithuania. Therefore, the regulatory liquidity ratio in the country for a long time had differed from that of other European Union member states. This gap was filled by integration of the Basel III and CRD IV package across all countries of the European Union, thereby achieving the unification of the liquidity ratio across the banks of the member states. Although many national economists and representatives of the European Central Bank maintain that the new liquidity metric is effective, however, in the opinion of some scholars, the benefit of convergence of the liquidity ratio for sustainability of the commercial banking system across the European Union, is doubtful.

3. Commercial banks are not only testing the liquidity coverage ratio, but also adapt the old calculation methods for the new requirements, when only a small part of deposits is included. Thus, deposits can become a less attractive tool for maintaining compliance with the regulatory liquidity ratio. Competition for „good“ debtors in the financial markets will particularly increase, since growth of credits will decrease the value of the liquidity coverage ratio. Therefore, the commercial banks will be interested in „growing“ of the portfolio of „good“ credits only.

Seeking for stability of commercial banks, the Bank of Lithuania has partially lost its operational independence since November, 2014 and has been relatively eliminated from the regulation, since the single rulebook – the commercial banking union that governs the operations of commercial banks across the European Union has come into force. The single rulebook of the Commercial banking union comprises of: 1) single supervisory mechanism; 2) single mechanism for commercial banks' recovery; 3) measures strengthening the deposit guarantee system.

4. Since 2015 the Basel III ongoing project has been started in the country, implementation of which through CRD IV package will take place over a 7-year period, i.e. in 2013 – 2019. The key modifications introduced by the Basel III in terms of the requirements for limitation of operational risk are related with introducing a new liquidity coverage ratio and increase of the capital adequacy ratio.

5. Modelling of the Basel III directives on liquidity standards has shown that all commercial banks, which were analysed in the present study, had surplus liquidity and capital adequacy ratios before the Basel III integration; the surplus liquidity and capital adequacy ratios have been retained after implementation of the Basel III framework as well. Even if the Basel III regulatory liquidity ratio became mandatory in 2019, the identified trends allow concluding that commercial banks would continue maintaining the surplus liquidity and capital adequacy ratios that would allow ensuring the stability of the banking sector and would provide prerequisites for the sustainability of the entire financial system in Lithuania.

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RECEIVED: 10 April 2019

ACCEPTED: 5 June 2019

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## THE THEORETICAL ASPECTS OF THE LINKS BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND NATIONAL CULTURAL ENVIRONMENT

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### Abstract

This article seeks to reveal theoretical links between corporate social responsibility (CSR) and national cultural environment. The article analyses and summarises most common theoretical approaches in academic literature to CSR and its development. This allows us to distinguish the main CSR aspects and relevant CSR issues. One can state that CSR approaches that are focused only on shareholders needs are becoming less common in academic literature. CSR is increasingly being evaluated in a broader context, attributing to this phenomenon not only economic, but also other relevant social and environmental issues. This allows to expand the field of academic research and to evaluate CSR in the context of various phenomena. The phenomenon of cultural environment has been developing for a relatively long period of time and has very deep roots in the history of nations as well as the consciousness of people. As a result, its impact on the formation of the approach of the society to values and social responsibility needs to be taken into account. In this article national cultural environment is defined and evaluated according to the methodology created and developed by Hofstede. Even though only partial research prevails in the academic literature, and research results as well as opinions of scholars are ambiguous, the analysis of links among national culture, its individual dimensions such as individualism, power distance, masculinity, uncertainty avoidance and CSR aspects allows us to predict some trends. The results show that CSR is defined and perceived differently in countries of different culture, and expectations from social responsibility vary too. Different levels of attention is given to solving economic, social and environmental problems in different cultural environments, and different countries do not always focus on the same CSR issues. Consequently, different features of CSR are dominant in different countries.

Keywords: corporate social responsibility; culture; national cultural environment.

### Introduction

#### Relevance of the research and the main problem.

The economic, social and environmental problems that countries face today are becoming more and more global and they affect an ever-growing sector of society. As a result, the solution to these problems is becoming more complicated. According to Waddock and McIntosh (2009), technological connectivity and processes of globalization dominate in the modern world. The wide variety of cultures and interests challenges national governments to find more comprehensive ways to solve these problems. This variety also promotes scientific discussions about corporate social responsibility (hereinafter – CSR) and its impact on economic and social processes. Given this, it is increasingly important to evaluate CSR in a broader context and to focus the attention of scholars, not only on the evaluation of CSR impact on solving all these problems, but also on the reasons influencing the formation and development of CSR in different countries.

There is no doubt about the positive impact of CSR on both the companies themselves and on society. Generally, scholars focus on the impact of CSR on corporate performance in developing competitive advantage, i.e. attracting highly skilled employees, innovations, technologies, investment and increasing the reputation of the company (Freeman et al., 2006; Arshad et al., 2012; Pivo, 2008; Siegel and Vitaliano, 2007; Kaufmann and Olaru, 2012; Cohran, 2007; Montgomery and Ramus, 2011; Chang, 2011). Nevertheless, there is a lack of attention from scholars concerning the factors influencing different

levels of CSR awareness and disclosure. Why do some countries willingly disclose CSR and give a lot of attention to its promotion, while others take less interest or even ignore it?

The process of globalization provides companies with increasing opportunities to cross national borders and to develop useful commercial relationships with companies operating in different countries. Given this, companies face challenges which reveal different countries' positions on economic, social and other affairs, including CSR. Conceptual scientific works and empirical studies suggest that differences in understanding and defining CSR among countries are based on the characteristics of different countries or regions, their experience, development level (Israeli, 1988; Maignan and Ralston, 2002), and political environment (Ioannou and Serafeim, 2012; Li et al., 2010). The research results indicate that the social behaviour of companies is defined by national cultural characteristics (Halkos and Skouloudis, 2016; Tsoy and Yongqiang, 2016; Hackerts et al., 2012; Scholtens and Dam, 2007; Waldman et al., 2006; Christie et al., 2003; Katz et al., 2001). According to Burton et al. (2000), the recognition and determination of CSR phenomenon is influenced by national cultural characteristics as well. Therefore, in order to not only explain CSR differences in different countries but to promote its development and to direct it to the solution of relevant issues, it is important to analyse how cultural environment changes CSR perception and its manifestation.

**The object of the research** – the links between corporate social responsibility and national cultural environment.

**The main purpose of the paper** – to conduct theoretical investigation of the links between CSR and national cultural environment based on identified theoretical approaches.

**The objectives of the paper are:**

1. To analyse the CSR phenomenon in the context of different theoretical approaches.
2. To reveal the significance of national cultural environment in the perception of CSR.
3. To reveal the links between CSR and the characteristics of national cultural environment.

**Research methods:** comparative analysis of scientific literature and empirical research, systematization and summation.

### **CSR and its development in the context of different theoretical approaches**

Social responsibility as a field of scientific research was first investigated by economists only in the middle of 20th century and explicated in the second part of 20th century, even though the demand for social responsibility and for the formation of socially responsible activity, according to Argandona and Hoivik (2009), had been known before the industrial revolution. Increasing attention to CSR was given after Stockholm Conference in 1972, the Rio Declaration on Environment and Development was launched in 1992 and the United Nations Global Compact Initiatives was launched in Davos in the World Economic Forum in 1999. According to Zadek et al. (2005), CSR is fundamentally a structural, macro-level phenomenon, although it is defined and analysed most clearly at a micro-level. Both the concept of CSR conception and its content have not been sufficiently clarified to enable academic discussion and greater utilisation because CSR as an economic phenomenon is very dynamic, multidimensional and complex (Juščius and Snieška, 2008; Ruževičius and Serafinas, 2007; Nisim and Benjamin, 2008; Jonker and Marberg, 2007; Wilson, 2000; Okoye, 2009).

A decade ago Windsor (2006), Moon et al. (2005) stated that CSR as a phenomenon is not only in its embryonic stage of development but is, also, in itself a controversial concept. According to Wettstein (2009), CSR is a purely normative concept which defines “what corporations should do and how they ought to act”. He also argues that, if CSR is a voluntary activity, it cannot be legally mandated. Therefore, the assumption about CSR formation becomes problematic if “legal voluntariness” is confused with moral discretion. Such an interpretation of CSR, as the author notices, is acceptable for most scholars, however. Waddock and Rivoli (2011), summarizing statements of other scholars, confirm these attitudes and state that CSR loses its meaning if it must be implemented using laws or other regulations rather than voluntarily.

Hamidu et al. (2015) present the evolution of CSR into three stages. In their opinion, it is relevant to associate the CSR as understood in the middle of 20th century, i.e. 50’s – 60’s, with philanthropy because companies had to comply with the law and only in humanistic motives they engaged in philanthropy. Most frequently academic literature quotes Friedman (1970), a representative of a shareholder approach to CSR, stating that companies have only one purpose – to maximize shareholders’ profit by legitimate means. This means competition and market conditions rather than political tools should define the most effective ways to use company’s resources. However, this approach demonstrates a very narrow degree of CSR awareness. CSR as understood in the 70’s –80’s Hamidu et al. (2015) was linked to regulated responsibility because companies’ activities were partly defined by social as well as ethical norms and standards, and seeking a better reputation. Companies perceived that the success and performance of their activities were mostly determined by public opinion and its support. This is legitimacy theory and it can be considered as the beginning of a broader understanding and interpretation of CSR.

The limits of CSR perception have expanded considerably in the last decade of the 20th century. According to Hamidu et al. (2015), it is appropriate to attribute the social responsibility of the early 90’s to instrumental-strategic responsibility and to link it not only to environmental protection and sustainability, but to the development of a company’s competitive strategy as well. This stage of CSR Swift and Zadek (2002) call the stage of formation of responsible competitive advantage. This is a much broader perception of CSR. Using this stakeholder approach, a company is interpreted as an inherent micro part of a society, therefore it should be open to society and should consider all stakeholders who can influence or be influenced by a company’s activities. The triple bottom line or sustainability approach was first represented by Elkington (1998) and invites us to further expand the limits of social responsibility and to include economic, social and environmental issues into a company’s activity. Substantial features of the triple bottom line theory include a comprehensive presentation of companies, an assurance of transparency in their activities, searching for compromise with stakeholders, integrating the interests of all stakeholders into business strategies on the voluntary basis and seeking to resolve actual social, economic and environmental problems. The main theories determining CSR phenomenon and their characteristics are presented in Table 1.

**Table 1.** Theoretical approaches of CSR and their characteristics

Theoretical approach / Time period		The main characteristics of theoretical approach	Authors
1950s – 1960s	Shareholder theory	Shareholders invest capital in order to increase the value of the company. The ultimate goal of shareholders is to maximize the profit of the company by legitimate means. CSR is about increasing the company's profit.	Levitt (1958); Friedman (1970)
1950s – 1960s	Legitimacy theory	An organization is an entity of the society therefore its activities should be desirable, uncontroversial and suited to the norms, rules and traditions of the society.	Dowling and Pfeffer (1975); Suchman (1995); Cormier and Gordon (2001); Deegan (2002); Moir (2001)
since 1990s	Stakeholder theory	The stakeholder approach emphasizes that organizations are not only accountable to their shareholders but should also balance the interests of their other stakeholders, who can influence or be influenced by an organization's activities.	Freeman (1984); Freeman and Gilbert (1988); Freeman et al. (2007)
	Social contract theory	Implicit agreements exist between business and the society that oblige companies to behave in a socially responsible manner. The essence of this theory is to find a balance between individual and social interests.	Locke (2003); Rawls (1999), Gauthier (1990); Donaldson and Preston (1995); Donaldson and Dunfee (1999)
	Signalling theory	This approach aims to minimize an asymmetry of information between companies and society and it explains the reasons why companies are willing to provide information about their social responsibility to the society on a voluntary basis.	Connelly et. al. (2011); Mahoney (2012); Thorne et. al. (2014)
	Sustainability (Triple bottom line) theory	The triple bottom line approach expands the traditional accounting framework and captures the essence of sustainability inviting firms to implement economic, environmental and social aspects into their activity and include them on a voluntary basis in reporting frameworks.	Elkington (1998); Harrington (2016)

*Source: Table created by the author*

Rahman (2011) emphasises the dynamism of CSR phenomenon and, using the analysis of the content of CSR definitions, he notices that not only have the definitions of CSR changed, but also the content of CSR, as a social phenomenon, has changed and expanded. According to him, in the early 60's CSR was associated only with certain commitments to the society but in the following decades CSR begins to be evaluated through close relations between a company and the society. In the following years, CSR had been treated as a corporate philosophy that targets social interests and helps solve social, environmental and economic problems, working against corruption, respecting human rights and helping to improve the quality of life on a voluntary basis.

It shows that the shareholder approach is becoming less common in academic literature and that broader approaches have been increasingly adopted to understand and explain the concept of CSR. All these notices reveal not only the dynamism of CSR but also its multidimensional and multifaceted nature, as CSR can be studied in different fields of scholarship. According to Ho et al. (2012), the establishment and expansion of large multinational companies have an important impact on the dynamics of the

CSR phenomenon. This occurs because the implementation of modern technologies, innovations and effective management methods promote a broader approach and a deeper perception of CSR.

Since 2011 the European Commission has been defining CSR as the responsibility of enterprises for their impacts on society (EC, 2011). This modern holistic definition was proposed by EC in 2011 and emphasises the point that a company's goal cannot be focused solely on economic results, i.e. maximizing the value of the company for shareholders. The company must be evaluated based on methods it employs to achieve its goals as well as how it can properly identify and integrate social, environmental, ethical and other issues into the company's business strategy and prevent potential problems by looking for favourable and acceptable solutions for all stakeholders.

Recognizing that a company is fully responsible for the impact of its activity on a society and on the natural environment, and knowing that when corporate activity reaches beyond the borders of one country, it is appropriate to evaluate CSR in a broader context, especially emphasising its links with economic, social and environmental issues, including the cultural environment.

## The influence of cultural environment on CSR perception

In different countries or in different groups of countries CSR is understood and defined differently based on national characteristics, experience, and development level (Izraeli, 1988; Maignan and Ralston, 2002). It is important to distinguish three reasons which determine different approaches to particular socio-economic phenomena as well as to CSR:

- differences in economic development among countries;
- differences in political environment among countries;
- differences in cultural environment among countries.

Assessing the role of economic development, the World Values Survey and European Values Study (Inglehart and Welzel, 2010) provides evidence that transition of countries from agrarian to industrial society and – eventually – from industrial to post-industrial society, has fundamentally changed people's values and motivation. The research data demonstrates two dimensions of cross-cultural variation: traditional versus secular-rational values and survival versus self-expression values.

Li et al. (2010) show that national governance environment is the most important driving force for CSR communication intensity. The more a rule-based (less relation-based) the governance environment is in a society, the more organizations primarily rely on public rules to govern their interest in socioeconomic exchanges, and the more firms tend to have a higher CSR communication intensity. Katz et al. (2001) and Christie et al. (2003) state that corporate behaviour is determined by national cultural characteristics. In addition, Burton et al. (2000) have also noticed the influence of cultural environment on recognition and defining the term of CSR.

According to Holme and Watts (2000), in countries such as Argentina and Brazil, CSR is centralized around the ability of companies to respond to social challenges, to strive for the best economic development of a community, to make a strong commitment to education, to protect workers' rights and job security. In Ghana, on the other hand, CSR is centralized around business efforts to provide a sustainable livelihood, respect cultural differences and also business opportunities to build the skills of employees, the community and the government. A very abstract CSR definition is used in Thailand, stating that "CSR must be locally relevant and meaningful only if backed up action". While in the Netherlands, CSR is concerned with leadership commitment to core values and to recognizing local and cultural differences when implementing global policy. In the USA, "CSR is about taking personal responsibility for your actions and the impacts that you have on society". While US companies recognize economic, legal, ethical and philanthropic responsibilities, they interpret the last two types of responsibilities much more freely than companies in Western Europe (Forte, 2013). A study conducted by Coldwell (2001) demonstrates that even different ethnic groups, such as white and black students in South Africa, have different levels of CSR perception and different

expectations in relation to social responsibility. The definition of CSR in China says that "enterprises should also take stakeholders benefits into consideration when they pursue to maximize profit for their shareholders" (Wang and Juslin, 2009).

Assessing the influence of cultural environment on economic and social phenomena, it is important to recognise the contribution of Hofstede to cultural environment analysis and the assessment of differences of the cultural environment. Hofstede is one of the leading scientists who analyses and evaluates cultural differences in countries. He is convinced that national identity, values and traditions have very deep roots in the consciousness of people and in the history of the nations and cannot be easily changed (Hofstede et. al., 2010). According to Hofstede (2001), "culture is the collective programming of the mind that distinguishes the members of one group or category of people from others".

Hofstede has classified 76 countries according to four main cultural dimensions: *power distance* (the extent to which the less powerful members within a country accept that power is distributed unequally), *individualism versus collectivism* (the extent to which members within a country concentrate on personal achievements, individual expressions and rights), *masculinity versus femininity* (the extent to which members within a country refer to distribution of emotional roles between genders) and *uncertainty avoidance* (the extent to which members within a country access an uncertainty and ambiguity). Even though Taras et al. (2009) states that a culture as such is a phenomenon that has developed over a relatively long period of time and is stable enough, they simultaneously concede that it is a complex and multidimensional phenomenon and requires continuing research. While 6 out of 10 migrants move to a country where the dominant religion is the same as in their country of birth, and 4 out of 10 migrants move to a country where the dominant language is the same too (UNDP, 2009), a high degree of people mobility across the world increases the cultural heterogeneity of countries and complicates assessments of the cultural environment and its links with other phenomena, including CSR.

## The links between CSR and national cultural environment

Strand et al. (2015) classified 30 developed countries into five clusters according to their cultural environment and social model. Using gross national income per capita and the Global Competitiveness Index to assess economic responsibility, the Environmental Performance Index to assess environmental responsibility and the UN Human Development Index to assess social responsibility they found that societal, economic and environmental responsibility manifest differently in different clusters of countries.

**Table 2.** CSR dimensions in the country cluster of different cultural environment

Country cluster	CSR dimensions		
	Economic	Environment	Societal
North Europe (Nordic)	High	High	High
Anglo Saxon (including U.S.)	High	Low	Middle
Continental Europe	Middle	Middle	Middle
Mediterranean Europe	Low	Low	Low
Confucian	Middle	Low	Low

Source: Strand et al. (2015).

Table 2 shows that all three CSR dimensions are assessed worst in the Mediterranean Europe countries and best in the cluster of Scandinavian countries. According to Strand et al. (2015), institutional factors and the perception of cultural environment are the basis for responsible policy making. The analysis of links among CSR, its individual dimensions and cultural environment demonstrate that different attention is given to CSR and different CSR issues are emphasized in different cultural environments. As a result, this leads to the dominance of different features of CSR in different countries.

Theoretical assumptions based on scientific papers and the results of empirical research do not allow us to doubt

the influence of the cultural environment on CSR. However, the complexity of cultural environment as a social phenomenon and different research results lead to the conclusion that research on the links between cultural environment and social responsibility remains somewhat under-developed, while the results of existing research also reveal the need for more detailed and more profound research on this subject in the future.

The results of research seeking to reveal the links between CSR commitments and cultural environment are provided in the table below:

**Table 3.** The links between CSR features and cultural environment dimensions

Features of CSR	Dimensions of cultural environment				Authors
	Individualism	Power distance	Masculinity	Uncertainty avoidance	
Corporate commitments	+	-	-	+	Peng et al. (2014)
	-	+	+	+	Ho et al. (2012)
	-~	-	-	+~	Ringov and Zollo (2007)
	-~	-~	-~	-	Halkos and Skouloudis (2016)
	-	-	-	+	Thanetsundthorn (2015)
Normative commitments	-	not investigated	+~	not investigated	Hofman and Newman (2014)
Level of CSR disclosure	(+)	(-)	(-)~	(+)~	Once and Almagtome (2014)
	-~	not investigated	not investigated	+	Adelopo et al. (2013)
	(-)	not investigated	not investigated	not investigated	Buhr and Freedman (2001)
	+	-~	-	+	Orij (2010)
	+	-	+	+	Saka and Noda (2014)
	-	-	-	+	Gallen and Peraita (2018)
Quality of CSR disclosure	+	-	+	not investigated	Adnan et al. (2018)
	+	-	-~	not investigated	Adnan et al. (2018)

notes:

„-, or „+“ refers to respectively negative or positive impact;

„(-)“ or “ (+)“ refers to respectively negative or positive relationship;

„~“ refers to statistically insignificant impact or relationship;

Source: Table created by the author.

The results of the scientific works, presented in Table 3, show that companies acting in the countries of high uncertainty avoidance tend to disclose more CSR information than in countries of low uncertainty avoidance (Adelopo et al., 2013; Orij, 2010, Saka and Noda, 2014, Gallen and Peraita, 2018). Most of the previous studies (Peng et al., 2014; Ho et al., 2012; Thanetsunthorn, 2015), except the study of Halkos and Skouloudis (2016), also reveal positive links between corporate commitments and high uncertainty avoidance.

Most of studies, except Peng et al. (2014), Adnan et al. (2018) and Ho et al. (2012), also show that individualism, power distance and masculinity have negative impact on corporate commitments and the quality of CSR disclosure. However, scientists disagree about the impact of these cultural dimensions on the level of CSR disclosure: Once and Almagtone (2014), Orij (2010), Saka and Noda (2014), Adnan et al. (2018) found a positive impact of individualism and negative impact of power distance on the level of CSR disclosure but Gallen and Peraita (2018), Buhr

and Freedman (2001) take the opposite view. Adnan et al. (2018) emphasises the moderating effect of corporate governance on CSR disclosure. The results of their research demonstrate that while countries with higher power distance are less likely to disclose CSR information, corporate governance (existence of CSR committee) can counteract that. The opinions of scientists assessing the impact of masculinity on the level of CSR disclosure vary too. Given this, one can argue that in order to explain the differences of CSR in the countries of different culture it is necessary to develop research in the future and assessing the results of research needs to be done with care.

The results of research revealing the links between cultural environment and the economic, social and environmental aspects of CSR are ambiguous. Although research in academic literature is only partial, it is possible to observe some general trends on these issues. Table 4 summarises and systematises the results of the analysis of academic papers and empirical research in this field.

**Table 4.** The links between CSR aspects and national cultural dimensions

CSR aspects	National cultural dimensions				Authors
	Individualism	Power distance	Masculinity	Uncertainty avoidance	
<b>ECONOMIC ASPECTS</b>					
Strategic planning	–~	+	–~	+~	Mardani and Kazemilari (2012)
Protection of intellectual property	+	Not investigated	Not investigated	Not investigated	Christie et. al. (2003)
Number of supervised employees	Not investigated	Not investigated	–	Not investigated	Cagliano et. al. (2011)
Workplace health and safety	(–)~	(–)~	(–)~	(–)	Hackerts et. al. (2012)
Job rotation, multiskilling, empowerment, autonomy	Not investigated	Not investigated	–	–	Cagliano et. al. (2011)
<b>SOCIAL ASPECTS</b>					
Affective commitment	–~	–	Not investigated	–	Newman and Butler (2014)
	–	Not investigated	+~	Not investigated	Hofman and Newman (2014)
Tolerance of unethical behaviour	–	+	–	+	Williams and Zinkin (2006)
Punishment for irresponsible behaviour	+	–	+	–	Williams and Zinkin (2006)
Development of human resources (training, educating, assessing, compensating)	–	Not investigated	Not investigated	Not investigated	Cagliano et. al. (2011)
	–~	+	+~	+	Mardani and Kazemilari (2012)
Corporate social involvement	+	–~	+~	–	Vachon (2010)
Voluntariness	–	–~	–	–	Khalitova (2017)
Fair labour practices, gender equality	+	–~	–~	–	Vachon (2010)
Customer and market focus	–~	+	+~	–~	Mardani and Kazemilari (2012)
Increasing group incentives	Not investigated	Not investigated	Not investigated	–	Cagliano et. al. (2011)
Human rights policy	+~	–	–	+	Scholtens and Dam (2007)
Governance of bribery and corruption	+	–~	–~	+~	Scholtens and Dam (2007)
Tolerance of corruption	Not	+	+	Not	McLaughlin (2013)

	investigated			investigated	
	Not investigated	+~	Not investigated	-	Pourghafari and Gholizadeh (2014)
Code of ethics	+	--~	--~	+	Scholtens and Dam (2007)
<b>ENVIRONMENTAL ASPECTS</b>					
Environmental protection (investment in environment and safety practice)	-	Not investigated	Not investigated	Not investigated	Schultz and Zelezny (2003)
Green corporatism	+	-	--~	-	Christie et. al. (2003)
Environmental innovation	+	--~	--~	-	Vachon (2010)
Pollution prevention	(-)	(+)~	(-)~	(+)~	Hackerts et. al. (2012)
Recycling of materials	(-)~	(+)~	(-)~	(-)	Hackerts et. al. (2012)
Waste reduction	(-)	(+)~	(-)~	(-)~	Hackerts et. al. (2012)
Environment sustainability	+	-	-	~	Husted (2005)
	--~	-	-	+~	Park et al. (2007)
	+~	-	-	+	Cox et. al. (2011)
	+	-	+	-	Tsoy and Yongqiang (2016)

notes:

„-, or „+“ refers to respectively negative or positive impact;

„(-)“ or “ (+)“ refers to respectively negative or positive relationship;

„~“ refers to statistically insignificant impact or relationship;

Source: Table created by the author.

In the countries of high individualism people are expected only to take care of themselves and the wellbeing of their immediate family. A different situation predominates in the countries of low individualism or high collectivism where people prefer to take care of a wider part of the society, to protect and develop relationships with the community and to value loyalty. Summarising the results of Table 4 one can claim that nepotism, irresponsible and unethical behaviour, bribery and corruption are not tolerated in the countries of high individualism. Companies pay more attention to the protection of intellectual property and to social involvement (Christie et al., 2003; Williams and Zinkin, 2006; Vachon, 2010; Scholtens and Dam, 2007) but, simultaneously, companies are less concerned about community values and human resources development (Waldman et al., 2006; Cagliano et al., 2011). Assessing the influence of individualism on environment protection, Vachon (2010) shows a positive impact on green corporatism and environment innovation, Husted (2005), Tsoy and Yongqiang (2016) demonstrate a positive impact on environment sustainability. However, Hackert et al. (2012) reveal the negative relationship of individualism in relation to pollution prevention and waste reduction.

According to Hofstede (2010), power distance in the country reflects the degree to which less powerful members of a society accept and expect unequal distribution of power within the country and greater influence of leaders of higher rank on the behaviour of inferior employees. This cultural dimension is negatively related to the level of democracy in the country (Terzi, 2011). Such descriptions of the cultural dimension seem to presuppose a negative view of the protection of human rights and this assumption is confirmed by the results of Scholtens and Dam (2007) study. Mardani and Kazemilari (2012) revealed that more attention is paid to the motivation and training of

employees in countries of high power distance, but the results of Newman and Butler (2014) study show that the affective commitments of employees decrease in such countries and, according to Williams and Zinkin (2006), unethical behaviour is also tolerated. High power distance is also not conducive to the development of environmental responsibility because the results of most research unanimously show its negative impact on solving sustainability problems and investing in green programs (Husted, 2005; Park et al., 2007; Cox et al., 2011; Tsoy and Yongqiang, 2016; Vachon, 2010).

A gender-based distribution of roles between men and women dominates in countries of high masculinity and, according to Scholtens and Dam (2007), this feature has a negative impact on the protection of human rights. Although countries of high masculinity show strong competition, assertiveness and focus on material results, they do not tolerate unethical behaviour of employees and punish for irresponsible behaviour (Williams and Zinkin, 2006). High masculinity is not conducive to solving environment problems. Husted (2005), Christie et al. (2003), Park et al. (2007), Cox et al. (2011) demonstrate the negative impact of masculinity on investment in environmental safety and sustainability. Rapidly obtainable material results dominate in countries of high masculinity, while future perspectives are paid less attention. The results of the research done by Laughlin (2013) reveal that an increase in power distance or masculinity indexes increases corruption within a country but that, in cases where both masculinity and power distance are high within a country, power distance weakens the positive relationship between masculinity and corruption.

The uncertainty avoidance dimension reflects the degree to which members of a society feel uncomfortable and uncertain facing unexpected and unusual situations in their lives. The results of this research demonstrate that high

uncertainty avoidance within a country negatively impacts affective commitment, job rotation, multiskilling and autonomy of employees, group incentives and corporate social involvement (Cagliano et al., 2011; Vachon, 2010; Newman and Butler, 2014).

Newman and Butler (2014) argue that a high degree of uncertainty avoidance within a country has a negative impact on an employee's intentions to commit to a company. But, simultaneously, if the managers of a company are capable of giving good example by inspiring and motivating their employees, uncertainty avoidance enhances the positive impact of managers on employee commitments. Mardani and Kazemilari (2012) note that more attention is paid to human resources management, training and other employee motivation programs in countries of high uncertainty avoidance. According to Scholtens and Dam (2008), this environment stimulates companies to pay more attention to human rights but Vachon (2010) does not agree with this conclusion. According to him, uncertainty avoidance does not stimulate companies to improve the safety and quality of a workplace. Results of research are also contradictory when scientists explore the links between uncertainty avoidance and environment protection. Cox et al. (2011) identified a positive impact of uncertainty avoidance on environment sustainability whereas Tsoy and Yongqiang (2016) identified a negative impact on environment sustainability and both Park et al. (2007) and Husted (2005) found that this factor was statistically insignificant. The results of the researches of Christie et al. (2003) and Vachon (2010) demonstrate the negative impact of high uncertainty avoidance on environmental innovation, protection and green corporatism.

## Conclusions

Summarizing the different theoretical approaches of scholars to CSR phenomenon and its formation, one can state that the narrow CSR approach defined by the law and shareholder needs is becoming less and less popular. In the academic literature, CSR is increasingly understood and evaluated based on a broad and holistic approach which

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regards CSR in terms of good and useful relations between the company and all its stakeholders, striking a good balance between the company's goals and the needs of the society in which it operates.

The understanding and definition of CSR in different countries and in different groups of countries varies considerably. These differences are due, not only to different economic developments and political situations, but also to different national cultural environments. Cultural environment is deeply rooted in the history of a nation and of its people's consciousness. Therefore, it has an important impact on the formation of the approach of the society to common societal values and social responsibility. Companies are an inherent part of the society and their activities are defined by national cultural environment and its dominant features.

The complexity of cultural environment as a social phenomenon, and the partial research prevailing in the academic literature, lead to the conclusion that research on the links between cultural environment and social responsibility are insufficiently developed, while the results of existing research also reveal the need for more detailed and more profound research on this subject in the future. However, the analysis of the links between such cultural environment dimensions as individualism, power distance, masculinity, uncertainty avoidance, on the one hand, and the different aspects of CSR, on the other, revealed that different levels of attention is given to CSR and that different CSR issues are emphasised in different national cultures with the result that the different national cultures determine the predominance of different CSR aspects in a given country. Following the results of this research, one can argue that countries of high uncertainty avoidance pay more attention to general corporate commitments and CSR disclosure, while countries of high individualism focus more on solving environmental issues. The least favourable cultural environment for solving such social problems such as corruption and human rights abuses are the countries of high power distance and strong high masculinity.

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**RECEIVED: 8 April 2019**

**ACCEPTED: 5 June 2019**

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## FACTORS INFLUENCING THE LEVEL OF SHADOW ECONOMY IN LITHUANIA

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### Abstract

The shadow economy is an important indicator of the economy. The shadow economy is a multidimensional and ambiguously valued phenomenon, determined not only by economic but, to a large extent, both socio-psychological, legal and administrative factors. In practice, the main causes of this shadow economy are the following: tax burden, regulation, income and living standards, state support system, quantity and quality of public services, corruption, trust in authorities and institutions. The scale of the shadow economy varies considerably between European countries. It is estimated that the largest scale of the shadow economy is in Central, Eastern European and Southern European countries. The lowest in Western Europe and the Scandinavian countries. The purpose of this article is to evaluate factors influencing the level of shadow economy in Lithuania. Calculated in 2002-2010 Lithuania's relative dynamic indicators of the shadow economy, based on different methodologies, show that 20-33% of the Lithuanian economy is created in the shadow economy based on the countries added value.

KEY WORDS: shadow economy, measurement of shadow economy, factors.

### Introduction

The general public, academics, politicians, and control bodies around the world are discussing the shadow economy at national, European and international levels. However, despite the high interest, there is still no agreement at national or international level on the common terminology, content and structure of this phenomenon, as well as the reasons for this phenomenon. The relevance of the shadow economy as a scientific problem is linked to one of the most important macroeconomic indicators - gross domestic product (GDP) - inaccuracy, as well as the non-collection of planned revenue from the consolidated budget. According to Kochetkov (2015) gross domestic product (GDP) is the main indicator in the system of national accounts. Shadow economic activity adversely affects the country's small and medium business, has a significant impact on the formation of the state budget, reduces the motivation of honest workers to work in the official market, increases the tolerance of the illegal goods and highlights the phenomenon of bribery and abuse service, which are inseparable from shadow agreements.

The shadow economy is like a public protest showing that the country's economic system is not working properly. The growing shadow economy is spreading discrepancies between government decisions and people's expectations, between taxes and regulation, and people's standard of living.

According to Schneider (2015), the underlying driving forces in the shadow economy are indirect taxes, followed by self-employment and unemployment. According to Dobovšek and Slak (2017), different subcategories should be used to distinguish different forms of manifestation in the shadow economy. According to Žukauskas (2009), the shadow economy usually occurs when the laws restrict human activity. According to

Vousinas (2017) tax evasion is inseparable from the shadow economy. According to Vilkas (2002), the shadow economy distorts official statistics, so the policy based on it can become unreliable or simply irrational. Quintano and Mazzocchi (2015) argue that the effects of the shadow economy can be reduced in several ways related to asset, tax burden and co-regulation. According to Bose et al. (2012), the efficiency of the banking sector is related to the reduction of the size of the shadow economy in the country. According to Roy (2017), official economic growth, coupled with a decrease in unemployment and an increase in "formal" employment, would help reduce the global economy's shadow economy. According to Pocius (2015), different ways of calculating the results of a shadow economy can vary greatly, so it is very difficult to choose the most appropriate calculation methodology.

The scientific research problem: which factors influence the level of shadow economy?

The main aim of the article to evaluate factors influencing the level of shadow economy in Lithuania.

Research methods: literature review, statistical data analysis, regression, correlation.

### Literature review

The shadow economy began to be discussed and addressed in the 1990s, in the mid-1990s, during the Great Economic Crisis. The shadow economy as a phenomenon has started to be highly updated in 2008, which began during the economic crisis. This topic is being discussed at the scientific and practical level, and various studies are conducted.

Despite the relevance of the problem, there is still no agreement at national or international level on the common terminology and concepts that define the shadow economy as a phenomenon, its content and structure.

The shadow economy, as a term in the literature, was first mentioned in the German language *schattenwirtschaft*, and later was used in other terms. According to Ahmed et.al (2007), the terms black economy and black work were first introduced in 1970. Italian literature was mentioned in the literature - *nero lavoro*, and in German - *schwarzarbeit*.

Although the shadow economy is widely debated around the world, there are no concepts of a well-established shadow economy. The following shadow economy terms are identified: underground, informal, illicit, illegal, hidden, unobserved, unrecorded, black, and many others. In practice, the concept of a shadow economy is often synonymous with the concept of an officially unrecognized economy. However, according to Schneider and Enste (2000), the concepts of a shadow economy and an officially unrecognized economy are not identical, as the shadow economy is associated only with the unlawful activity of economic operators without giving an interest in economic meaning. Meanwhile, an officially unrecognized economy involves only activities that create services and goods on the market. Also, an officially unrecognized economy is not simply a violation of law.

Most often, the shadow economy is interpreted in different perspectives. Table 1 presents several concepts of the shadow economy, based on the statistical, legal, criminal economics and state revenue.

**Table 1.** The concept of a shadow economy based on different perspectives

View	Summarized concepts of the shadow economy
Statistical (officially unrecognized economy)	Part of gross domestic product (GDP) that can not be directly measured using official data sources in line with the requirements of the European Commission in order to ensure the completeness and comparability of GDP.
Legal	Everything that is done to obtain financial and non-financial benefits, in breach of legal provisions.
Criminal economics	The processes occurring both in regulated, unregulated or prohibited activities and covering the entirely opposite legal activities that generate unlawful financial resources.
State Revenue (Tax)	The processes that are taking place in the regulated market, which adversely affects the tax revenue of the state and encompasses opposite legal activities that avoid tax obligations or other unlawful tax benefits.

(Source: own)

From the table below, we see that the concept of shadow economy differs from each of the approaches, because the concept is interpreted differently in different areas. The statistical approach relates the shadow economy to the GDP share, while the legal approach identifies the shadow economy as an illegal activity that is carried out of violation of the law. According to Schultzová (2017) tax revenues in all European Union countries represent the most important source of income.

Friedrich Schneider is one of the most famous scholars of the shadow economy, also known as the "guru" of the shadow economy, who presents a rather comprehensive definition of the shadow economy. Schneider (2015) provides the following definition of the shadow economy: the shadow economy is the whole production of goods and services, the provision of services that is concealed from the authorities in pursuit of the following objectives:

1. Avoid added value to the revenue and other taxes to the budget;
2. To avoid paying social security contributions;
3. To avoid compliance with certain standards (eg minimum wage, security, etc.);
4. To avoid compliance with various administrative procedures.

According to Schneider (2015), the definition of a shadow economy should exclude:

1. Underground activities are illegal acts that meet the standard characteristics of classical crimes (theft, drug trafficking, robbery);
2. An informal economy of households - it covers a variety of household activities, activities that are not formally governed by specific national legislation.

In the literature, when analyzing the shadow economy as a phenomenon, there is a rather high interest of scientists in the calculations of the size of the shadow economy, and many studies are being carried out to determine the "shadow" lower and upper limits in the world in certain periods.

However, according to Professor Schneider (2015), "the interest in calculating the size of the shadow economy, and not in its other aspects, can be explained in a very simple way - to identify the exact causes of the economic shadow of the country expensive and complex social and microeconomic studies are needed, but shadow" size can be calculated using simpler macroeconomic methods that require less resources; journalists tend to publicize easy-to-understand information on simple content, otherwise they will not receive or receive insufficient public interest. For people numbers and percentages are much simpler to interpret than complex data requiring in-depth knowledge of economic science." Table 2 presents the main reasons Schneider and Buehn (2016) suggests is the shadow economy. The author justifies these reasons by theoretical arguments.

**Table 2.** Main reasons that causes shadow economy

Reason	Theoretical arguments
Tax and social security contributions	The distortion of the overall tax burden has an impact on leisure time and can stimulate labor supply in the shadow economy. The greater the difference between total labor costs in the formal economy and the loss of earnings (from work), the greater the incentive to reduce the tax burden and work in the shadow economy. This tax barrier depends on the burden of social security / payments and the overall tax burden, which is why it is a major factor determining the existence of a shadow economy.
The quality of state-	The quality of public institutions is another key factor in the development of the shadow econ-

owned enterprises	omy. First of all, the effective and discretionary application of the tax code and government regulations is decisive in the decision to work informally, i.e. avoiding paying taxes. The large bureaucracy of corrupt government officials is mostly related to more informal activities, and ensuring good law-enforcement state through the enforcement of secure property rights and contracts increases the merits of official status. Probability of the development of the non-formal sector due to the failure of political institutions to promote an efficient market economy, and the number of entrepreneurs who do not pay taxes can be reduced.
Regulation	Regulations such as labor market rules or barriers to trade are another important factor in reducing the freedom (choice) of individuals in the formal economy. They lead to a significant increase in labor costs in the formal economy and thus give one more incentive to work in the shadow economy: countries that are tighter regulated tend to have a larger share of the shadow economy from total GDP.
Public sector services	Increasing the shadow economy may reduce government revenue, which in turn will reduce the quality and quantity of public goods and services. Lastly, it can increase tax rates for businesses and individuals, although public goods (such as public infrastructure) and administration may continue to deteriorate. The result is an even stronger incentive to participate in the shadow economy.
Tax morality	Public sector efficiency also has an indirect impact on the size of the shadow economy, as it affects tax morale. Tax compliance is based on a psychological tax treaty consisting of the rights and obligations of taxpayers and citizens as well as the state and its tax authorities on the other hand. Taxpayers are more likely to honestly pay their taxes if they get valuable public services in exchange. The tax authority also treats taxpayers. If taxpayers, as partners (tax contracts, follow hierarchical relationships on the site of their subordinates, taxpayers will be more likely to fulfill the obligations of the psychological tax convention.
The evolution of the official economy	Another important factor in the shadow economy is the development of the official economy. The higher (lower) the unemployment rate (GDP growth), the greater the incentive to work in the shadow economy.
Self-employment	The higher the level of self-employment, the more activities can be done in the shadow economy.

(Source: Schneider and Buehn, 2016)

According to Senavaiytė (2011) existence of shadow economy distorts official economy indicators, like GDP, unemployment rate, due to that political economy decisions cannot be as effective. Besides, shadow economy has impact on many economic processes: income collecting and allocation, tax system development, fair competition, selling and investment, economical growth. It means, that in order to make proper political - economy decisions, correct information about shadow economy, it's rate and consequences is necessary. The analytical part of this article will try to find out which of the chosen macroeconomic factors has biggest influence for shadow

economy magnitude. Makroekonomical factors are basic indicators foretelling country's economical state. In the analytical part of the article for defying macroeconomical factor impact to shadow economics will be used chosen macroeconomic indicators.

**Methodology and data**

In this article, the absolute and relative indicators collected from various official sources are used to assess the level of the shadow economy. Absolute statistical indicators describe the social phenomenon as the number of units of the whole, or the numerical value of its attributes. Absolute statistical indicators are always expressed by some unit of measure. Meanwhile, relative statistical values show the intrinsic quantitative relationships between particular social phenomena and processes. The size of the shadow economy was calculated on the basis of monetary methods: the money demand method and Gutmann's monetary method.

In order to determine which of the components of the shadow economy: corruption, smuggling or money laundering has a major impact on the model of multiple linear regression (MLR) for the shadow economy. Also, the linear multi-regression model will be used to determine which of the theoretical part of the country's macroeconomic indicators has the most impact on the shadow economy. According to Bagdonas (2009), the model of linear regression is a generalization of one variable linear regression model in which there are more than one variable.

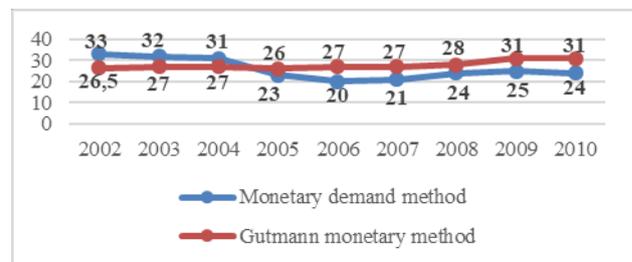
**Hypothesis.** Higher level of smuggling are associated with a higher level of shadow economy.

**Hypothesis.** Higher GDP per capita is associated with a lower level of shadow economy.

According to Čekavicius and Murauskas (2015), a good regression model is that the determination coefficient  $R^2$  is greater than or equal to 0, 20 and the ANOVA p value is lower than the chosen level of significance, which is chosen in this study 0, 05.

**Descriptive Statistic**

Figure 1 shows the 2002-2010 period Lithuania's relative dynamic of the shadow economy, calculated on the basis of monetary demand and Gutmann's monetary method.



**Fig. 1.** The relative dynamic indicators of the shadow economy in Lithuania, calculated according to different methodologies (Percentage).

(Source: own)

According to Senavaiytė (2011), the shadow economy indicator, after applying Gutmann's monetary model,

quite accurately reflects trends in general changes in change. By 2005 when the country's economy grew, according to Gutmann's monetary calculation method, the share of the shadow economy declined in GDP. However, during the economic downturn, the growth of the shadow economy was noticeable, and it was also noticeable a few years before the crisis.

In order to determine the relationship between the shadow economy and the selected variables, the Pearson correlation coefficient was calculated. The Pearson correlation coefficient allows determine the different variables (strong, weak, positive, and negative). Regression analysis allows one variable to be predicted for another variable. **Table 3** shows the correlation analysis of shadow economy variables.

**Table 3.** Correlation analysis of variables of the shadow economy

	Shadow economy (% of GDP)	Corruption	Smuggling	Money laundering
Shadow economy (% of GDP)	1	0,15	0,93	-0,87
Corruption	0,15	1	-0,10	-0,24
Smuggling	0,93	-0,10	1	-0,90
Money laundering	-0,87	-0,24	-0,90	1

(Source: own)

The Pearson Correlation Coefficient allows to estimate the strength of the linear coupling between variables. How this factor is closer than 1, the linear relationship between variables is stronger. From the table below, we see that a very strong linear positive relationship correlates between the size of the shadow economy and smuggling, with a correlation coefficient of 0, 93. There is also a very strong negative link between money laundering and smuggling, a correlation coefficient of -0, 90, and a shadow economy and money laundering, with a correlation coefficient of -0, 87. Very weak negative correlation is between corruption and money laundering, the correlation coefficient is -0, 24 and smuggling and corruption, the correlation coefficient reaches just -0, 10. A very weak but positive correlation is between shadow economy and corruption, here the correlation coefficient is equal to 0, 15.

**Hypothesis testing.** After calculating the values of the suitability of the shadow economic variables, we obtained a Significance F value of 0, 04.  $\alpha$  is the materiality level chosen in this case, which is equal to 0,05.

**Table 4.** Values of the variables of the shadow economy

ANOVA						
	<i>f</i>	<i>d</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression		37,11	2,37	21,96	0,04	
Residual		20,23	0,11			

Total	5,33		
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(Source: own)

Since  $p = 0,04 < 0, 05$ ,  $H_0$  is rejected, due to the fact that there is a statistically significant linear relationship between the shadow economy and corruption, smuggling and money laundering.

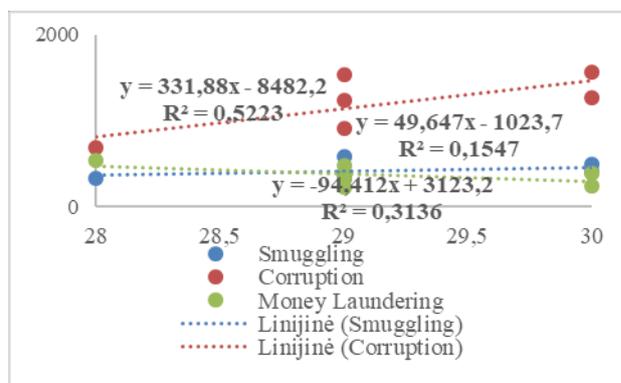
**Regression model evaluation.** After checking the hypothesis, the determination coefficient  $R^2$  is calculated. Determination coefficient shows the significance of the independent variable, in this case, of the shadow economy for all three dependent variables - corruption, smuggling and money laundering. Table 5 presents a summary of the linear regression model indicators, which shows how the dependent variables explain the change in the independent variable (shadow economy).

**Table 5.** Summary of indicators of the linear regression model of the shadow economy

Regression Statistics	
Multiple R	0,99
R Square	0,97
Adjusted R Square	0,93
Standard Error	0,33
Observations	6

(Source: own)

From the table below we can see that the calculated coefficient of determination is equal to 0, 9851. The literature states that the higher the coefficient value, the model is better suited for the data. If  $R^2 = 0, 89$ , one can assume that the model describes the data very well. In this case, the estimated  $R^2 > 0, 89$ , therefore, it can be stated that the linear regression model is valid.



**Fig. 2.** Linear regression equations for shadow economy factors

(Source: own)

Based on the linear regression equation for the shadow economy, we can see that the regression equation cannot be applied to smuggling, since the determination coefficient  $R^2$  is only 0, 1547. Based on the corruption equation written, the regression equation can be applied, since the determination coefficient  $R$  is 0, 5223, which means that the shadow economy is directly affected by corruption, corruption in this case increases the shadow economy according to the equation obtained. The estimated money laundering determination coefficient  $R$  is

0, 3136, which means that money laundering also affects the shadow economy.

The study found that smuggling had the greatest impact on the shadow economy, since the calculated coefficient of determination was 0, 8721. The Pearson correlation coefficient was calculated to determine which of the selected macroeconomic indicators most influenced the size of the shadow economy. The values of the selected shadow economy variables are presented in Table 6.

**Table 6.** Selected macroeconomic factors and their meanings for correlation coefficient estimation

	Size of shadow economy (% of GDP)	Average unemployment rate (%)	Annual inflation rate (%)	Average salary, before taxes (Eur)	GDP per capita (thsd EUR)	Number of enterprises in operation at the beginning of the year (thsd)	Export of goods (billion Eur)	Import of goods (billion Eur)	Taburden (% of GDP)	Size of shadow economy (% of GDP)
Year	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>	X <sub>8</sub>	X <sub>9</sub>
2007	29	4,2	8,1	547,8	8,89	60,094	12509	17,813	30	30
2008	30	5,8	8,5	653,6	10,14	63,561	16077	21,144	30	30
2009	30	13,7	1,3	624,6	8,43	65,629	11797	13,123	30	30
2010	29	17,8	3,8	600,2	8,95	66,838	15651	17,653	29	29
2011	29	15,4	3,4	613,3	10,22	62,889	20151	22,826	29	29
2012	28	13,4	2,8	629,5	11,03	65,779	23047	24,879	28	28
2013	28	11,8	0,4	661,2	11,7	68,279	24545	26,208	28	28
2014	27	10,7	-0,3	691,1	12,4	67,670	24361	25,889	27	27
2015	26	9,1	-0,1	726,4	12,9	76,427	22904	25,399	26	26

2016	26	7,9	1,7	784,4	13,5	79,840	22609	24,836	30,1
2017	26	7,1	3,9	848	14,03	83,256	26429	28,763	30,7

(Source: own)

The Pearson Correlation Coefficient allows you to determine the varying dependencies between variables (strong, weak, positive, and negative). Regression analysis allows one variable to be predicted against another variable. The Pearson Correlation Coefficient allows you to estimate the strength of the linear coupling between variables. How this factor is closer than 1, the linear relationship between variables is stronger.

**Table 7.** The correlation between the shadow economy and selected macroeconomic factors

	Average unemployment rate (%)	Annual inflation rate (%)	Average salary, before taxes (Eur)	GDP per capita (thsd EUR)	Number of enterprises in operation at the beginning of the year	Export of goods (billion Eur)	Import of goods (billion Eur)	Taburden (% of GDP)	Size of shadow economy (% of GDP)
Average unemployment rate (%)	1								
Annual inflation rate (%)	-0,4384	1							
Average salary, before taxes (Eur)	-0,3242	-0,3525	1						
GDP per capita (thsd EUR)	-0,3393	-0,4452	0,9036	1					
Number of enterprises in operation at the beginning of the year	-0,2309	-0,4103	0,9513	0,8516	1				
Export of goods (billion Eur)	-0,0401	-0,5380	0,7140	0,8997	0,6481	1			

Import of goods (billion Eur)	0,1931	- 0,551	0,7020	0,7604	0,6074	0,8658	1		
Tax burden (% of GDP)	0,0778	0,2960	- 0,0665	- 0,1589	- 0,1196	- 0,1912	- 0,0878	1	

Size of shadow economy (% of GDP)	0,2807	0,4900	- 0,8385	- 0,9355	- 0,8786	- 0,8111	- 0,5909	0,2158	1
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(Source: own)

From Table 7 we can see that a strong negative affinity relates to the shadow economy and:

1. GDP per capita, correlation coefficient is -0,9355;
2. Number of enterprises in operation in Lithuania, the correlation coefficient is -0,8786;
3. The average salary, correlation coefficient is -0,8385;
4. The export of goods has a correlation coefficient of -0,8111.

The average negative relationship relates to the shadow economy and import of goods, the correlation coefficient is -0,5909. The weak positive relationship links the shadow economy and the following macroeconomic indicators: the annual inflation rate 0,49, the unemployment rate 0,2807 and the tax burden 0,2158.

**Hypothesis testing.** After calculating the values of the suitability of the shadow economic variables, we obtained a Significance F value of 0,044.  $\alpha$  is the materiality level chosen in this case, which is equal to 0,05.

**Table 8.** The relevance of the macroeconomic indicators of the shadow economy

ANOVA					
	df	SS	MS	F	Significance F
Regression	8	25,89332	3,236665	19,3842	0,04996707
Residual	2	0,333949	0,166974		
Total	10	26,22727			

(Source: own)

Since  $p = 0,04996707 < 0,05$ ,  $H_0$  is a rejection because there is a statistically significant linear relationship between the shadow and selected macroeconomic indices.

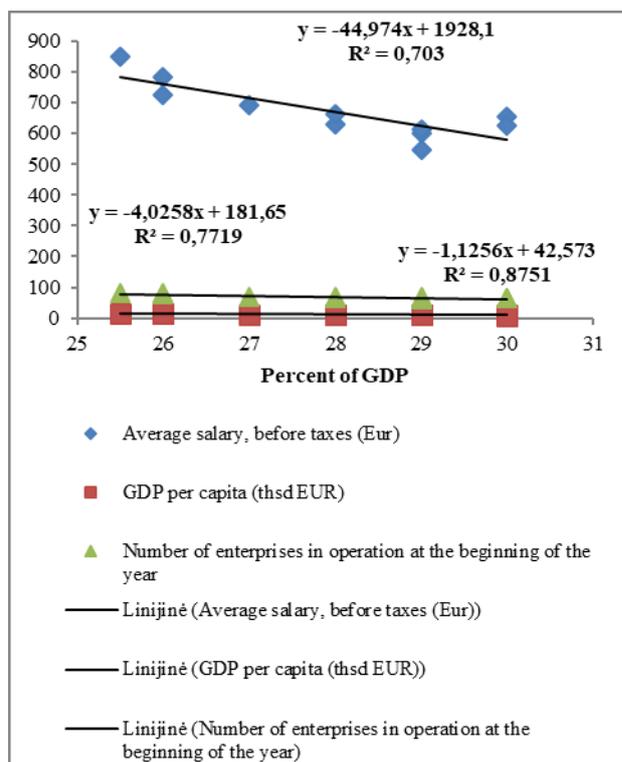
**Regression model evaluation.** After checking the hypothesis, the determination coefficient  $R^2$  is calculated. Determination coefficient shows the significance of the independent variable, in this case, of the shadow economy for all three dependent variables - corruption, smuggling and money laundering. Table 9 presents a summary of the linear regression model indicators, which shows how dependent variables explain the change in the independent variable (the shadow economy).

**Table 9.** Summary of indicators of the linear regression model of the shadow economy

Regression Statistics	
Multiple R	0,993613
R square	0,987267
Adjusted R Square	0,936336
Standard Error	0,408625
Observations	11

(Source: own)

From the table below we can see that the calculated de-termination coefficient is equal to 0,98. The literature states that the higher the coefficient value, the model is better suited for the data. If  $R^2 = 0,89$ , one can assume that the model describes the data very well. In this case, the calculated  $R^2 > 0,98$ , therefore, it can be argued that the linear regression model is valid. In this case, 98% Changes in the size of all shadow economy can be explained by changes in selected macroeconomic factors. We will map out 3 macroeconomic factors that have the most influential factors.



**Fig. 3.** Linear regression equations for macroeconomic factors

(Source: own)

Based on the linear equation of the shadow economy, we can see that for all three chosen macroeconomic factors we can apply the regression equation, since the determination coefficient is near 1. From the picture presented, we notice that 87,5% the change in the size of the shadow economy is explained by the change in GDP per capita in Lithuania. As much as 77% the change in the size of the shadow economy can be explained by changes in the

operating companies in Lithuania, and by 70% - changes in the average salary.

## Discussion

According to various sources, the relative indicators of the shadow economy dynamics yield different results, since different variables are included, and different assumptions are made to calculate the size of the shadow economy. According to various studies, the size of the shadow economy in Lithuania can be about 15-30% gross domestic product.

Lithuanian Statistics Department submits quarterly gross domestic product (GDP) assessment, which includes shadow economy. However, there is no official information on the methodology for calculating this indicator. The lack of this information, which creates distorted reality, creates unreliable trust as the official statistics.

According to Vytautas Žukauskas, expert of the Lithuanian Free Market Institute, measurement of things that are not measurable is really complicated, full of methodological problems and very inaccurate. One can criticize the methodology of the evaluation of the Shadow Economy of Statistics Lithuania, but it can equally be criticized for any other methodology, because its imperfection arises from the shadow economy itself, as it is impossible to directly estimate the phenomenon. However, the fact that there is not and non accurate calculation the size of the shadow economy does not mean that the existence of shadow economy can be ignored or the fact that it varies under the influence of various factors. Whatever the methodology of shadow valuation, there will always be a different kind of assumption than the assessment of GDP volumes, which has its own flaws. Statistics Lithuania can not and will not be able to measure the shadow with the same accuracy as the officially accounted "transparent" economy. Therefore, the assertion that the GDP indicators published by Statistics Lithuania also assess the scale of the shadow economy is misleading. It gives the impression that the GDP indicator is indisputable and objective, accurately and clearly demonstrating the economic situation. This is not the case. GDP, like all other statistical indicators, has its disadvantages, and part of the shadow economy is one of them. Perhaps if it were directly declared and disclosed, doubts would be placed on the reliability of national accounts, more attention would be given to the shadow, to the analysis of government decisions. According to the expert, there are other more reliable ways to analyze them: not by quantity, but by explaining their causes and consequences.

## Conclusions

The shadow economy is a multidimensional and ambiguously valued phenomenon, determined not only by economic but, to a large extent, both socio-psychological, legal and administrative factors. In practice, the main causes of this shadow economy are the following: tax burden, regulation, income and living standards, state support system, quantity and quality of public services, corruption, trust in authorities and institutions.

Based on the analysis of the correlation between the components of the shadow economy, it was observed that a very strong linear relationship links the shadow economy and  $c$ , since the calculated correlation coefficient is equal to 0,93. A strong negative link relates to the size of the shadow economy and money laundering. Also, a very strong negative connection relates to money laundering and counter-herds, here the correlation coefficient is -0,90. A very weak negative affinity affects corruption and money laundering, the correlation coefficient is -0,24, and smuggling and corruption, the correlation coefficient reaches just -0,10. A very weak but positive affiliation links the shadow economy and corruption, here the correlation coefficient is equal to 0,15. Calculating the values of the suitability of the shadow economy variables, the  $p$  value obtained is 0,044, which means that there is a statistically significant linear relationship between the shadow economy and co-operation, smuggling and money laundering. The calculated coefficient of determination is 0,9851 therefore it can be stated that the linear regression model is suitable for the analysis of components of the shadow economy. By writing the linear regression equation for the shadow economy components, it was obtained that smuggling makes the largest impact on the shadow economy, since the calculated determination coefficient is equal to 0,8721, which means that as the growth rate increases, the shadow economy, so the hypothesis can be expanded.

Based on the correlation between the chosen macroeconomic factors and the size of the shadow economy, the correlation between the strong negative affinity: the shadow economy and GDP per capita, the coefficient of correlation is -0,9355 the number of enterprises operating in Lithuania, the correlation coefficient is -0,8786 the average labor the correlation coefficient is equal to -0,8385, and the export of goods, the correlation coefficient reaches -0,8111. The average negative relationship relates to the shadow economy and import of goods, the correlation coefficient is -0,5909. The weak positive relationship links the shadow economy and the following macroeconomic indicators: annual inflation rate 0,49, unemployment rate 0,2807 and tax burden 0,2158. The estimated determination coefficient is 0,9936, which indicates that the regression model is suitable for analyzing the influence of macroeconomic factors on the size of the shadow economy. By writing the linear regression equation, it has been obtained that the macroeconomic indicator - GDP per capita has the biggest impact on the shadow economy, and therefore the hypothesis can be confirmed - the higher per capita GDP is associated with a lower level of the shadow economy.

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RECEIVED: 10 October 2018

ACCEPTED: 5 June 2019

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## Requirements for the authors, who want to publish their articles

The founder of a scientific journal “Vadyba / Journal of Management” is Lithuania Business University of Applied Sciences. Since 2000, the journal publishes technology, social sciences and physic sciences-related articles. The main goal of the scientific journal articles and conducted research is to emphasize the problems and present possible solutions for the public and private organizations of the region. The articles can be both empirical and theoretical.

The submitted articles must be original, previously unpublished. It is prohibited to publish the articles of this journal in other publications.

### General requirements

- Articles submitted to the Editorial Board must be professionally edited, without spelling, punctuation and style errors. The articles must use scientific language.
- Articles shall be written in English.
- **The article shall be up to 10 pages long. The last page should take at least half a page, i.e. about 2/3 of the page.**
- The structure of the article must have a structure of a scientific article. It must contain the following:
  1. **The title** of the article. Article’s **author, institution**, which the author is representing. **E-mail** of the author of the article.
  2. **Abstract** with the main words in the language of the article. The Abstract should briefly cover the contents of the article; specify the aspect of how the problem will be analyzed. The text of the Abstract must be clear and concise. **The Abstract must contain at least 2000 characters.**
  3. **Keywords** – these are the words that express the most important features of the topic. Five or six keywords of the article must be included in the Lithuanian National M. Mazvydas library records of authoritative names and subjects. It is possible to check if the keyword is included in this list in the website of the library: [http://aleph.library.lt/F/UYSMKM4NY8C9H33SP6PV8F2585NQU59CEEBJVCYCA3HUQNQR5-31681?func=find-b-0&local\\_base=LBT10](http://aleph.library.lt/F/UYSMKM4NY8C9H33SP6PV8F2585NQU59CEEBJVCYCA3HUQNQR5-31681?func=find-b-0&local_base=LBT10), by specifying the “topic, subject (lit)” (in Lithuanian) and “topic, subject (eng)” (in English) in the search field.
  4. **Introduction**, which formulates the purpose of the scientific study, discusses the question of the study, its novelty and degree of research, specifies the object of the study, objectives and methods.
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  8. Examples of referencing:

### Books

- Valackienė, A. (2005). *Crisis Management and Decision-making*. Technology, Kaunas.
- Berger, P. L., Luckmann, Th. (1999). *The Social Construction of Reality*. Pradai, Vilnius.

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### Book articles

- Curthoys, A. (1997), History and identity, in W. Hudson and G. Balton (eds), *Creating Australia: Changing Australian history*, 25 - 84. Allen and Unwin, Australia.

### Web documents

- Wiley, D. A. (2003). Learning objects: difficulties and opportunities. [Retrieved March 18, 2009], <[http://opencontent.org/docs/lo\\_do.pdf](http://opencontent.org/docs/lo_do.pdf)>.

### Statistical information and web resources

- Lithuanian Emigration Statistics. (2009). Statistics Lithuania to the Government of the Republic of Lithuania. [Retrieved February 16, 2009], <<http://www.stat.gov.lt/lt/news/view/?id=6819&PHPSES SID=5b1f3c1064f99d8baf757cde1e135bc0>>.
9. **Summary with the keywords** is written in English. **The summary should include at least 3000 characters.**
  10. Short CV of the authors, which consists of: name, surname of the authors. Degree. Work. Occupation. Research direction. Address. Telephone. Other information about the author. The author CV must include **up to 3000 characters**.

### Requirements for the outline and layout of the article

- The articles must be written in MS Word A4 pages.
- Document margins: top – 2 cm, bottom – 2 cm, left – 2 cm and right – 2 cm.
- Full text: in lowercase letters, aligned to both margins, size – 10 pt, font – Times New Roman, first line of the paragraph indented by 0.5 cm.
- Title of the article: in capital letters, left alignment, size – 14 pt., **Bold**.
- Author’s name, surname: in lowercase letters, left alignment, size – 12 pt., **Bold**.

- Institution name: in lowercase letters, left alignment, 10 pt., *Italic*.
- E-mail: lowercase letters, left alignment, 10 pt., *Italic*.
- Abstracts: text size – 8 pt, title – 10 pt, **Bold**. A full stop is not put after the last main word.
- Section names: lowercase letters, left alignment, size – 11 pt., **Bold**.
- Word *Literature* – 10 pt, literature list – 9 pt.
- **Figures** and **diagrams** must be clear, schemes – grouped into a single object.

**Tables** and **schemes** have to be numbered and titled.

1. Table titles are written above the table in the centre.
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Klaipėdos universiteto leidykla

**Vadyba 2019'1(34)**. Mokslo tiriamieji darbai

Klaipėda, 2019

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SL 1335. 2019 06 14. Apimtis 15 sąl. sp. l. Tiražas 50 egz.  
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