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## Foreword

In the 11<sup>th</sup> volume of the journal Latgale National Economy Research, researchers have addressed both national and regional challenges and potential solutions to them, viewing the challenges in the context of various fields: higher education, defence, law, real estate, etc.

A reform of the education system has also been launched within the administrative territorial reform, which currently plays an important role in the political agenda of Latvia. It focuses on the development of networks of pre-school, primary and secondary education institutions and addresses the issue of efficiency measures in the field of higher education. This topic has also been a focus in the new volume of the Journal, directing scientific discussions towards smart higher education.

In a paper of the Journal, a group of researchers led by I.Arbidane analysed the need for effective doctoral studies. The focus of this paper is associated with both the priorities of the reform of the education system and a research study carried out by a research group under the guidance of R.Meiste, which analyses the ability of higher education institutions to adapt to the changing environment and its requirements by ensuring the introduction of project-based higher education models.

Intellectual property plays an important role not only in education but also in business. This problem and its importance are addressed in a research study by J.Kjaksta and K.Gailis, while A.Klodane, in her research, offers high-quality prediction models to help to identify business failures. Intellectual property is also increasingly important in the context of the legal field, particularly communication. The research studies “The Role of Bees for Development of the Legal Framework” by I.Krampuzs and “The Importance of Negotiation in Jurisprudence in Latvia” by J.Kjaksta and K.Gailis deal with various legal communication shortcuts.

Within the reforms implemented in the country, the need for change, which is promoted by the replacement of generations, has been also addressed. In the scientific literature and research studies over the last decade, the problem of “millennials” and “Generation Z” entering the labour market has often been researched as well. Researchers I.Silinevica and L.Meirule analysed how entrepreneurs could attract representatives of these generations in the labour market and what they expect when they enter their employment relationships. A.Salmane and A.Puzule, however, researched the economic efficiency of spending financial resources on educating the unemployed, while unemployment is one of the challenges tackled by means of the regional reform at national level.

The diversity of scientific research papers continues to grow, so you will also find research studies on defence, the economy, economic and development studies on Latgale region, etc. I would like to express genuine pleasure for the authors who have first made their contributions to the Journal and to thank our regular contributors – your enthusiasm and quality of research inspire others for new achievements!

The Journal’s editorial board is convinced that the content of the papers and the innovative approaches to research will also encourage other researchers for new scientific discoveries. We invite you to join contributing to the 12<sup>th</sup> volume of the journal Latgale National Economy Research and share your knowledge by publishing your research findings to a wider audience.

Sincerely,  
Chief editor Anda Zvaigzne

# THE NECESSITY OF AN EFFECTIVE STUDY APPROACH IN DOCTORAL EDUCATION

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**Abstract.** *The aim of the paper is to analyse various research studies in regard to teaching strategy in PhD programmes within the Bologna education area and to give recommendations aimed at the development of educational process structuring in the third level of higher education. Novelty of the research – an analysis on the effective implementation of doctoral studies was conducted, emphasizing the implementation of them in Latvia and Armenia. Research methods – analysis of documents, logical construction and the graphical method. The paper discusses the effective approaches of PhD programmes to teaching strategies that are focused on formation of outcomes, such as interpersonal and leadership skills, project management and organization, research and information management, self-management and career development. Nowadays, it is highly important to remodel the educational strategy, targeted at the PhD student's transferable skills acquisition, through avoiding unnecessary theoretical educational modules and academic training pressure.*

**Keywords:** *competitive learning outcomes, doctoral studies, Salzburg principles, transferable skills of a PhD student.*

**JEL code:** *I25, O3.*

## Introduction

Doctoral education is fundamentally different from the teaching-based first and second cycle. It is highly individual; doctoral candidates do not follow a predictable path, which is carved out in successive modules, but they follow a hypothesis or an idea leading them to uncharted territory, which they must then learn to navigate (Quality Assurance ..., 2013). In doing research, doctoral candidates sometimes are so unwilling to attend the lecturing process and various module examinations; mostly they are eager to finalize the research and move on to final defence. On the other hand, the doctorate is presented not only as research, but also as an educational process, and consequently needs effective teaching strategy implementation.

The aim of the paper is to analyse various studies in regard to teaching strategy in PhD programmes within the Bologna education area and to give recommendations aimed at the development of educational process structuring in the third level of higher education.

Tasks of the research are to: 1) highlight the importance of doctoral studies in social and economic development; 2) identify the organization of doctoral studies in Latvia and Armenia; 3) draw conclusions and make proposals. Novelty of the research – an analysis conducted on the issues of effective implementation of doctoral studies, emphasizing the implementation of them in Latvia and Armenia. Research methods – analysis of the documents, as well as logical construction and the graphical method.

While writing this paper, the following previous researches have been studied: Eurodoc Survey I (2009), Quality Assurance in Doctoral Education – the results of the ARDE project (2013), World Bank report “Latvian doctoral studies and the promotion system” (2016), Akadēmiskā karjera Latvijā: ieteikumi (2018) (Academic career in Latvia: suggestions (2018), Doctoral education in Europe today: approaches and institutional structures (2019).

### **Importance of doctoral level studies in social and economic development**

Doctoral education is often described as the bridge between research and education, thus also the essential link between the European Higher Education and Research Areas. Universities across the continent have the main responsibility for providing training both in and through research. As the main component of the doctorate is the original research performed by each doctoral candidate, doctoral education cannot be considered and evaluated in the same way as Bachelor and Master programmes (Latvian doctoral ..., 2016). It is now widely recognised that doctoral graduates make significant contributions to innovation and that they need both a thorough and broad skill set to do so. With many graduates gaining employment outside of academia, the tradition of doctoral training only for replenishment of academia belongs to the past. This recognition has resulted in the growth of structured doctorates and institutional structures to ensure breadth and consistency of training at universities (Maintaining a quality ..., 2014).

In this regard, the question arises: at which areas reforms in the doctoral study process should be targeted, which will promote social and economic development of the society. On the one hand, the PhD is assisting in the development of professional careers of researchers, giving them more opportunities for taking high level job positions in the labour market. But at same time, not often they are consistent followers of research novelties and their implementation process and in that event, the scientific results do not actively promote social and economic development of the society, and are mainly “outstanding on the paper”, formatting the cycle for “the development of science for the benefit of science”.

One of the main tasks of researchers is to focus on continuous improvement of their research skills and competences. A number of studies suggest that doctoral degree holders' personal career progress is significantly faster than that of other degree holders. However, many universities are quite aware that the transition from the academic to non-academic labour market could be made easier and doctoral candidates should be prepared for the transition from an early point onward (Quality Assurance ..., 2013). Therefore, in addition to research skills, the appropriate development of transversal or transferable (also known as 'generic') skills and competences is needed (Doctoral education, 2019).

A question arises: why to prepare many doctors instead of preparing specialists who would be in great demand in the local and international labour markets? Why not to conduct a needs assessment to find out the most demanding specialties and not the most fashionable ones? How to implement international experience and good practices in the education system? (Yeritsyan et al., 2015).

The doctoral study process should more relate to the Salzburg principles (Promoting Internationalization..., 2005) operating within the Bologna process. However, the set of standards for establishing and implementing an efficient third cycle are as follows:

- the core components of doctoral training is the advancement of knowledge through original research,
- embedding of institutional strategies and policies aimed at operating PhD programmes towards society development promotion,
- recognition of doctoral candidates as early stage researchers,
- creation of linkage between PhD programmes and scientific-labour markets.

The number of doctoral candidates successfully completing their studies should make more positive impact not only on personal carrier progress, but also on the society development. As a result of PhD candidates successfully completing their degrees, it is expected that far more trained researchers than before will seek and will have to seek job outside academia and research institutions. The relevance of research topics and the achievement of additional transferable skills, abilities for non-academic labour markets, currently became key challenges in doctoral education.

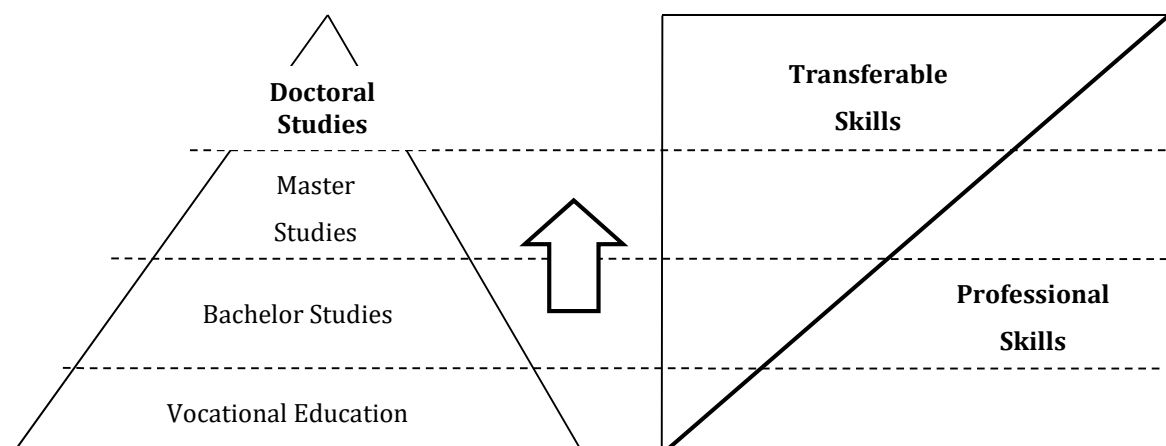
Surveys conducted among doctoral students in the universities of the Western European countries show that more than a third of them prefer to work on the dissertation, spending more than 21 hours a week in this area (see Table 1). That is, they are seeking their doctoral studies in educational subjects and be unloaded, more involved in research activities.

Lecturing on professional skills in PhD studies gives some space for discussions conditioned upon the existence of the graduate's skills obtained during previous degree studies. A question is raised: what additional skills a doctoral student needs that s/he did not obtain during master's or bachelor's studies. Without "pre-training of master's students", it would have been difficult to obtain research, pedagogical or management skills in PhD studies since, first of all, the doctoral student/applicant should be familiar with those, and then should obtain creative transferable skills.

**Table 1 How many hours a week do you spend on working on the thesis? (%) (Eurodoc Survey I, 2009)**

Country	0	1-5	6-10	11-15	16-20	More than 21 hours	Respondents
Austria	20.8	15.6	17.7	5.7	4.9	35.2	610
Belgium	27.9	11.6	14.3	6.3	6.3	33.6	301
Croatia	26.2	6.8	16.7	4.0	5.6	40.7	324
Finland	22.0	9.8	17.0	8.7	10.6	32.0	654
France	17.6	9.2	12.2	6.0	5.9	49.1	1124
Germany	18.6	11.2	18.2	5.9	8.3	37.7	1165
Holland	24.0	11.3	20.1	4.5	9.3	30.9	583
Norway	22.0	10.1	17.6	9.0	7.2	34.2	755
Sweden	28.1	9.2	15.5	5.1	5.7	36.5	491

A PhD studies graduate must have full professional skills in scientific, educational, management, innovation generation fields, and thus should master such professional skills which will be transferrable from science to pedagogy, or from pedagogy to leadership. Thus, transferrable skills are universal and are of importance in utilization of professional skills of a doctoral student in all the fields. This is the reason that doctoral students are taught more transferrable skills rather than professional skills (See Fig.1).



**Fig. 1 The process of transferrable skills formation at different stages of vocational education (created by the authors)**

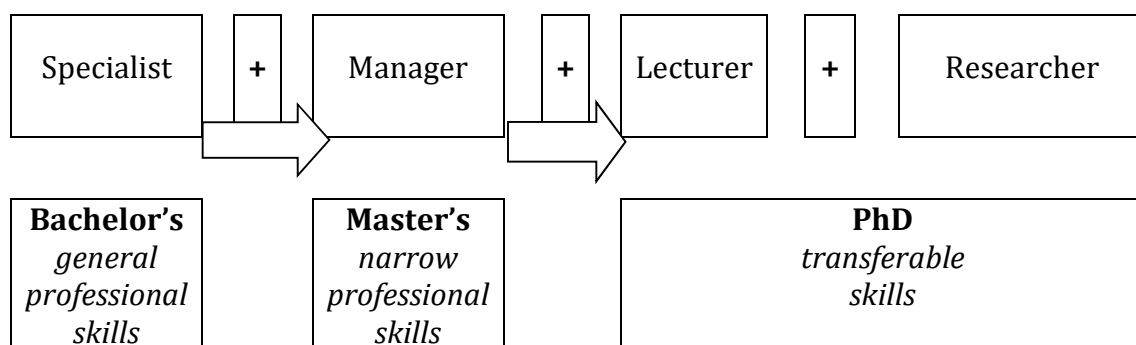


The range of transferable skills for the outcomes of doctoral education in various universities are different, but in general they are summarized in the following groups:

- **Analysis and Problem-Solving** (Define a problem and identify possible causes. Comprehend a large amount of information. Form and defend independent conclusions).
- **Interpersonal and Leadership Skills** (Facilitate group discussions or conduct meetings. Motivate others to complete projects (group or individual). Respond appropriately to positive or negative feedback. Effectively mentor subordinates and/or peers).
- **Project Management and Organization** (Identify goals and/or tasks to be accomplished and a realistic timeline for completion. Prioritize tasks while anticipating potential problems. Maintain flexibility in the face of changing circumstances).
- **Research and Information Management** (Identify sources of information applicable to a given problem. Understand and synthesize large quantities of data. Design and analyse surveys).
- **Self-Management and Work Habits** (Work effectively under pressure and to meet deadlines. Comprehend new material and subject matter quickly. Work effectively with limited supervision).
- **Written and Oral Communication** (Prepare concise and logically-written materials. Write at all levels – a brief abstract to a book-length manuscript. Explain complex or difficult concepts in basic terms and language. Write effective grant proposals) (PhD transferable skills).

In comparison, PhD studies differ from previous educational systems with the fact that they provide the graduate with transferrable skills (see Figure 2), in the basis of which the following characteristics can be found:

- high level of self-management,
- high level of creative activities,
- flexibility of decision making,
- quality criteria of research analysis.



**Fig. 2 The formation process of qualitative characteristics of a PhD student at the educational levels of HEIs (created by the authors)**

The formation of a creative way of thinking among students must also be considered a milestone of competitiveness increase in vocational education. A mechanical understanding of things prevails among some students and professors when education is mainly considered as an activity of transferring knowledge with the aim to later check it through an examination.

### **Topicalities of doctoral studies in Latvia**

In the World Bank's research on doctoral studies and the promotion system in Latvia, conducted in 2016 (Latvian doctoral..., 2016), it was concluded that institutions offer relatively good conditions for their students; the administration and staff showed commitment to student success, and students were clearly motivated despite their difficult financial situation. The monthly State stipend (EUR 113) does not allow students to focus full time on their doctoral studies because most of them need to work to cover their living expenses. The process of grant proposals is not launched every year, which means that research funding goes through cycles and it is difficult to plan the intake of doctoral students; in some cases, the students would have to change their research topic if the grant supporting them has ended before they were finished. Unsurprisingly, the system fails to attract international students. In addition, because most of the Latvian students are working, it takes longer than planned for them to complete their doctoral works. The allocation for doctoral students is three times higher than the allocation for undergraduate students. Like in various other middle-income countries, Latvian industrial R&D capacity is reported not to be very strong; concerns were expressed that doctoral training was undervalued by industry and the opportunities for collaborative doctorates were rare; there was no evidence of transferable skills development offered by the universities; the promotion process was very complex.

The Government of Latvia has identified the improvement of doctoral studies and the promotion system as a key national priority. In addition to increasing the number of doctoral candidates, the government set the following objectives: 1) improvement of the promotion process; 2) involvement of the doctoral students in scientific projects; 3) establishing scholarships for excellent doctoral students with high research potential; 4) preparation of master students and doctoral students for specific industrial partners; allocate the state budget subsidy for respective master and doctoral studies as priority areas; 5) moving towards a joint system of doctoral studies (common quality principles); 6) strengthening the link between doctoral studies and research and industry, formation of doctoral

centres in Latvia, support for the renovation of infrastructure, etc. (World Bank, 2016).

Getting a PhD is a prerequisite for starting an academic career; therefore it is a stage that every academic staff member has to go through. Thus, doctoral studies are the key for promoting not only the quality of academic careers, but also the quality of science and of the higher education system as a whole. In addition, many PhD graduates hold important positions in society or in the field of economics; therefore doctoral studies are highly important for social and economic development. In order to achieve the goal of high quality of doctoral studies in Latvia, as well as to establish stable post-doctoral programmes, there is a need for coherence between the higher education institutions responsible for this objective and the government responsible for adopting the legal framework. For example, since there is necessity for stable institutionalization, the government must give institutions discretion in setting up institutional structures and programmes, as well as must stimulate them for continued development. Higher education institutions should use the autonomy granted to them and pursue doctoral studies in a way that focuses on the conditions necessary to prepare doctoral students for careers both in and outside the academic environment (Akadēmiskā karjera Latvijā: ieteikumi (2018). A working group responsible for development issues of the doctoral level studies and promotion system started its work in the Ministry of Education and Science on May 29, 2019.

According to the Government Plan, the working group must elaborate proposals for a new doctoral model according to international standards (Salzburg Principles) by the end of 2019, as well as must participate in the preparation of an information report and propose amendments to related regulations (Starting proposals..., 2019).

### **Topicalities of doctoral studies in Armenia**

At present Armenia's higher education system reforms in the context of doctoral education face serious challenges. Third level education within the Bologna Process associated with the Salzburg principles is not currently applied completely. Moreover, Armenia is still under the impact of the post-graduate education approaches inherited from the Soviet Union, and, as a result, any assessment of outcomes of a high-quality researcher, aimed at the labour market, is not of importance. Traditionally, Armenia is considered a country with a higher level of educated population and variety of scientists. But even at this condition, implementation of research and practice activity of researchers has not made serious impact on social and economic development of the society. Functions of several substantial scientific organizations, mostly operating from public financing sources, should be

represented with effective outcomes from research. However, the main reasons of this situation relate to ineffective organizational issues of PhD education in Armenia.

Studies show that currently in Armenia, most of the doctoral students are:

- educated and trained too narrowly,
- lacking key professional skills,
- poorly prepared to teach,
- taking too long to complete their degree or do not complete it at all,
- having an overly long transition period from PhD completion to stable employment (Tshuguryan, 2015).

The educational environment in doctoral studies in Armenia is not competitive yet. There are linkages between PhD programmes and the labour market. Furthermore, the research programmes do not strongly relate to contemporary demands of economic development, and only a few of them are functioning based on contracts between universities, research centres and business organizations. As a result, mainly a process by format is taking place, “creating science for scientific necessities”, but not “science for social and economic development”. Besides, the absence of the science market does not give opportunities for commercialization of research results, finding stable financial sources for developing PhD programmes and presenting competitive doctoral study programmes in Armenia.

Although postgraduate education in Armenian universities has traditionally been operating, based on the principles of Soviet “*aspirantura*”, they are applied on inertial motion. Thus, the research block still dominates in them, but the educational block is still at the formation stage. Previously, candidates did not need to earn academic credits and they were generally overwhelmed by research work. However, now a post-graduate student has to earn academic credits not only from the research sphere, but also from the educational block, regularly attending courses. In the current situation, joint doctoral programmes are not formed, there is no framework of providing educational services, which is one of the most important Salzburg principles.

Traditionally, “*aspirantura*” was not in close cooperation with the labour market. Postgraduate students used to perform research work without being involved in production, and as a result, there were no commercial orders from the sphere of production and service practice fields. The situation is similar for postgraduate studies functioning in Armenian Universities, which do not have close relationship to the applied economy; they were deprived from employers' orders and private financial inflows. It turns out that postgraduate studies are financed only by public means, i.e. from the State budget, which is not enough for a stable cash flow, and this is considered to be one of the most important Salzburg principles.

In case of postgraduate studies, academic freedoms are still constrained, which is specially highlighted during the process of preparation and defence of a dissertation thesis. The postgraduate education system does not have full academic freedom to approve theses, as the final titles of the theses are approved by the scientific councils of universities.

In addition, thesis defence process bureaucracy is overly inflated. First, a doctorate student defends a thesis at the University Chair, then in a leading organization, and finally before a Professorial Council, but, in fact, not all the professors deal with a narrow specialization of a thesis within this council. After passing this three-step defence procedure, a PhD student can fail at the Supreme Certifying Commission. This will lead to a second defence.

According to experts, in Armenian universities, a doctoral thesis is often a review paper, derived from books in Armenian or Russian, rather than an original work of independent research. According to statistics, over 45% qualified scientists and researchers have left Armenia in the past twenty years seeking better quality research environments outside (Implementation of Salzburg ..., 2015).

### **Conclusions and suggestions**

Sometimes the educational process is still considered by a part of lectures and students as a way to obtain knowledge rather than a process directed to develop a way of thinking.

Nowadays competitive are those educational programmes of the third cycle of higher education, through the final outcomes of which not only “competent” graduates, but also ones with “creative skills” are formed. In this regard, great attention in educational programmes should be paid to the outcomes of efficient personal work with the aim of developing creativity, innovation and self-expression of a learner, which is one of the requirements of the Bologna process.

Postgraduate education is taking more discussion within Bologna process development in the European Higher Education Area as a whole. The main discussions focus on the following: which are the most important targets in doctoral studies - whether to prepare researchers with transferable skills, or to make original research and present a dissertation with scientific novelties. These issues closely relate to implementation of the Salzburg principles for the third cycle of vocational education, taking the doctoral training as an advancement of knowledge through original research. At the same time, it is recognized that doctoral training must increasingly meet the needs of the market that is wider than academia.

While the Armenian higher education system battles for improvements within the realm of third cycle studies to find the most adequate ways to

incorporate quality research in doctoral education, throughout Europe battles and transformation have occurred just the same way. It has been noted that the change in focus on doctoral education from the research output, the thesis, to the doctoral degree holder has been fundamental in the development of career services. The outcome is no longer the research results to be defended in front of an expert panel, and the doctorate holder with specific research, transferable skills and experience, should be represented in a wide range of careers.

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# LEGAL INSTITUTIONAL FRAMEWORK FOR SPECIAL ECONOMIC ZONES IN LATVIA

**Sandra Ezmale**

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**Abstract.** *The regulatory framework of the freeports and special economic zones of Latvia are analysed in the paper providing as well an insight into the changes related to granting aid that have taken place. There are five freeports and special economic zones in Latvia, though, while the conditions for granting the aid are the same, the way they operate varies. The research aims to describe the institutional framework of special economic zones in Latvia. The author (1) has carried out a study on scope and conditions for granting the aid in the freeports and special economic zones of Latvia; (2) has described the restrictions on granting the aid. The monographic research and comparative analyses methods are used in the research.*

**Keywords:** special economic zones, free ports, regional aid, tax incentives.

**JEL code:** R 5.

## Introduction

There still exist some notable linguistic and conceptual differences in the definition and typology of free economic zones (FEZ). Many countries have their own terminology describing FEZs, for example, Mexico refers to its zones as “maquiladoras”, Ghana, Cameroon, and Jordan have “industrial free zones”, the Philippines calls it “special export processing zones”, Russia has “free economic zones”, Latvia – “special economic zones” and “freeports” (Ežmale, Rimšane, 2014). However, the special economic zones and freeports of Latvia operate under one legal framework.

Considering that economic zones develop expansively, several types of economic zones can be distinguished; the terms “special economic zone”, “free economic zone”, “freeport” etc. are used freely without accentuating differences and thus creating a conception that all above mentioned terms are with one and the same meaning (Ziedina, Pelse, 2017).

Gulbis (2018) argues that one of the most popular tools for attracting foreign direct investments (FDI) is the special economic zone (SEZ). The peculiarities of the zones may vary, still, they always offer a better business environment within their territory, compared with the rest of the country. Usually, the advantage is achieved by offering tax incentives, a simplified legal framework, access to better financial solutions, and other benefits. The aim is to encourage potential investors to invest in the specific territory and to create new employment opportunities with all the added value that comes along with it. Latvia is not an exception with its five SEZs established (Gulbis,

2018). Latvia's experience sustains the basic characteristics of the economic zones and demonstrates the importance of proper understanding of the economic zones' competitive advantages (Ziedina, Pelse, 2017). Rankeviča outlines that the establishment of individual territories – free economic zones – where certain tax incentives are applied is one of the possibilities for attraction of investments using tax relief policy as a mean (Rankeviča, 2006).

Despite differences in the nomenclature and typology, each FEZ operates to increase trade by offering special trade/production incentives to stimulate local and foreign investment within the region. In general, FEZs are established to achieve fiscal, social, and regional policy goals of the country, and the most important fiscal goal of the SEZ is to facilitate economic growth through the use of the reduced tariffs and more efficient customs control (Ezmale, Rimsane, 2014).

The Latvian researchers have discussed the theory and practice of the FEZs from various points of view. Mostly, the researchers have investigated the impact of Latvia's special economic zones to development of the regions; nevertheless, the legal framework is one of the most important issues affecting the operation and performance of Latvia's special economic zones and freeports (Rankeviča, 2006). The lower competitiveness of the European FEZs in comparison with the most successful FEZs of the world can be explained by the fact that the European Commission determines and limits the conditions for the commercial aid granted to the enterprises operating in the FEZs (Ezmale, Rimšane, 2014). Therefore, the aim of the research is to describe the institutional framework for special economic zones in Latvia. The following tasks are defined: (1) to carry out a study on the scope and conditions for granting the aid in the freeports and special economic zones of Latvia; (2) to describe the restrictions on granting the aid in the special economic zones and freeports of Latvia. The monographic research and comparative analyses methods are used in the research.

### **Scope and conditions for granting the aid**

There are five special economic zones and freeports in Latvia. The Liepāja Special Economic Zone (hereinafter – the LSEZ) was established in 1997 (Law of the Republic of Latvia, 1997), the Rezekne Special Economic Zone (hereinafter – the RSEZ) was established in 1997 as well (Law of the Republic of Latvia, 1997), the Latgale Special Economic Zone (hereinafter – the LaSEZ) was established in 2016 (Law of the Republic of Latvia, 2016). The Free Trading Port of Riga was established in 1996 and transformed into the Freeport of Riga (hereinafter – RBO) in 2000 (Law of the Republic of Latvia, 2000), and the Freeport of Ventspils (hereinafter – VBO) was established in 1996 (Law of the Republic of Latvia, 1996).



The tax incentives in the LSEZ and the RSEZ have been applied since 1997, when the zones were established by the special laws; however, the RBO and the VBO started to apply tax relief in 2002, when the Law “On Taxation in Free Ports and Special Economic Zones” came into effect.

The scope of the tax incentives granted, or the scope of the aid applicable to investments, has changed several times since 2002 (see: Table 1)

**Table 1 Scope of the aid applicable to investments in special economic zones and in freeports in 2001-2020**

Period	Large company	Medium sized company	Small company
01.01.2002-19.06.2003	50%	50%	50%
20.06.2003-31.12.2006	50%	65%	65%
01.01.2007-30.06.2014	50%	60%	70%
01.07.2014-2020	35%	45%	55%

A capital company of the LSEZ/ RSEZ/LaSEZ and a licenced capital company of the RBO/VBO is eligible to the aid in the form of an 80% deduction on the corporate income tax and an 80%+20% (eventually 100%) tax deduction on the real estate tax (Law of the Republic of Latvia, 2001).

**Table 2 Direct tax incentives**

Taxes subject to the application of incentives	Tax rate for a company operating in the status of SEZ/ freeport enterprise	Tax rate in Latvia
Corporate income tax applicable on dividends	4%	20%
Real estate tax	0.3 - 0 %	1.5%

From 2018 in Latvia, the corporate income tax on reinvested or undistributed profit is 0%, while an 80% discount is applicable to dividends in Rezekne SEZ (Rezekne SEZ Authority, 2018).

Upon concluding a contract with the SEZ Authority, an enterprise may commence a procedure for the creation of a free custom zone in order to receive a permit for the performance of commercial activity in the free zone regime within the territory of the RSEZ. The free custom zone regime, which includes indirect tax incentives and special customs control measures, is applied to such enterprises. The indirect tax incentives (0% rate on VAT) is applied to the supplies of goods within the free custom zone of the special economic zone for the further export.

In 2014, the requirement came into effect stipulating that the sum of all applicable tax incentives should not exceed the maximum amount of the direct tax incentives on investments, which is estimated by the amount of the investment and the maximum aid applicable according to the size of the company, and determined in the investment contract (Law of the Republic of Latvia, 2001). Therefore, the procedure was defined regulating how the investments made before 2014 are included in the amount of the accrued investments, which is subject to the aid:

- 1) 1997 – December 31, 2001: investments made by the capital companies of Liepaja and Rezekne until 2002, before adoption of the Law “On Taxation in Free Ports and Special Economic Zones” were included in the amount of accrued investments and were subject to the aid rate that was in effect in 2002;
- 2) 2002 – June 19, 2003: the investments actually made during that period are subject to the aid rate that was in effect during that period, i.e., not more than 50%, irrespective of the size of the company;
- 3) June 20, 2003 – December, 2006: the investments actually made during that period are subject to the aid rate that was in effect during that period, i.e., 50-65%;
- 4) 2007 – 2013 [until June 30, 2014]: the investments actually made during that period are subject to the aid rate that was in effect during that period, i.e., 50-70% (Ministry of Finances of the Republic of Latvia, 2015)

A sum of accumulated investments is the sum of all the investments made by the capital company or the licensed capital company of the zone, commencing from the taxation period when the investment company has signed a contract on the investments in the zone or free port territory with the zone or free port Authority until (and including) the taxation period, for which the calculation is made. It refers to a LSEZ capital company, a RSEZ capital company, a LaSEZ capital company, a RBO licensed capital company, or a VBO licensed capital company (Law of the Republic of Latvia, 2001).

Meanwhile, the amendments to the law adopted on April 4, 2013 (in effect since May 9, 2013) have introduced the term 'investment contract' obliging to fix investments for the coming 5 years, providing that the investments actually made after June 30, 2014 became eligible for granting the aid valid before June 30, 2014, only in case the investment contract was concluded until June 30, 2014 for a period not exceeding 5 years.

The condition of concluding an 'investment contract' which may include investments with a maximum term of 5 years from the date of the contract is operational after July 1, 2014 as well. In the contract, it is mandatory to

specify the maximum amount of direct tax incentives that may be applied to the investments covered by the contract.

### **Permit to apply direct tax incentives**

The necessity to issue a permission for application of direct tax incentives derives from five laws on the special zones/ freeports. Hence, the capital company licensed by the authority of the RBO and VBO is awarded a certificate granting rights to apply direct tax relief, while the SEZ capital company of the RSEZ and the LaSEZ is awarded a permission granting rights to apply direct tax relief.

In order to receive a permission, a capital company shall be located and shall conduct business only in the territory of the RBO, VBO, LSEZ, LaSEZ, or RSEZ (Law of the Republic of Latvia, 2001). Permission to apply direct tax relief does not refer to the following:

- aid granted on the condition that domestic goods are used over imported goods;
- capital company subject to an outstanding recovery order following a preceding decision of the Commission declaring the aid illegal and incompatible with the internal market;
- capital company in difficulties;
- capital company that has terminated the same or similar activities in the European Economic Area in the two years preceding the submission of the application for the investment contract, or has specific plans to terminate such activities within two years after the completion of the investment project defined in the investment contract (same activity or similar activity is an activity that falls within the same class of *NACE Rev. 2 statistical classification of economic activities*; four-digit code) (Law of the Republic of Latvia, 2001).

The permit/certificate issued by the Authority of the LSEZ, RSEZ, RBO, or VBO certifies the right, as provided in the Law, to receive the direct tax relief starting from the taxation period when the permit for application of the direct tax relief is granted and the investment contract has come into the effect.

In addition to granting the permit, there are restrictions on the capital companies operating in certain sectors:

- transport sector (commercial passenger transport by air, sea, road, rail, and inland waterway, or freight) and transport infrastructure;
- steel industry;
- agriculture;
- synthetic fibres sector;

- fisheries and aquaculture;
- coal industry;
- shipbuilding;
- energy production, distribution, and infrastructure (Law of the Republic of Latvia, 2001).

Capital companies in these sectors may not be granted the permit for application of the direct tax relief unless the capital company also operates in another sector (s) and clearly distinguishes the financial flows of the supported sector from the financial flows of other (non-eligible) economic activities during the period of investing and throughout all the period of the application of the tax incentives (the incomes/expenses of a particular economic activity and the related direct and indirect costs are recorded separately in the accounting).

The investment contract sets out the conditions for the application of direct tax incentives to the investments covered by the contract. The investment is eligible if it meets the following criteria:

- they are long-term tangible investments (buildings, structures, machinery and equipment) and intangible investments (costs for obtaining patents and acquiring technologies);
- they are provided in the investment contract;
- they may qualify as initial investment;
- assets acquired are new, except in the case of small and medium-sized enterprises (SMEs);
- investments must remain in the LSEZ/ RSEZ/ LaSEZ/ RBO or VBO for at least 5 years after investing or, in the case of SMEs, at least 3 years after investing (Ministry of Finance, 2014).

However, investments qualify as initial investments if they are invested: (1) in establishing a new capital company; (2) in increase of the production or service capacity of an existing capital company; (3) in diversifying the output of an existing capital company launching the products not previously produced by the capital company; (4) in a major change of the production processes of an existing capital company.

For the acquisition of intangible assets, the following criteria shall be satisfied:

- they shall be used only at the place of business where the aid is granted;
- they shall be subject to depreciation;
- they shall be purchased according the market conditions from the third parties unrelated to the buyer;
- they shall be included in the assets of the recipient capital company for at least five years or, in the case of SMEs, three years, and shall

be linked to the project that is granted the aid (EC Regulation, 2014).

### **Ensuring transparency of the aid granted**

A capital company of the RSEZ/ LSEZ/ LaSEZ or a capital company licensed by the RBO/ VBO that is subject to direct tax relief shall submit the following information to the State Revenue Service of the Republic of Latvia along with the annual report: a review on the application of the corporate income tax relief within the taxation period; information about other aid received for the initial investment, including *de minimis* aid granted for the same eligible costs, a statement of the amount of accumulated direct tax relief and the amount of the investment accrued (Law of the Republic of Latvia, 2001).

However, the local government shall submit a report on the application of the real estate tax relief during the taxation period to the capital companies that are granted the application of direct tax relief by May 1 of the post-taxation year.

The Authorities of the LSEZ, RSEZ, LaSEZ, RBO and VBO publish information about the aid granted on their website and ensures that this information is up-to-date and available for at least 10 years from the last year/taxation period when the capital company of the LSEZ, RSEZ, LaSEZ, RBO or VBO has applied the direct tax relief in accordance with the law.

The Authorities of the LSEZ, RSEZ, LaSEZ, RBO and VBO also publish information on each individual aid granted in the system administered by the European Commission for ensuring aid transparency *Aid Award System Application*. The data entry into the EC-administered system for aid transparency *Aid Award System Application* is carried out in accordance with the Regulations of the Cabinet of Ministers No. 386 "Procedures for publication of information on business aid granted and for granting and annulling rights for use of the electronic system" (in effect since July 1, 2016). The data published in the EC-administered system for aid transparency *Aid Award System Application* is publicly accessible and available for processing using the tools provided (Ministry of Finance of the Republic of Latvia, 2019).

### **Conclusions and suggestions**

Analyses of the regulatory framework determining the operation of Latvia's special economic zones and free ports leads to the following conclusions:

1. Despite the fact that each of the five special economic zones and freeports of Latvia has its own law determining the peculiarities of

- their operation, the conditions for granting the aid are the same in all the zones and free ports of Latvia.
2. In order to qualify for the aid, the enterprise shall carry out an economic activity in territory of the special economic zone or free port.
  3. Depending on the status of the company defining it as a small, medium-sized or large enterprise, it may be subject to the aid in the form of tax incentives amounting up to 35-55% of the sum of initial investments according the current legislation.
  4. Companies are subject to the aid in the form of direct tax relief or 80% corporate income tax relief on the sum calculated (from 1 January 2018, applicable to the dividend tax), and 80%+20% (eventually 100%) real estate tax relief.
  5. There are restrictions on granting direct tax relief to a number of economic activities such as transport, agriculture, shipbuilding, etc.
  6. Information on the aid granted is published in the EC-administered system for ensuring the aid transparency *Aid Award System Application*.

In order to increase the competitiveness of the Latvian special economic zones and free ports, the author proposes the following:

- 1) to expand the list of eligible investments adding the expected wage costs;
- 2) to expand the list of eligible investments adding the costs related to the leasing of tangible assets (financial lease);
- 3) to clarify the definition of tangible and intangible investments in accordance with the list of investments provided in the Commission Regulation No. 651/2014 of June 17, 2014;
- 4) to provide personal income tax relief for the Latgale special economic zones.

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# THE IMPORTANCE OF NEGOTIATION IN JURISPRUDENCE IN LATVIA

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**Abstract.** *The world around us is changing, but some spheres lag behind the changes. Jurisprudence has a long history with established traditions and values. It may be time to look at the values and compare them with the demands and lively dynamics of modern society. Therefore, this research is focused on finding out the role and importance of negotiation in jurisprudence in Latvia. As jurisprudence belongs to the social sciences, it is important to look at socio-historical aspects and analyse different author books and publications in the field. Thus, it could be concluded that the importance of negotiation has so far been underestimated. While the state is trying to make the legal system more effective, it does not pay sufficient attention to aspects that will make a real contribution. Therefore, it can be argued in this regard that for the success story sufficient attention to the importance of negotiation in jurisprudence is missing. So far, the art of negotiating relies solely on the personal qualities, charisma, and other subjective attributes of the negotiator him/herself.*

**Keywords:** *dispute resolution, negotiations, negotiator, legal practice.*

**JEL code:** *K1; F51.*

## Introduction

Communication is the main form of human existence. People are aggressive, conflicting creatures. Archaeological and historical records from the earliest times show them engaged in the struggle with their fellows (Himes, 1980). An integral part of the communication process is negotiation. The role of laws in society, on the other hand, is the introduction of a certain order with the aim of organizing human existence in an orderly manner. Lawyers face a constant challenge in their daily work to participate in conflict resolution. Consequently, the success of negotiations has a crucial role to play in conflict solving. That is why negotiation is very important, especially for lawyers.

**Research aim:** to identify the importance of conducting negotiations in jurisprudence and to understand the role of negotiation in jurisprudence.

**Research tasks:** to determine when negotiations have become an object of study of human social activity, an independent phenomenon to be explored, and to explore how the art of negotiation can improve the quality of jurisprudence.



**Research novelty:** There are several research studies and publications in the field of negotiation. Although various subjects are taught in jurisprudence, but practical issues about the importance of negotiation and conflict resolution skills are not always addressed. Therefore, it is important to explore the importance of negotiation so that in the future it might become a separate law course in Latvia.

**Research methods:** descriptive method, historical method, analytical method.

**Research period:** 2018 – 2019.

**Research hypothesis:** knowing how to negotiate effectively is important in jurisprudence, so it is useful to study it in depth by studying law.

### **Negotiations are turning into science**

All human history is based on various disputes and conflict reflection. In ancient times, skirmishes between tribes and villages have evolved into larger-scale conflicts between populated areas. Humanity does not recognize diplomacy in the sense it is in nowadays. The development of science was generally limited.

The area of conflicts was also limited. Alexander's conquest of "the world" was essentially a local fight in the Middle East. The fierce incursion of Genghis Khan and his Tartar hordes across the steppes of Russia into the plains of China and India had few repercussions beyond northeast Asia. The historic struggles among the Greek city-states and the campaigns of Julius Caesar were only conflicts that left a lasting impression on the course of Western civilization (Himes 1980).

Industrialization and the formation of nation-states open up new development for humanity. From the inception of sociology, scholars in the field have been interested in the study of social conflict. Nowadays there are a lot of books, publications and materials on the Internet on the conflict-solving field, also about understanding the nature of conflict, peoples in conflict etc. These sources provide ways to resolve conflicts. Hence, negotiation is seen as one way of resolving conflicts.

Various historical, social and political events led the world to experience a First World War that was larger than ever before. On 10 January 1920 following the Paris Peace Conference that ended the First World War, the League of Nations was established. It was the first worldwide intergovernmental organization whose principal mission was to maintain world peace (Tomuschat, 1995). The organization's primary goals, as stated in its Covenant, included preventing wars through collective security and disarmament and settling international disputes through negotiation and arbitration (The Covenant of the League of Nations, 1919).

The importance of negotiations was replaced by a role of global importance, but still it was not enough to prevent World War II.

Following World War II, the determination to prevent further war and maintain a structure of peace took a new turn. The victorious countries organized the United Nations and set out, wiser then in 1917, to establish and guarantee a structure of peace. In the late 1940s and early 1950s, there was also a flurry of research and experimentation to develop what can be called the science and technology of peace (Himes 1980). It indicates the role of negotiation not only at local level, but also at international level. Because of the importance of negotiation, it became a separate discipline in science.

### **Trends in jurisprudence under globalization**

People have been practicing law for a very long time. Since the introduction of jurisprudence and first practicing lawyers, a long time has passed and much has changed. Geopolitical processes around the world and the Internet have brought new changes to our lives and weekdays. We can call it all in one word – globalization. Jurisprudence has also been affected by globalization. The previous distinction between Romano-Germanic and Anglo-Saxon law no longer seems so categorical. The growing influence of international treaties takes precedence over national law. References to ‘globalization’ not only remind us that people are increasingly connected throughout the world, but they are also a reminder that trade liberalization, new technology, and localized activity aimed at global markets, all mean that the role of the State, and the fora where States ‘do business’, are changing (Clapham, 1999).

Latvia belongs to the system of Romano-Germanic law. However, in recent years the judicial system has been affected by judicial precedents that are characteristic of Anglo-Saxon law. There is thus an alienation from written rights. That is why it is important for a modern lawyer to have the skills to act in an extraordinary, creative way.

Not least, the judicial system itself is constantly being improved as well. Reconciliation between the parties is one of its objectives in civil proceedings (Civil Procedure Law, 1998). A settlement between the accused and the victim may be the basis for terminating the criminal case (Criminal Procedure 2005). That is why negotiation plays an important role in the legal system. Putnam defines negotiation as a particular type of conflict management – one characterized by an exchange of proposals and counter proposals as a means of reaching a satisfactory settlement (Putnam, 1985). Nothing could be simpler or broader in scope than negotiation. Every desire that demands satisfaction – and every need to be met – is at least potentially an occasion to initiate the negotiation process (Nierenberg, 1986).

Law in the sense of a body of laws, morals, ethical custom, customary courses of decisions, customary modes of conducting transactions, and even religious rites are found making up an undifferentiated body of precepts of social control (Pound, 1933). People's rational and irrational selves compete with each other constantly. While the work of a lawyer as grand mayor is based on balancing sociums' desires within existing law. Thus, negotiation plays an important role in the legal profession especially in the context of globalization.

Negotiation is one of the few functions in modern jurisprudence that has successfully resisted the process of standardization and the rationalization of work. Lawyers have redesigned their consulting style, customer service, but left the negotiation to individual. Negotiation is a fundamental element in the social life of organizations. Whether you are aware of it or not, you negotiate for resources and attention. Research in social psychology and behavioural economics has uncovered key principles that can help you become a better negotiator. Although the science of negotiation has developed rapidly in the last two decades, aspects of negotiation are an art (Narayanan et al., 2018). A great deal of art is also involved in the work of a lawyer. From an ancient time, the characteristics of a good lawyer were his ability to speak well, his ability as a good orator. Nowadays, the skills of an orator are important as well. Although the art of the orator must be distinguished from the art of negotiation. The common is the element of the verbal (both in orator art and in negotiation) and how verbal aspects can affect our behaviour, thinking and capturing information.

### **The role of negotiation in jurisprudence**

Formal negotiation is a process in which interdependent people who have different goals exchange information in an attempt to produce a joint decision (Bettinghaus et al., 1987). Basically, everyone understands that, especially law students do. But the question is how much in a self-learning way we do know about negotiation as a kind of art as it was mentioned before? Law students study subjects in different areas of law. No doubt, such knowledge is very much needed, and the work of a lawyer without them is unthinkable. But for jurisprudence as an integral part of social science, not enough attention is paid to negotiation in the sense of increasing professionalism.

In the end of the days, the thing what a lawyer should do is protect his/her clients' interests. Interpretation of laws and their application basically is a playground for the lawyer, but intellectual potential in the sense of negotiation skills is a toy in lawyer hands.

In the 1980s, experts and managers began to prefer alternative dispute resolution, that is, out of court and retreating to litigation because they were more efficient and less costly. But expectations for alternative dispute resolution quickly faded (Carver et al., 1994). But there have also been successful stories. The difference between success and failure lies in the level of trust in out-of-court dispute resolution. Whereas for the trust factor, an important role is negotiation skills.

We must keep in mind that honesty plays an important role in the lawyer's daily work. Therefore, a lawyer has a duty to act in such a manner as to save his/her client's money. In practice, lawyers often choose to bring the case to court sometimes because that way will result in a higher fee than they will resolve their dispute through negotiation. However, in Latvia such behaviour cannot always be attributed to a lack of good faith. The economic factor behind this is often not the main factor. Sometimes formal dispute resolution involves dogmatic practices that have become established over the years. However, the judicial system is looking for solutions to make dispute resolution more effective.

In the Latvian judicial system, in addition to arbitration, since 2014 there is a clause on the use of mediation. Mediation is a modern method of dispute resolution. And in Latvia it is gradually becoming more widely used. The mediation process allows the parties to the dispute to understand their true needs and interests, which can lead to a result in which both parties have satisfied their interests and needs (Kucina, 2018). Mediation can also be considered as the resolution of a dispute during negotiations. The specificity is that in the mediation process, the negotiation is led by a mediator. The mediator is a certified person to lead the mediation process. In accordance with Latvian Mediation Law requirements to be set forth for a Certified Mediator, it is a natural person who:

- 1) has reached 25 years of age;
- 2) has impeccable reputation;
- 3) has acquired an education document attesting a State recognised higher education;
- 4) is fluent in the official language at the highest level;
- 5) has attended a mediator's training course;
- 6) has obtained a mediator's certificate (Mediation Law, 2014).

As can be seen, the negotiating skills of the specialist are dependent on his or her own personal qualities, although negotiation would be the primary objective.

## Conclusions and suggestions

In Latvia, the legal sector, just like other sectors, is undergoing changes related to globalization processes worldwide. Under these circumstances, the importance of negotiation not only in business and diplomacy but also in jurisprudence cannot be excluded. So far, negotiation as a separate area has been focused on business only, not to mention diplomacy and international relations. In legal practice, lawyers use negotiation more or less every day, but as a separate area to develop, there is little focus.

It seems that trends in jurisprudence are not aimed at improving the quality of content, but at the banal commercialization of service. Although the legal system is struggling with the problems of court busyness. In this battle of busyness, everything is based in out-of-court dispute resolution. In other words, the effectiveness of the judicial system to a large degree depends on the conduct of negotiations. At the same time, there are no changes in the legal sector aimed at improving negotiation skills.

Improving negotiation skills in jurisprudence would bring several benefits:

- in legal controversy, relationships are maintained between the disputants;
- improved intercommunication;
- both sides are the winners;
- money and time is saved;
- the decisions taken shall be based on the interests of both parties;
- the process is informal and equally inclusive;

If the process is in progress in a relaxed, informal atmosphere, with care to make both sides feel safely, then the result to be achieved will certainly be more effective. In this way, legal practice would take a new course of development that would more closely meet the demands of modern society.

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# THE IMPORTANCE OF INTELLECTUAL PROPERTY IN BUSINESS

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**Abstract.** *The search for a balance of interests of right holders and users, legal means for the exclusive rights enforcement in the conditions of the development of new technologies, the problems of protection of intellectual property are considered in the paper. At the present time intellectual property is considered to be one of the most valuable assets of a business. Possessors of rights can secure their loans using their intellectual property as collateral. The authors claim that the Latvian legal and regulatory framework does not cover essential issues. The aim of the research is to explore and identify the importance of intellectual property rights in business. The following tasks were set to achieve the aim: to explore the theoretical aspects of intellectual property rights, to identify possibilities for intellectual property development in business. The following scientific research methods are used in the paper: the development of intellectual property rights in commercial law is investigated with the help of the descriptive method; the systemic method is used to analyse national legal norms in conjunction with international documents and recommendations; the comparative method has been used to study models of intellectual property rights.*

**Keywords:** *exclusive rights, intellectual property rights, piracy, plagiarism.*

**JEL code:** *O34, K11.*

## Introduction

It is customary to talk about intellectual property (IP) as the result of a person's mental activity. Intellectual property includes inventions, literary and artistic works, projects and symbols, names and images used in commercial activities. Legal protection of intellectual property is provided by patent, copyright, industrial designs and trademarks. These tools allow authors to get recognition or benefit financially from their creativity, giving them certain rights, which establishes the use of the results of the author's thoughts by third parties (Pētersone, 2013). The relevance of intellectual property lies in the fact that information technology transforms the structure of modern production and distribution, significantly affects labour productivity, becomes the basis of enterprise competitiveness, and is an indicator of the viability of production.

**Research novelty:** The importance of material property in business was analysed by numerous studies of law scientists, but only a few studies are devoted to the analysis of intellectual property. The topicality of intellectual property in entrepreneurship could be on the theoretical plate,

especially considering that in Latvian law, intellectual property issues from the point of view of commercial law have not been the subject of extensive and in-depth research so far.

**Research period:** 2017 – 2019.

**Research aim:** To explore and identify the importance of intellectual property rights in business.

**Research tasks:** To explore the theoretical aspects of intellectual property rights, to identify possibilities for intellectual property development in business.

**Research methods:** the descriptive method, the systemic method, the comparative method.

**Research hypothesis:** In today's economy, innovation management requires a good knowledge of the intellectual property rights system to ensure that the company maximises its innovation and creativity, establishes profit-making partnerships and avoids unauthorised use of intellectual property belonging to another person.

The ability to exploit the economic values related to the work or other subject matter is important for the right holder of protected material. Some protected material, such as literary works, phonograms or computer software, can be copied and reproduced relatively easily. Moreover, the growth of the Internet has made it possible to distribute works rapidly and extensively at little or no cost. Copyright and neighbouring rights protection is needed to ensure that the creator of a work or the right holder of other subject matter is rewarded for the exploitation of the work or other production (WIPO, 2005). By creating legal safeguards for protected material and by enforcing these protective legislative measures, laws, and legal enactments, nations can promote the development of copyright industries, turning them into important business sectors.

### **The concept and the economic role of intellectual property**

The first international treaties in the field of intellectual property were signed about 130 years ago. They laid the international legal foundation of the intellectual property system. These agreements — the Paris Convention for the Protection of Industrial Property (adopted in 1883) and the Berne Convention for the Protection of Literary and Artistic Works (adopted in 1886) – remain key elements of the intellectual property system today (WIPO, 2014). However, the world has changed so radically that even the most daring ideas of the authors of the first treaties fade in comparison with reality. For intellectual property law to meet the needs of a digital, interdependent and global society today and in the future, it must keep pace with the times.



In the framework of the World Intellectual Property Organization (WIPO) project, implemented in Panama, the United Republic of Tanzania, Thailand and Uganda, small farmers receive support in the use of branding strategies, in particular for trademarks and certification marks or geographical indications, to increase the income from high-quality local products. The project, implemented in Zanzibar, aims to improve the market position of the main export crops of the island - cloves and to return the country to a leading place in the export of this spice (WIPO, 2014).

Thus, intellectual property is a certain type of information that may belong to a person (or group of persons) and be used to obtain economic benefits. Considering the economic essence of intellectual property, analysing its foundations, it is worth mentioning not knowledge, which has a somewhat philosophical nature, but a more specific definition – “information”.

It is worth noting that information (as an object of intellectual property) has a number of features and is different from any other resource: (Philips et al., 1990)

- information resource cannot be fully used (if any information has been used, it does not mean that it cannot be used again, as the use of information does not disappear);
- information is inalienable. When selling information, the owner continues to use the information, since it is impossible to destroy it in his mind;
- information has universal separability and reproducibility;
- information can be almost freely and instantly spread over time (given the development of modern technologies, we can say that information has no boundaries of distribution);
- in the production of products that closely relate to the use of intellectual resources, for example, software, the cost structure is significantly different from the cost of production of ordinary goods. So, when creating a computer program, significant costs for the production of the first copy are significant, but at the same time, the marginal costs associated with the production (essentially copying) of subsequent units of goods are incomparably smaller.

Enterprises, universities, sports teams, artists, and non-profit organizations should be aware of the commercial value of their intellectual property, and generate revenue from the reuse of their brands, designs, artwork, or any other merchandising elements. Similarly, enterprises that sell consumer goods at low prices should consider using, subject to legal authorization, designs, copyrighted materials, characters, etc. and other companies in order to make their products even more popular and attractive (Blakeney, 2006). For successful merchandising, enterprises will need legal

knowledge in the field of intellectual property, skills in concluding commercial contracts and negotiating.

Innovation and intellectual property are separate, but closely related concepts. Innovation often leads to the creation of intellectual property, while intellectual property rights provide tools for financing the development of innovative ideas and driving them to the market. Innovation should not be an end in itself, but should be methodically integrated into business culture and practice to improve the overall performance of companies.

To remain competitive in today's very high global competition, the company's ability to innovate is essential, and innovation in the company's overall strategy can be integrated as follows (WIPO, 2011). Although price can compete in the short term, such a policy is not sustainable in the longer term. Sustainable competitiveness requires constant innovation in both production and management. However, the ability to engage in continuous innovation requires a paradigm shift in enterprise culture. Business organisations are well suited to providing entrepreneurs with a set of skills and tools to promote sustainable innovation.

Another problem is that legislation protecting intellectual property is not yet fully developed in Latvia. Only recently have there been laws that fully cover all parts of intellectual property. One of the most negative features of the intellectual products market is piracy. The Creator of a film, book, musical work or any computer program, even in spite of copyright, is practically not immune from unlicensed copying and illegal sale of his/her work (Maskus et al., 1995). Because of this, not only the creators of the products suffer, but also the state, since taxes do not go to the budget from pirated products. This problem is caused not only by the presence of infringers of intellectual property rights, but also by the absence of the concept of plagiarism, illegal use in the public consciousness. The main task of the state in this case is not only to prosecute piracy by law, but also to inspire citizens with the idea that any violation of intellectual property rights is illegal, even if it is not committed for profit.

### **Intellectual property in Latvian business**

According to Article 27 of the Universal Declaration of Human Rights, “everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which s/he is the author.” Although the relationship between intellectual property and human rights is a complex one, there are moral arguments for intellectual property.

Innovative and creative ideas underlie the success of enterprises. However, the ideas themselves are not of great value. They need to be developed, turned into a new product or service and successfully marketed to enable the enterprise to benefit from innovation and creativity. In particular, intellectual property patents can be important for turning innovative ideas and inventions into competitive products that significantly increase net profits.

It is very important to understand the difference between the concepts of “invention” and “innovation”. The invention is a technical solution to some technical problem. The invention can be in the form of an innovative idea, an active model or a prototype (Rammer, 2009). Innovation is the process of translating an invention into a market commodity or profitable technology. Some of the reasons why companies are engaged in innovation are:

- improving production technology to save costs or improve productivity;
- introducing new products that meet the needs of consumers;
- maintaining competitiveness and/or expanding market share;
- ensuring the development of technologies that meet the existing and future needs of entrepreneurs and their customers;
- eliminating technological dependence on the technologies of other companies (WIPO, 2006).

For most small and medium-sized enterprises, the marketing of products and services is a major challenge. The marketing strategy should establish a clear link between the products and services and the enterprise as the manufacturer or provider of such products or services. In other words, consumers should be able to distinguish at a glance between products and services and those of competitors and associate them with a certain desired quality.

Intellectual property, if used effectively, is an important tool for creating a business image in the representation of current and potential customers or for the localization of business in the market (Fawcett et al., 1998). Intellectual property rights in combination with other marketing tools (such as advertising and other promotional activities) are important in order to:

- distinguish products and services and make them easily recognizable;
- promote products and services and acquire a loyal clientele;
- diversify market strategy to suit different target groups;
- sell products and services in other countries.

According to the authors, analysing the Latvian market in the field of intellectual property, the following key provisions may allow the protection of intellectual property rights (Rozenfelds, 2004) for merchandising purposes:

- **Protection of trademarks.** Registration of a trademark gives its owner the exclusive right to use the mark for certain goods and services. It is necessary to ensure that the trademark is adequately protected in respect of the goods and services concerned. For example, a bicycle shop may register its trademark in respect of bicycles and other vehicles, but if it wants to offer its brand on t-shirts and caps, it is advisable for it to register the trademark also for use on clothing and hats in the countries where it plans to sell the product. It should be borne in mind that the main features of a person or fictional character may, in certain circumstances, also be considered as trademarks.
- **Protection of original samples.** Industrial designs are relevant in terms of protecting the decorative or aesthetic aspects of merchandising items. For example, a cartoon character can be represented in the form of aesthetic designs for toys, jewellery, dolls, brooches, pins, etc. Protection of the sample will be especially important in cases of exclusion or reduction of copyright protection (especially when the artwork was created with the purpose of industrial exploitation).
- **Copyright protection.** Copyright itself does not depend on official procedures. However, it is strongly recommended that works be deposited and registered with the copyright office in countries where such offices exist and that a copyright notice be placed on the works. If a copyrighted work is sold under a license for merchandising purposes, the license agreement must make it clear that the licensee must post a copyright notice each time the work is reproduced on merchandising goods.
- **Intellectual property protection in all relevant markets.** Intellectual property rights are territorial in nature and should be protected at the appropriate time in all potential export markets.
- **Measures against violations of intellectual property rights.** The owner of the intellectual property rights has the right to determine any infringement or counterfeiting of his or her intellectual property rights and to decide what action should be taken. Depending on the form of protection and legal tradition of each country, appropriate measures may be taken to prohibit illegal merchandising of intellectual property through unfair competition law, legislation on the representation of something under a false name (“passing off”), legislation on trademarks, copyright, industrial designs, personal rights, right to public use and/or protection of privacy, or similar legislation.

## Conclusion and suggestions

In the 21<sup>st</sup> century, science and intellectual property are considered not only as the foundation and instrument for increasing competitiveness, but also as the basic element of a new type of knowledge-based society. Thus, the intellectual property system underlies the development of a modern intellectual economy, and the development of a culture of protection and protection of intellectual property is no less important than the protection of the environment or material property.

In Latvia, the real protection of intellectual property is only beginning to develop, which can be explained by the low legal culture of the Latvian society. Therefore, it seems important to study the experience of other states and carry out explanatory work among representatives of small, medium and large businesses on the protection of intellectual property rights and its effective use in business.

Forming a culture of protecting intellectual property rights, business representatives can get an effective and powerful tool to increase revenues, gain advantages over their competitors, and therefore a stable and solid position in the market. The sphere of intellectual property belongs to the main resources of the state, its scientific and technical potential, which, ultimately, will determine the fate and result of ongoing economic transformations.

The research allows concluding that the ability to determine and establish the value of an intellectual product, including an invention, the conditions for its distribution, effectuation and implementation objectively allows you to equate such a product with a commodity and, therefore, determine the circle of persons possessing the rights of possession, disposal and use of this invention.

The formation of the intellectual property market is currently one of the main directions of development of the Latvian market economy. At a time when all over the world there is an active trade in the results of intellectual activity, and the products of many companies differ only in trademarks, in Latvia this market segment is just beginning to develop.

Indeed many domestic companies still do not pay due attention to work in the field of intellectual property, but, as the experience of the most dynamically developing companies shows, the possession and competent management of a balanced package of intellectual property objects just gives an advantage in the market, limiting competitors' capabilities and, ultimately, providing companies with the opportunity to earn super-profits. This is primarily due to the emerging prospect of using non-monetary property to increase the authorized capital of enterprises and firms, integrate with Russian and foreign partners by creating joint ventures,

selling licenses, assigning rights or contributing to the authorized capital, and gaining income without being directly involved in production (licensed trade), to limit the capabilities of competitors, etc.

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# THEORETICAL ASPECTS OF MODERN QUALITATIVE METHODS FOR CRISIS MANAGEMENT

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**Abstract.** *Scientists agree on necessity to predict and timely detect a company crisis that is an integral part of business nowadays. The early identification of a company financial failure due to rapidly changing social, economic and environmental conditions is a topic of growing importance. The sooner a potential financial failure can be identified, the more effective and efficient the anti-crisis measures could be implemented. If a company financial failure could be predicted accurately, it might be possible for the business to be restructured, thus avoiding the failure. This would benefit the owners, shareholders, employees, creditors, and others interested alike.*

*The modern economic literature provides varied crisis diagnosis methods, mostly based on an analysis of key financial ratios. Less attention is paid to qualitative methods. Therefore, the present research aims to examine modern qualitative methods for company crisis diagnosis (prediction) in crisis management theory.*

*The research used the theoretical findings of foreign scientists and Internet resources. The research employed the following methods: analysis and synthesis, induction and deduction, the monographic method, document analysis and the graphic method.*

*The paper provides definitions of main terms related to company failure prediction and a description of general qualitative models of company financial failure (bankruptcy) prediction.*

**Keywords:** *business failure, qualitative prediction methods, the A score model.*

**JEL code:** *M10.*

## Introduction

Modern researchers (Piesse et al., 2013; Situm, 2013; Кучр, 2016; Крюков, Егорычев, 2001; Garcia-Gallego, Mures-Quintana, 2012) agree on necessity to predict and timely detect a company crisis that is an integral part of business nowadays. The early identification of a company financial failure due to rapidly changing social, economic and environmental conditions is a topic of growing importance. The sooner a potential financial failure could be identified, the more effective and efficient the anti-crisis measures could be implemented. If a company financial failure could be predicted accurately, it

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might be possible for the business to be restructured, thus avoiding the failure. This would benefit the owners, shareholders, employees, creditors, and others interested alike.

The modern economic literature provides varied crisis diagnosis methods, mostly based on an analysis of key financial ratios.

The first studies of analytical ratios aimed to predict possible failures in companies' financial activities were conducted in the United States in the early thirties of the XX century (Крюков, Егорычев, 2001). One of the first significant research papers in the field related to business failure prediction was published by Beaver (Beaver, 1966), an American professor and researcher of accounting, who introduced a dichotomous classification test for the separation of failed and non-failed firms based on some chosen financial ratios (Situm, 2013). The next well-known research of bankruptcy prediction was published by Altman in 1968 (Altman, 1968), where he represents his multiple linear discriminant analysis. Quantitative information analysis is employed by foreign authors in their models, and most Latvian researchers also use quantitative indicators for analysing company financial positions, e.g. M.Januška (Januška, 2002), R.Šneidere, (Šneidere, 2009), I.Genriha and I.Voronova (Genriha, Voronova, 2010). Less attention is paid to qualitative methods.

Therefore, present research aims to examine modern qualitative methods for company crisis diagnosis (prediction) in crisis management theory.

To achieve the research aim, the following specific research tasks have been set:

1. to analyse and define the main terms related to company failure prediction;
2. to provide a description of general qualitative models of company financial failure (bankruptcy) prediction.

The research used the theoretical findings of foreign scientists and internet resources.

The research employed the following methods: analysis and synthesis, induction and deduction, the monographic method, document analysis and the graphic method.

## **Research results and discussion**

For decades, predicting company crises has been an interesting subject of financial research for both researchers and practitioners (Bunyainu, Bashiru, 2014), thereby creating a number of models and methods for company crisis prediction.



The purpose of a diagnosis is to draw a conclusion (make a diagnosis) on the condition of the entity on the date the diagnosis was completed and in the future (Некрасова, 2016). According to the findings of modern researchers (Некрасова, 2016; Асаул, Князь, Коротаева, 2007), it is important to divide a diagnosis of a potential crisis in two stages:

- 1) qualitative identification of the entity – the determination of its belonging to a particular category or group of entities;
- 2) quantitative identification of the entity – the determination of differences between the entity and the other entities of the same category by comparing the real parameters of the entity with those pertaining to the category.

Usually, any method for company bankruptcy prediction and crisis diagnosis (Altman, 1983; Zavgern, 1989; Beaver, 1966; Bunyainu, Bashiru, 2014) encompasses a binary classification of the entities examined that are divided in two categories: stable (no crisis indications) and unstable (with crisis indications).

Modern theoretical and applied research studies of company financial condition and crisis diagnosis have resulted in a consequent classification of relevant models into two basic categories: quantitative models and qualitative models. Qualitative models are most commonly defined as mathematical models for a company's crisis and bankruptcy prediction based on numerical, financial indicators (Асаул, Князь, Коротаева, 2007) and published financial information (Pogue, 2008). Qualitative methods, however, are based on expert assessments (Абалакина, 2016) and employ nonfinancial criteria.

Modern researcher Т.Абалакина (Абалакина, 2016) points out that despite the fact that qualitative methods are more universal for any field of research and could be used if limited initial information is available as well as are biased; the methods could not be used to perform multi-criteria tasks. Besides, expert assessments are often more accurate when based on previous analyses of financial performance indicators. Quantitative methods are less universal and the methods and models developed abroad are difficult to adopt to diagnose a crisis and predict bankruptcy for a domestic company. In addition, the usefulness of ratio-based business failure prediction models in providing accurate predictions has been questioned. A research study (Bunyainu, Bashiru, 2014) gives examples where ratio-based models have been considered to be unreliable bankruptcy predictors: for example, a research study expected 132 companies would go bankrupt, whereas actually only five companies failed in five years. Another research study found that qualitative data could give as good predictions as traditional financial ratios. Accordingly, it is proposed that a combination of quantitative

and qualitative models would provide a higher degree of accuracy in predicting a crisis and bankruptcy for a company.

Based on other relevant research studies (Абалакина, 2016; Асаул, Князь, Коротаева, 2007; Pogue, 2008; Дягель, Энгельгардт, 2008), the classification of company financial situations and methods for company crisis diagnosis could have three categories, supplementing the above-mentioned categories with a category for a combination of the methods.

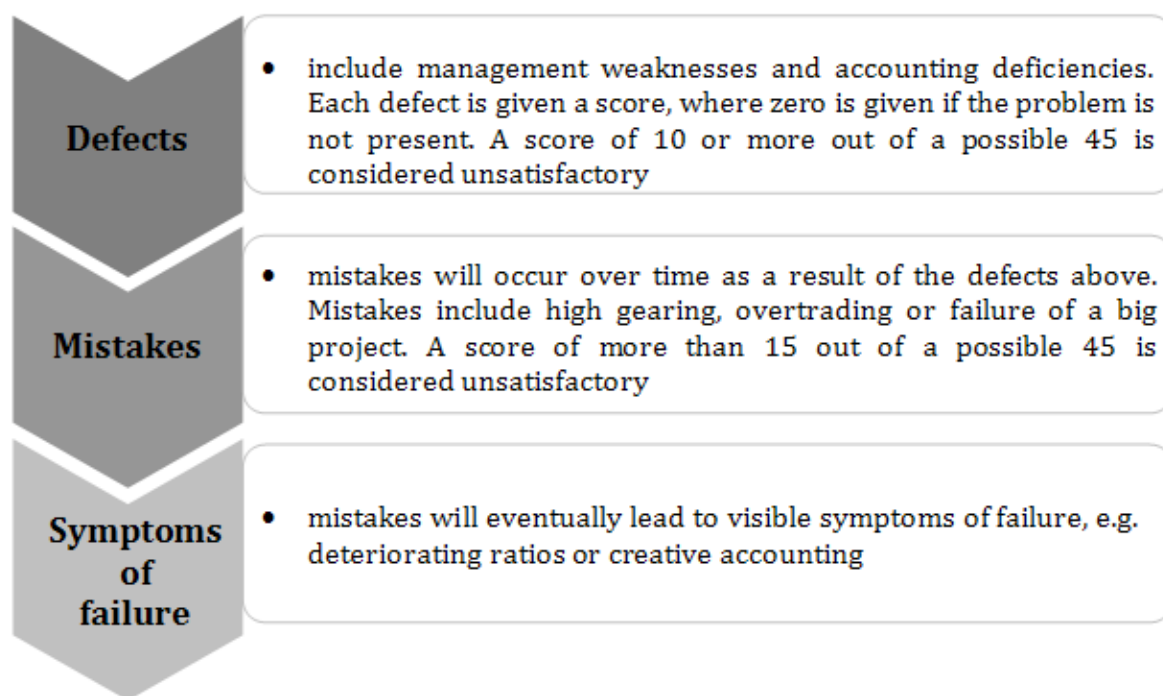
Quantitative methods for crisis diagnosis and bankruptcy prediction are actively researched, whereas qualitative and combined methods are less representative in the relevant literature. Table 1 shows qualitative methods for crisis diagnosis and bankruptcy prediction represented in a random sample of research studies.

**Table 1 Qualitative business failure prediction methods in modern research** (compiled by the authors)

Source / Methods	Argenti's A score model	Two-level system of indicators for forecasting bankruptcy by V.V. Kovalev	System of indicators for forecasting bankruptcy by V.P. Privalov	Cash flow analysis method
Дорофеев, 2006	x	x		
Асаул, Князь, Коротаева, 2007	x	x		x
Дягель, Энгельгардт, 2008	x	x	x	
Pogue, 2008	x			
Bunyainu, Bashiru, 2014	x			
Ncube, 2014	x			
Туктарова, 2018	x			

The most notable qualitative model is Argenti's A score model (Bunyainu, Bashiru, 2014), which is shown in Table 1. Argenti suggested that the failure process follows a predictable sequence: defects, mistakes, symptoms of failure (Figure 1).

If applying Argenti's A score model to a particular organisation, each "factor" of it has to be assigned a score, including zero for the factor that has not been identified, and then the total score has to be calculated.



**Fig.1 The qualitative A- score model of Argenti** (compiled by the authors based on Bunyainu, Bashiru, 2014; Pogue, 2008; Туктарова, 2018)

Within the model, defects could be divided into two groups as follows (Pogue, 2008):

1. Management weaknesses:
  - a. autocratic chief executive (8 points);
  - b. failure to separate the roles of the chairman and the chief executive (4 points);
  - c. passive board of directors (2 points);
  - d. lack of balance of skills in the management team – financial, legal, marketing, etc. (4 points);
  - e. weak finance director (2 points);
  - f. lack of ‘management in depth’ (1 point);
  - g. poor response to change (15 points).
2. Accounting deficiencies:
  - a. no budgetary control (3 points);
  - b. no cash flow plans (3 points);
  - c. no costing system(3 points).

In his model, Argenti assumes that if a company’s management is weak, it will inevitably make mistakes. The final stage of the process occurs when the symptoms of failure become visible (Ncube, 2014). Argenti classifies such symptoms of failure using the following categories:

1. Financial signs – in the A score context, these appear only towards the end of the failure process, in the last two years (4 points);

2. Creative accounting – optimistic statements are made to the public and figures are altered (inventory valued higher, depreciation lower, etc.). Because of this, the outsider may not recognise any change, and failure, when it arrives, is therefore very rapid (4 points);
3. Non-financial signs – various signs include frozen management salaries, delayed capital expenditure, falling market share, rising staff turnover (3 points);
4. Terminal signs – at the end of the failure process, the financial and non-financial signs become so obvious that even the casual observer recognises them (1 point).

The overall pass score is 25. However, if the total score makes it possible to assume that a company has no signs of crisis and could be regarded as stable in general, it is worth examining the score of each block individually. A high score for each block is likely to indicate potential problems in the given area that have to be addressed and tackled. An advantage of this model is its systematic and complex approach to predicting crisis phenomena, and a disadvantage is the bias of the prediction made.

The methods rarely referred to are the cash flow analysis method and V.V.Kovalev's model for forecasting bankruptcy. The cash flow analysis method deals with four groups of variables: revenues, expenditures, their balance and a balance on accrual basis (availability of funds in the current account). V.V.Kovalev's model represents a two-level system of variables, where: the first group includes criteria and variables whose unfavourable current values or changes indicate potential serious financial difficulties in the foreseeable future, including bankruptcy, while the second group includes criteria and variables whose unfavourable values do not indicate that the current financial situation could be considered critical. At the same time, they indicate that under certain circumstances or in the absence of effective measures, the situation could deteriorate sharply (Асаул, Князь, Коротаева, 2007).

Given the capability of solving a problem, which is characteristic of qualitative methods for diagnosis of probability of bankruptcy, under the conditions of limited initial information, novelty of the problem examined as well as universality of the methods regarding the scope of their application, which, of course, are the analytical strengths of the qualitative methods, a disadvantage of the expert assessment methods is that they have an increased probability of erroneous results.

## Conclusions

1. For decades, predicting company crises has been an interesting subject of financial research for both researchers and practitioners, thereby creating a number of models and methods for company crisis prediction.
2. Modern qualitative methods are more universal for any field of research and could be used if limited initial information is available as well as are biased; the methods could not be used to perform multi-criteria tasks. However, qualitative methods yield more accurate results because expert opinions are based on analyses of financial performance indicators.
3. In contrast, quantitative methods are less universal, and the methods and models developed abroad are difficult to adopt to diagnose a crisis and predict bankruptcy for a domestic company.
4. Crisis management is important for a company not only during a crisis; the results of a crisis assessment allows every company to timely assess the financial capacity and identify potential risks. Therefore, the authors recommend companies to apply qualitative methods for crisis diagnosis at regular intervals for the purpose of evaluating their business activities.

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# ASSESSMENT OF MAIN LIST STOCKS AS AN INVESTMENT OBJECT IN THE BALTIC REGULATED MARKET

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**Abstract.** *The stock market, which could be seen as one of the types of securities market, is an unstructured environment in which every investor needs to understand how to invest. For a potential investor interested in shares as one of the objects of investment, it is possible to buy the shares and potentially earn despite the fact that an investment in shares is considered to be a very high-risk investment. The research aims to assess Baltic Main List stocks as an investment object in the Baltic regulated market. The research results showed that investors should assess and invest in the companies of the Baltic Main List on Nasdaq Vilnius and Nasdaq Riga if they plan to gain income from an increase in share prices and to assess and invest in the companies of the Baltic Main List on Nasdaq Tallinn and Nasdaq Riga if they plan to earn income from dividends. The author concludes that the use of an investment account has not been sufficiently popularised among individuals, which does not contribute to the development of savings culture in Latvia and in the other Baltic States. For the education of private investors and the promotion of making decisions on share purchases, it would be desirable for investors to offer summarised information on company shares and their characteristics on the Nasdaq website. The research employed general quantitative and qualitative methods for economic research, including comparative analysis and synthesis, statistical analysis and graphic analysis.*

**Keywords:** *stock market, investment, assessment, main list.*

**JEL code:** G11, O16.

## Introduction

In the financial world, investment in shares is considered a very high-risk investment (Pelane, 2015), and a stock market is an unstructured environment in which every investor needs to understand how to invest (Sprinģis, 2016). If investing in financial assets, it is recommended investing the funds that are not immediately needed (Apinis, 2015) to buy shares when others want to sell them, investing no more than 5% to 10% of the savings in the shares, investing only in the companies whose field of activity is well known and making only long-term investments (10 years) (Grišins, 2018).

An analysis of the results of stock market research by foreign scientists (Zhang, 2017; Tsagkanos, 2017; Sivaramakrishnan et al., 2017; Zaremba, Shemer, 2018; Zhong, 2018) shows that the scientists focused on stock market development and the factors affecting it (stock liquidity, investor behaviour patterns, financial literacy, risks etc.). Research studies on the securities market of Latvia, including the stock market, focused on

opportunities for agricultural companies to raise capital in the stock market of Latvia (Kesteris – Mālkalns, 2007), trends and problems in the securities market of Latvia (Šnepste, 2011), development scenarios for the Baltic stock market (Žuka, 2009) and the effect of credibility of financial performance of Baltic companies on their share earnings (Grigorjeva, 2008).

The author believes that activity in the stock market could be raised by increasing the financial literacy of existing and potential investors. Financial literacy is a set of knowledge and skills that enables a person to understand and successfully manage their finances and take informed decisions on the choice and use of various financial services, thereby ensuring their private financial stability and sustainability (Latvijas iedzīvotāju..., 2014). Researching financial literacy (Sivaramakrishnan et al., 2017), it was concluded that the investor's behaviour was significantly influenced by unbiased financial literacy, i.e. the investor's actual knowledge.

In the author's opinion, the stock market as an investment object is undervalued. Investment in shares traded on the stock exchange could be one of the investment alternatives, which, in its turn, determines the need for financial literacy.

The Baltic regulated stock market is composed of the companies of the Main and Secondary Lists traded on all the Baltic stock exchanges: Nasdaq Tallinn, Nasdaq Riga and Nasdaq Vilnius. The author of the research has assessed the companies of the Baltic Main List that, compared with the companies of the Baltic Secondary List, are subject to quantitative requirements or restrictions on their capitalisation or the number of shares in free circulation.

The research aims to assess Baltic Main List stocks as an investment object in the Baltic regulated market.

Specific research tasks:

1. To examine changes in stock market prices in the Baltic States;
2. To assess investments in the companies of the Baltic Main List in the Baltic regulated market.

Analysis period: 2014-2018.

The research employed general quantitative and qualitative methods for economic research, including comparative analysis and synthesis, statistical analysis and graphic analysis.

### **Changes in stock market prices in the Baltic States**

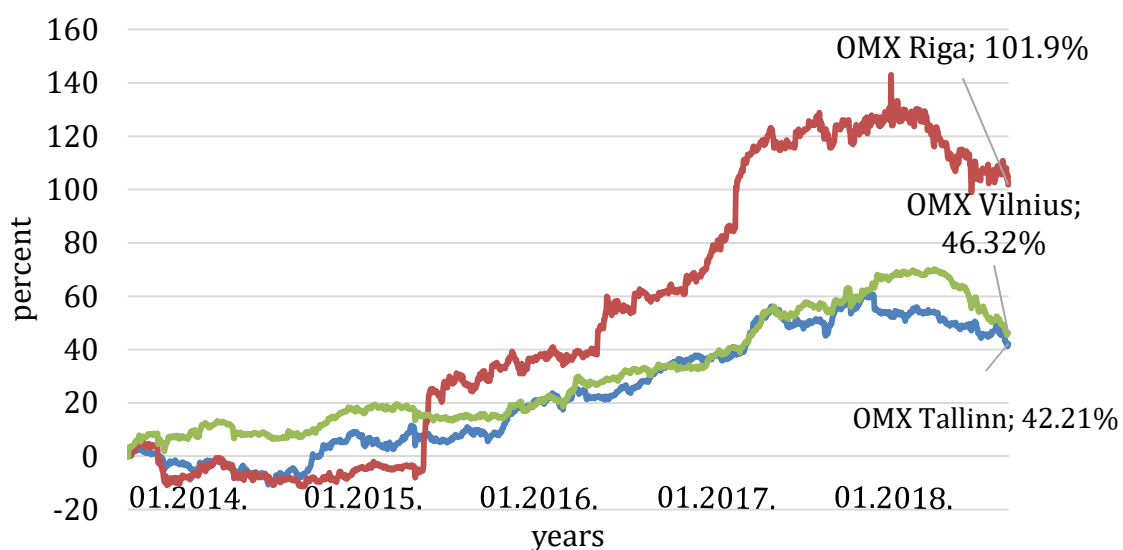
Every shareholder looks forward to the "value added" of his/her investments and to earning from two sources – share price increase or invested capital value increase and dividend payments. In the stock market,



more focus is usually placed on the shares whose price changes are the largest.

A stock market index is a measurement of the total value of the stock market or its section based on average prices. It represents a weighted average, as more expensive shares have higher weights and are more affected by the index than lower price shares. Investors use the stock index to identify the state of the market and compare gains from various investments (Capital.com, 2018).

The Nasdaq data (Figure 1) show that between 01/01/2014 and 31/12/2018, the stock market index OMX Riga increased by 101.9%, which was the best performance among the stock market indices of the Baltic States.



**Fig.1 Changes in the Baltic stock market indices in 2014-2018, %**  
(compiled by the author based on Nasdaq, 2019)

In an assessment of the changes in share prices of companies in the Baltic regulated stock market in 2014-2018, the author included only the companies whose shares were traded on the stock exchange at the end of September 2019. In terms of share price increase in the period 2014-2018, the top three most liquid companies listed on Nasdaq Vilnius were as follows: JSC Šiaulių bankas, JSC AUGA group and JSC Grigeo (Table 1). In terms of share price decrease in the same period, the top three companies were JSC Baltika listed on Nasdaq Tallinn and JSC Pieno žvaigždės and JSC Panevėžio statybos trestas listed on Nasdaq Vilnius.

The author concludes that in the period 2014-2018 in the Baltic regulated stock market, the stock prices of Baltic Main List companies quoted on Nasdaq Vilnius increased the most.

**Table 1 Stock prices of companies of the Baltic Main List in the Baltic regulated market in 2014-2018** (compiled by the author based on Nasdaq, 2019)

Share issuer, JSC	Share price change, %	Closing price, end of 2018	Highest price, EUR	Lowest price, EUR
<b>Nasdaq Riga</b>				
Grindeks	-28.62	6.5	10.5	3.96
HansaMatrix	9.66	6.5	8.83	6.05
Olainfarm	-5.06	6.7	11.5	5.5
SAF Tehnika	+1.91	2.32	7.92	1.41
<b>Nasdaq Vilnius</b>				
AUGA group	+100	0.4	0.645	0.195
Energijos Skirstymo Operatorius	-26.78	0.648	0.93	0.638
Grigeo	+87.41	1.325	1.585	0.675
Ignitis gamyba	+26.9	0.5	0.94	0.395
Klaipėdos nafta	+40.41	0.41	0.705	0.28
Linas Agro Group	-6.71	0.64	0.825	0.59
Novaturas	-31.03	8	12.78	7.9
Panevėžio statybos trestas	-33.45	0.752	1.34	0.75
Pieno žvaigždės	-50.27	0.93	2.13	0.91
Rokiškio sūris	+57.86	2.51	2.99	1.3
Šiaulių bankas	+205.53	0.401	0.564	0.262
Telia Lietuva	+8.05	1.105	1.17	0.7
Vilkyškių pieninė	+30.57	2.05	3.94	1.35
<b>Nasdaq Tallinn</b>				
Arco Vara	-19.54	1.12	1.6804	0.821
Apranga	-38.46	1.6	3	1.57
Baltika	-70.02	0.4087	1.5676	0.156
EFTEN Real Estate Fund III	+2.53	16.2	17.3	14.9
Ekspress Grupp	-8.77	1.04	1.47	0.789
Harju Elekter	+52.59	4.12	6.68	2.43
LHV Group	+34.76	9.4152	11.8437	7
Merko Ehitus	+27.78	9.2	11.8	6.7
Nordecon	-15.24	0.89	1.46	0.885
PRFoods	-12.86	0.61	0.855	0.349
Pro Kapital Grupp	-26.79	1.64	2.8	1.54
Silvano Fashion Group	-13.48	2.31	3.18	1.1
Tallink Grupp	+14.04	1.015	1.275	0.59
Tallinna Kaubamaja Grupp	+58.87	8.42	10.25	4.79
Tallinna Sadam	+5.81	2.04	2.179	1.91
Tallinna Vesi	-19.33	9.6	15.6	8.52

The Nasdaq statistical data indicate that in the period January-September 2019, the highest share price increase was reported for JSC Grindeks – 86.15% and JSC SAF Tehnika – 72.41%, whereas the lowest share

price decrease was reported for JSC Baltika – 71.5% (Nasdaq, 2019). The price fluctuation of company stocks in the analysis period was mainly determined by the microeconomic factors affecting stock prices (company financial situation, company management decisions etc.).

The author concludes that the investors who expect to gain from stock price increases should assess and invest in the companies of the Baltic Main List quoted on Nasdaq Vilnius.

In the author's opinion, if considering buying shares, a stock market price change assessment could be used to get an initial view of the company, yet a comprehensive analysis of the potential investment in the company should be performed before investing in the shares.

### **Assessment of investment in Baltic Main List shares in the Baltic regulated market**

If an investor fails to earn on stock price increases in a short term, the investor has a chance not to make active investments in the hope of rising prices and to buy the stocks with the aim of receiving dividends. Investors whose preliminary knowledge of stock exchanges are not sufficient can buy stocks yielding high dividends (Apinis, 2015). In the period when the largest banks of Latvia are paying interest from 0.1 to 0.5% on a deposit, the acquisition of stocks of Latvian companies that pay dividends provides income from 2-3 to 8-10 percent a year, not to mention instances where the dividends sometimes reach 20% (Pavlovs, 2013).

Two groups of measures could be employed to assess investments in stocks:

- comparative measures of profit: earnings per share (EPS) and price earnings ratio (P/E);
- comparative measures of dividends: dividend per share and earnings per share (Dann, 2006).

Some researchers (Islam et al., 2014) have found that EPS is generally considered to be the most important factor in determining the price of shares and the value of a company and the majority of individual investors make individual investment decisions based directly on the EPS. Kumar (2017) pointed out that EPS is a strong predictor of share prices, while the P/E ratio can considerably affect forecasts of share prices of particular companies. Another researcher (Cochrane, 2011) believes that fluctuations in dividends relate to expected profits rather than expected increases in dividends.

EPS (Kumar, 2017) shows net profit per common share (Equation 1).

$$\text{EPS} = \frac{\text{reporting period net profit}}{\text{number of common shares issued}} \quad (1)$$

The P/E ratio (Kumar, 2017) indicates how much shareholders are willing to pay per unit of the company's net profit (Equation 2).

$$P/E = \frac{\text{share price}}{\text{earnings per share (EPS)}} \quad (2)$$

Dividend yield (Investing Answers, 2019) is a measure of return on share investment or an “interest rate” (Equation 3).

$$\text{Dividend yield, \%} = \frac{\text{dividend per share}}{\text{share price}} \times 100 \quad (3)$$

By buying the shares of a company, shareholders look forward to improvement in the financial position of the company and higher share yields. The author identified the dividends paid by the companies of the Baltic Main List in the Baltic regulated market in 2018 as an initial prerequisite for assessing investment in stocks (Table 2).

**Table 2 Assessment of investment in the stocks of companies of the Baltic Main List in the Baltic regulated market at the end of 2018**  
(compiled and calculated by the author based on Nasdaq, 2019)

Share issuer, JSC	Share price, EUR	Dividend per share, EUR	EPS, EUR	Dividend yield, %	P/E
Grindeks	6.5	0.15	1.2	2.31	5.42
HansaMatrix	6.5	0.08	0.92	1.23	7.07
Silvano Fashion Group	2.31	0.5	0.30	21.65	7.7
Tallink Grupp	1.015	0.03	0.06	2.96	16.92
Ekspress Grupp	1.04	0.07	0.00	6.73	-
Tallinna Vesi	9.6	0.36	1.21	3.75	7.93
Nordecon	0.89	0.06	0.11	6.74	8.09
Merko Ehitus	9.2	1	1.09	10.87	8.44
Arco Vara	1.12	0.01	-0.06	0.89	-18.66
Harju Elekter	4.12	0.24	0.09	5.83	45.78
LHV Group	9.42	0.16	0.97	1.70	9.71
EfTEN Real Estate Fund III	16.2	0.68	1.96	4.20	8.27
Tallinna Kaubamaja Grupp	8.42	0.69	0.75	8.19	11.23
Pro Kapital Grupp	1.64	0.015	0.30	0.91	5.45

As shown in Table 2, an opportunity to earn dividends was provided by only 14 out of 33 companies of the Baltic Main List, which were quoted on the stock exchange at the end of September 2019, in the Baltic regulated market (at the end of 2018, 39 companies were quoted on the stock exchange). It has to be noted that the stock prices of companies included in

Table 2 were not among those included in Table 1 that performed the best or the worst. An analysis reveals that at the end of 2018, JSC EfTEN Real Estate Fund III had the highest share price, at EUR 16.20. Shareholders received the highest dividends from JSC Merko Ehitus; JSC EfTEN Real Estate Fund III had the highest EPS, while JSC Silvano Fashion Group had the highest dividend yield.

When making investments, investors often pay attention to the P/E ratio. According to the data on companies for 2018, a longer payback period for an investment at a given stock market price and current profit could be observed for JSC Harju Elekter – 45.78 years. JSC Arco Vara suffered losses in 2018; therefore, its EPS was negative. A payback period for an investment in the shares of JSC Grindeks at a given stock market price and current profit could be 5.42 years. The longer the payback period for an investment, the more expensive the shares of a given company could be considered.

As shown in Table 2, investors whose preliminary knowledge of stock exchanges are not sufficient could buy the shares of JSC Silvano Fashion Group (high earnings) and JSC Grindeks (short payback period for an investment). The share prices of JSC Grindeks increased the most in January-September 2019, which was determined by the dividends paid by this company that were the highest for the Baltic Main List in the Baltic States until the end of September 2019, at EUR 1.28 per share. It has to be added that in 2019, one Nasdaq Tallinn company – JSC Šiaulių bankas – also paid dividends – EUR 0.029 per share. The author concludes that shareholders expecting to earn dividend income should assess and invest in the companies of the Baltic Main List on Nasdaq Tallinn and Nasdaq Riga.

From 1 January 2018 onwards, amendments to the law of the Republic of Latvia “On Personal Income Tax” (PIT) stipulate the investment account regime that makes it substantially easier for the natural persons who make transactions in financial instruments to calculate and declare the tax. According to the new investment account regime, PIT is not applicable if the amount of funds paid out of the account does not exceed the amount of funds paid in. The administrative burden for taxpayers is reduced in relation to transaction accounting and filing tax returns. However, if a person makes transactions in financial instruments but does not have a declared investment account, the regular procedure of PIT taxation is applicable to that person, which requires the person to quarterly or annually declare capital gains and to pay the PIT (Lasmane, 2018). In the author’s opinion, the use of an investment account is not sufficiently popularised, which does not contribute to the formation of investment culture in Latvia and in the other Baltic States.

Experts admit that large and liquid companies are needed for faster development of the securities market of Latvia (Hāka, 2017). There are

considered opportunities to improve the situation in the capital market of Latvia and effectively employ “fintech” experience: lowering costs for holding/trading securities; lowering costs for share issuers and disclosing information (Kaužēns, 2018).

The activity of private investors in the domestic securities market, including the stock market, is very important and can significantly contribute to the development of the capital market as a whole. In the author’s opinion, it would be desirable for investors to offer summarised information on company stocks and their characteristics to educate private investors and to facilitate their decision-making on the purchase of stocks.

### **Conclusions and suggestions**

In terms of share price increase in the period 2014-2018, the top three most liquid companies of the Baltic Main List were quoted on Nasdaq Vilnius: JSC Šiaulių bankas, JSC AUGA group and JSC Grigeo. In terms of share price decrease in the same period, the top three companies of the Baltic Main List were JSC Baltika quoted on Nasdaq Tallinn and JSC Pieno žvaigždės and JSC Panevėžio statybos trestas quoted on Nasdaq Vilnius. In the period 2014-2018, the largest increase or decrease in stock prices or an increase or decrease in the value of invested capital was observed for the Baltic Main List of Nasdaq Vilnius. The fluctuation of stock prices in the analysis period was mainly determined by the microeconomic factors which affected the stock prices.

An analysis of the companies that paid dividends at the end of 2018 shows that the highest share price was reported for JSC EfTEN Real Estate Fund III, at EUR 16.20 per share. Shareholders received the highest dividends from JSC Merko Ehitus; JSC EfTEN Real Estate Fund III had the highest EPS, while JSC Silvano Fashion Group had the highest dividend yield. A payback period for an investment in the shares of JSC Grindeks at a given stock market price and current profit could be 5.42 years. Investors whose preliminary knowledge of stock exchanges are not sufficient could buy the shares of JSC Silvano Fashion Group and JSC Grindeks.

Based on an assessment of changes in stock prices and of dividends paid by the companies of the Baltic Main List in the Baltic regulated market in 2014-2018 and January-September 2019, investors should consider and invest in:

- the Baltic Main List on Nasdaq Vilnius and Nasdaq Riga if they plan to gain income from an increase in stock prices;
- the Baltic Main List on Nasdaq Tallinn and Nasdaq Riga if they intend to earn income from dividends.

The use of an investment account has not been sufficiently popularised among individuals, which does not contribute to the development of savings culture in Latvia and in the other Baltic States.

For the education of private investors and the promotion of making decisions on share purchases, it would be desirable for investors to offer summarised information on company shares and their characteristics on the Nasdaq website.

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# THE ROLE OF BEES IN DEVELOPING A LEGAL FRAMEWORK

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**Abstract.** *The research highlights the need for implementation of sustainable bee population protection. For example, uncontrolled or poorly controlled use of chemicals in agriculture has a direct impact not only on the bee life cycle, but also on the safety and sustainable development of the human environment and on environmental protection as a whole. The aim of the research is to highlight the need to limit and transparently control the use of chemicals in agricultural production in order to protect the safe living environment of humans through the legislation primarily aimed at protecting bees. The main methods used are statistical, systemic, analytical and comparative methods. It is proposed to raise public information activities, as well as to harmonize the regulatory enactments with the right to a favourable environment defined in the Constitution (Satversme) and to prohibit the use of poisonous chemical substances in agricultural production.*

**Keywords:** *bees, chemicals, environmental protection, regulations, threat to bees.*

## Introduction

The research considers the need to protect bees, with emphasis on the need to reduce and monitor the decline in use of toxic chemicals and necessity to supervise the use of toxic chemicals in agricultural production.

With the help of the statistical method, the conclusions are drawn regarding the economic contribution of the bee population to the national economy. Through the systemic approach, the activities of both public and various other organizations in raising and resolving this issue are considered. The comparative method provides an insight into similar issues in Latvia and other countries. Applying the analytical method allows drawing conclusions and making suggestions for solving the problems identified.

The research period covers the experience gained in the previous years, with a particular emphasis on public interest protection activities over the previous two years.

The research hypothesize: the implementation of sustainable bee population protection is directly related to ensuring a safe, healthy human life and protection the environment as a whole.

It has been concluded that protection of the bee population ensures not only the survival of these insects, but is an absolutely necessary precondition for the sustainable development of the human environment.

Ai bitīte, ai bitīte,  
Tavu lielu čaklumiņu:

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Tecēj' dienu, tecēj' nakti,  
Ne miedziņa negulēja.

## **Characteristics of bees, their importance in the human life**

If, for example, when we hear the word 'oak', we associate it with strength, stability, safety, and the word 'bee', in its turn, first of all relates to two meanings: honey and hard-working.

In the dictionary, a bee is described as a hymenopteran that processes flower nectar into honey (Bite, 2017). The most popular is the honeybee (*Apis mellifera*), which has long been used by humans for honey production. It has long been known among the people that a bee-created product - honey is a natural sweetener that has anti-inflammatory, antiseptic, and immune-boosting properties.

Beekeeping - the agricultural sector - can be described as a type of activity in which beekeepers take care of bee colonies and obtain apiculture products or provide pollination services, that is, bring bee colonies to the agricultural crops for pollination of these plants.

Bees are the main pollinators of cultivated crops and wild plants. About 80% of the plants on the Earth are entomophilic, which means that they need insects to be pollinated. Honeybees make up about 4/5 of the insects that pollinate plants. The real monetary contribution of bees to this sector is difficult to calculate, however, it has been tried. It is estimated that within the European Union (hereinafter – the EU) honeybees together with wild pollinators (bumblebees, solitary bees, etc.) contribute an additional EUR 22 billion to the agricultural sector each year (Latvijas Biškopības programma 2017. – 2019. g., 2017). Experts point out that bees are extremely important for nature and for the environment. Beekeepers estimate that about 75% of the food comes from bees. Thus, the environmental benefit provided by a beekeeper is considered to be ten times higher than a beekeeper gains him/herself by producing apiculture products (Biškopība Sēlijā senāk un tagad, 2018)

The European Commission has also recognized that bees are very important for the environment and the economy. Pollinators are estimated to provide pollination for over 80% of the European cultivated crops and wild plants. Honeybees also provide honey and other beekeeping products, such as pollen, food processing wax, propolis for food technology, and honey jelly is used as a dietary supplement and as a food ingredient (Honey bees, 2017). In addition, the EU is the second largest honey producer in the world after China. Every year, around 600 000 beekeepers produce approximately 250 000 tonnes of honey (Znotiņa-Znota, 2018).

Beekeeping can, to a certain extent, be regarded as a special activity which, first of all, requires considerable experience and skills on the part of a beekeeper, thus recognizing beekeeping as a knowledge-intensive activity. Bees cannot stand neglect, negligence, and alcohol. Secondly, beekeeping requires even “superhuman” skills for working with insects to even find a “common language” with them. In the Latvian folklore, bees are relatable to light, the gods of the upper world, the God, the sons of the God, the daughters of the Sun, and Ūsiņš - the god of light and spring, symbol of fertility, guardian of horses and bees. Beekeeping is also one of the ways to improve your lifestyle.

Thus, sustainable beekeeping is important both for protection of the insects themselves and even more for the human being in order to preserve the most natural living environment possible, and to provide availability of natural food, thus preserving the human health.

According to the data of the Central Statistical Bureau, there were 103 000 bee colonies registered in Latvia in 2018; 96000 - in 2017 (Lauksaimniecības dzīvnieku skaits gada beigās, 2018). The number of bee colonies have stabilized in the recent years.

### **Characteristics of threats to bees and of kinds of bees**

The representatives of the United Nations warn on rapid decline in bee numbers in the world, threatening the very existence of many plants and animal species, as these insects pollinate 170 000 plant species, which, in its turn, ensures the survival of 200 000 animal species (Smiltnieks A., 2018). Therefore, the conclusions are drawn that bees are responsible for about one third of the world's food production and provide jobs for millions of people.

Obviously, with the increase in agricultural production and especially intensive farming, the areas favouring beekeeping are shrinking. Intensive agriculture contributes to poverty - the creation of plant and animal species resulting from the agricultural activities.

In addition, intensive use of agrochemicals adversely affects the diversity of living organisms living in homogeneous conditions, including populations of natural pollinators (Latvijas Biškopības programma 2017.-2019.g., 2018). Therefore, a significant role of bees can be identified not only in pollination of crops, but also in maintaining the viability of the whole ecosystem. The presence or absence of bee protection programmes can be seen to have a direct impact on the creation and maintenance of a favourable human environment and vice versa.

Section 115 of the Constitution of the Republic of Latvia stipulates that the State shall protect the right of everyone to live in a favourable environment by providing the information on the state of the environment

and taking care of its conservation and improvement (Latvijas Republikas Satversme, Latvijas Republikas Saeimas un Ministru Kabineta Ziņotājs, 1994). Therefore, there is an obligation of the State to establish and ensure an effective environmental protection system (Meire, Čepāne, 2011). It is undeniable that the conservation and development of the bee (human) population is an essential element for the environmental protection system, as well as a set of the regulatory enactments ensuring the development.

First of all, the mortality of bees and other pollinators is related to the human management activities and, above all, to the use of various types of chemicals, habitat loss, pesticides, the development of non-native species and climate change.

The general obligation to limit or exclude the circumstances mentioned in relation to bee mortality follows from the definition of sustainable development as defined in Section 1, paragraph 4 of the Environmental Protection Law (Vides aizsardzības likums, 2006), which includes sustainable development – the integrated and balanced development of public welfare, the environment and the economy, which meets the present social and economic needs of inhabitants and ensures the compliance with the environmental requirements, not endangering the possibility to meet the needs of the future generations, as well as ensures the conservation of the biologic diversity.

For example, the use of neonicotinoid pesticides, which are widely used in insect control, namely imidaclopyr, clothianide and thiamethoxam, is a major problem. It is believed that these chemicals do not deliver the promised crop yields for agriculture, however they cause acute and chronic damage to honeybees, as well as they accumulate in soil and water (Lāce A., 2018).

At the end of 2013, the European Commission imposed restrictions on the use of neonicotinoids, agreeing with the beekeepers' and environmentalists' nearly 20-year efforts to ban these insecticides on crops used by honeybees. A moratorium was announced to conduct in-depth studies on the impact of neonicotinoids on the environment. However, Latvia and several other Member States were allowed to issue emergency permits allowing the use of etched spring rapeseeds. Andrejs Briedis, an expert of the Latvian Fund for Nature (Lāce, 2018), has reasonably concluded that the exception has become a system.

The Plant Protection Service under the supervision of the Ministry of Agriculture issued, on an annual basis, emergency permits to certain farms for the purchase and sowing of neo – nicotinoid - germinated spring rapeseeds. As regards the negative impacts on the public health and the environment, several aspects of implementation are identified as particularly problematic: misuse of emergency authorization procedures,

increasing use of the confirmatory data procedure, problems of implementation of the precautionary principle - incomplete harmonization of data requirements and methodologies applied in some areas for the evaluation of substances, defining exclusion criteria for these substances (Ziņojums par augu aizsardzības līdzekļu regulas (EK) Nr. 1107/2009 īstenošanu (2017/2128(INI)), 2018).

In general, there is an active debate in Europe on the sustainable use of pesticides and banning of neonicotinoids. These issues are crucial for the environment and human and bee health - in fact, for the human survival. The year 2018 is the last year when farmers can spray fields with neonicotinoids (poisons that kill not only pests but also other insects, including bees). Neonics - systemic pesticides are water soluble, spread throughout a plant, making the entire plant poisonous to insects. Therefore, even a small concentration of these pesticides leads to long-lasting effects. It is believed that if seeds and plants are treated (etched) indoors, nothing much comes out of these neonics and no harm can be caused. However, exactly due to these good properties they are very harmful to bees and other pollinators because, when seeds or seedlings are treated with neonicotinoids, the whole plant becomes harmful to insects, including its secreted juices, nectar, and pollen. Under the sun influence, neonics can degrade in a month time, however if the sun does not reach them, their residues can remain in the soil for more than three years. Neonics not only kill bees, but also distract them, and bees feel like being drunk and can no longer find their way home (Simanovska, 2018).

Although Latvia abstained from voting, the European countries agreed to completely ban three plant protection products of the neonicotinoid group to be used outside in the field - thiamethoxam, imidacloprid, clothianide (Mičāne I., 2018). With this ban, the interests of large landowners who have defended their interest in neonicotinoid use with the aim of maximizing crop yields are enlightened. At the same time, it is incomprehensible why those farmers expressing these interests do not understand that they themselves use this bread, thus adversely affecting their own health and that of others, and of course the bee health. These products will still be allowed to be used in greenhouses (Informatīvais ziņojums, 2018).

In an information report on the attitude of the Republic of Latvia regarding this issue, the Minister of Agriculture at that time specified that in the event of an additional ban on the use of neonicotinoids, Latvia forecasted losses of millions of euros each year for summer rape, potato, fruit trees, carrot, cabbage and softwood samplings growers. However, on the other hand, it was not mentioned that consumers of food, after treatment with pesticides, would be subsequently forced to spend on the use of pharmaceutical business services.

Some social activists, however, were concerned whether such a ban would save bees, thus British entomologist Dave Gulson rightly said that in the 1940s the mankind used organochlorine pesticides as DDT. When they were banned, farmers switched to pesticides based on phosphoric acid. Then neonicotinoids appeared. This will be followed by something else but equally harmful. If we do not break this vicious circle, there is no hope for a significant step forward in protecting the environment, the expert believes (Buiķe, 2018)

There is no doubt that limiting the use of chemicals will help to save bees' lives and at the same time have a positive impact on the health of food consumers. However, it is understandable that the pressure of industrialized agricultural and pharmaceutical businesses, including those making laws, is enormous and invariably systemic.

Therefore, it shall be recognized that the greatest help in ensuring a healthy, sustainable life for bees and humans is in the hands of people themselves. It is very hopeful that a part of the society begins to realize the enormous harm caused to bees by using chemicals in the processing of agricultural products, and ultimately to human health and the environment itself.

According to the cause principle, the damage caused or likely to occur to the environment must be prevented, firstly by eliminating its cause (Meseršmits, Meiere, Ūsiņa, 2003). Identifying the causes for clarifying other causes of bee population decline should be recognized as a primary issue. In addition, finding the primary cause relates to the above-mentioned resistance from interested farmers who use in their production substances harmful to bees and consequently harmful to humans, including harmful pesticides. Therefore, civil society has a key role to play in implementing the cause principle. The public involvement, in its turn, requires, firstly, informing the public about the significance of the problem, and, secondly, ensuring the public participation opportunities in relevant decisions making.

It is understood that agricultural activities shall also constantly seek a balance between production and environmental impact, however, based on Section 115 of the Constitution of the Republic of Latvia (Latvijas Republikas Satversme, Latvijas Republikas Saeimas un Ministru Kabineta Ziņotājs, 1994), the primary consideration must be creation of a favourable living environment for humans, including the right to healthy food, which is fully in line with the “interests of bees” by defending their rights for life. In addition, based on the stipulations of Section 6, Clause 1 of the Environmental Protection Law (Vides aizsardzības likums, 2006), any person may require public authorities and local governments, officials or individuals to cease an activity or omission worsening the environment, if it is harmful to human health or the environment, if it endangers their lives, legal interests or

property. It follows directly from the above mentioned that individuals have the right to require the State to take active steps to ensure the conservation of bees in so far as they fall within the competence of the State or local authorities. It should also be noted that the bee itself cannot ask for anything.

Of course, informing the public also involves organizing unconventional, innovative and modern information activities. For example, since May 20, 2018, the World Bee Day has been introduced by the UN according to the initiative of the Slovenians. It is celebrated worldwide. The purpose of this day is to raise public awareness of the role of bees in sustainable environmental development and in ensuring the biodiversity (Par Pasaules Bišu dienu Lielbritānijā, 2018). The goal of the Bee Day is to highlight their important role and the declining number of bees in the world. More than 10,000 beekeepers are registered in Slovenia, and the local bee species are protected by law (Kūrēns, 2018).

Several research projects have been launched in the EU in the recent years to try to explain the key factors affecting bee health and losses in managed honeybee colonies, which, on the one hand, raise the specific problems at the EU level and, on the other hand, have yielded only results having a recommending nature.

For example, the Super-B project is a cost action, joint research on bees and other pollinators. The project brings together the scientific and society communities involved in pollinator mediation. The decline in the populations of European wild bees and other insect pollinators was assessed within the ALARM project, which also assessed the circumstances contributing to the observed damage, including habitat loss, fragmentation, pesticides, invasive and climate change. Based on this project, the STEP project assesses the impact of pollinator abandonment on agriculture, biodiversity and the wider community. STEP also developed mitigation strategies to ensure that pollinators are protected and managed to provide sustainable pollination services. The COLOSS COST action has established a network of researchers and other stakeholders across Europe to follow the evolution of colony losses and to join the forces in national research programmes to understand and struggle against the major colony losses (Pētniecības projekti, 2018).

It can be concluded that informing the public about preserving the bee (human) living environment nowadays has to relate to the society's new and unprecedented activities, and the state should provide material support for implementation of these opportunities.

The other direction in bee protection relates to an EU directive on chemicals and pesticides designed to protect human health and the environment. For example, Austria has become the first EU-Member State to completely ban the use of the chemical glyphosate. This substance is the main ingredient of the widely used herbicide "Raundap" (Siltnieks, 2018).

Article 4 of Directive 2009/128/EC states that a purpose of the National Action Plan is to adopt a plan in the Member State that is aimed at setting up quantitative objectives, targets, measures and timetables to reduce risks and impacts of pesticide use on human health and the environment and to encourage the development and introduction of integrated pest management and of alternative approaches or techniques in order to reduce dependency on the use of pesticides (Eiropas Parlamenta un Padomes direktīva 2009/128/EK, 2009), which shall ensure drafting the normative enactments for bee protection.

It is therefore necessary for the legislator to adopt a long-term strategy for improving bee health and population recovery, one of the primary means of which would be a ban on all pesticides which, according to the scientifically proven tests, negatively affect bee health, while developing and promoting safe alternatives for farmers. Until such conditions are adopted, the Law on the Conservation of Species and Biotopes and the Environmental Protection Law shall provide for a timely warning on spraying periods by the farmer intending to use the allowed pesticides in order to prevent damage to bees, while local authorities should be required to control the compliance with the fulfilment of these provisions.

### **Conclusions and suggestions**

1. Section 7.1 „Measures for Ensuring of Favourable Conservation Status of Species and Biotopes” of the Law on the Conservation of Species and Biotopes shall provide the obligation for farmers who intend to use allowed pesticides to inform on the spraying periods all owners of registered honeybee colonies within a radius of two kilometres from the spraying area at least three days before the commencement of spraying works. Section 22 of the Environmental Protection Law „Local Government Control in the Environmental Field” shall provide for the obligation of the local government to perform control by establishing whether farmers who spray their areas comply with the obligation imposed by Section 7.1 of the Law on the Conservation of Species and Biotopes.
2. To prohibit the use of any pesticide that has been scientifically proven to have a negative effect on bee health.
3. To provide effective public information on ensuring the best possible bee living conditions by involving the state in the implementation of this issue both through providing material resources and through its participation in the information process.



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# CONCEPTUAL STUDENTS' PERCEPTION OF PROBLEM-BASED AND PROJECT-BASED LEARNING IN A HIGHER EDUCATION INSTITUTION

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**Abstract.** *The paper deals with conceptual students' perception of problem-based learning and project-based learning in a higher education institution. Nowadays students have a different lifestyle, various opportunities to study and different learning habits, so traditional learning does not satisfy them. Teachers must look for more modern ways to transfer the information and to explain the topics and issues. And some of these ways are problem-based learning and project-based learning methods. The authors of the paper carried out the research, assessing the students' point of view on these modern ways of learning. The research methods: literature analysis and comparative method, which allowed to clarify and to compare the differences of problem-based and project-based learning, and the questionnaire to get the students' opinion about these methods used in a higher education institution.*

**Keywords:** *problem-based learning, project-based learning, learning barriers, learning approach, students' perception.*

**JEL code:** *M12.*

## Introduction

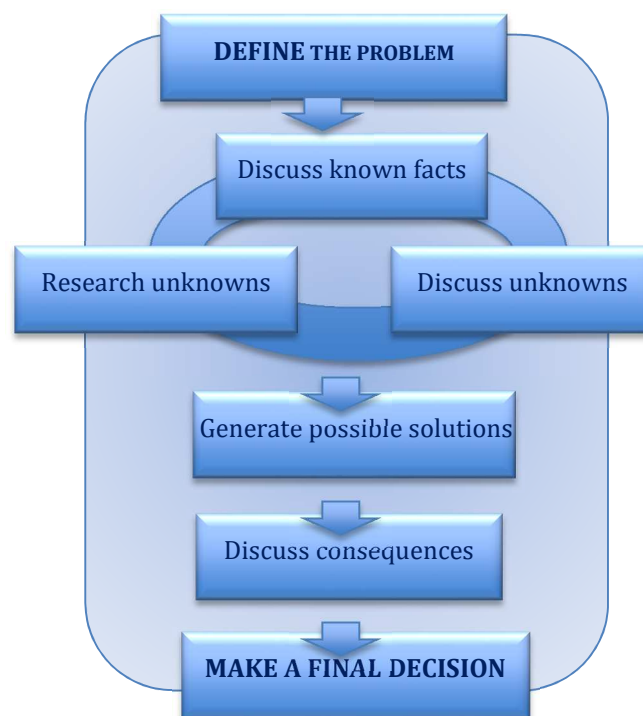
**The relevance of the topic.** The significance of higher education is increasing every year, attracting not only graduates looking for their own way, but also those who have graduated in the past and want to acquire a specialty, retrain themselves or change something in their lives. Such a great diversity of learners and their diverse needs make it necessary to combine education with the professional life, lifestyle, and financial opportunities. Therefore, traditional learning is complemented or replaced by various other teaching/learning methods. There is a need to conduct studies differently - in a non-traditional way, to apply other forms and methods that are different from traditional teaching practice. Problem-based learning (PBL) is one of them.

**The aim of this paper** is to assess students' perception of problem-based learning and to investigate its effect on the student's achievements.

## Application of the Problem-Based Learning Approach in a Higher Education Institution

Many education systems have investigated ways to improve student achievement in universities. Effective higher education institutions have high standards, intensive involvement and a willingness to experiment with a variety of strategies to improve education. Teachers are looking for more effective methods to make the subject easier adapted and interesting for students, as well as to teach them implement theoretical knowledge in practice. Therefore, the problem-based learning (PBL) strategy allows having higher standards in the academic area and joining a few different subjects that complement each other, dealing with the given task – problem to solve.

According to Savery (2006), problem-based learning is a student-centred learning access that enables learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem (Fig.1).



**Fig.1 Problem-Based Learning Performance Scheme**  
(made by the authors)

Hmelo-Silver (2004) described problem-based learning (PBL) as a teaching/learning method that ensures that students, assisted by a teacher, learn to solve problems. The problem-based learning (PBL) method focuses on a problem without one correct answer. Importantly, PBL involves

students working in groups to identify what they need to know to solve the problem. Students adapt their knowledge to solve the problem and reflect on their learning and the effectiveness of the strategies used. Torp and Sage (2002) have defined PBL as experience-based learning that focuses on research and the solution of difficult real-world problems. The authors see students as interested problem solvers who seek to identify the main problem and conditions necessary for good decision making. The goal of PBL is to find the best solution to the problem to be solved. At the same time, PBL includes the process of analysing the problem and its environment, activating knowledge and searching for information, teamwork, and finally finding a valuable solution (Zumbach, 2003). Thus, PBL is not identical to learning to solve problems. The learning process itself, not just the result - the problem solved - has a fundamental value. Having analysed the definitions of different authors, it can be said that PBL is the way students study, analyse and solve complex real-world problems with the help of a teacher. PBL is a way to manage the growing content of professional knowledge, which allows developing the skills that will be applied to the professional activities of prospective professionals, no matter in which professional field they work. There is so much knowledge that it is impossible to master them as pre-given content, so the only way in the study process is not to provide the defined content, but to provide the right conditions for students to acquire and manage their knowledge.

PBL as a way to teach at a higher education institution was introduced in the field of biomedical learning in Canada (Barrows, 1999). Currently, PBL is applied in many countries for medical education. Over the last decade, PBL has become increasingly active, extending this strategy to various higher education study programmes (e.g. engineering, economics, social work, etc.)

Teaching the students of social and technological sciences is one of the most challenging tasks. The teaching instructions stress the importance and understanding, and the ability to apply scientific models to completely realize the key specifications in the learning subjects. Teachers must adapt instruction to the students' level of knowledge and development, motivate them to learn, and manage their learning skills. Instructions and learning should be effective.

Moving from traditional to problem-based learning can cause anxiety, even hostility. As Margetson (1997) points out, problem-based learning can lead to fear of change that will destroy the normal understanding of work, and the learning outcomes will not be clearly measured. The main hostility is based on the doubt that competences can develop from the discovery process. Students who are accustomed to traditional methods may feel frightened by changing and resisting the entire learning system. Students have difficulty working in groups and being active. It is also a challenge for

teachers to carry out this type of training, to develop other access to material submission, task formation and evaluation system development.

Particular attention should be paid to PBL infrastructure. From large audiences, where students sit back and face their eyes at the teacher as the centre and the only source of knowledge and wisdom, the students move into PML discussion spaces, where they can freely and freely discuss in small groups of 6-8 at the round table. The organization of the study process by PBL provides for an appropriate allocation of student flows to small groups, enabling them to communicate within a separate round table, with independent learning resources and appropriate tutor support.

From the students' point of view, this approach to learning seems to create the impression that "theory" and "practice" are two different realms (Valentine, Speece, 2002), never touching each-other, and that what they learn at school and at university is "just" theory i.e. knowledge perceived as useless (Gross, Rutland, 2017) – possibly because it is "inert" (Meijering et al., 2016).

In fact, in the traditional approach to learning, classes are for knowledge, while the practical aspect is left to learning by doing. This foster somehow the idea that the two realms have nothing to do with each other. After analysing the aspects of problem-based learning, it can be said that problem-based learning does not provide clear evidence that it is superior to traditional studies. However, competencies developed through problem-based learning make it a priority for higher education institutions.

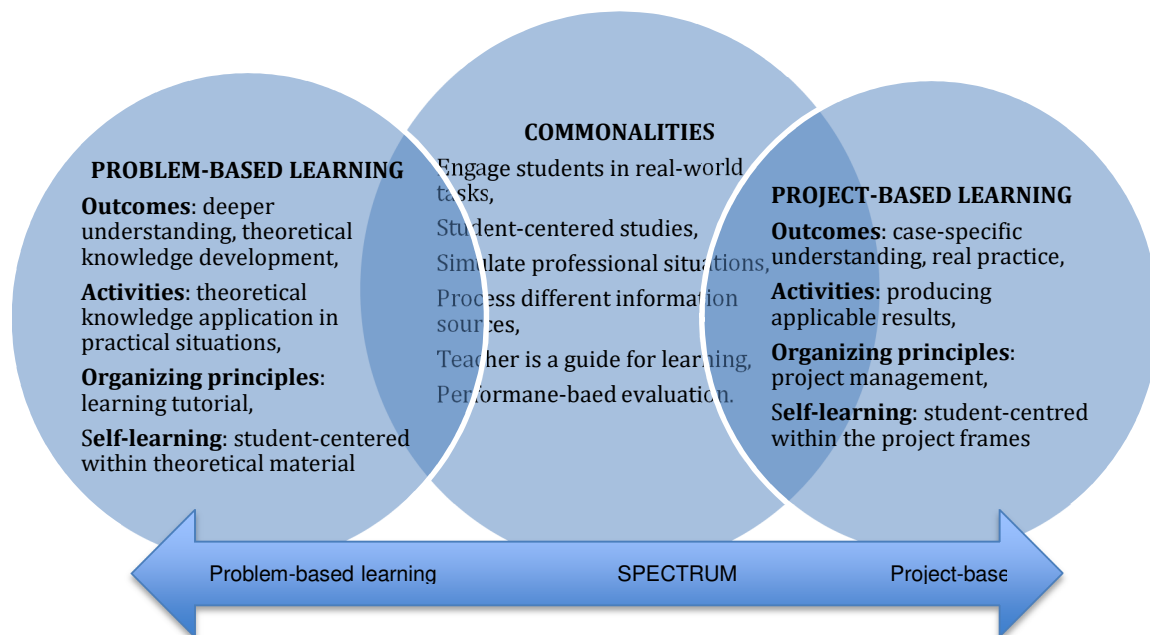
Therefore, more and more innovative methods are being sought. And one of them is project-based learning (PrBL).

### **Perception of the Project-Based Learning Approach in a Higher Education Institution**

Live projects within the role of Students' Consultancy have gained some attention in the last 3 years. They are a kind of active (Bonwell, Eison, 1991), experiential learning (Kolb et al., 2008; Holmberg et al., 2019), presenting particular features. The students, organised in small groups, act as consultants to a real life commissioner (business, business association, local government) for a real "live" problem or development opportunity that the commissioner needs to explore and achieve. The commissioner/business contact interacts directly with the group of students-consultants in terms of providing an appropriate brief for a new opportunity or analysis of an existing problem or issue as well as providing appropriate feedback.

However, team working, problem solving, communication, etc. are essential for employability (Trujillo, 2011; Kuh et al., 2008; Zhai et al., 2017; Fallows, Steven, 2000), especially in the service sector (Chang, 2014), and

even more importantly within a managerial career (Bigelow, 1991; Carroll, 2005; Boyatzis, 1982; Zhang, 2017; Analoui, 2009; Holmberg et al., 2019).



**Fig.2 Differences and Similarities between Problem-Based Learning and Project-Based Learning**  
 (made by the authors)

Some of the key concepts and principles of live projects within the role of student consultancy are identified as follows:

- a focus upon the development of critical thinking and resolution of problems for today’s dynamic managers,
- business clients offer their support (Holmberg et al., 2019; Garillos, 2012),
- an overlap of time between the experiential learning process of understanding the role of consultancy and undertaking the live project itself in a professional manner (Holmberg et al., 2019; Guido, 2014),
- an informal lecturing approach which focuses upon continuous encouragement, guidance and feedback,
- students identify with and act at all times within a professional capacity as actual external consultants,
- a share of tacit knowledge, transmitted by the lecturer and the commissioner by direct contact, behaviour imitation and shared experience,
- no separation of ‘skills’ from content, as the development of problem solving, organizational skills, communication, technical,

- etc. skills and critical thinking is not separated from the subject matter (Holmberg et al. 2019; Zulpiene, 2012),
- learning involves a student, a lecturer, and a commissioner (Holmberg et al., 2019).

## **Research Methodology**

The challenge of this research study is the use of the problem teaching approach in subject materials and to investigate its effects on the student's achievement. This research study is focused on the educational research that builds the framework in the evaluation of the cognitive ability, behaviour and attitudes of the learners.

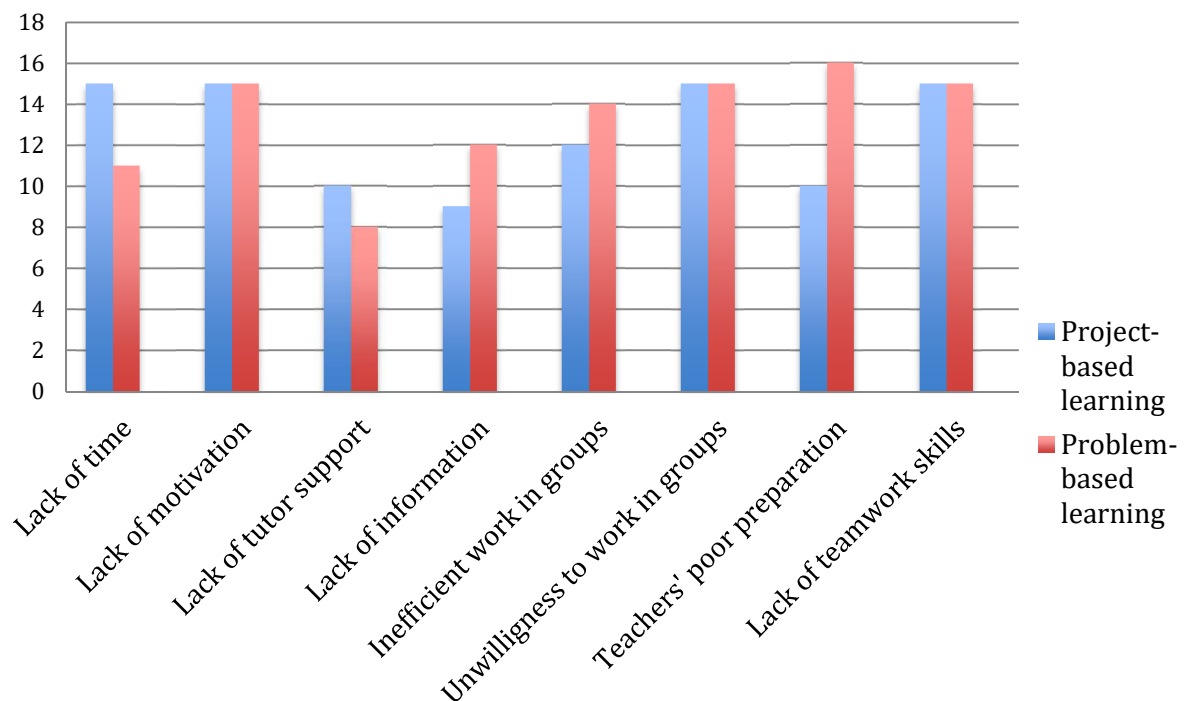
*The aim of the research* was to assess the effect of problem-based learning (PBL) on students' perception and to compare it with that of the project-based learning approach.

The research was carried out in spring 2019, questioned the target groups of students of Business Management and Transport Business study programmes, who experienced both methods in their study process. The PBL approach was applied in the Module *Research and IT* (10 ETC), which involves two subjects: *Social Research* (4 ETC) and *Statistical Data Analysis and IT* (6 ETC) and *Tutorials*, while the project-based learning approach was applied in the Module *Management of Trade and Service* (12 ETC), which involves three subjects: *Management of Trade and Service Enterprises* (4 ETC), *Marketing of Trade and Services* (4 ETC), *International Trade Funding* (4 ETC) and *Tutorials*. In the first module, the problem-based learning approach is applied and in the second module – the project-based learning approach is applied, so the students can evaluate and compare these two learning methods, pointing out their efficiency, advantages and disadvantages. For this evaluation, a questionnaire was formed, which included 3 blocks of questions, emphasizing the described criteria of the both methods. The first block assessed barriers in the study process. The students evaluated 8 barriers, which made them difficulties in the learning process. The second block of questions estimated the advantages of these learning methods according to their importance and impact on the study process. The third block defined 8 main disadvantages and difficulties, which students faced in their learning process and discussed criteria influence on the students' learning efficiency.



## The Results of the Research on Conceptual Students' Perception of Problem-Based and Project-Based Learning in a Higher Education Institution

The first block of the questionnaire identifies the barriers, with which students were faced while studying the modules. They pointed out the biggest barrier, which appeared as the biggest gap, comparing these two learning approaches, too – teachers' poor preparation. Teachers' preparation is the key point in the problem-based learning process. The teacher's role in applying this method is not only to provide information and resources but to let students make decisions themselves on what to look for and what to learn. The teacher must control the process itself and evaluate process productivity.



**Fig.3 Student Perception about Learning Barriers**  
(made by the authors)

However, the students pointed out teachers' poor preparation for the problem-based learning process, which disappears in the project-based learning process, where the problem is formed by the business people and the teacher's role becomes passive (see Fig.3).

The other barriers were defined as a lack of motivation, unwillingness to work in groups and a lack of teamwork skills, but these barriers are similar in both learning approaches.

Evaluating barriers in project-based learning, the students emphasized a lack of time as the biggest problem. The project-based learning approach

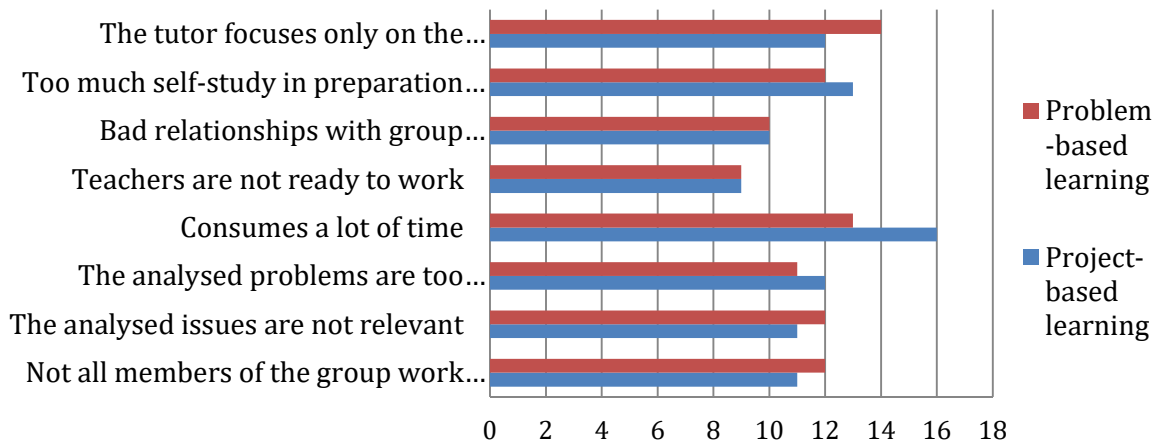
consumes lots of time making projects. It takes much more time than in the problem-learning process.



**Fig.4 Student Perception of Learning Advantages**  
(made by the authors)

Analysing the advantages of both methods, it is claimed that though the students identified a lack of motivation to work in groups, but at the same time they acknowledged that both methods developed teamwork skills, encouraged self-studies, encouraged debates, developed critical and logical thinking (see Fig. 4). The biggest advantages of both methods were the fact that real situations and cases were analysed. The students could touch the real situations in a company, being faced with the real decision-making process after having analysed all the alternatives in the given situation. And also, it was very important that they could deal with the problem or situation from different perspectives and that it combined different disciplines.

Though the students identified a lot of advantages of both methods, still they found many disadvantages as well (see Fig. 5). In project-based learning, the biggest disadvantage was that it consumed a lot of time. You need to work hard, looking for information, conducting the research, collecting the needed information, and finding solutions. The other disadvantages in the project-based learning process were too much self-studies and self-work and sometimes too difficult problems to be analysed. In problem-based learning, the students identified the tutor's focus only on the subject s/he taught and also they told that it took too much time, too much self-study in preparation for the lectures, etc.



**Fig.5 Student Perception about Learning Disadvantages**  
(made by the authors)

Having compared all the disadvantages of the discussed methods, it can be claimed that there is no big difference between them, the results appeared almost the same, discussing the negative points. The biggest difference was that project-based learning consumed even more time than problem-based learning, though it also required a lot of them and independent work. And the other difference was that in problem-based learning, a tutor focused only on the subject s/he taught. This problem vanishes in project-based learning when the tutor's role becomes not so relevant.

### Conclusions

The findings of the research study show that the problem-based learning method in social sciences is not very effective for students' knowledge adaptation. But the survey revealed that the problem-based learning approach was very valuable to make students work in teams, to analyse all alternatives when making a final decision.

Both methods – problem-based and project-based learning have learning barriers, advantages and disadvantages. There is no big difference assessing them, but still some dissimilarities appeared: the biggest barrier in problem-based learning was the teacher's poor preparation, while in project-based learning the students referred to a lack of time and motivation and unwillingness to work in teams. Considering the advantages of both methods, the students' pointed out the same quality that the real situations were analysed. On the other hand, the disadvantages were not identified the same: in problem-based learning, it was the tutor's focus only on the subject s/he taught, while in project-based learning, the students emphasized the lack of time, because this method required much time to perform all the necessary tasks.

Therefore, the problem-based method would be more effective among the students of Business Management and Transport Business study programmes, if the teacher were prepared better and were ready to apply it in their lectures and motivate students to deal with the problems.

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# THEORETICAL ASPECTS OF THE CONCEPT OF COMMUNITY IN THE CONTEXT OF SOCIAL SCIENCES

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**Abstract.** *Various world-class research investigations increasingly focus on matters pertaining to the role of local communities.*

*The research aimed to examine the theoretical aspects of the concept of community in the context of social sciences. The research results revealed that community studies was a relatively new field for academics in Latvia, which became relevant after common European Union priorities in community issues were defined. An essential feature of a community is common identity, a common sense of belonging to the locality, human relationships, the environment, culture and values. Most frequently, according to a survey of local residents, a community the respondents felt a sense of belongingness to was a territorial one.*

*The research employed the following methods: monographic, descriptive, graphic, analysis, synthesis as well as a sociological method – questionnaire surveying.*

**Keywords:** *local community, kinds of communities, population, organisations.*

**JEL code:** *Z10, D83.*

## Introduction

Various world-class research investigations increasingly focus on matters pertaining to strategic regional development, resource use and sustainability as well as the role of local communities in it. Extensive research on communities is done in the United States of America, the United Kingdom, Australia and Canada. Most of the research investigations are based on a conviction that regional and national sustainability could be achieved only in case problems are tackled and decisions are made by engaging all stakeholders: decision makers, community-level organisations, local communities and local residents. Community studies have become important both in research and in strategic regional and national development planning relatively recently, which is confirmed by a number of national-level strategic policy documents stressing the role of local communities in particular in regional and national socio-economic and overall development. The National Development Plan 2014-2020 (NDP, 2012), which is the hierarchically highest medium-term policy document, and the Sustainable Development Strategy of Latvia until 2030 (SDSL, 2030), which states that individuals, their talents, knowledge and creativity as well as ability to cooperate and collectively do what is impossible to do individually are an important kind of capital and a growth resource, are

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referred to as the most important policy documents. Cooperation and participation are among the key strategic principles for sustainable national development (Šķiņķis et al., 2015).

It is important that to date in Latvia, socio-economic development has been assessed by applying an approach that uses a generalised territorial development index not giving an in-depth insight into specific development trends. The measurements focusing on a regional territory and its human capital and local community capacity that are comparable regionally throughout Latvia have not been carried out to date, although public capacity in particular is also viewed as making current or expected effects on development processes in the particular territory. As the population decreases, it is important to maintain the endowment and productivity of national human capital and, in addition, to take into account community capacity aspects such as participation in developing governance and the educational and cultural space, as only the activity of the individual or some societal groups and the opportunities given to them are the key characteristics of potential for territorial development.

The **research aim** is to examine the theoretical aspects of the concept of community in the context of social sciences.

To achieve the aim, the following specific **research tasks** are set:

1. To examine the concept and kinds of community;
2. To identify the public's understandings of the idea of community in a regional context.

**Hypothesis:** the public comprehends the idea of community and have a sense of belonging to some certain community.

The research employed the following **methods:** monographic, descriptive, graphic, analysis, synthesis as well as a sociological method – questionnaire surveying.

The questionnaire survey was conducted on a social media platform – Facebook –, questioning the residents of Rezekne city as well as the municipalities of Rezekne, Vilani, Ludza, Balvi, Zilupe, Baltinava, Karsava, Rugaji, Cibla, Zilupe and Vilaka. The survey was carried out in the period 10-25 March 2019, and totally 152 questionnaires were valid for processing.

The present research was done based on relevant research papers by foreign and national scientists as well as industry specialists and other sources of information as well as on the survey data.

## **Research results and discussion**

In modern societies, individuals are mainly guided by individual choices, yet there are events and processes that are beyond the individuals' control; therefore, communities are still an important element of social

structure that acts in the social environment as an intermediary among the individual, small societal groups and the broader public (Blackshaw, 2010). It is confirmed by the research done by French sociologist and philosopher Jean-François Lyotard on postmodern communities – “in postmodern societies too, any of us is involved in some social relationships since birth. The individual’s life occurs in communities that represent certain social network structures. The community represents certain values, lifestyles, conviction and identity” (Lyotard, 1984).

Communities can emerge owing to various processes and have various goals that are common for a certain group of individuals who share common beliefs, interests and relationships, live in the same conditions and territory and have the same ethnicity and occupation (Peterman, 2000), as the communities do not exist in a vacuum – they occupy certain geographical locations (Buttimer, 1976). R.J.Chaskin (Chaskin, 1997), a researcher of territorial communities and community initiatives, points out that communities can emerge as a result of various certain circumstances, yet he views the common things through the combination prism. He believes that any kind of community involves combinations. The combination networks could be and could not be territory-based. For example, ethnic communities are united by culture, religious ones – by beliefs and professional ones – by interests and conditions. At the same time, any community occupies a certain location, yet the location is not only geographical. A community is a spatial unit involving certain combinations – social (e.g. friendship), cultural (e.g. traditions), functional (e.g. consumption), conditional (e.g. lifestyle). At the same time, “territory” and “place” represent a significant basis for any community – the community has a certain location, yet the same territory is not a significant constituent element for any community (Zobena et al., 2015). For this reason in research, the concept of community is usually attributed both to the territory where the community members reside and where they communicate and socially interact and to the group of individuals sharing the same interests but not the same neighbourhood. Quite often, both understandings overlap. The unifying factor of a territorial community is the shared territory and a certain attitude to it, but overall, the geographical idea of communities is associated with certain common characteristics, e.g. interests and identity that unite the individuals (Wromen, 2015). According to a definition, a community itself is a social system that satisfies the needs of its members (Flora et al., 2012) and only formal parameters – territory, social strata or status, ethnicity or gender – do not constitute the community. A community could not be characterised only by seemingly determinant criteria. An essential feature of a community is common identity, a common sense of belonging to the locality, human relationships, the environment, culture and values. A community is a socially constructed concept.



Community member relationships are based on common history, values and social norms, status, role patterns and mutual expectations. The elements create a sense of identity that is psychologically and socially important (Brager et al., 1987). Basically, six kinds of community are distinguished:

- **interest communities**, in which the members are united by common interests, the desire for a particular thing beyond which the members are not interested in one another (e.g. Playstation StarWars);
- **practice communities**, in which the members are united by a common activity or a particular field, seek expert opinions and act as a knowledge and expertise resource in the particular field (e.g. a doctor association, IT specialists);
- **action communities**, in which the members are united by a common goal, report on progress and development, share their successful experience and contribute to the progress of smaller groups (e.g. environmental protection clubs);
- **conditional communities**, in which the members are united by common challenges or situations that have not emerged because of their behaviours, focus on giving mutual support and strengthening mutual relationships (e.g. war veterans);
- **territorial communities**, in which the members are united by a common territory and location, place a focus on local-level events and local residents and motivate the mutual exchange of information and experience);
- **hybrid communities** represent a combination of the mentioned kinds of community: territorial/practice, territorial/interest, territorial/conditional, practice/action, action/interest, action/conditional, practice/interest, practice/conditional, action/interest, action/conditional, practice/conditional and interest/practice (FeverBee (community consultancy), 2010).

In 1955, American sociologist George Hillary published a paper entitled “Definitions of Community: Areas of Agreement”, in which he provided at least 94 definitions of community that had only one common element: all the definitions referred to individuals. Sociologists Colin Bell and Howard Newby summarised the definitions and came to a conclusion that three elements could be clearly identified with regard to communities: social interaction, common relationships and a common territory. This also confirms the idea of community, generated by sociologists, in two ways. It, first, is a kind of relationships, a sense of identity and the unity of a group of individuals, which, second, is undoubtedly consistent with some ideological arguments in classical sociology if simply extending the concept of geographical territory (Bell et al., 1971).

Discussions on the role of communities in the social structure of a society increasingly raise questions on values and social norms. Values and wishes together create a disposition that is broader than the concept of intent. A disposition is characterised by action-oriented consciousness that does not exclude emotional attitude. Dispositions emerge in education, the social environment and everyday experience (Lasmane, 2002).

There is no denying that communities can offer support, guidance and a sense of belonging, yet the membership of a community does not need to be mandatory or restrictive. A community should be an environment where different views, beliefs, identities and priorities could be discussed, and there has to be a strategy that promotes the “community” in society as the desired goal of public participation and engagement (Kahne et al., 1996). Various desires and needs bring individuals together whose relationships either arise from their own to other needs and desires or ignore, exclude and reject them (Lasmane, 2002). Since democratic societies respect individual and group differences, communities also need to admit and support diversity through contributing to conversation techniques and avoiding disagreements. Nowadays, a community has changed from an end in itself to an instrument for solving certain social problems.

To identify the public’s understandings of the idea of community in a regional context, the authors designed a questionnaire “Do You Know what a Community is?”, which was distributed on the Facebook platform, requesting the residents of Rezekne city as well as the municipalities of Rezekne, Vilani, Ludza, Balvi, Zilupe, Baltinava, Karsava, Rugaji, Cibla, Zilupe and Vilaka to fill it in. The survey was carried out in the period 10-25 March 2019, and totally 152 questionnaires were received back. To get insight into the social profile of the respondents, the questionnaire included questions on their genders, ages, occupations and residence places. Most of the respondents were women – 81.6%, while men were 18.4%. The most represented age group was 25-40 years, 56.6%, followed by the age groups of 40-60 with 21.1% and 16-25 with 20.45%, while the respondents aged less than 16 constituted only 2%. Most of the respondents had their main jobs in the private sector – 38.2%, 37.5% worked in the public sector or at municipal institutions, 15.1% had university student status, 5.9% were schoolchildren, 5.3% indicated they were unemployed, while the answer option “other” included the following answers: a mother, an artist, an employer, an employee working abroad etc.

In a multiple choice question with several answers possible, the survey offered a number of associative assertions, and the respondents could choose several ones being most adequate to their understandings of the idea of community. According to the survey, the dominant opinion was that a community was an interest group – 50%, followed by a community as a

group of individuals living separately from the rest of the society, with their own life philosophy and rules – 45.5%, a community as a creative, socially active group – 43.4% and a diaspora community – 42.1%. It is essential that 35.5% of the respondents associated the idea of community with regional organisations dealing with the social and economic development of the region. This indicates that even though this opinion was not dominant, a relatively larger number of the respondents associated the idea of community with regional organisations than with virtual communities and minority groups (see Table 1).

**Table 1 Respondents' associations with the idea of community**  
(authors' compilation based on the survey data)

<b>Kind of associations with the idea of community</b>	<b>Respondent answers, %</b>
A group of individuals living separately from the rest of the society, with their own life philosophy and rules	45.4
Creative, socially active groups (e.g. dance bands, music bands, amateur theatres etc.)	43.4
Interest groups (e.g. book clubs, entrepreneur organisations, healthy lifestyle, hobbies etc.)	50
Minority groups (e.g. sexual minorities, ethnic groups, migrants etc.)	27
Virtual communities (e.g. geocaching players, Star Wars, virtual game fan communities etc.)	25
Religious communities (e.g. Roman Catholics, Baptists etc.)	38.8
Diaspora communities (e.g. Latvian diasporas in Brazil, the United Kingdom, the USA etc.)	42.1
Religious organisation communities dealing with the social and economic development of the region (e.g. the Leader programme, business incubators, NGOs etc.)	35.5
Territorial communities, belongingness to the place where I live	25.7
Other: all the above, ecovillages, resident communities as such, communities beyond political context	2.8

The questionnaire included a question on whether the respondent felt him/herself belonging to a community and what community it was. Totally, 124 respondents out of 152 answered this question, of which 7 indicated they did not feel themselves belonging to any community. The answers were grouped by the explanations for the concept of community given in Table 1 that shows answer percentages, not a percentage breakdown of the answers. The most respondents – 23 – felt themselves belonging to a community as an interest group, and most often it was a student community, an alumni

community, a colleague community and an entrepreneur community in the region. The second community referred to most often was a territorial community with 17 answers, and the answers indicating belongingness to Latgale – the region where Latgalianians lived – dominated. Of the total respondents, 37 indicated they felt themselves belonging to a community, yet they either did not specify it or their kind of community did not match any one given in Table 1; they indicated various other kinds of community – a diabetes community, a community of volunteers, the Latvian mental strength community, family etc. It has to be added that 17 respondents answered they belonged to regional organisation communities, most often referring to their belonging to the Latvian Investment and Development Agency's Rezekne Business Incubator community.

Most of the respondents – 84% – associated the idea of community with an open group of individuals. Answering a question on discussions on the idea of community in the public arena, 68% respondents indicated the idea was sufficiently or well discussed and explained, while the rest of them believed it was not sufficiently done in the public arena.

### **Conclusions and proposals**

1. Community studies is a relatively new field for academics in Latvia, which became relevant after common European Union priorities in community issues were defined. An essential feature of a community is common identity, a common sense of belonging to the locality, human relationships, the environment, culture and values.
2. The hypothesis put forward proved to be true only partly, as 35.5% of the respondents indicated they associated the idea of community with regional organisations dealing with the social and economic development of the region. This indicates that even though this opinion was not dominant, a relatively larger number of the respondents associated the idea of community with regional organisations than with virtual communities and minority groups.
3. The survey revealed that a community the respondents felt a sense of belongingness to was a territorial one.
4. The emergence of a community involves many challenges at both the regional and national levels. There is a lack of strategic, political initiatives for promoting the development of communities; therefore, local and regional organisations have to contribute to strengthening a sense of belongingness to a community in local residents in particular.

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# ASSESSMENT OF THE ECONOMIC EFFECTIVENESS OF THE USE OF FINANCIAL RESOURCES FOR TRAINING OF THE UNEMPLOYED

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**Abstract.** *Along with the rapid development of technologies, demand on the labor market changes, still the skills and knowledge of jobseekers do not match the market needs. The State Employment Agency (hereinafter – SEA) implements training measures for the unemployed. Nevertheless, there is a problem that the unemployed involved in training do not always want to enter the labour market, or their knowledge acquired during the training is not useful. The aim of the study is to assess the economic efficiency of the financial resources allocated for training of the unemployed persons in the context of Latvia and its regions. Research methods: monographic method, graphical method, expert survey method, correlation and regression analysis. The authors explore the use of the financial resources allocated for training and analyse its economic efficiency in Latvia and Latvia's regions. It is found that the difference in unemployment rates in the statistical regions of Latvia has significantly increased during the study period. In order to facilitate the reintegration of individuals into the labour market, more funding is provided for training in the regions with higher unemployment rates. The economic efficiency of the use of financial resources varies from region to region, both in terms of the cost of training per unemployed person involved and the number of the trainees employed after the training, and of the funding for training used in the region.*

**Keywords:** *training programmes; the unemployed; finding employment; financial resources; State Employment Agency.*

**JEL code:** *E24; H43; H53; G18.*

## Introduction

Increasingly, the skills and knowledge of those seeking to enter the labour market do not meet the demand of the labour market. To help people adapt to the rapid economic change, the training programs have been offered to the unemployed persons by the SEA since 2008. Latvian National Development Plan 2014-2020 stipulates that the involvement of the unemployed persons and the employees in the adult education prevent and reduce unemployment, increase work productivity, create a basis for income increase and for self-realization (Latvian National Development Plan 2014-2020, 2012). A problem is that the unemployed persons that are trained do not always want to enter the labour market, or their knowledge acquired is not used.

The aim of the study is to evaluate the economic efficiency of funding used for training of the unemployed in the context of Latvia and its regions.

In order to achieve the aim, the following research tasks were set:

- 1) to study theoretical aspects of training of the unemployed individuals,
- 2) to assess the economic efficiency of the training programs implemented by the SEA for the unemployed,
- 3) to explore the integration of the unemployed persons into the labour market after participation in the training programs.

The research hypothesis – the funding used by the SEA for training programs for the unemployed is of a high economic efficiency. Participation of the unemployed in the training programs facilitates their reintegration into the labour market.

Novelty of the research – the authors study the use of funding for training, analyse its economic efficiency, and develop proposals for its improvement.

Research methods: monographic method, graphical method, expert survey method, correlation and regression analysis.

The research period is 2015-2018, though for analysis of some indicators a longer period is used. The research carried out is based on the scientific publications, analysis of regulatory enactments, data of the Ministry of Welfare (hereinafter – MoW), Central Statistical Bureau (CSB), SEA, Organization for Economic Cooperation and Development (hereinafter – OECD), as well as processed questionnaires of the expert interviews.

### **Theoretical aspects of training of unemployed persons and analysis of unemployment**

The researches show that the unemployment is fuelled by a variety of economic processes in the country, leading to the labour surpluses or the labour that does not correspond to the employers' demand (Sfichi & Bratiloveanu, 2017). Unemployment is a phenomenon that is important both at the macroeconomic level and at the individual level (Schonauer, 2016), and can have many significant consequences, such as lower quality of life of the unemployed persons and their families, increased social isolation, diminished self-confidence and self-esteem of the individuals (Aysina et al., 2016). The authors have observed that losing the job often leads to the psychological problems, which is noted also by Hodzic in his research, stating that the unemployed persons tend to have lower psychological and physical well-being and feel less satisfied with their lives in comparison with the

employed individuals (Hodzic et al., 2015). Likewise, the chances of finding a job are impacted by the individuals' level of education, knowledge, work experience, as well as individual circumstances, such as infrastructure development, political and economic situation in the country (Griņeviča, 2016), as well as the region of residence (Hazans, 2005).

The authors point out that an important factor in finding a job is the individual's willingness to work, as well as duration of unemployment. The long-term unemployed individuals may have a lack of motivation and unhealthy behaviours (Hodzic et al., 2015); they are exposed to the risk of exclusion and could become lasting clients of the social services (Laškova, 2012). The authors conclude that the long-term unemployed individuals often have various addiction problems that hinder their integration into the labour market.

The global financial crisis was followed by the increase of unemployment across Europe, particularly among the young people. To counteract this, the EU launched the actions aimed at prevention of the youth unemployment (Bratti et al., 2018). One of the reasons the young people find it difficult to integrate into the labour market is the “*expectingap*” that exists between the employer and the younger generation (Vilka & Pelse, 2012). As a major cause of high youth unemployment in Spain (46.1% in 2011), Garcia sees a lack of the coordinated actions between the education institutions and the labour market (Garcia, 2011). In the Western Balkans – Macedonia, Serbia, and Montenegro, on the other hand, a job placement is influenced by the age of the youngster, the level of education of the parents, and the financial situation of the family (Arifi & Marmullanu, 2019). The authors agree with the researchers that there is a link between the parents' education level and the young person's employability, as the parents motivate young people to acquire education.

There are different views on the impact of the training on job placement: the impact of the training is lower when unemployment level is low, in turn, in a long-term when the unemployment level is high (Lechner & Wunsch, 2009), on-the-job training leads to stable employment compared to other training programs (Feracci et al., 2017). The authors agree that the trainees that have completed on-the-job training are more prepared for the labour market, as they face the practical reality during the training process and acquire the practical skills needed in the particular profession. The research in Latvia indicate that the training measures at the operational level are incapable of responding to what is happening in the labour market. There is a risk that training (at least in the case of specific vocational training) is provided at a time when there is no longer any need for it. Training in Latvia is perceived as a social support measure providing material support in addition to knowledge acquisition (Barbare, 2013). Finding a job is not the



main motivation for training, as only 58% of the unemployed trainees plan to use the acquired knowledge in practice (Laskova & Brokane, 2014). The adult education provides opportunities to improve or adapt the skills of unemployed people and promotes social inclusion (Stalidzane, 2015).

The authors conclude that participation in the training programs can help the unemployed individuals to return to the labour market, still, quality of the training is affected by a number of negative factors – the pursuit of profit by the educational institutions, the use of unemployed training as a measure for replacement of employment, lack of correspondence of the training programs to the labour market demands because of delayed implementation.

The unemployment rate in Latvia tends to decrease – it was 7.4% in 2018, while the average unemployment rate in Latgale region in 1996-2018 was by 6.8% higher than the average in other regions of Latvia (CSB, 2019). It has also been noticed by the OECD that the unemployment and poverty are much higher in the eastern part of Latvia, especially in Latgale region, compared to Riga or Pieriga region (OECD, 2017). By decreasing the total number of the unemployed persons in 2015-2018, the number of long-term unemployed has decreased to 25% of the total number of unemployed persons; still 55% of all long-term unemployed are located in Latgale (SEA, 2019).

High long-term unemployment can lead to an increase in structural unemployment. The unemployed individuals consider the potential gains and losses and sometimes decide not to work. The unemployment status for many individuals is necessary to receive a benefit, which allows qualifying for a municipal support (Niklass, 2013). The authors conclude that access to the municipal benefits does not motivate the long-term unemployed individuals to enter the labour market.

In Latvia, at the end of period of 2015-2018, among the unemployed persons registered in the SEA the largest share is the individuals having secondary vocational education (on average 36% of all unemployed) and individuals in the age groups 55-59 and 50-54 (SEA, 2019). The authors conclude that the unemployed of this age group have not been able to adapt to the demands of the labour market and some of them are reluctant to do so because they do not understand the market economy. It should also be noted that one in fifteen young people (6.8%) was unemployed, while the youth unemployment rate was 18%, which is the highest among all age groups (SEA, 2019).

In order to reduce unemployment and help people to enter the labour market, Latvia has access to the ESF funding, which is used by the SEA for training the unemployed.

## **Evaluation of the training programs for the unemployed implemented by SEA**

In this study, the economic effectiveness of the use of financial resources for training of the unemployed will be measured by the number of persons entering training and entering the labour market within six months after the training, the cost of training per trainee and per person employed after the training.

During the research period, training activities have been carried out within the framework of two ESF projects – “Youth Guarantees” and “Support for Education of Unemployed”. The training programs for the unemployed are approved by the Training Commission of the Ministry of Welfare. The programs included in the list of approved training programs are implemented in the whole territory of the country, without taking into account the differences of the regions of Latvia, which would be based on the medium-term regional development.

The measure “Training at the Employer's” has a higher economic efficiency, because legal employment relations are established with the trainee during the training, thus reducing the risk of benefit dependency. In total, 1038 unemployed persons were involved in the measure “Training at the Employer's” and the engagement rate increased in 2018, when the grants to the employers increased. The average cost of this training is EUR 2050 per trainee. However, these costs are fed back into the national budget, as the wages of the trainees are tax deducted and paid.

The authors have conducted several expert interviews to evaluate the economic efficiency of the funding spent on education of the unemployed. The employers' opinions on the SEA measure “Training at the Employer's” were surveyed, selecting four employers involved in this measure that have trained employees for the needs of their companies during 2015-2018. The experts do not regard the applicant's previous higher education or previous vocational training at the SEA as a prerequisite for involving the unemployed person in the training. It can be concluded that the unemployed individuals involved in this measure are motivated to acquire new skills, which would help to maintain the job, and they obey the discipline at workplace. The experts mention that people are afraid to work with new, modern equipment with computerized management systems and some of the unemployed persons just use the privileges offered by the SEA, but do not want to work. All experts would recommend other employers to train their employees using this measure, which shows that the funding used for this measure is of high economic efficiency.

In order to evaluate if the vocational and non-formal education programs are up-to-date and to assess the motivation of the unemployed, the

authors have interviewed experts of four educational institutions implementing training measures at the SEA Balvi branch. The interviews show that although the unemployed trainees are motivated to acquire knowledge, some of them engage in training just to provide themselves with a temporary source of income in the form of a stipend. This fact indicates that the financial resources spent on training of the unemployed persons in vocational and non-formal education programs are moderately cost-effective.

### **Integration of the unemployed into the labour market after training**

It is necessary to have the demand in labour market in order to ensure that the trained persons could enter employment. The number of vacancies registered by the SEA is increasing every year: in 2015-2018, 50% of all vacancies were registered in Riga, but the least vacancies were registered in Pieriga (8%). In the other regions, 19% of all vacancies of the region were registered in the large cities (SEA, 2019c). The SEA does not have the information on the denials of vacancies offered to the unemployed. The authors recommend that if an unemployed person has refused the offered vacancy that corresponds with the training program acquired at the SEA, the application for his/her further training should not be registered. This approach to registering applications will reduce the number of unemployed who wish to repeatedly use the training provided by the SEA but do not wish to re-enter the labour market.

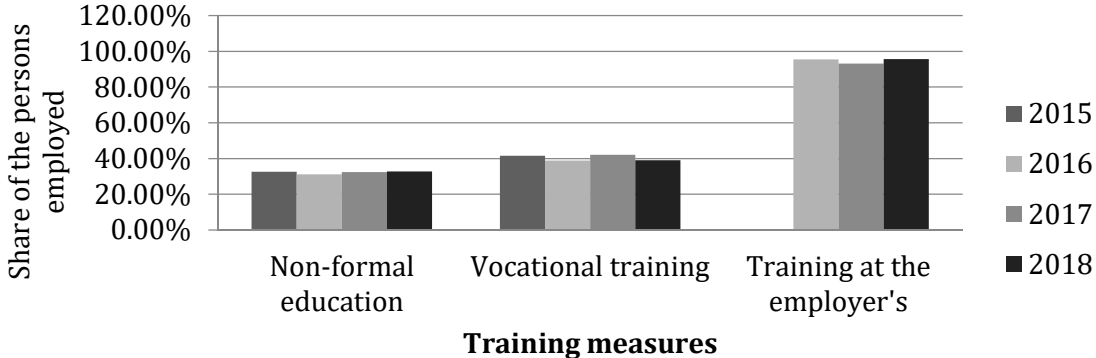
The SEA do not collect data on the occupations in which the unemployed trainees have found employment, so it is not possible to conclude whether participation in the training program and the knowledge gained have contributed to finding the employment or whether it is accidental. The authors recommend that the SEA improve the inter-institutional exchange of personal data, which will make it possible to gather data on the occupations in which the unemployed have established themselves in order to evaluate the effectiveness of the training programs.

The Training Commission remove from the list the training programs with a low number of unemployed persons involved, but high number of the persons employed in relation to the number of persons involved. Thus, the training measures are geared to the quantity and not the quality of the trainees. The main aim and quality indicator of the SEA training shall be the unemployed trainees that have returned to the employment. The new programs included in the Commission's list are inactive for a long time and the unemployed persons cannot be involved.

Active measures of the labour market policies are primarily targeted at those groups of the unemployed who find it most difficult to return to the

labour market, those without the means of subsistence. On the other hand, such involvement in the employment measures seems to lower the success rate of the active labour market policy measures (job placement after training, etc.) and does not allow motivated unemployed individuals to return to the employment more quickly and to return the funds invested in their education through tax and added value of labour. The repeated participation of the long-term unemployed individuals in training programs is not cost-effective, it is demonstrated by the high number of the individuals re-enrolling in training, for example, in 2015-2018 there were 316 persons that had participated in the ESF project “Support for Education of Unemployed” training activities 5-7 times.

The authors have analysed the performance indicator of the ESF projects – the share of the trainees that have been employed within six months after the training activities (Figure1).

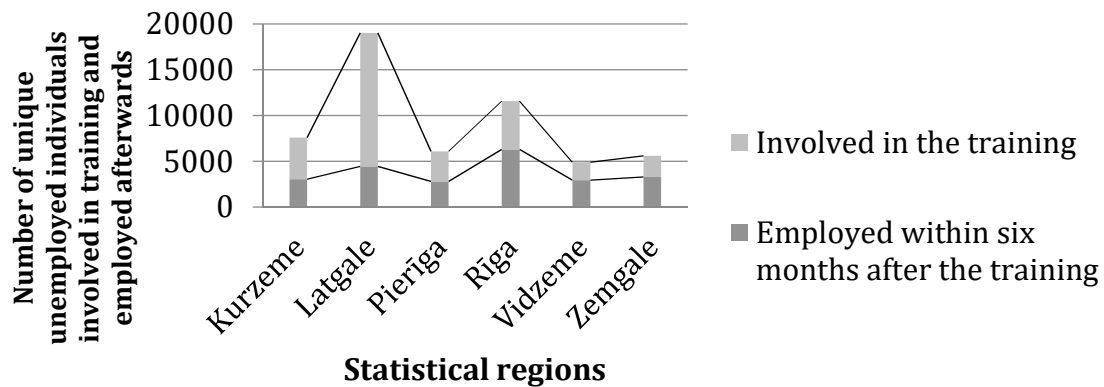


**Fig.1 The share of the trainees employed within six months after participating in the ESF training activities in 2015-2018, % (by the authors, based on MoW, 2016; MoW, 2017; MoW, 2018; SEA, 2019a)**

The highest rate of job placement is after participation in the measure “Training at the Employer's” (94.8%), but only 2% of the total number of trainees are involved in this particular measure. In turn, the lowest rate of the employment (32.8% of trainees) is after the non-formal education programs where the largest number of participants are involved.

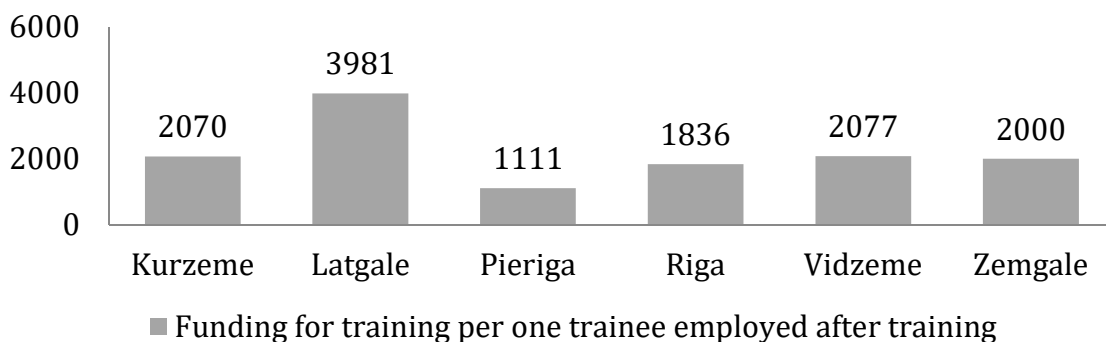
The authors have carried out correlation and regression analysis to determine the correlation between training and job placement. There is a positive and linear relationship between the unemployed persons' participation in training and job placement afterwards ( $r= 0.978$ ) showing close relationship. This is also confirmed by the estimated coefficient of determination  $R^2=0.957$ . There is a strong correlation between the indicators in all regions of Latvia, as the correlation coefficient  $r$  ranges from 0.981 in Vidzeme region to 0.997 in Kurzeme region. The relationships examined are positive and, in all regions, training for the unemployed has an impact on job placement within six months after the training.

The most successful in finding job placement after the training are the unemployed trainees in Riga and Pieriga regions (46% of the unique trainees). In Latgale region, this number is only 23% of the unique trainees (Figure 2).



**Fig.2 Number of the unemployed persons trained within ESF project “Support for Training of Unemployed” and number of trainees employed within 6 months after the training in 2015-2018 in statistical regions of Latvia**  
(by the authors, based on SEA, 2019; SEA, 2019b)

The authors have estimated the cost of one trainee, who has found a job placement, in relation to the funding used for training in statistical regions of Latvia (Figure 3).



**Fig.3 Funding used for training in statistical regions per one trainee employed after training in 2015-2018** (by the authors, based on SEA, 2019; MoW, 2017; MoW, 2018)

The most cost-effective training is in Pieriga region. Latgale, on the other hand, is using funding inefficiently, as EUR 3981 is spent per one unemployed trainee who finds a job, which is 3.5 times more than in Pieriga region.

The analysis of variance on job placement of the unemployed persons participating in the training measures within the project “Support for Training of Unemployed” in the statistical regions of Latvia in 2015-2018

show that the regions have impact on the job placement of the unemployed persons. While in Latgale, according to the analysis, every fourth or fifth unemployed person finds a job after the training; in other regions of Latvia, about 40% of those involved in training find a job.

### **Conclusions and suggestions**

1. The implementation of quality training programs is influenced by a number of negative factors – the pursuit of profit by the educational institutions, use of training as a substitute for employment, the inadequacy of training programs for the needs of the labour market.
2. The differences in unemployment rates in the statistical regions of Latvia have increased significantly. Of all the long-term unemployed persons registered at the SEA, the highest proportion is in Latgale (55%). The SEA does not collect information on denials of vacancies offered to the unemployed. The authors recommend that if an unemployed person has refused a vacancy that corresponds to the training program acquired at the SEA, their application for further training shall not be registered.
3. When approving the programs, the Training Commission does not take into account their relevance to the labour market needs of each region. They should be differentiated according to the medium-term regional development needs. The Training Commission should keep non-formal education and vocational training programs that have a high proportion of the trainees being employed after the training.
4. 94.8% of the trainees have been employed after participating in the measure “Training at the Employer's”. This measure is positively evaluated by the employers surveyed. The Ministry of Welfare and the SEA, when planning the allocation of funds for training activities, starting with 2020, should provide more participants and funding for this activity.
5. There is a strong and positive correlation between the participation in the training and the job placement after the training across the country and in particular regions. The hypothesis that the participation of the unemployed persons in training programs facilitates their return to the labour market has been confirmed. However, it is not possible to determine whether the employment of the trainees has been endorsed by the knowledge acquired in the training implemented by the SEA, because the SEA does not have information about the professions in which the trainees have been employed afterwards.
6. The economic efficiency of the use of financial resources for the training of the unemployed persons in terms of the number of trainees employed and of training costs is high in Pierīga region, where 46% of the

unemployed trainees have found a job after training; thus, the funding for training per one person employed after the training is EUR 1111. In turn, in Latgale region, only 23% of the trainees have been employed after the training, consequently the costs are EUR 3981 per one trainee who has been employed afterwards. Therefore, the hypothesis that the funding of training programs for the unemployed organized by the SEA has a high economic efficiency has been confirmed partially.

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# GENERATION Z ENTERS INTO THE LATVIAN BUSINESS ENVIRONMENT

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**Abstract.** *There are five different generations in the Latvian labour market. Each generation has its own values and life experience. Recent research has shown that generation Z entering the labour market is significantly different from previous generations. They have different approaches when it comes to purchasing, choosing a career, working attitude, and so on. Therefore, research is needed to understand what changes this generation will bring to the business environment in the years to come. The aim of this research study is to investigate some of the different aspects of generation Z behaviour in the labour market. This research study includes theoretical and empirical parts. Findings of various theoretical studies on distinctive values and attitudes of generation Z have been investigated. The empirical study compares the values of different generations and highlights the differences between the generations in the labour market. Recommendations are made for successful integration of generation Z into the business environment.*

**Keywords:** *Z generation, labour force.*

**JEL Code:** *J82.*

## Introduction

There are five different generations (the *Veterans*, the *Baby-boomers*, *generation X*, *generation Y*, and *generation Z*) are working in the labour market of Latvia. In 2018, 909.4 thousand or 64.5% of the population aged 15 to 74 were employed in Latvia, according to the results of the Labour Force Survey of the Central Statistical Bureau (CSB). In this research study, the definition of *generation* is used from a Dictionary of Sociology: "*Generation* is a form of an age group whose members were born around the same time, as a group of individuals who were born, matured and are living in the same historical period" (Scott et al., 2005). The youngest *generation Z* was born after 2000. That means the majority of this generation is still under the age of 18, and most of them are not yet allowed to vote. Most of *generation Z* are students, but a significant part of this generation have already entered the labour market. Each generation comes with its own values and perspective of the world based on their lifetime experiences. These differences give each generation unique work values and work ethics and preferred ways of managing and being managed. Many scientists, who analyse attitudes of different generations, notice that they have different

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points of view towards relationship with managers, due to which different motivational tools and communication methods need to be applied to them.

In the coming years, *Veterans* will leave the active labour market in Latvia. Four generations will remain in the Latvian labour market: *Baby-boomers, generation X, generation Y, and generation Z*. The current generation Z will play the important role in the labour market around the world for the next 40 years. *Generation Z* enters the business environment as employers, employees, and consumers. Development of a country largely depends on the current *generation Z* and its self-realization. *Generation Z* differs from the other generations, and its behaviour in the labour market has been explored insufficiently around the world and also in Latvia. Therefore, researching the self-actualization of *generation Z* and studying possible differences with the other generations in this issue is very important for management of social and economics processes.

**The aim** of this research study is to investigate some of the different aspects of *generation Z* behaviour in the labour market.

To achieve this aim, several **tasks** were defined:

- to give insight into some theoretical findings about behaviour of *generation Z in the social and business area*;
- to conduct a pilot survey about the attitude of different generations towards their career development and to investigate the values of various factors for *generation Z*;
- to analyse the results of the survey;
- to develop conclusions and recommendations.

Object of the study: the generations in the labour market.

Subject of study: values of *generation Z*.

Research hypothesis. The self-actualization traits are different for different generations in the labour market. Therefore, social and economic management processes must take this into account.

Novelty: The self-actualization factors of *generation Z* are analysed. The proposed recommendations could be used for including *generation Z* in the labour market, taking into account the differences of this generation.

To achieve the objectives of this research study, the following research methods were used: content analysis, SPSS, comparative analysis, synthesis, abstract and logical construction methods for examining several values of different generations.

## Research results

### Insight into some theoretical findings relating to different generations in the labour market

The research (7 Unique Characteristics..., 2018) published by Oxford Summer School noted that “generation Z is distinctive, different and not to be ignored... They have grown up with the knowledge that they can speak to anyone around the world at a moment’s notice, and through assorted social media networks, that is what they have been doing for their entire lives...For this generation, electronics that were a luxury to their parents and older siblings have always been a necessity for living in the modern world. This facility with technology has sometimes been used to describe the entire generation; besides, they have also been called neo-digital natives. Generation Z is the first generation for whom the extraordinary technological advances of the last 20th century are just a normal part of life...They dream of becoming entrepreneurs, building up their own businesses and never needing to answer to a boss. With all the resources of the Internet at their disposal, they know that running your own business can be very hard work, but they are ready for it because they see it as a route to the financial security that they prioritise”. The following unique features of *generation Z* were defined in the above noted article: 1) they are digital natives; 2) the world they live in has never felt safe; 3) they are accepting things; 4) they are health-conscious; 5) they value their privacy; 6) they are entrepreneurial and worried about their future prospects; 7) they are changing the distinction between childhood and adulthood.

A survey-based study (Francis, et al., 2018) carried out in Brazil found that *generation Z* behaviour is based on a search for truth that values individual expression and avoids labels. They mobilize for a variety of reasons. They are convinced of the effectiveness of dialogue in resolving conflicts and improving the world. They make decisions and deal with institutions in a very analytical and pragmatic way. They are true digital natives: from the earliest youth, they have been exposed to the Internet, to social networks, and to mobile systems. That context has produced a hypercognitive generation being very comfortable with collecting and cross-referencing many sources of information and with integrating virtual and offline experiences. The authors of the research study concluded that *generation Z* behaviour creates a new concept of consumption: consumption as access rather than property, consumption as an expression of an individual's identity, and consumption for ethical reasons. Thereby companies need to rethink how they deliver value to the consumer, balance scale and mass production versus personalization, and - more than ever -

practice what they preach in marketing and work ethics. For *generation Z* (Francis, et al., 2018), the main spur to consumption is the search for truth, in both a personal and a communal form. This generation feels comfortable not having only one way to be itself. Its search for authenticity generates greater freedom of expression and greater openness to understanding different kinds of people. *Generation Z* faith in dialogue combines a high value for individual identity, the rejection of stereotypes, and a considerable degree of pragmatism. This generation of self-learners is also more comfortable absorbing knowledge online than in traditional institutions of learning. Consumption has also gained a new meaning. For *generation Z*, consumption means having access to products or services, not necessarily owning them. As access becomes the new form of consumption, unlimited access to goods and services (such as car-riding services, video streaming, and subscriptions) creates value. Products become services, and services connect consumers (Francis, et al., 2018).

A research study by Valickas and Jakštaite (Valickas et al., 2017) introduces the results of empirical study that explain the causes determining differing attitudes of the representatives of different generations. The data of the research indicates that different generations in Lithuanian organizations are significantly different in self-assigned personal characteristics, evaluations of optimal length of employment relations with one organization, motivating factors in the organizational environment and preferred leadership.

The staff writer & editor at TTI Success Insights, Dave Clark, affirmed that *generation Z* is a very different and unique group compared with its Millennial counterparts. He came to the following conclusions (Clark, 2019).

- *Generation Z* is financially focused.
- *Generation Z* is entrepreneurial. *Generation Z* is competitive.
- *Generation Z* is all about technology. From the time of their birth, the Internet and cell phones mostly were commonplace. *Generation Z* wants instant gratification, and they know if they need information, it is easily accessible.
- *Generation Z* enjoys other people. *Generation Z* wants to be heard.
- Change is welcomed by *generation Z*. Unlike previous generations, this group is actively engaged in political conversations despite many of them not yet be able to vote. Information is easier to find, making them “experts” on subjects very quickly. With this mentality, they tend to rally behind causes that resonate with them, often before they even take time to consider the “other side.”
- Diversity does not even register with *generation Z*. They have grown up in a diverse world and it is all they know. Neither race, sexual orientation nor religion are the identifying characteristics

that they may have been for previous generations. People are just people to *generation Z*. It does not mean they will not judge, however. *Generation Z* is more likely to judge someone for what you are, rather than for who you are.

- *Generation Z* prefers independence. Millennials are all about collaboration, but the competitive nature of *generation Z* contributes to them wanting to control their own destiny and not rely on others for their own success.
- *Generation Z* has strong opinions and wants them to be heard. This is especially true in the workplace, where they expect to be an equal contributor.
- *Generation Z* can be a lot like their parents.
- Focus group of one.

*Skyller Jolley* (*Skyller*, 2019) focused his research on how *generation Z* traits change the way they learn and discover knowledge. He gave insight in the key characteristics that define *generation Z*. They are as follows.

1. *Generation Z* are technologically advanced and knew how to use a smartphone from an *early* age.
2. *Generation Z* representatives have never seen the world without the Internet and thus have affinity for texting and messaging on mobile apps or online platforms.
3. *Generation Z* absorbs tons of new information every day.
4. *Generation Z* perceives information visually.
5. Being independent, *generation Z* is self confident and autonomous.
6. *Generation Z* representatives have short attention spans and are less focused than their predecessors. The attention span of *generation Z* is only 8 seconds, so one should try hard to capture and hold their attention.
7. *Generation Z* are environmentally aware. They value the eco-friendly and healthy lifestyle much more than any previous generation. Maybe this generation will actually have a positive impact on the environment?
8. Multitasking is also one of the positive *generation Z* traits. Due to their extraordinary ability to process and absorb lots of information within seconds, *generation Z* kids can easily handle several tasks at once.

JKCP (Julian Krinsky camps & programs) summer programmes are adapted for *generation Z* traits in relation to learning. At one of the JKCP summer camps, students can learn how to make money as a video blogger by participating in the YouTube Influencer class. The experienced instructors

teach students on how to become successful digital entrepreneurs with the help of YouTube videos (Skyller, 2019).

A Unique Enrichment Programme, offered at JKCP, is tailored specifically to the life rhythm of *generation Z*. This programme allows the students to study at their own pace as well as choose what they want to study, how deep they want to study this subject, and when they want to do it (Skyller, 2019).

Matt Kleinschmit researched *generation Z* from a consumer perspective. Using an infographic, he has worked out 10 valuable advices that every marketer should consider before trying to sell something to *generation Z*. He noted that *generation Z* is starting to enter the workforce and earning their own income. The main findings of his research was that *generation Z* “is a generation of CCs (Culture Creators) that are redefining entertainment, consumption, the workplace and marketing. The CCs are empowered, connected, empathetic self-starters that want to stand out and make a difference in the world. They have created a new Cultural Currency that values uniqueness, authenticity, creativity, shareability and recognition. What is different for this generation is not as simple as the Internet or technology. Technology is an important component, but what has changed is this generation’s relationship with culture”. Matt Kleinschmit underlined “the need to engage with and understand *generation Z* - an increasingly important group of customers who will help to shape the future. As *generation Z* enters the workforce and its purchasing power increases, companies cannot afford to act within conventional assumptions or generational frameworks. A deeper understanding of *generation Z* customers, one that is rooted in continuous, two-way dialogue, is required to deliver products, services, and experiences that this elusive and evolving generation is looking for” (Kleinschmit, 2019).

*Generation Z* consumers differ from previous generations. Therefore, it is important for marketers to understand these differences. Entrepreneurs should be interested in learning how to properly sell a product or service to *generation Z* consumers. Several scientists studied this phenomenon. For example, using infographics, 10 marketing tips for *generation Z* were worked out (10 Marketing Tips..., 2015). They are as follows.

Tip 1: The most important thing is to take them seriously. They are not just teenagers – they are consumers. *Generation Z* teens have access to serious cash.

Tip 2: Understand the user persona. They are go-getters, activists, and dream big. 75% of teens want to convert hobbies to full time jobs. 72% of high school students want to start a business someday and 61% would rather be an entrepreneur than an employee when they graduate college.

Tip 3: Identify correct social platforms with market research before you begin promoting and marketing your product. *Generation Z* prefer Snapchat & Instagram. Facebook, Twitter & LinkedIn are less important.

Tip 4: Mobile marketing should be the primary platform. *Generation Z* teens receive over 3000 text messages a month. They watch 2x as many videos on the mobile as any other demographic. 70% watch 2 hours of YouTube per day.

Tip 5: Produce a video. Even something small. Especially on the mobile: YouTube, e.t.c.

Tip 6: Your product pitch should be brief and to the point. *Generation Z* has an attention span of 8 seconds.

Tip 7: Your campaign can be edgy and should be progressive. But do not be trashy. 88% say that they are exploring their sexuality more than in the past. However, drug use, alcohol consumption, smoking, and teenage pregnancy is at their lowest levels for decades.

Tip 8: Develop unique products & campaigns and provide visual depth. *Generation Z* shuns conformity and tradition. They like storytelling and visual displays.

Tip 9: Do not be too local or provincial. Go global, in terms of both locales and backgrounds. *Generation Z* has global aspirations, and draws inspiration from all over the world.

Tip 10: Promote an uplifting and positive message – ideally your product can make the world a better place. 60% want to change the world, compared with just 39% of millennials.

Findings of the above-mentioned studies confirmed, that *generation Z* differs from previous generations in terms of behaviour, information perception, and values. They have high self-confidence, high digital technology skills, they are easy to navigate in the information environment of the digital environment, and they are independent because of many of them work and study at the same time. They need a different approach to learning. They are different from other generations of consumers, they have different values.

### **Empirical study**

The aim of the empirical study is to compare the attitude of different generations towards their career development and to investigate the values of various factors for *generation Z*.

To achieve this aim, a survey of different generations' groups was carried out. 200 questionnaires (electronically) were distributed. The largest survey group was *generation Z* - 115 respondents. The respondents of *generation Z* were students born after 2000, and they have already entered

the labour market. Given the small number of respondents to this survey, this empirical study could be seen as a pilot survey.

Respondents were selected from the following target groups: *Baby-boomers, generation X, generation Y, and generation Z*. Relative units – percentage - are used for the analysis, taking into account the different number of respondents in the selected different generational groups. A percentage is calculated for each group separately, based on the total number of respondents in each group. Study period: December 2018 - March 2019.

The following research methods were used: SPSS, comparative analysis, synthesis, abstract and logical construction methods for studying several values of different generations and working out conclusions and recommendations.

### Empirical study results

The data (Table 1) show the attitudes of different generations towards the following factors in their career development: willingness to pursue a career, willingness to take responsibility, readiness to take the lead, readiness to engage in politics, attitude towards further education.

**Table 1 The attitude of different generations towards their career development** (Source: compiled by the authors)

Generation	Willingness to develop one's career, %	Readiness to take responsibilities, %	Readiness to take the lead, %	Willingness to defend one's opinion, %	Readiness to engage in politics, %	Positive attitude to further education, %
Baby-boomer	75	63	69	69	69	94
X	100	76	76	71	82	94
Y	84	81	84	81	84	97
Z	91	83	88	76	86	88

According to the data of the survey, all the generations are ready to continue their education (Table 1). The data of this table show that *generation Z* in comparison with the other generations has the highest rate for readiness to take responsibility, readiness to take the lead, willingness to defend their opinion, and readiness to engage in politics. 88% of the



respondents of *generation Z* showed willingness to take the lead, 83% of the *generation Z* respondents indicated their willingness to take responsibility, 76% of the *generation Z* respondents showed their willingness to defend their opinion, and 86% of the *generation Z* respondents indicated their willingness to engage in politics. The willingness to defend personal opinion (76%) is expressed by fewer *generation Z* respondents than the willingness to engage in politics (86%). The free expression and defence of personal opinion is the basis of a free democratic society. Neither a politician nor a leader is inconceivable without the ability to express and defend their views. Comparing the data (Table 1), it can be concluded that the respondents who are ready to engage in politics are not always ready to defend their personal opinion. This means that *generation Z* must be oriented towards the free expression of personal opinion. Considering that human development is hindered even if one does not know or is afraid to defend his/her opinion, attention should be paid to this issue. It could be developed both in formal education and in various training activities.

Table 2 shows the main values of *generation Z* that were determined by the respondents. To some extent, these values reveal the self-realization directions of *generation Z*.

**Table 2 Values of various factors for *generation Z* born after 2000**  
(Source: compiled by the authors)

Factors	Very important, %	Moderate, %	Irrelevant, %
Self- realization	75	25	0
Power	7	52	41
Wealth	21	70	9
Achievements	84	15	1
Courage	60	37	3
The state	32	59	9
Work	65	34	1
Respect for traditions	39	48	13
Identity	74	25	1
Respect for colleagues	38	69	8
Safety	60	38	2

According to the data (Table 2), achievements (84%) and self-realization (75%) are the most important for the *generation Z* group. Power is not too attractive, just 7% of the respondents noted this factor as very important and 41% respondents noted this factor as non-relevant. Wealth is very important for only 21% of the respondents, and for the most respondents (70%) the country factor was moderately important. Identity awareness and national awareness are powerful motivators. *Generation Z*

awareness of their identity is high. The attitude towards the state is less positive. Only 32% of the respondents regard the country as a significant value, while 9% consider it a low value. If the state as a body guaranteeing civil liberties does not have enough value, it means that one does not understand what the state means or does not see his/her place in it.

### **Conclusions and suggestions**

*Generation Z* enters the labour market as employers, employees, and consumers. According to theoretical investigations, *generation Z* perceives information differently and acquires knowledge differently, and they have low levels of attention retention. Several educational institutions are trying to adapt their teaching methodologies to the training of these students by introducing a digital approach.

The results of this empirical pilot study confirm that *generation Z* is different from previous generations. Under the influence of globalization and information technology, they have been accustomed to using the Internet and social networks since childhood, and the majority of this generation combine training with work. They are ambitious and most of them want to become employers. The results of this pilot study confirm that they have high self-actualization, achievements are important for them, power is not too attractive, wealth is very important for only 21% of the respondents, and for the most respondents (70%) the country factor was moderately important. Identity awareness and national awareness are powerful motivators. *Generation Z* people awareness of their identity is high. The attitude towards the state is less positive. Only a third of the respondents regard the country as a significant asset.

*Generation Z* does not always feel attached to their country and sometimes does not see their place in it. This means that the migration problems in Latvia will remain relevant. In this regard, school and universities in their training programmes should pay more attention to the importance of statehood, the love of the motherland and patriotism. It is very important to develop students' abilities to express their opinions in a meaningful way and to defend them in public. For this purpose, the ability to defend one's opinion must be included in the curriculum as a necessary competence.

*Generation Z* people are different from other generations of consumers, they have different values. *Generation Z* has a new approach to consumption. The researchers in Latvia should focus more on investigating these issues and developing concrete proposals that could be implemented in student training programmes, as well as developing specific proposals to help marketers work with *generation Z* consumers.

There is a need for a public debate on *generation Z* differences, involving parents, teachers, employers and social organizations. The purpose of these discussions would be to understand and accept the differences between the generations. This would help to accept changes in the social and working environment. Extensive research needs to be done in Latvia, involving as many *generation Z* people as possible.

A question for discussion: Could prolonged use of smart devices affect the functioning of the human brain's right and left hemispheres? Could this not explain the behavioural differences of *generation Z*?

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# TECHNIQUES OF INFORMATION SPACE MODELING IN MILITARY FIELD

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**Abstract.** *The aim of the paper is to research and analyze the features of the National Guard's image formation in the information space of Latvia. It is viewed within the framework of the study how the image of "the National Guard" and "a national guard" is constructed in the texts and how these constructs vary in the blog "Ivars Chiekurs and His Adventures" [in Latvian "Ivars Čiekurs un viņa piedzīvojumi"]. Eight blog posts are analyzed using discourse analysis. The criteria selected for analysis were the following: subject, attitude, comparisons, description, and action. The image of the National Guard on the blog "Ivars Chiekurs and His Adventures" is not unequivocal. On the one hand, the National Guard is a value and is seen as a panacea for any security threat. On the other hand, the National Guard is blamed for lying and maintaining myths, for not wanting to leave the comfort zone, taking the initiative and fighting to improve the training process and provision.*

**Keywords:** *image of National Guard, information environment, information flow, military discourse, National Guard.*

**JEL code:** M10.

## Introduction

Mass media create reality and give us an idea of how we see the world and perceive different realities. A person often becomes aware of a particular phenomenon only through the mass media. This is due to the way the information flow is organized.

The military field is a relatively closed environment that the public knows little about. As this environment is responsible for security, the amount of information about this field in the public space is negligible.

The speed and transparency of information has increased dramatically with the emergence of the Internet. Events, which would have remained a state secret a few years ago, are now being announced worldwide in a few minutes. Citizens can mobilize and form groups using social media in a very short period of time, without taking unnecessary risks and spending practically no financial resources. On the other hand, the government and various institutions can do very little to influence or stop such activity. Social media is changing the nature of political discourse and conflict (Myfield, 2011). This means that the flow of information from the public is very difficult to control.

Social media is becoming a place for political and social activities around the world. If military leaders are not fully aware of these tools, they can lose influence on the development of future conflicts. An effective social media strategy can influence the outcome of military operations. The Armed Forces use photo and video footage on blogs, YouTube, and social media to create a positive self-image and highlight a negative image of an opponent (Myfield, 2011). Social media and the Internet as a whole have the ability to reach their desired audience without involving mediators. One of the great promises of the Internet is the possibility for individuals and grassroots organizations to overcome traditional media gatekeepers and government censorships to communicate directly with potential activists, specific groups, and the general public (Isa, Himelboim, 2018).

In order to understand how information flow is generated and transmitted, it is necessary to look at the concept of mass communication that reflects the impact of the information source accurately, and is particularly relevant in government communication or controlled information flow.

The term 'mass communication' came into use in the late 1930s, but its essential features were already well known and have not really changed since, even if the media themselves have become less massive in some ways (McQuail, 2010).

D. McQuail emphasizes the importance of mass communication in shaping public opinion:

The most obvious feature of the mass media is that they are designed to reach the many. Potential audiences are viewed as large aggregates of more or less anonymous consumers, and the relationship between sender and receiver is affected accordingly. The 'sender' is often the organization itself or a professional communicator (journalist, presenter, producer, entertainer, etc.) whom it employs. If not this, it is another voice of society given or sold access to media channels (advertiser, politician, preacher, advocate of a cause, etc.). The relationship is inevitably one-directional, one-sided and impersonal, and there is a social as well as a physical distance between sender and receiver. The former usually has more authority, prestige or expertise than the latter. The relationship is not only asymmetrical; it is often calculative or manipulative in intention (McQuail, 2010).

Public administration covers all aspects of public life. Accordingly, any aspect of public administration is closely linked to public relations. The aims of a democratic state literally correspond to the aims of public relations. A successful democratic government maintains mutually responsive relations with its voters based on mutual understanding (Katlips, Senters, Brūms, 2002). It is precisely the two-way communication principles that play an important role in the communication process.

Thus the aim of the paper is to research and analyze the features of the formation of the National Guard's image in the Latvia's information space using discourse analysis. A strategy of discursive analysis helps to understand the reasons why people distribute their ideas in so many ways. These strategies analyze language critically and how it is used to discover the social influences that determine our behaviour and thoughts. Discursive analysis structures language to discover units of meaning - discourses that work independently of the intentions of speakers or writers (Pipere, 2011). Discursive analysis can be viewed as a way of reading text, focusing on the functions of language execution - looking for the orientation of the text to social action beyond understanding the meaning of the text (Pipere, 2016).

During the examination of the materials, the most striking word combinations and text fragments were selected, which mentioned the National Guard or a national guard and allowed to understand the orientation of the text towards a certain social activity and to draw conclusions about the dominant discourses. The criteria selected for analysis were the following: subject, attitude, comparisons, description, and action.

### **Construction of National Guard's image**

The National Guard's image is partially formed by the Ministry of Defence. The Ministry's communication could be divided into controlled and uncontrolled communication. The controlled communication includes the part of the information space that is created and coordinated by the Military Public Relations Department of the Ministry of Defence.

**Table 1 Information channels controlled by the Ministry of Defence**  
(Created by authors)

1.	Magazine "Tevijas Sargs" (06/1992-12/2018)
2.	Page on draugiem.lv
3.	Twitter account since 05/2010
4.	Flickr account since 07/10/2010
5.	Youtube channel since 07/2010
6.	Facebook page since 23/06/2010
7.	Broadcast "Laiks Viriem" (12/2013-01/2019)
8.	Broadcast "Latvijas Karavirs" (since 04/2014)
9.	Instagram account since 05/2017
10.	Press releases in different mass media

Press officers have been employed by the Ministry of Defence since 1992. Press releases are regularly sent to the media to keep the public informed about current developments in the defence industry. Depending on

the importance of the information, the press release is distributed to international, national and regional media. Literature analysis also concluded that military organizations should control the flow of information to prevent the entering of unwanted and operational security information in the public space (Jonasz, 2012), whereas the aforementioned defence public relations activities are characteristic of the closed-system mindset described in the literature studies, which is aimed at getting society to act in accordance with the organization's plans. One-directional communication is typical for closed mindset (Katlips, Senters, Brūms, 2002). Media researcher D. McQuail explains that traditional mass communication was essentially one-directional, while the new forms of communication are essentially interactive. A communication network refers to any set of interconnected points (persons or places) that enable the transmission and exchange of information between them. For the most part, mass communication is a network that connects very many receivers to one source, while new media technologies usually provide interactive connections of several different kinds (McQuail, 2010).

Feedback is one of the features characterising democratic communication that also is aware of the public interest. It is best seen in two-way communication. A striking example of this is the activity and reaction of the public. Therefore, the study looks at communication (the formation of a national guard's image, created by society), that is, communication independent of the state structures.

### **Analysis of the blog “Ivars Čiekurs and His Adventures”**

The National Guard is actively discussed and judged in the blog “Ivars Čiekurs and His Adventures” [*in Latvian “Ivars Čiekurs un viņa piedzīvojumi”*] (hereinafter blog). The blog was launched in 2012 and has 233 posts since then. Eight posts are related to the National Guard and mention the words “the National Guard” and “a national guard”. Posts about the National Guard and national guards were made between March 25, 2015 and October 22, 2017. The blog focuses on problems faced by national guards and the National Guard in general. These are controversial publications that have caused both public acceptance and condemnation (Ivars Čiekurs un viņa piedzīvojumi). The first post, entitled “X Hour - Escalation (Part II)”, featuring the words “the National Guard” and “a national guard”, was posted on March 25, 2015. The article is sarcastic and depicts a state of war declared in the country. The image of a national guard and his role in national defense are ridiculed by referring to the unpreparedness of national guards, both in terms of taking responsibility that is indicated with the words “national guards' fooling around does not inspire” in the text (blog “Ivars Čiekurs un

viņa piedzīvojumi”, 25.03.2015.) and attendance of the training: “After that news, communications broke down; Aina's desperate crying in the handset and changing the switches turned out to be fruitless. Later investigation of the reports will lead to the conclusion that a national guard Liepins had missed the aircraft recognition training because of his cousin's silver wedding anniversary” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 25.03.2015.)

As is known, the National Guard's service is based on a voluntary basis and takes place during leisure time, so it is possible that a national guard is missing the training or unable to attend it. In certain situations, a national guard is also not entitled to take responsibility for the decision. The article also mentions wastefulness and wastage “when he inspects the shelves and concludes that the shelf, which, according to the layout of the room, has to be stocked with National Guard boots, is empty” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 25.03.2015.). The blame here is not on the National Guard itself, but on the Latvian Club of Generals. The post called “Kokmuiza beer - Latvia's shame, Valmiermuiza's disgrace” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 04.11.2015.) mentions the foundation Zemessargam.lv, which is the initiator of the donation campaign “Helping the National Guards, You Help Yourself”, where people are invited to donate to the national guards for the purchase of the necessary equipment (foundation Zemessargam.lv). In this case, the National Guard is likened to traditional values important to Latvians, accusing “Valmiermuizas alus” and its manager, Aigars Ruņģis, of showing off with Latvian symbols and festivities, but not being on the Zemessargam.lv donation list. Accordingly, we can conclude that the National Guard and the service in the National Guard have value for Latvians. In the post of September 13, 2016, entitled “Let's Dig in the National Guard” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 13.09.2015.) the equipment available to the National Guard - the “Swedish gifts” - is criticized and compared with the superior equipment available to Estonian and Lithuanian national guards. Backpacks, patrol bags and accoutrement are compared. It is also emphasized that the equipment and its technical state do not correspond to the role and tasks assigned to the National Guard in the defense concept - “paramilitary activity” and that “the public is brutally lied about the National Guard's capabilities, its strengthening over the years and the level of equipment” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 13.09.2015.). Using blatant remarks, the author of the post points out that the National Guard has been neglected and it does not receive the necessary attention, but in the event of a crisis, “taking into account the territorial aspect, it will be up to the individual National Guard units to carry the initial heaviness of war - who will be thrown first at the potential threat if not the national guards hastily scanned from the nearest battalion” (blog “Ivars Čiekurs un viņa



pie dzīvojumi", 13.09.2015.). Correspondingly, the activities of national guards and their contribution to national defense are altruistic, noting that they not only spend their time in training, but also invest their resources in the purchase of equipment. Despite the author's critical remarks about the equipment available to the National Guard, the National Guard as an organization is not blamed for the current situation. It can be concluded that the National Guard is given the role of a stepchild, entrusted with a superhuman task, but national guards are treated as a puppets that perform their duties in a selfless and altruistic manner. In the post "Let's Dig in the National Guard: 800 Cubic Meters" (blog "Ivars Čiekurs un viņa pie dzīvojumi", 10.10.2016.), medical problems of the National Guard are discussed. The National Guard's level of readiness to fight against the opponent is ridiculed, saying "we are ready to sacrifice a few thousand volunteers symbolically". The author of the article analyzes the medpacks used by the National Guard - "issued rags" that "ended up being sterile about 20 years ago" (blog "Ivars Čiekurs un viņa pie dzīvojumi", 10.10.2016.). He also talks about the National Guard's reluctance to adopt modern practices to apply the tourniquet, saying that "it is actually forbidden to teach the use of the tourniquet - so that the stupid guards do not harm each other and no authority in charge has to give up the annual bonus" (blog "Ivars Čiekurs un viņa pie dzīvojumi", 10.10.2016.). The author criticizes the medical training of national guards, the contents of the unit's medpacks, and the lack of evacuation transport. The individual provision of a national guard's medpack is described as being between World War I and World War II. The author reiterates that "the National Guard will be sent first against enemy's regular forces" (blog "Ivars Čiekurs un viņa pie dzīvojumi", 10.10.2016.), therefore, in view of the problems described, the role played by the National Guard in the concept of defense is called criminal, negligent and filthy. The post also presents a national guard in a comparatively better way, pointing to the initiative to supplement both the contents of the medical bag and the knowledge of oneself on his/her own financial means. With regard to evacuation transport and the transportation of the wounded, a comparison is made of "a national guard is made of asbestos and patriotism and therefore no bodily needs are anticipated" (blog "Ivars Čiekurs un viņa pie dzīvojumi", 10.10.2016.). In this post, the National Guard is criticized for not wanting to leave the comfort zone and improve the training process, as well as to diversify it with current practices in today's society. A national guard, on the other hand, is undervalued because he/she can obtain far beyond what the training program has to offer and is praised for self-organization abilities and initiative. The issue of armored vests and armored vehicles available to the National Guard is being raised on the post "Let's Dig in the National Guard: Armor and Turtle" published on October 16, 2016 (blog "Ivars Čiekurs un

viņa piedzīvojumi”, 16.10.2016.). “National guards are basically running around wearing fragmentation vests in a Norwegian camouflage”; it is mentioned once again that this gift is “relatively fresh and certainly better than nothing”, while the National Guard's evacuation transport is “not even mentioned”. The author heavily mentions that “there is a tarpaulin between the national guard's back and the bullet” and describes the situation as “the enemy in the media laughs at the national guards' unit killed in trucks,” ironically called “a sprat unit”. National guards seem to be doomed in this post, while the National Guard as an organization and its leadership do not act and accept the possible future and its consequences. The post “Let's Dig in the National Guard: The End” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 26.11.2016.), published on November 26, 2016, explains how the current situation in the National Guard is commensurate with the tasks assigned and why the blog's findings are so different from official statements of the defense industry's authorities. In this case, the National Guard is associated with the words “keeping the myth”, “partially supplied”, “brutally underrepresented”, “purposefully continuing to lie”, “numerically disfigured and infamously equipped paramilitary formation”, “misleading the public”, “myth about the National Guard as Latvia's unique panacea for any security threat “ (blog “ Ivars Čiekurs un viņa piedzīvojumi”, 26.11.2016.). At the same time, when talking about national guards, it is said that “national guards were praised by every non-lazy official,” “the scandalous, 8,000 national guards are certainly not true”, “national guards equip themselves at their own expense to the extent possible, seeking to achieve adequate combat capabilities” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 26.11.2016.). However, there are things that cannot be solved on their own, such as medpacks, armored vehicles, and armored vests. It is also frankly discussed that “most national guards do something different on a daily basis”, therefore “they attend training irregularly” and “abilities and knowledge differ” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 26.11.2016.). The National Guard is associated with purposeful lying and maintaining myths about both the number of guards and level of equipment, while being a panacea for any security threat at the same time. National guards invest their personal financial resources as much as possible to purchase the equipment, but there are issues where they are powerless. The National Guard's service is based on a voluntary basis, so each person evaluates how much time he/she is ready to spend at the National Guard and the training process, which leads to different levels of ability and knowledge. In the post entitled “Parquet Military Service” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 08.09.2017.), the author analyzes the compulsory military service, saying that “national guards are able to acquire the basic military training in a much shorter time” than soldiers. The National Guard mentions the creation of a new battalion.

The author calls into question the fact that all the surrounding battalions have reached the required number of personnel, thus calling out the creation of a new battalion unjustified. The authorities of the defense industry are accused of “playing with the number of active national guards” in the post “Someone is Lying: Part 2 - Number of National Guards” (blog “Ivars Čiekurs un viņa piedzīvojumi”, 22.10.2017.). Although a national guard is not always flatteringly labeled as a puppet in the blog “Ivars Chiekurs and His Adventures”, the image of a national guard is constructed in a positive light and discourse is supportive. A national guard is investing his/her time and resources in strengthening the national defense, is commendable for initiative and self-organization abilities; he/she is patriotic, selfless and altruistic as well. Also, a national guard cannot be called a puppet in the hands of the defense sector because he/she serves on a voluntary basis, so it is up to the individual whether to comply with the system.

### Conclusions and suggestions

The image of the National Guard on the blog “Ivars Chiekurs and His Adventures” is not unequivocal. On the one hand, the National Guard is a value and is seen as a panacea for any security threat. On the other hand, the National Guard is blamed for lying and maintaining myths, for not wanting to leave the comfort zone, taking the initiative and fighting to improve the training process and provision. The National Guard is also portrayed as a victim, not a culprit, because there is senior management whose decisions are not always influenced by the National Guard. Thus, it can be concluded that a negative discourse prevails in this case.

It is necessary to update the communication of the defense sector with the public and the significance of this communication in the information war era. Communication must become one of the priorities of the defense sector.

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# TAX POLICY EFFICIENCY ISSUES IN THE MINING SECTOR (THEORETICAL APPROACH)

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**Abstract.** *A tight tax policy that is likewise fitting for the financial circumstance is a significant essential for accomplishing reasonable financial development. The examination point – to suggest theoretical ways for improving methodology for assessment efficiency of tax policy in mining sector. In theory mainly the effectiveness of tax policy is viewed from the point of view of tax collection. The article attempts to present a new theoretical approach for assessing the effectiveness of tax policy, taking into account the expectations of not only the government, but also other stakeholders in the mining industry (investors, community residents, businessmen, employees), which are having different expectations, concerning collected taxes and expending public resources. In this regard, a new theoretical methodology to assessing the effectiveness of tax policy is proposed, based on the feedback information available among the mining stakeholders.*

**Keywords:** *fiscal policy, tax burden, mining production, taxation.*

**JEL code:** *E62, H21.*

## Introduction

Tax policy is a concept that refers to public financial administration, which includes both tax revenue and expenditure policies, debt management policy and the use of other instruments relating to public finances that are at the disposal of the government. Using this set of instruments, the government can make adjustments to its spending and tax policies to monitor the national economy and direct it towards the desired pathway. Therefore, a tight fiscal policy that is also appropriate for the economic situation is a very important prerequisite for achieving sustainable economic growth and price stability (Harutyunyan, T., 2013).

**Research novelty:** Although many researchers have made a significant contribution in development of tax policy (Otto, J, 2005, Harutyunyan, 2013, Хеллер, 2009, Игони́на, 2014), however, the several theoretical points is necessitating for development, concerning to assessment of taxation efficiency in mining sector.

Consequently, a new methodology is suggested to the assessment of tax policy efficiency of the mining industry, implementing appropriate information flows based on feed back indicators from external and internal beneficiaries of mining industry.

**Research aim:** the research aim is to examine the theoretical ways of improving methodology of effectiveness of the tax policy in mining production.

**Research tasks:**

Specific research tasks:

- 1) give insight into the macroeconomic role of tax policy;
- 2) describe the approach to tax policy efficiency easement in the mining sector;
- 3) develop a new theoretical approach to the tax policy efficiency interpretation of the mining industry.

**Methods used in the research:** literature reviewing, theoretical aspect analysis and logical construction.

**Research hypothesis:** the use of theoretical approaches to improving fiscal policy effectiveness, taxation in the mining industry to be associated with the main functions of taxation, taking into account tax collections, controlling, and public financial sources reasonable distribution's among beneficiaries.

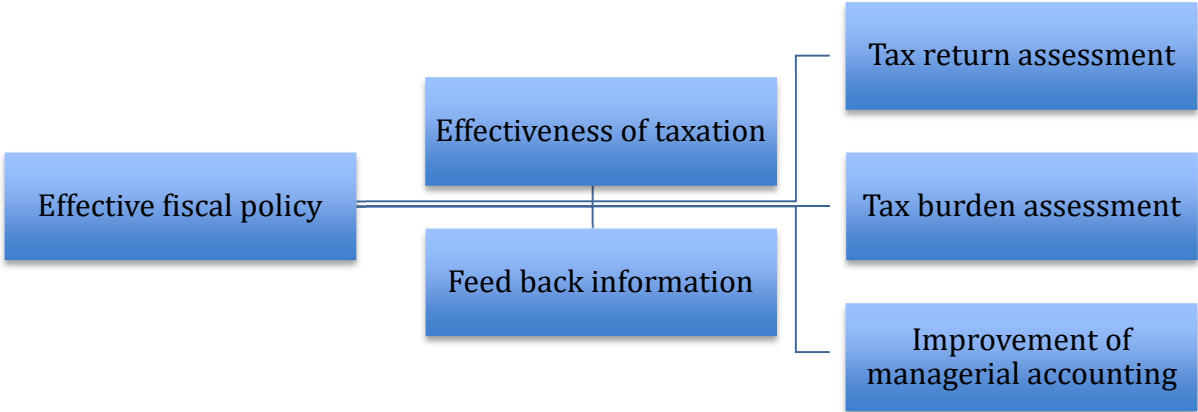
## **Theoretical review and discussion**

The assessment of the effectiveness of fiscal policy was in the focus of economists' attention in the 1930s, when during the Great Depression it became clear that the state could achieve macroeconomic regimes due to flexible collection of taxes and budget expenditure directions, mitigating unemployment by activating the economy through government industrial procurement, public spending services, and differentiated tax rates (Арутунян, 2013). Later, the Keynes theory once again underlined the regulatory role of the government in the macroeconomic environment (Кейнс, 1936, Atkinson, A. B, 2014). Theories of discretionary fiscal policy, followed by the Keynesian theory, are being analysed when different estimates are given to the government's taxation goals, not only to the formation of public spending resources, but also to the government and not to private business by the activation of production and the regulation of economic growth (Иголина, 2014). Such approaches to fiscal policy give their considerable results in the macroeconomic realm when taxation trends are interconnected with GDP growth, business capitalization, and public debt management (Otto, 2006). However, problems with such studies in the branch field are not deeply entrenched. Instead, the effectiveness of fiscal policy outcomes is more likely to give rise to interpretations from the "bottom", i.e. the beneficiaries of the fraudulent activity, rather than from the "top" (by the state) (Хеллер, 2009). In addition, many problems of "bottom" development are associated not only with differentiation determined by

budget potential, but also with the efficiency and effectiveness of budget expenditures. The current problem of territorial budgets is not an insufficient amount of budgetary resources as its inefficient use. In these case, the role of budget regulation of “bottom” development, based on increasing the financial and resource basis for the development of the territory, is determined by both factors of budget revenue growth and factors of rationalization of budget expenditures (L.V. Perekrestova, E.B. Dyakova, 2011).

Such a situation is especially evident in the mining industry, where organizations pay additional environmental taxes along with the direct and indirect taxes on the business, while the surrounding population performs auxiliary socio-economic functions (Henderson Global Investors, 2005). Therefore, in this regard, the basis of the assessment of the effectiveness of fiscal policy in the sector, according to the authors, should be the expectations of tax-paying mining organizations and community-based population taxation (Кучеров И.И., 2008).

In this regard, the concept of effective fiscal policy in the mining industry is suggested to be considered from the point of view of the efficiency of taxation and the provision of feedback on socio-economic expectations of the population (see Figure 1). At the same time, the proposed concept of taxable real estates of mining organizations as well as the estimates of the payment return are considered key.



**Fig.1 Proposed Ways to Formulate a Tax Policy Concept in the Mining Industry** (created by the author)

**Research results**

In theory there is a problem of establishing a general index of tax burden for mining companies, which will be able to assess the effectiveness of the taxation. As a rule, the most commonly used index of tax burden at macroeconomic level is the ratio of collected taxes/GDP (Harutyunyan,

2013). Based on this approach, the author propose to a taxpayer – a mining organization - to introduce a general index of tax burden on the total amount of revenue/sales income from the state budget. However, the authors believe that the fiscal efficiency concept is not sufficient to justify the tax burden. It also emphasizes the significance of the taxpayer's assessment. Taxpayers are interested in determining the extent to which the state supports their sustainable functioning and development.

Paying taxes by utilizing environmental benefits, mining companies in their turn have state-of-the-art facilities. At the same time, these expectations can be interpreted from the point of view of government-supported programmes for socio-economic development of the business and community (Otto, 2005). The state should be interested and why not often, as co-sponsors, introduce non-hazardous and up-to-date technologies in mining, assist organizations in implementing international marketing of metal concentrates, carry out large-scale work on preventing ecological damage, which taxpayers are unable to implement.

On the other hand, the community-based adjacent community of mining companies also has expectations from the state that address socio-economic actions that relate to the improvement of community infrastructure, healthcare arrangements, clearance of industrial wastes and so on.

Consequently, if the actual implementation of the expectations of businessmen and population can be assessed on the scale of 0-100%, the effectiveness of taxation of the mining industry, i.e. the actual rate of tax redistribution collected at the level of 1% of the tax burden, could be calculated as follows:

$$TE = EG/TB \quad (1)$$

where:

TE – tax return ratio (%)

EG - is a state-owned mining industry's actual degree of support for expectations (%)

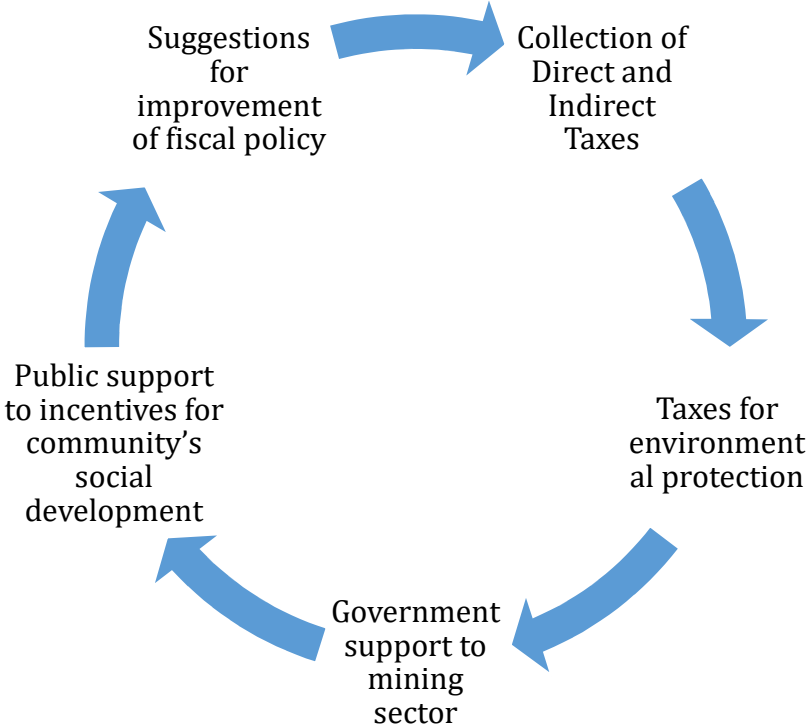
TB - tax burden for mining companies

Thus, if mining companies have sold 25 billion Armenian Dram (AMD) worth of goods in the analysed period, by paying 2 billion AMD for direct, indirect taxes, environmental and utilization payments, the tax burden will be presented at micro level by 8% ( $2/25 \times 100$ ). In the same period, if the mining companies expect the state to support different segments of the sector's development, only 72% have been implemented, so the efficiency of the taxation business will be estimated by the business world at 9% ( $72/8$ ). And if the expectations of socio-economic support by the community's



population during this same period were only 40%, then the taxpayer remittance would decline and would be estimated at 5% (40/8).

Thus, the proposed “tax return ratio” in the mining industry suggests the effectiveness of fiscal policy, as it summarizes the fiscal performance of the state on the one hand and on the other shows the areas of taxation and the actual return on the use of the targeted direction. At the same time, this information requirement first of all considers stakeholders in the mining industry (investors, organization managers, community governing bodies, population) for which effective fiscal policies, according to the authors, should be accountable, and conversion connection (see Figure 1). It is important to provide feedback to all stakeholders related to the development of the mining industry, thereby considering taxation and accountability as one of the key principles of fiscal policy implementation. In doing so, the information security requirement of the tax policy effectiveness in the sector is formulated as a “bottom” whereby beneficiaries of the mining industry regularly submit proposals to the state for fiscal policy improvements (see Figure 2).



**Fig.2 The role of information feedback in making tax policy in the context of policy reforms** (created by the author)

In this regard, it is important to improve the financial and managerial accounting information system in mining organizations so that beneficiaries in the field receive periodic information not only about tax liabilities, but also

about the directions, dimensions and actual rewards of redistribution of financial resources formed from taxation.

### Conclusions and suggestions

There are some information problems when evaluating the effectiveness of the tax policy in the mining industry. These issues mainly arise in the context of providing “information feedback” on taxation. The new approach to the fiscal policy of the mining industry proposed by the author will provide an opportunity.

Suggestions to fiscal policy makers: the first suggestion concerns improving fiscal functions from the “bottom”, i.e. beneficiaries included in the taxation area. In this case, the representatives of the business sector, as well as community self-governance bodies, can account for tax compliance and redistribution, can give general assessments on the sectoral effectiveness of fiscal functions; secondly, measuring the tax burden on the mining sector by not only providing estimates for fiscal policy, but also doing a comparative analysis of such assessments from the view of the social and economic expectations of business beneficiaries and community populations; third, provide information feedback from all stakeholders involved in the development of the mining industry, thereby assuming accountability as one of the key principles of fiscal policy implementation.

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# SALES LABORATORY CONCEPT FOR PROBLEM SOLVING BASED LEARNING: THE EXPERIENCE OF THE BALTIC COUNTRIES

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**Abstract.** *Very often youth faces many difficulties when trying to enter the labour market. It is because of lack of experience, insufficient vocational education, inadequacy between professional education and requirements for specialists in the job market. It is necessary that students get competencies and skills needed for the labour market and increase their employment possibilities. Rezekne Academy of Technologies implemented a project, where one of the objectives was integration of problem-based learning (PBL) into study processes. The aim of the research study is to investigate problem-based learning experiences among students and lecturers. Research methods – the monographic method, the analysis and survey methods. Problem-based learning is much more exciting for students and faculty than traditional learning, but it is also more time consuming and expertise intensive.*

**Keywords:** *entrepreneurs, problem-based learning, students, teaching staff.*

**JEL code:** *A22, I2.*

## Introduction

There is still a trend in Latvia where inhabitants tend to move from less developed areas to more developed ones, including to foreign countries, thus reducing the development opportunities of the least developed areas even more, the state loses both human capital and tax revenue. Moreover, the disparities between cities and regions are growing up. One of the main problems in Latvia is high youth unemployment. For example, according to the Central Statistical Bureau, the unemployment rate in Latvia at the beginning of 2018 was 7.4%, including 11.7% for those aged 20-24 and 9.6% for those aged 25-29 (Unemployment rate, 2018). One of the reasons of low employability – a mismatch among education programmes, students' skills developed and market needs. Studies in higher education institutions are orientated to a theoretical background and lack practical skills development. There is low integration and collaboration between the business and education sectors. Youth faces many difficulties when trying to enter the labour market. It is because of lack of experience, insufficient vocational education, inadequacy between professional education and requirements for specialists in the job market. Taking into account the regional socio-economic development and youth employment challenges, it is necessary

that students get competencies and skills needed for the labour market and increase their employment possibilities. Rezekne Academy of Technologies in cooperation with Northern Lithuania College (Šiauliai) implemented an INTERREG Latvia - Lithuania project "SalesLabs for employability competencies development", which included the integration of problem-based learning into study courses.

The aim of the research study is to investigate problem-based learning experiences among students and lecturers.

Tasks of the research:

- describe a problem-based learning approach;
- provide insight into the progress of the project;
- based on the results of the survey, to analyse the experience of students and lecturers in the practical implementation of the problem-based learning method;
- draw conclusions and make proposals.

Novelty of the research – an analysis of students' and lecturers' experience gained while implementing the problem-based learning method in Rezekne Academy of Technologies.

Research methods – the monographic method, the sociological research method - survey.

The research period - 2017-2019.

The research hypothesis – problem-based learning from the viewpoint of students and lecturers - is more exciting than traditional learning, but it is also more time consuming and expertise intensive.

### **Characterization of problem-based learning**

Problem-based approaches to learning have a long history. This approach was first developed in medical education in the 1950s. The adoption of PBL in higher education outside the medical field throughout the 1990s. PBL are one of many instructional approaches that situate learning in a meaningful task, such as case-based instruction and project-based learning. In the traditions of Kilpatrick (1918, 1921) and Dewey (1938), these approaches argue for the importance of practical experience in learning. Problem-based learning (PBL) is part of this tradition of meaningful, experiential learning. In PBL, students learn by solving problems and reflecting on their experiences (Barrows and Tamblyn, 1980). PBL is well suited to helping students become active learners because it situates learning in real-world problems and makes students responsible for their learning. It has a dual emphasis on helping learners develop strategies and construct knowledge (Cognition and Technology Group at Vanderbilt, 1997; Collins et al., 1989; Hmelo and Ferrari, 1997; Kolodner et al., 1996).

Educators are interested in PBL because of its emphasis on active, transferable learning and its potential for motivating students (Hmelo-Silver, 2004).

The primary goal of PBL is to enhance learning by requiring learners to solve problems. It is a methodology with the following characteristics (Spector et al., 2008):

- It is problem focused, such that learners begin learning by addressing simulations of an authentic, ill-structured problem. The content and skills to be learned are organized around problems, rather than as a hierarchical list of topics, so a reciprocal relationship exists between knowledge and the problem. Knowledge building is stimulated by the problem and applied back to the problem.
- It is student centred, because faculty cannot dictate learning.
- It is self-directed, such that students individually and collaboratively assume responsibility for generating learning issues and processes through self-assessment and peer assessment and access their own learning materials. Required assignments are rarely made.
- It is self-reflective, such that learners monitor their understanding and learn to adjust strategies for learning.
- Tutors are facilitators (not knowledge disseminators) who support and model reasoning processes, facilitate group processes and interpersonal dynamics, probe students' knowledge deeply, and never interject content or provide direct answers to questions.

The key to problem-based learning is a good definition of the problem. The characteristics of good PBL problems that transcend fields (Duch, Groh, and Allen, 2001):

- The problem must motivate students to seek out a deeper understanding of concepts.
- The problem should require students to make reasoned decisions and to defend them.
- The problem should incorporate the content objectives in such a way as to connect it to previous courses/knowledge.
- If used for a group project, the problem needs a level of complexity to ensure that students must work together to solve it.
- If used for a multistage project, the initial steps of the problem should be open-ended and engaging to draw students into the problem.

The PBL learning process normally involves the following steps (Spector et al., 2008):

- Students in groups of five to eight encounter and reason through the problem. They attempt to define and bound the problem and set learning goals by identifying what they know already, what hypotheses or conjectures they can think of, what they need to learn to better understand the dimensions of the problem, and what learning activities are required and who will perform them.
- During self-directed study, individual students complete their learning assignments. They collect and study resources and prepare reports to the group.
- Students share their learning with the group and revisit the problem, generating additional hypotheses and rejecting others based on their learning.
- At the end of the leaning period (usually one week), students summarize and integrate their learning (Spector et al., 2008).

### **Implementation of the project “SalesLabs for employability competencies development”**

Rezekne Academy of Technologies in cooperation with Northern Lithuania College implemented the INTERREG Latvia - Lithuania project “SalesLabs for employability competencies development”. The duration of the project was 24 months, and it was implemented from 01.07.2017. to 30.06.2019. Within the framework of the project, 10 courses of Rezekne Academy of Technologies (Marketing, Marketing Communications, Computer Engineering, Project Management, Media Language and Genres, Clothing Design, Interior Design and Ergonomics, Robotics Practice, Software Engineering, Food Commodity Science) were transformed and implemented using problem-based learning. The existing PBL teaching method focusing on hands-on sessions was enhanced with real-world situations from regional businesses by making their new products or services more available to the market (The Concept of SalesLabs..., 2017)

As this method has been used in the study process for several years by Siauliai University, the lecturers of Rezekne Academy of Technologies and Northern Lithuania College were successors and took part in trainings led by the Lithuanian representatives. At the end of the training, the curricula of the courses mentioned above were modified, and the training of students was started by integrating problem-based learning into the study processes in both higher education institutions. Within the framework of the project, transnational workshops were organized, where entrepreneurs shared their entrepreneurial experience with tutors and students with the problems to be

solved during the study. The students visited the companies, got acquainted with the production of the products, elaborated and defended their proposals for better product commercialization, presenting them to the entrepreneurs and teachers of both countries. There were also experience exchange trips to both neighbouring countries' universities where students, teachers and entrepreneurs had the opportunity to share solutions among various territories of origin and different fields of subjects for one case study, providing interdisciplinarity for the companies involved in the project.

Overall, 32 courses delivered for 350 students during three semesters from Autumn 2018 to Spring 2019. During this cooperation, sixty-four entrepreneurs have received developed solutions to several economic problems (34 in Latvia + 30 in Lithuania). As a result, twenty study courses in both countries were improved. The project's internal questionnaires confirmed positive attitude from students, their tutors, and entrepreneurs. Tutors used a different approach to the problem-solving practices for selecting and grouping companies with students: one company - one group, one problem - many groups that was typical for applied and social science disciplines. The most advanced choice: one company - mixed groups. The added value of topicality of the interdisciplinary approach offered abilities to perceive thoughts, things, phenomena which may look completely different and unite them into common, new forms, according to the co-authors of other work (Strods, et al., 2019).

### **Analysis of survey results**

At the end of the project, in May 2019, a survey was conducted to evaluate the results of the project - the practical implementation of problem-based learning. Two questionnaires were developed and distributed.

The first group of respondents were students, who were also the biggest beneficiaries of the project activities. The questionnaire was completed by 67 respondents, covering all the study courses and student groups involved in the project.

The following answers were given to the question **“Describe the task your group did in the SalesLabs course?”**: “New product development”, “Packaging concept development”, “Market research in Germany, the Baltic States, the Scandinavian countries”, “Sketches, a prototype - a clothing design study course”, “improvement of the dairy production process: filling of dairy products in packaging, labelling on packaging, a whey separation machine”, “improvement of the biscuit production process - a conveyor”, “research and application development of marketing communications”, “new advertising ideas”, “Recommendations for attracting new customers”,



“booklet design”, “banner design”, “style book design”, “office interior design”, etc.

The given answers show that students were mainly involved in new product development process and its market uptake enhancement, that is of greater interest for students.

To the question **“What were the main difficulties you encountered in the process of developing the solution?”**, students responded that “there were problems with scheduling and time constraints”, “there were problems with access to information”, “language barrier - market research in Germany, Scandinavia”, “group incoherence, differences of opinion, unequal group participant initiative”, “they had to employ creativity that was not easy”, “had to engage in a lifestyle to better understand entrepreneurial desires”, “had difficulty selecting only vegan friendly products”, “a great challenge was the combination of flavours - study logistics”, “It was difficult to get the idea started”, “lack of experience in solving such a problem”, “difficulty in finding the most cost-effective solution”, etc.

The respondent’s answers show lack of soft skills and difficulties to work in groups.

To the question **“Describe your personal benefits of participating in the SalesLabs project”**, students gave the following answers: “great experience in communication with the company”, “insights into the business processes of large companies”, “learned to think more and collaborate”, “presentation experience”, “experience in market research”, “improved teamwork skills”, “gain technical skills”, “learn to work with an entrepreneur”, “gain experience in brainstorming, discussion, problem solving”, “ideas leading to prototype development”, “mastering modelling”, “communication skills”, “learning to work in a team - work scheduling and task allocation”, “a different view of theory used in practice”, “understanding approbation of ideas”, “experience in the profession being learned”, etc.

The main personal benefits of the students participated in PBL learning were increase of soft skills, recognition of selected career and profession and involvement in new product development processes.

In the questionnaire, respondents were asked to rate a study course that was delivered using problem-based learning on a number of criteria. Summarizing the answers of all the respondents, the average score was calculated as a result. (Table 1 and Figure 1). From the table it can be concluded that the students appreciated the lecturer's presence and support (4.6), which is explained by the fact that the lecturers also had new experience and felt a great responsibility for solving the problem to be presented at the end of the study course to the businessman, as well as the significance of knowledge persistence (4.3) and the role of the team (4.3) as it was also approved previously in the students survey as the rise of students

soft skills and acknowledgment of selected career as well as new product development as part of it.

**Table 1 Evaluate the implementation of the SalesLabs study course against the following criteria (5-highest rating; 1- lowest rating) (created by the authors)**

Criterion	Average rating
Content competences (theoretical knowledge acquisition)	4.0
Cognitive, technical, competence (practical skills and competences)	4.1
Attitudinal competences (values, motivation and will)	3.9
Knowledge persistence (Will the acquired competences remain in memory, will not be lost?)	4.3
Matching competences to the needs of entrepreneurs, real working conditions	4.1
Work organization	3.7
Practical application of course knowledge	4.1
Tutor support	4.6
Quantity and variety of information sources used	4.0
The role of the team in achieving the result	4.3

On the other hand, work organization was the least valued (3.7), which was mentioned earlier in the students' answers that they had difficulties both with time planning and with their personal and group work organization.



**Fig.1 Evaluate the implementation of the SalesLabs study course against the following criteria (5-highest rating; 1- lowest rating) (created by the authors)**

To the question **“Compare studying within a SalesLabs course versus traditional study courses”**, the students responded that “it is an opportunity to work with a real company and the sense that the result can be useful”, “give more insight into the chosen profession”, “problem solving is better than writing reports”, “much more effective”, “much more interesting”, “traditional studies are more understandable, do not require much personal time, know theories and are sufficient”, “invest a lot more work and time”, “enable practical application of knowledge”, “being able to see a real problem in companies”, “such studies stimulate interest, non-standard thinking and teamwork skills” etc.

From the answers can be seen that students highly appreciate the new study method as interesting and effective, but also mention that requires more time and effort.

To the question **“Did you also gain any personal insight into your chosen future career?”**, the students responded: “I understood the need to work harder and set personal tasks”, “I have chosen the right career - marketing”, “I realized that I am interested in this profession, I doubt so far”, “I realized that in the future I could work not only as an interior designer but also in the advertisement industry” and so on.

The given answers show that this study method opens new career possibilities and motivate students to learning.

To the question **“What should be improved / changed by the new methods in the learning process?”**, the students responded that “more study courses should be implemented by this method”, “provide motivation to students by highlighting the benefits of the project”, “meet business people more often” and so on.

The main improvement of the SalesLabs study method is practise it more expanding it to other study courses too.

The second group of respondents were lecturers actively involved in the implementation of the project activities. The questionnaire was filled out by 10 respondents, that is, all the lecturers involved in the project, representing Rezekne Academy of Technologies.

The lecturers were asked the question **“Evaluate objectively the extent to which students succeeded in achieving the entrepreneur's expected problem-solving results”**. The opinions of the lecturers differed in their answers: some lecturers stated that students succeeded in solving the problems expected by the entrepreneur, as evidenced by the work result or the product itself, which was acknowledged during the meeting with the entrepreneurs. The other part of the lecturers admitted, however, that students failed to reach the solution expected by the entrepreneur. The result was influenced by how precisely the entrepreneur was able to formulate the problem (task) to be studied by the students, how well the solution was

executed qualitatively, especially in the situation when a creative solution was needed.

To the question **“What were the main difficulties (if any), why did you fail to achieve the expected 100% result?”** The lecturers mentioned the following factors: “unequal distribution of the workload in student work groups (students themselves are not always able to allocate tasks) each student's personal contribution influenced the overall score”, “the student activity could have been greater. The students were regularly encouraged to work, improve and supplement things. The students seemed to have the minimum, but in order to achieve a better result, communication and follow-up had to be done during the assignment”, “Initially, students had difficulty working in groups and thus responsibilities were split so that everyone could work individually at home. This shows that today students prefer to work individually using communication technologies”, “including the lack of task deadlines, where students had to be given specific deadlines on a regular basis, otherwise there was no motivation to tackle the task”, “The quality of the solutions offered depends on the abilities, creativity, willingness of students of particular groups”, “students were offered the opportunity to go on field trips to companies, interview entrepreneurs / specialists, but not every student used this opportunity”, “too small groups - 2-3 students”, “students are not experienced in technical tasks”, “low level of daring” etc.

The given answers show previously mentioned need for soft skills training for students and division of students into groups required more attention from tutors to provide equal groups as the bases for competition and greater engagement from students groups.

To the question **“What would need to be improved / changed in the existing method to make it more solution-oriented and help to achieve results more effectively?”** the lecturers noted that: “changes occur every time the lecturer starts to implement the study course because the problem differs, another company and other students with a different level of knowledge and skills”, “mix students from other course subjects for seeking a solution by one company could give more insights into group work and lead to better results”, “students' motivation should be ensured. One way to improve that is to give one assignment to different groups so that they have to compete”, “organize student work so that there are not many parallel lectures at this time, many other tasks prevent it from being fully addressed”, “there should be multiple auditoriums that can be used for work with groups using PBL”, “improved feedback from companies and student groups is needed. This could find the form of meetings where work-related details are discussed, the company would be able to respond to students' questions, provide advice”, “engage students more actively. The lecturer must be able to encourage students to learn more about themselves, not to say the right

answers or lead them too openly to the intended problem”, “increase the study course volume. More time should be devoted to the preparation of the course - to choose the situation, to produce handouts or visuals, and to anticipate the discussion. This method takes much longer, so it is not possible to use it if the time allotted for teaching is too short. The best format would be: lectures in two, three days a week”, “the situation would certainly be improved by a greater number of students involved and multi-group work where multiple solutions could be developed”, “provide funding for prototype development”, “more attention from the lead” and so on. From the given answers can be concluded that interdisciplinary problem based learning when one company is served with students from different study courses can rise greater awareness and lead to students competition and engagement, implementing equal division into working teams.

### **Conclusions and suggestions**

Traditionally, studies in higher education institutions are oriented towards a theoretical background and lack practical skills development, and there is still low integration and collaboration between the business and education sectors. When acquiring higher education, young professionals often face problems in the labour market, such as a lack of experience, inadequate competences for the employer, and a lack of skills to deal with real business problems.

Problem-based learning has long been widely used throughout the world, providing young people with an understanding of the real world of work and the challenges of their chosen profession, helping them to understand the relationship between theory and practice, and integrating it successfully into higher education. Lecturers and students of Rezekne Academy of Technologies also gained such experience, integrating problem-based learning in 10 different study courses.

Overall, it can be concluded that lecturers 'and students' experience of problem-based learning is positive, it is considered more effective and exciting than traditional learning, but it is also more time consuming and top expertise-intensive.

As problem-based learning can be integrated into courses in different fields of study, Rezekne Academy of Technologies would also recommend finding ways to integrate this teaching method in other study courses. At the administrative level, it is required to find solutions concerning facilities, lesson planning, and collaboration with business to ensure the effective use of this method in the study process.

More attention to the division of students into groups should be allocated. During lectures on theory, teachers should divide leaders with soft

skills and competences into equal groups to provide natural competition among classmates.

Providing one company for different course subjects even with a different problem defined can provide interdisciplinary benefits to the learning and teaching of the new generation (Generation Z) of students. A separate study should be addressed for testing of self-directed learning evaluations of PBL students versus traditional learning in higher education.

The Concept of Sales Laboratories in the learning and teaching process in higher education can be seen as a business support instrument for certain problem solving in entrepreneurship and innovation policy development at regional levels.

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