



58TH INTERNATIONAL
RIGA TECHNICAL UNIVERSITY

**“SCIENTIFIC CONFERENCE ON
ECONOMICS AND ENTREPRENEURSHIP
SCEE’2017”**

PROCEEDINGS

RIGA – 2017

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ISBN: 978-9934-22-000-5

ISSN: 2256-0866

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**“NATIONAL ECONOMY,
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SUBSECTION

**“BUILDING ENTREPRENEURSHIP, REAL ESTATE,
REGION AND TERRITORY ENGINEERING ECONOMY
PROBLEMS“**

Assessment of energy efficient processes in public and residential buildings in littoral regions of the Baltic Sea: case study of Latvia

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Abstract

The Directive 2012/27/EC of the European Parliament and of the Council on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC has stipulated a necessity to decrease the final consumption of energy and suggests implementing energy efficient process management system in regions already in 2017. In most EU countries clarification of possibilities to decrease energy consumption energy audit and energy certification is successfully carried out using. The implementation in the littoral regions of Latvia has so far not been successful by facing various financial, regulatory and legal issues. In order to select and implement successfully the measures of energy efficiency processes in public and residential buildings in littoral regions of the Baltic Sea, it is of significant necessity to apply the energy management model.

Keywords: energy efficiency processes in littoral regions, energy consumption in residential and public buildings, management methods, financial provision.

Introduction

The aim of this research is to evaluate the applied methods of energy efficient processes in residential and public buildings in littoral regions of the Baltic Sea to promote the optimisation activities. The following tasks have been set for the study:

- to identify the management methods of energy efficient processes in public and residential buildings in littoral regions of the Baltic Sea in Latvia.
- to clarify the energy efficient solution determination methods for the assessment of energy efficiency increasing in residential and public buildings in littoral regions of the Baltic Sea in Latvia.
- to state the necessity for energy audit and certification of the residential and public buildings in Latvia in order to raise their energy efficiency and competitive capacity.
- to reflect the economic justification for the energy efficient processes.

Compilation of statistics shows that in Latvia in general as well as in littoral regions of the Baltic sea a huge part of energy is wasted as inefficient heat consumption. (Vrubļevskis V., 2007.) In industrial buildings raising of energy efficiency is possible by optimizing the quality of the use of the industrial heat. Great possibilities to economise energy resources are seen in raising energy efficiency of residential and public buildings by carrying out thermal insulation of the buildings, as well as by improving their heating and ventilation systems. This position for the consumption of energy resources is regarded as the most efficient.

In order to find out the optimal solution options of raising energy efficiency in littoral regions of the Baltic sea and most optimal financing for identified solutions, it is necessary to conduct the monitoring and energy audit (Petrov B., 2002.) of particular buildings and structures. These actions will allow determining the thermal characteristics of the buildings and structures and the potential of energy economy. The first step towards the determination of the energy efficient solutions is fixation of the initial state of the building and identification of the energy saving measures.

Methodology of Research

As the basic method for the energy efficiency estimation is to dra up a balance of the efficiencies of the system equipment and consumed heat and ventilation. Perennial climatological observation data showed the differences between the particular regions of the country. Littoral regions in Latvia have specific humidity rates compared to inland regions, what justify the estimated temperature of the heating system as well as the conditioning and air handling technology (Akermanis A., 2012) based on the climatologically of outdoor temperature and relative humidity. The methods of the energy consumed in the air handling

equipment depend on the combinations of various ventilation and conditioning units and their operation schemes. (Zeltins N., 2014.)

Conclusions

The energy efficiency issues in public and residential buildings in Riga, the capital city of Latvia is quite different as in the regions. Implementation of the building energy efficiency project is more frequent compared to the Latvian littoral regions. It can be explained with the economic development and population density. In regions where the population is decreasing energy efficiency process management system should aim more the interests of residents.

Inefficient use of energy in the sector of residential and public buildings in littoral regions of the Baltic sea in Latvia involves great losses of heat because most of these buildings are erected from bricks or concrete panels. The bad condition can be explained also by the designing errors and low quality of the building structures. To assess the quality of the energy efficient solutions in the residential and public buildings, it is expedient to promote the implementation of the energy efficiency process management system in practice. (Actina G., 2016) The energy audits a certification proved as useful for the optimization of the activities of raising energy efficiency of the residential and public buildings in other EU countries, as it comprises data of the heat losses considering the technical and thermal characteristics of the construction elements.

Economic analysis of the expediency to form thermal insulation layers and to find the most appropriate way to improve the thermal insulation of the building can affect the decision to implement the appropriate solution to increase the energy efficiency of a building and reduce the energy costs.

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Introduction of Values-led Planning Approach a Gate Towards Improving Land Use and Spatial Development Practice in the Light of Dynamic Spatial Planning Systems

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Abstract

The creation of positive synergy in managing land-related resources if exploring the territorial capabilities, threats and opportunities, e.g. the effects of urban expansion, multi-functionality of land use, internalisation of negative externalities and challenges of a city agglomeration, causes primary necessity for the modern society. The study is concerned with the conceptual background and feasibility aspects of values-led planning approach to be introduced into land management practice by capitalising first of all on comparative analysis of dynamic spatial planning systems and planning cultures. Finally, it is argued that the implementation of new planning approach within proposed framework would lead towards improved land use policies and better territorial governance, developing more inclusive and resilient territories for the benefit of a society.

Keywords: Values-led planning, land use and development, spatial planning systems.

Introduction

It is essential to promote more competitive economics with higher employment level and to implement the deliberative migration policy in Europe considering the conditions of market globalization and the impact of high-tech on sustainable spatial development. Nowadays, successful investors/developers, when planning to allocate some business within a territory, look further the functional zoning and even suitable transportation network and available engineering infrastructure, as they seek for available resources, e.g. enough quantity and quality of both natural and man-made resources as well as skilled enough local human resources. Sustainability aspects should be attributed to challenges and issues towards an intensification of land use – how to manage a growing pressure of human needs, e.g. food, resource exploitation, well-being, while at the same time minimizing the impact on the environment, e.g. ecosystems liveability, biodiversity, resource renewability, eco-services? ‘Sustainable intensification’ is a suggested but vague term that needs to be clarified through land use policies, however, it can be applied to meet the mentioned challenges and issues. The potential for a further spatial development should be assessed and then supported by binding decisions. A decision-making needs to be backed with facts and analysis through empirical evidences, i.e. ‘measuring’.

Spatial planning as a land use and development control system in Europe, including Latvia, mainly follows comprehensive integrated and participatory approaches, and locus of power towards decentralisation can be observed there. However, the local governments have to consider the national and regional priorities and interests acknowledged by respective strategies as guidelines for sustainable development planning. If considering the relative roles of both public and private sector in planning, on the one hand, the ‘public-led planning’ dominates developing comprehensive plans, but, on the other hand, the ‘market-led planning’ dominates initiating the land use changes and developing detailed plans. A ‘values-led planning’ approach would contribute with, so to say, ‘valuing and planning-implementing’ concept and consequent principles towards balancing foremost both interests nature/landscape protection and new development. Some relevant publications indicate to meaningful land management policies and changes into spatial planning systems and practices in Europe. Thus, analysed practices and its continuity emphasise quite challenging issues towards more integrated, participatory and strategic planning approach and contribute to this topical research regarding developing values-led planning approach to be implemented for improving land use and spatial development.

The aim of the study is to explore and discuss the conceptual background and feasibility of values-led planning approach to be introduced into land management practice by capitalising first of all on comparative analysis of dynamic spatial planning systems and planning cultures.

Methodology of Research

A framework based on consolidated new knowledge from comparative studies, which imply stakeholders' experience and empirical evidence helps better to understand and guide preconditions for introducing values-led planning approach. An analytical work to explore various spatial planning systems and practices, its step-by-step transformations and continuity indications has been done in the research. The synergy from applying various planning policies and approaches has been observed by review of scientific literature and using statistical and comparative analysis and synthesis techniques.

Findings/Results

Recent comparative study delineate the coexistence of continuity and change and of convergence and divergence with regard to spatial planning practices across Europe and underlines the specific and content-dependent variety and disparateness of planning transformation, focusing on: (1) the main objectives of the changes, (2) the driving forces behind these changes and the main phases and turning points, (3) the main-agenda-setting actors, and (4) the different planning modes and tools reflected in the different “policy and planning styles”. The ESPON 2020 Cooperation Programme recently initiated the applied research on comparative analysis of territorial governance and spatial planning systems in Europe. The objectives and outcomes of these and some other studies quite clearly indicate to discourse and feasibility aspects to introduce a values-led planning approach at least in Europe's agenda for improving land use management practices.

Conclusions

The main conclusions show conceptual considerations of values-led planning approach as it will help to improve the relevant practice and assess its effects in specific territories based on identified values and attitudes, thus avoiding, e.g. unplanned urban sprawl, environmental/landscape fragmentation and damage, unequally populated areas, remarkable differences in income, insolvent territories etc. The established scientifically sound framework would promote not only the internalisation of negative externalities, but also enable to identify the synergy that would enhance the balanced socio-economic and environmental impact and improve the governance in the territory.

Topicality, objectives and outcomes of relevant comparative studies emphasise appropriateness and feasibility for introduction of values-led planning approach. Accordingly, it is proposed to develop the methodological solutions for better and more efficient land use, improved collaboration between urban and rural municipalities, and increased cross-sectoral cooperation that would enable sustainable development and promote employment when implementing new planning approach. Furthermore, the recommendations for innovative assessment tools to be applied when introduce proposed planning approach should be carried out.

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Foreign Direct Investment and Special Economic Zones in Latvia

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Abstract

Every time a new policy is implemented, there comes a time when it must be evaluated so its effectiveness can be considered. Without evaluation, there is no way to tell if there is a need to revise anything for optimum efficiency. This is especially true for economic policy and in this case refers to special economic zones (SEZ). This paper aims to provide insight about the effectiveness of Latvian SEZ as tools to attract foreign direct investment (FDI). The goal is accomplished through statistical analysis of relevant data and comparing with international examples to establish a point of reference.

Keywords: special economic zones, SEZ, foreign direct investment, FDI

Introduction

When we think about countries with strong, developing economies, we often think of foreign direct investment (FDI) as one of the top indicators of it. FDI shows interest from the side of foreign partners' in the local economy. Any investment is proof of belief in the economic situation and the promise it holds in the future. This holds especially true for FDI, where investors need to decide on cross-border investments in places that often are far away from their home countries and the familiar institutions and practices within them. The more unfamiliar the place, the higher the chances that something about the investment will go badly. In order to accept a high risk, there must be great rewards at the end of it. As such we can surmise that the more FDI a specific place receives, the bigger the confidence from the investor side that it will have a thriving economy in the future.

FDI also adds to regional development by addressing the factors most responsible for the lack of growth – lack of capital and expertise. It could even be argued that because of this, the presence of FDI is what ultimately helps the region to have a thriving economy in the future. Because of that attracting more FDI is always high on the priority lists of governments and regional managers. Latvia is no exception to this rule, it has two existing SEZ and a third one has been approved at the time of writing. All of them exist for the purpose of developing the regions they are in. This study aims to find out the degree to which the existing SEZ have been successful at attracting FDI and how that compares to a range of international comparisons.

Methodology of Research

This paper aims to provide insight about the effectiveness of Latvian SEZ as tools to attract foreign direct investment. The objects of this research are the Latvian special economic zones. The subject of this research is the ability of special economic zones to attract foreign direct investment. Statistical analysis, deduction, comparative, logical access and literature review methods were used in this research. The paper also contains examples of international experience for the sake of establishing a point of reference.

Findings/Results

Although Latvian SEZ have attracted millions of euros in investments, the total amount is a very small percentage from the total amount the country has received as a whole. Even the presence of generous tax breaks and other incentives was not enough to give a significant boost to FDI accumulation in the regions. If the reason for this is not explored properly and minimized in the future, it can be predicted that all the Latvian SEZ will continue to lag behind their full potential in the coming years.

Conclusions

Latvia as a country has not been deprived of FDI. Although there are many countries that have a far larger share of FDI as percentage of GDP, Latvia is keeping up with the regional trends. Unfortunately, its chosen instruments in the form of SEZ have only shown lukewarm results when it comes to accumulating FDI when looked at as a share of the total FDI received by the country. Although the gain is still there in the

form of many millions of euros and thousands of jobs, Latvian SEZ are still lagging behind the more successful international examples.

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Study of Sustainable Socio-Economics Development of Bulgaria

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Abstract

This research presents a method for assessment of socio-economic development of country (in the case of Bulgaria) in the context of sustainable development. A new complex index was estimated, called Sustainable development socio-economic index (SDSEI), which was designed on the base of eight representatives for the sustainable development indicators define by the National Statistic Institutes of Bulgaria. The socio-economic development of Bulgaria has been studied the period 2003-2015 year and was identify years in which it could be define as sustainable and years it could be defined as less or unsustainable. Conclusions about applicable of the used method and about socio-economic development of Bulgaria were made.

Keywords: sustainable development, socio-economic development, SDSEI.

Introduction

One of the fundamental objectives of European Union is the sustainable development and it is set out in the Treaty on European Union. Sustainable development means 'balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment' (Treaty on European Union and the Treaty on the Functioning of the European Union, 2012). Sustainable development is defined as a development, which 'meets the needs of the present generation without compromising the ability of future generations to meet their own needs' (Brundtland, 1987). The most researches of sustainable development are focused on comparison of economies of countries and regions by using of different approaches, methods and indicators (Judrupa, I., Blagova, G., 2011; Sachs, J. et al; 2017; Soja, S., Jelic, D., 2016; Tambovceva, T., Grizāns, J., 2011; Totev, S., 2011)).

The aim of the present article was to research the sustainable development of Bulgaria by estimation of main socio-economic indicators.

The main tasks were:

- a) to design a representative measurement instrument of the sustainable socio-economic development of country;
- b) to test the methodology;
- c) to analyse the socio-economic development of Bulgaria for the period of 2003-2015 in point of view sustainable development.

The object of research was Bulgaria. The subject of research was the socio-economic development of Bulgaria. The period of research was 2003-2015 year. The data were obtained from the National Statistical Institute of Bulgaria.

Methodology of Research

The study of sustainable socio-economic development was estimated using the SDSEI which is designed by eight indicators: Growth rate of real GDP per inhabitant; General government consolidated gross debt; Total investment; Growth rate of labour productivity per hour worked; Total research and development (R&D) expenditures; Employment rate; Dispersion of regional employment rate; Unemployment rate. A well-known distance method was used for calculation of the SDSEI, which steps are:

1. Calculating the standardised deviation of indicators (i) for different years (j) of the arithmetical average of each indicator in order to avoid differences in their scale.
2. Establishing a Z-matrix using standardized indicators z_{ij} and determining the standard year.
3. Calculating the final assessment (score).

The SDSEI_j represents the distance between a given year and the standard year. The socio-economic development close to sustainable are in years that have the lowest SDSEI score, which means they are closer

to the standard year. The less sustainable socio-economic development are in years that have higher SDSEI scores, which means they are farther from the standard year.

Findings/Results

The SDSEI shows that:

- the socio-economic development of Bulgaria is closest to the sustainable development in 2015 year with the SDSEI score equals to 4.11;
- a socio-economic development close to the sustainable development is observed in the period 2006-2008 year;
- in 2003, 2004, 2009, 2012 and 2013 the socio-economic development could be define as farther from sustainable development;
- the score in 2005, 2010, 2011 and 2014 is between 5.34 (2005) and 5.81 (2011).

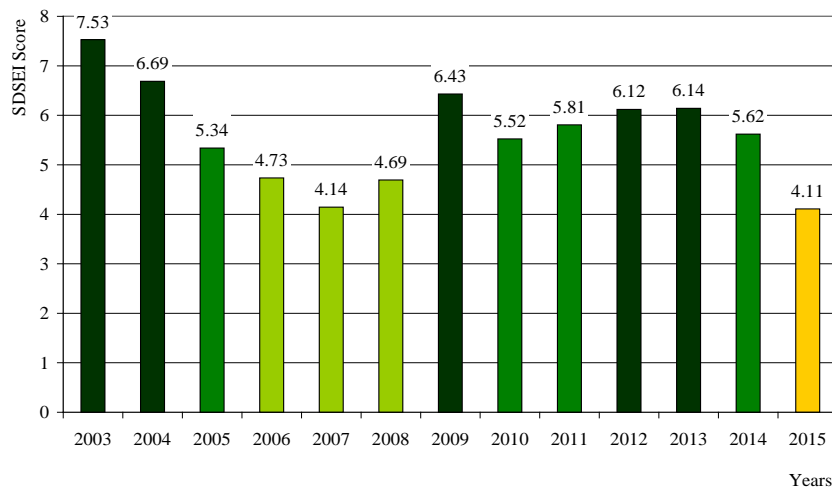


Figure 1. The SDSEI of Bulgaria by years

The research period could be divided of two sub periods: first, from 2003 to 2007 in which the socio-economic development was improving and became more sustainable; second from 2009 to 2014 in which the socio-economic development was instable and unsustainable in results of the global economic crisis.

Conclusions

The test of the method shown, that it is applicable and could define years in which the socio-economic development is sustainable. The method allows comparisons in time by for future years but it will be necessary to revise of results by new calculations. This disadvantage is could be surmounted by determination of targets of the used socio-economic indicators.

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Environmental Aspects of the Construction Industry Development – International Experience and Case of Latvia

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Abstract

At present, solution of ecological questions is one of the environmental priorities globally, and implementation of environmental aspects in the construction industry, including energy aspects, is one of the priorities for long-term environmental development, as buildings have a long life cycle and require many resources during its life cycle period. The aim of the research is to analyse environmental aspects of construction industry development. The results of research show that compliance of environmental aspects in construction can result in energy savings and has other benefits for market participants and industry development.

Keywords: construction, energy resources, energy efficiency, environment, green buildings, green materials, real estate market, renewable energy, sustainability.

Introduction

Improvements of energy usage indicators in buildings is important for market participants at all levels, and is important for every household as well. Compliance with environmental issues in buildings by market participants and policies implemented in practice are the important steps for solution of environmental problems and achievement of environmental goals. The aim of the research is to analyse environmental aspects of construction industry development. The analysis, induction, comparative, logical access and literature review methods have been used in the research.

Methodology of Research

The aim of the research is to analyse environmental aspects of construction industry development. The object of the research is construction industry. The subject of research is environmental aspects of construction industry development. The analysis, induction, comparative, logical access and literature review methods have been used in the research. The research includes case of Latvia and international experience as well. As construction process is being influenced by variety of aspects, and as a complicated process it influences and involves a number of different participants, the research has interdisciplinary approach.

Findings/Results

Results have shown that there is a high importance of environmental aspects in construction, but at the same time there are a number of conflicting criteria and risks and during its implementation. Special focus should be done on ecological building materials, achieving high energy efficiency indicators during all building life cycle. Results of the research have shown that there is a high necessity for green building construction, but at the same time difficulties in its implementation. Problematic factors, influencing environmental construction development have been found as well.

Conclusions

Compliance with environmental necessities in buildings includes a number of activities and is important because of high consumption of resources, including energy resources, especially in the operation phase of the building life cycle. The results of the research showed a high level of interconnection of economic, social and environmental aspects in construction process. The results of research show that compliance of environmental aspects in construction can result in energy savings and has other benefits for market participants and industry development.

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Natural Monopoly in Russia: State's Regulation Problems

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Abstract

The article reveals some State's regulation aspects of natural monopoly in Russia, which are of paramount importance in economic and social life of the country. The optimal path of reforming the monopolized industries is the question of present interest for Russia. Russian government requires studying the foreign experience in this field and adapting it to Russian conditions. The economic efficiency of natural monopoly depends on the quality of the State antimonopoly policy, which implies the optimal model of monopoly's functioning, based on a combination of administrative and economic regulating measures.

Keywords: natural monopoly, State's regulation, State corporation Gazprom

Introduction

In recent decades, significant changes in the models of monopoly markets organization had happened in many economically developed countries. The direction of reforms was determined by the need to eliminate the excessive government control of the State monopoly and to devise conditions for a competitive market. Such measures were intended to reduce the burden on the State budget. Arguably, the main transformation models of monopoly in foreign markets have already been formed. Russia may rely on the experience of a series of foreign countries. Nowadays, there are various opinions in the economic theory about the methods and limits of natural monopoly regulation. These issues are of a debatable nature. However, there is a common view that any regulation can harm not only the natural monopoly, but also the economy of the country, and society as a whole. It should be noted that to date there is no universal method of State's regulation of natural monopoly in the world. Each method has both advantages and disadvantages. The choice depends on a number of factors and the main one is the level of the country's socio-economic development.

Methodology of Research

The objective of the study is the problems of the State's regulation of the natural monopoly in Russia and ways of improvement of the situation. The main tasks of the study are the following: analysis of the theoretical aspects and contemporary scientific issues, including international experience, analysis of the data, summarization of the results of the research and development of the proposals. A complex approach to the assessment of the State's regulation of the natural monopoly in Russia allows defining and finding opportunities for the solution of a number of problematic issues. The comparison, data analysis and logical access methods have been used in the study.

Findings/Results

The following proposals are put forward for the improvement of the situation: the State should take into account that the natural monopoly regulation activity is based on the following setups:

- the lack of regulatory control by the State and the existence of competition leaves the right of the business entity to carte blanche in the conduct of business, as well as its better functioning in terms of efficiency;
- the choice in favour of State influence is justified by the fact that the State acts in the public interest, which may be at odds to the interests of the economic entity;
- the existence of State intervention, unless public interests, as well as the interests of the business entity, is dictated by the interests accomplishment of the public economy.

Traditionally, the main areas of natural monopoly State's regulation include: price control, formation and maintenance of a competitive environment in natural monopoly industries; heading the tool of the

monopoly rent redistribution; introduction and maintenance of unified international quality standards for products and services.

Conclusion

Like any phenomenon, the natural monopoly has both positive and negative consequences. As positive moments we can define the reduction in production costs, the full use of the positive effect of the production scale, the development and implementation of scientific and technical research and development (R&D), the possibility of the quality improving, accumulation of significant financial resources for further development, etc. However, there is a number of negative consequences: a significant understatement of the production volume and provided services, a lack of incentive to improve product quality and even a tendency to lower it in order to save costs while maintaining inflated prices, a rigid dictatorship against competitors, the development inhibition of interconnected branches of the national economy,

Despite the image of a successful company, the State corporation "Gazprom" (one of the Russian monopolies) loses its markets and revenues, with adverse effects on the State's budget. To increase the efficiency of the State corporation it is necessary to monitor the targeted use of funds, carefully plan and forecast gas sales, abolish privileges for top managers, maintain financial transparency, and conduct global monitoring of this sector. A profound reform of the State Corporation is needed in order to increase tax revenues and increase national welfare.

Thus, the State's regulation of natural monopoly must be flexible and corresponding to the stage of the industry development and the technological changes.

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Emotional and Physical Impact of Lighting Quality Parameters and Characteristics on Humans in Different Visual Environments

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Abstract

Materials contain the results of the studies of questions of the quality of lighting, the impact of lighting on humans productivity, activities, safety, well-being, comfort, perception, behavior and health in different visual environments (office, home, educational, industrial working place, urban environments). Studies show that lighting, its planning and qualitative settings is a significant part of indoor environmental quality parameters, energy efficiency and sustainability, plays an important role in urban environment.

Keywords: Visual environment planning, lighting, design, real estate.

Introduction

Throughout last 20 years, lighting technologies constantly developing and industry brings to the market more and more different solutions for the light sources and applications which are integrated into real estate and urban projects and affects its visual environment and humans in this environment. Lighting is becoming a tangible part of economic value and qualitative component of real estate projects.

The assignment of this paper is to identify how lighting systems in visual environment impact economic and social aspects of real estate project.

Methodology of Research

Qualitative content analysis of literature used during the study of this topic. Planning practice reports were reviewed to secure qualitative content analysis. Factors of lighting in planned visual environment, which impacts economic and social aspects of real estate projects, were observed for historical and comparative analysis.

Findings and Results

Analysed materials are focused on different aspects of lighting qualitative parameters and characteristics, but at the same time refer to the different aspects of the impact on humans. Mentioned aspects can split into 2 major groups: Physical effect and Emotional effect.

Physical effect is any consequence of some cause which is related to the material world.

Emotional effect is any relatively brief conscious experience characterized by intense mental activity and a high degree of pleasure or displeasure.

Analysed studies more refers to the emotional effect of lighting quality parameters and characteristics on humans in different visual environments, which provides the message that lighting quality parameters has the important influence on emotions of humans.

Conclusions

Scientific studies show that lighting is an important part of planning of visual environment. Lighting settings and quality parameters should be taken into consideration and valued during the evaluation of visual environment of real estate or urban development projects. The methodology of evaluation needs to be developed during further process of research.

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Quality and compliance in real estate management study programmes Sector: Case Study in Riga

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Abstract

This article reflects a discussion on the quality and relevance of realization of real estate management study programs. The article analyzes the quality indicators of study programs and the conformity of study programs with labor market requirements and legislation. The article also highlights the role of graduates and employers in assessing quality and compliance. No less important is the evaluation given by the students. Student, graduate and employer's surveys allow to assess the quality and relevance of study programs in real estate management, with a particular emphasis on knowledge and competences acquired by graduates.

Keywords: employer satisfaction, quality criteria ,evaluation methods, real estate management

Introduction

Each higher education institution, which realizes real estate management study program, has a mission to prepare highly skilled specialists who are demanded in the labor market. In order to prepare good specialists, the quality is undoubtedly the main focus. In this case, quality involves many aspects, including internal normative acts and external normative acts that play an important role. Certain procedures, the responsibility of the director of the study program, the implementation of study programs, evaluation of the involved parties - lecturers, students, graduates and employers, etc., the administration of which, also plays important role. Assessing the quality of study programs is definitely evaluated by the topicality of the program, compliance with labor market requirements; the changing needs of the company, the professional development of the staff, the progress of the studies, the efficiency of the evaluation procedures. The aim of the article is to explain the main indicators of the quality of study programs and the assessment of conformity to the labor market demand. To achieve the goal, the following tasks were set out: To study the theory of quality, quality assessment, employer satisfaction assessment; to conduct a survey of the employers, graduates, students; to evaluate employers, graduates, students' satisfaction, to identify problematic issues, and to submit proposals for real estate management study programme quality assessment.

Methodology of the Research

In the course of the research, quantitative research methods and survey were applied. During the questionnaire , three survey types were conducted, specifically – one was with the employers, second - graduates and another with the student

Conclusions

Active collaboration with employers is essential for improving the study process. To provide annually an in-depth assessment of the study programme, engaging outside experts, including, as needed, foreign experts, as well as representatives of professional non-governmental bodies; To extend and to deepen work carried out with students so that they might from the outset of their studies learn modern learning techniques, how more effectively to combine attendance of lectures with independent study at home, at libraries and at places of their training; In order to build up experience the students ought to be provided with regular mock trials, simulation etc. where acquired theoretical knowledge, all that would ensure that acquired theoretical knowledge would be applied thus going practical skills.

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ICT as Enabler for a Sustainable Development

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Abstract

Since the past decades with every year the importance and role of information communication technologies (ICT) is growing, it ensures faster growth of countries' GDP, competitive advantage of organizations operating in the commercial sector. Nevertheless, it plays significant importance to enable sustainable development. Still there are industries in Latvia that are behind the average level of adoption of modern and appropriate ICT solutions and services despite the same industries in the other countries are highly benefiting from usage of ICT. One of such industries is the construction industry.

Keywords: construction, sustainability, development, ICT.

Introduction

Construction process from the moment of the idea to build a house to the completion of the building is a long, time consuming, bureaucratic, non - transparent processes in Latvia. It involves many parties, e.g., developer, architect, user, authorities, construction company, etc., and steps, e.g., idea, design, permit, construction, use, etc. Many European Union (EU) countries have adopted even on governmental level solutions to improve the long process and to make in general the construction industry's development more sustainable.

Methodology of Research

The aim of the research is to analyze of ICT impact of sustainable development of the construction industry. The object of the research is construction industry. The subject of research is ICT impact of sustainable development of the construction industry. The interviews, analysis, and literature review methods have been used in the research. The research includes best global practices. As construction process is being influenced by variety of aspects, and as a complicated process it influences and involves many different participants, the research has interdisciplinary approach.

Findings/Results

Results have shown that globally there is a positive aspect of ICT adoption and proper usage in the construction industry thus ensuring sustainable development of the industry. However, the process of the adoption is not simple and straight forward. Selection of appropriate ICT solutions and services require high quality analyzes, planning, high level of expertise in the implementation process and good motivation for stakeholders to use them to the most efficient and effective extent.

Conclusions

Properly implemented and adopted ICT solutions and services, highly motivated stakeholders of the construction industry who are ready to use the solutions and services in the most efficient and effective way is a suitable background of sustainable development of the construction industry. Still, it is important to consider all the challenging aspects of implementation of these solutions and services.

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Real Estate Valuation in Terms of Divided Ownership Rights of Land and Buildings

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Abstract

The term “real estate” in property rights as a peculiar and independently legal category in economic and civil law circulation appeared only after Restoration of Independence of the Republic of Latvia on 4th of May in 1990. The theories of real estate valuation exist in the world for a very long time. In the field of real estate valuation constantly occurs discussions and different solutions are being searched for. Regarding situations of valuations upon divided ownership rights, there are still present differences of experts' opinions and also the point of view of the Association of the Real Estate Appraisers in Latvia are ambiguous. In Latvia, upon situations of divided ownership rights, there is a lack of a united real estate valuation system, therefore the current operating valuers in Latvia base their valuations on their professional experience and subjective opinions.

Keywords: real estate, valuation, market value, ownership rights.

Introduction

A dwelling house is one of the most important end-product in the construction segment – it is the main element responsible for the existence and safety of a human being, and is also considered to be one of the indicators of a country's wealth. After the Proclamation of the Independence of Latvia there was an intensive reorganization of a government public structure and economics according to the concept of a democratic country and open market economics principles. People even more started to show interest for obtaining a real estate, as it was known that before the reorganization everything belonged to the government. For the existence of the Republic of Latvia the real estate market has experienced as fast rise, as sudden drop and both of these situations have led to implementation of many changes in real estate valuation and bank lending procedures.

Methodology of Research

The comparative method, historical approach method, data analysis and expert assessment method have been used in the study. The scientific research literature, scientific articles have been analysed, as well as the work with statistical databases.

Findings/Results

The term “valuation” in the world started to use in 19th century. Nowadays in the valuation practice is mainly used British economist, Alfred Marshall's, developed neo-classic theory terminology. In Latvia, the interest in the real estate valuation segment and the first individual studies started in 90-ties. Since then the real estate valuation practice in Latvia have been based on International Valuation Standards that had been developed by the International Valuation Standards Council (IVSC). These standards inspect valuation situations and aspects. The real estate market in Latvia formed its grounds on open market principles – as the result of land reforms, property denationalisation and privatization. By the increase of number of transactions in the real estate market, the significant rise of mortgage loans has been stimulated as well. By the increase of common wealth, the residents finally have a chance to separate their financial means in order to be able to pay for the mortgage loan for their own dwelling house. This process is stimulated by the fierce competition among banks, and as the result of it, the mortgage loan interest rates have reduced significantly and the conditions for obtaining the loan have been facilitated as well. Thereby the development of real estate market has led to the necessity of a new profession – the real estate valuers. The real estate valuation segment in Latvia is a rather new professional field, therefore all the related questions in Latvia have not been researched yet thoroughly.

Conclusions

For any market value calculation, including situations of divided ownership rights, is used one of these three approaches (methods):

- Market (comparing deals) approach (method). This method is mainly used as a basis for market value calculation upon divided ownership rights.
- Income approach (method). This method is mainly used in the situations upon divided ownership rights for the valuation of the land under the building, home ownership or uninhabited rooms, which do not hold ownership of the land. In these situations, the income cash flow is calculated and the rental costs are included in the expenses.
- Expenses approach (method). Despite the land's market value is a part of the expenses method; however, usage of this approach is also possible in situation of divided ownership rights.

Each of these approaches is based on the principle of comparison, differs only comparing measurements. The unifying element in these methods is the conclusion that in each valuation the used measurement must be well-grounded for the specific place, specific time and the specific economic situation.

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Intellectual Urban Environment

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Abstract

At the end of the 20th century the concept of sustainable development of the city has been developed. The concept of a creative and smart city appears. In the XXI century by merge of several city development concepts, the concept of smart urban environment has been evolved. Foundation of this concept is the security and stability of society based on an economic growth. The aim of this research is to develop the strategy of intelligent urban environment.

Keywords: intellectual urban environment, economic growth, synergy effect.

Introduction

Innovation and change-based concepts of the city development has been evolved at the end of the 20th century. The concept of a creative city was defined by Charles Landry (Landry, 2000). Smart city theoretical concepts are based on the efficient use of city resources, acting through the communicative and informational technology process, and based on integrated environmental policy solutions (Viržbickis, Plotka & Kamols, 2017). The indicator system for identifying a smart city was offered also:

1. "smart economy";
2. "smart mobility";
3. "smart environment";
4. "smart people";
5. "smart living";
6. "smart management" (Sergeyeva, 2012).

In the XXI century, merging several city concepts, the concept of intellectual urban environment has been evolved. Its foundation is the security and stability of society, which is based on economic growth. An intelligent urban environment is based on dialogue and cooperation between governing institutions using modern technology. The intellectual city management is the division of multi-level functions into a unified strategic network that combines various development factors into a single system driven by smart intelligence. Such intelligence consists of at least three interconnected parts: "intellectual behavior", "intellectual environment" and "intellectual management". The intellectual environment forms an "intellectual management" that promotes "intellectual behavior", complemented by innovation, ensuring environmental competitiveness, making it an environment in which a person could want to live. That is the environment for the future. Within the framework of the research program Horizon 2020, the Smart Cities & Communities (SCC-2015) project (€ 131.5 million in 2016-2017) (see Horizon 2020, 2017) and the REMOURBAN demonstration project have been created in the EU.

The 21st century city is a multifunctional system with a variety of subsystems - trade, transport, communication and information technology, water supply, energy supply, education and culture, health care and others. As the city's size increases, the load on these subsystems is increasing also. The city is the greatest invention of humankind (Glaeser, 2012). It is hard to dispute. In order to create something new and useful to the public, an environment is needed where intellectuals collide and where a place for innovation exists. A synergy effect is possible when the urban environment is created (Viržbickis&Plotka, 2015). Such urban areas are present in Singapore, Amsterdam (the Netherlands), Cape Town (DPR), Moscow and St. Petersburg (Russia), Bangalore (India), London (UK), Helsinki (Finland), Hong Kong (People's Republic of China), San Jose, New York (USA), Rome (Italy), Vienna (Austria), Rio de Janeiro (Brazil), Medellin (Colombia), Vancouver (Canada), Santiago (Chile), Dubai (UAE), Tokyo (Japan), Munich (Germany), Seoul (South Korea) and others. In the Baltic States, signs of intellectual city life are visible, but it takes a time to compete with the above-mentioned cities. It is also worth mentioning the efforts of Kiev (Ukraine), but it has had a negative impact because of the political situation in the country and the brain drain out of the country for personal safety reasons.

The urban environment can be compared to a field where innovative solutions would be introduced and approbated to improve the lives of urban people. In many countries around the world, the political authorities apply a standstill policy, where innovation is slow and growth is moderate. This applies to many metropolises around the world - manufacturing centers, technopolises, regions, because quite often municipalities are not able to develop and promote the progress of the intelligent environment alone, without the support of the government or the private sector. The 21st century innovations crucial to the urban environment are implemented through four approaches:

1. New scientific discoveries, inventions, ideas are used for the first time in the city's environment. The innovators who introduce them receive first-time benefits.
2. Know-how inventions are re-introduced. It is performed by imitators through political lobbying. If such innovations become compulsory in a separate city enterprise, then those quickly are transferred to other enterprises competitive advantage on the basis of the fight against competition.
3. Business innovation - the need to use the new one to replace the old one. The most popular slogan: "Are you against progress?"
4. Social innovation - a new strategy, concepts, ideas that address social, cultural, economic, environmental and ecological issues in order to promote the well-being of city residents.

In cities where innovations are being used, today's needs are guided by changes in the demands of society and the market. By developing complementary products and services, the urban environment becomes more competitive and addresses certain threats. Sociologists distinguish ten signs that characterize an intellectual city: humanity (humanism), comfort and convenience, security, obedience the order, rationality, technologicality, balance, responsibility, cooperation, availability of information (Danakin, 2012).

Methodology of Research

The qualitative research methods generally accepted in economic science was applied. The analysis and literature review have been used in the research.

Findings/Results

The research has shown the increasing need for security and comfort in urban environments. It has become a major challenge for the 21st century, which must be responded to in a timely manner by intelligent city developers. There are new technologies and expertise in the world to reduce, neutralize, prevent or eliminate potential threats and necessary competences for the development of new and innovative urban environments.

Conclusions

The city must be a center of creativity with an intense transportation to support production and the development of businesses. Culture is being supported from business activities. The business environment becomes more intelligent what contributes to faster cycles of the intellectual environment and generating innovations based on collaboration still with deviations. True innovation in the intellectual environment of the city is a change-oriented system that affects the behavior, perception, culture and other senses of city residents, forming co-responsibility to society.

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Local Economic Development Planning Tools: from Subjective to Objective Ones

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Abstract

In the present study, the authors analyse and summarise the information that should be available from information systems of the government, municipalities and private sector to create new decision making tools. These instruments are basically related to the existing data collection and analysis at the lowest development planning level – the village, neighbourhood and community.

Keywords: sustainable development, community development, data analysis, Smart City planning

Introduction

Over the past decades after regaining of independence of the Republic of Latvia, significant changes have occurred in the country's development. The democratic country has been developing, by establishing a new legislative framework to contribute to national development, as well as devoting major efforts to the development of civil society. Land development and use of local resources are planned at different administrative territorial levels, but in recent years the issue has been raised about the need for the lowest planning level – the village and the community.

In the present study, the authors analyse and summarise the information that should be available from information systems of the government, municipalities and private sector to create new decision making tools. These instruments are basically related to the existing data collection and analysis at the lowest development planning level – the village, neighbourhood and community.

Methodology of Research

To achieve the goal of the study, the authors have used the analytical and comparative method for the examination of the current situation as well as the induction method to ensure that the results obtained contribute to drawing general conclusions.

Findings and Results

So far, practical experience, regulatory framework, as well as spatial development planning guidelines have focused on statistical data and direct public involvement (surveys, meetings, etc.) in decision making. In the Latvian context, this approach has serious shortcomings:

- a) The national statistical information is often available only at national, regional levels, or in some cases at the municipal level, but municipalities, in general, do not have the resources and expertise for long-term storage of data on villages, neighbourhoods or communities;
- b) The community's direct involvement is often limited by opinion making and generalisation of a particular group that is most often negatively minded.

The above-mentioned approaches to decision making are essentially considered to be subjective and do not analyse a wide diversity of opinion as well as practical resources and circumstances. At the same time, the government, municipalities and the private sector have a huge amount of data, which, if used correctly and analysed appropriately, would allow creating new tools for objective development planning decision making.

Conclusions

The main conclusions of the study are related to the fact that virtually there is no need for new data storage, but many objective decisions can be taken within the framework of the existing information stored. The use of such information would enable Latvia to start implementing the Smart City concept in smaller

cities and towns more efficiently using existing resources, at the same time ensuring multi-dimensional sustainable development.

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Determining Customer Satisfaction in the Real Estate Management Sector: Case Study in Riga

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Abstract

This article discusses the need to determine customer satisfaction, and how to use it in non-mortgage asset management companies. The goal is to discover the essential elements necessary for customer satisfaction in real estate management companies. A customer satisfaction survey, which enables the management company to gain information about customer needs and control the quality of provided services, is essential for successful operation of the companies, in order to maintain a high standard in one of the fundamental values – quality of customer service. This publication analyses the results of the research, obtained by interviewing the clients of the real estate management company. In the conclusion, proposals are made for methods to continue to improve customer satisfaction.

Keywords: customer satisfaction, valuation methods, real estate management company, residential houses

Introduction

One of the main goals of each company's development is to promote cooperation with its clients. This development goal recognizes the importance of the client and the professional staff in each company's work and development, including in the provision of uniform, high-quality customer service standards, forms, and types.

Customer satisfaction is increasingly seen as a decisive factor in ensuring a company's economic success. Already in the 20th century, empirical studies and scientific discussions from the world's most advanced countries led to the conclusion that a higher level of customer satisfaction encourages customer attraction, strengthens their loyalty to specific companies, products, or brands, provides higher returns, less need for product upgrades, and lower price flexibility over the last few decades.

The aim of this article is to explain the essential elements necessary for customer satisfaction in real estate management companies, and to determine the main goals of the use of the evaluation result.

To achieve the goal, the following tasks were set out: To study the theory of customer satisfaction assessment; to conduct a survey of the company's clients in order to learn the quality of the services provided (according to the client's evaluation); to evaluate customer satisfaction, identify problematic issues, and to submit proposals for the service quality assessment.

Methodology of the Research

In the course of the research, quantitative research methods and direct interviews were used. The survey identified various customer service related issues, based on the opinions from tenants in several Latvian municipalities. Clients (tenants) were interviewed remotely (using distributed questionnaires). During the direct interview, two interview types were conducted, specifically – one was with the employees of the company's management and another with the executive staff, in order to determine the impact of customer opinion on the company's reputation.

Findings/Results

In order to achieve a high level of productivity, increased work efficiency, improved work processes, and quality and customer satisfaction, an enterprise needs to develop internal processes that clearly indicate the actions that each employee should take, and a plan for the interactions of all parties involved in the overall process.

The company should specifically explore the possible sources of positive assessments, provided by satisfied customers, in order to apply these findings to other situations and thus improve the level of overall satisfaction. That is, to find out what makes tenants satisfied and apply this elsewhere.

Assessment of customer satisfaction and further integration of customer needs and wishes into the company's operations is a component of Corporate Social Responsibility, which, in turn, is already geared toward the development and sustainability of future mutual benefits.

Conclusions

1. Tenant satisfaction is a subjective assessment made by a consumer and based on the use of the services in his/ her environment.
2. The tenant's behaviour in the real estate market is a process divided into five stages (problem identification, search for information, evaluation of alternatives, receipt of the service, and behaviour within the lease period).
3. There is no uniform customer behavioural model, but all is based on the consumer's needs and wants, which are influenced by the external and internal environment, and which also define the essential characteristics of the customer's needs.
4. Ultimately, customer satisfaction can be created only by a combination of all of the accommodating factors, which means that the service must be high-quality, professional, cost-effective, and environmentally attractive to the client, as well as to the real estate management service.
5. Customer satisfaction can be assessed by various methods that can be subjective and objective. In practice, subjective methods are used more often, since they can reflect customer satisfaction more accurately, but the number of subjective impressions must be sufficiently large in order to provide the correct premise regarding the information that has been gathered.
6. Despite the fact that an opinion obtained through personal experience is considered to be more valuable, the media also has a strong, increasing influence on the formation of attitudes and opinions in society.

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Individuals Involvement in Development of Technical Solutions and Rules of Management

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Abstract

In the process of large - scale housing renovation planning, development and implementation different types of persons, energy auditors, designers, architects, project managers and builders will be involved. When participating in large - scale housing development phase of the renovation project, great attention should be paid to the first stage - to energy audit and technical project development. The problem arises because each of these individuals, during the development of technical large - scale solution documentation process, does not work as a completely unified system. The paper studies the mutual co-operation, professionalism and information feedback role of personnel involved in housing renovation-planning stage, which is an essential prerequisite for the renovation process to achieve high quality of work and to reduce the energy performance indicator.

Keywords: Residential buildings, building, renovation, energy efficiency, technical project

Introduction

The implementation of construction project planning, realization and organizational management system is one of the most important factors to ensure that the large - scale renovation project quality is ensured in accordance with the laws and standards of regulation.

In March 2016, Latvian government approved a new support program for increasing energy efficiency in large - scale. For the support of renovation of large - scale in the period from 2016 to 2023, 166 470 588 euros will be available.

The life cycle of a home is considered the time from the moment the house is built, until it is demolished. Life cycle indicators are both economic and ecological.

Taking into account, the economic aspects are essential to the costs necessary to build these housing, as well as the management and restoration throughout its life. On the other hand, from an ecological point of view, the impact of the building and its maintenance on the environment is significant.

The aim of the research is to find out the level of obligations, rights, responsibilities and capacity of the persons involved in the renovation process.

Even until the beginning of an economic downturn in 2008, most of the population of Latvia took into account only the economic aspects and only in recent years various media and experts started to popularize ecological aspects, applying and using the term- the principle of sustainable construction, whereby the construction process creates a high quality living environment for current and future generations, including providing the necessary energy for the building, contributing to the existing structures including adaptation and effective use of natural resources.

This research includes of personnel involved in the planning stage of housing renovation the professional capacity, the level of responsibility and the ability to co-operate in the development of the technical documentation.

Methodology of Research

The main tasks of the research are the following: analysis of the theoretical aspects and contemporary scientific issues, analysis of the data, expert interviews, summarization of the results of the research and development of the proposals. The comparison, qualitative, data analysis and logical access methods have been used in the study.

Findings/Results

Housing and its development perspectives can not be separated from the overall development of the country, they are related to the growth of many other sectors, therefore, future plans and tasks are included in various sectoral policy documents.

The following proposals are put forward for the improvement of the situation: to ensure the development of technical documentation according to customer preferences and in compliance with regulatory framework, it is necessary to choose an authorised person, who ensures project management and monitors the implementation of all project development stages. The key to successful project management is a specialist – project manager who has the technical knowledge, the ability to make economically justified calculations, as well as experience in building renovation management.

Conclusions

It is in the interest of the homeowners to extend the life cycle as much as possible. This can be achieved by properly organizing the maintenance of the house and maintenance of some of its elements, as well as renovation. The authority, which receives the project proposals and gives the final opinion on the funding allocated, should provide technical advice to reduce the risks at the preparation and implementation stages of the improvement project on the energy efficiency. High quality building inspection improves the development of technical solutions in the building design and reduces the chances that during the project there will be unexpected expenses (non-eligible costs).

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Fire Risks Analysis in Latvia

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Abstract

Buildings is the major importance of national economy, real estate market, residential housing, construction industry and others industries. Also the major importance of real estate management is risk management, and one of the part of risk management is fire risk. Fire is basic for the development of human society, and it has become an important part of human civilization. Among different types of disasters, fire constitutes a significant threat to life and property in urban and rural areas. In Latvia fire risk control Fire and Rescue Service of the Republic of Latvia. Some of functions of Fire and Rescue Service of the Republic of Latvia are: to perform fire-fighting and rescue works and to co-ordinate the activities of fire safety, fire-fighting and rescue services and voluntary fire-fighter organizations established by institutions, organizations, commercial companies and local governments, which activities are related to fire safety and fire-fighting. According to the data offered by Fire and Rescue Service of the Republic of Latvia from 2005 till 2015. The main sense in fire risk is the activities of fire safety and causes of the fire. Causes of the fire: heating systems, children's play with fire, electrical equipment and other equipment, careless handling of fire, firesetting and other reasons. The comparison, data analysis and logical access methods have been used in the study and the recommendations on the improvement of the situation have been developed.

Keywords: fire risk, real estate market, property insurance, fire risk analysis, fire risk management, fire-fighting, fire safety, careless handling of fire, firesetting.

Introduction

Fire risk is the major importance in the management of real estate. Management of real estate has the ownership responsibility imposed on real estate long-term existence, ensuring maintenance of the property and the processes related to real estate management. Fire risk management is an issue for Latvia where a large percentage of real estate constitutes the housing fund. The problem is causes of the fire: heating systems, children's play with fire, electrical equipment and other equipment, careless handling of fire, firesetting and other reasons. In Latvia is low level culture for fire safety, and many causes of fire - careless handling of fire.

The relevance of the study is determined by the fact that the solving the problem of fire risk, developing activities of fire safety for real estate management, construction industry, insurance and regulation basis affect also the country's socio-economic development.

Methodology of Research

In Latvia, fire risks were categorized in causes of the fire: heating systems, children's play with fire, electrical equipment and other equipment, careless handling of fire, firesetting and other reasons. Fire occurrences from 2005 to 2015 in Latvia are presented in Table 1.

Table 1. Causes of the fire from 2005 till 2015

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Causes of the fire											
Heating	856	961	749	626	769	906	909	1099	949	1020	903
Children's play with fire	150	147	112	109	97	82	129	107	87	68	68
Other reasons	182	168	161	223	174	175	177	285	392	424	404
Electrical equipment / equipment	1100	1230	1221	1145	1017	1055	1019	1030	1123	1155	1084
The reason is clarified	320	34	34	45	26	4	9	112	6	7	5
Careless handling of fire	5939	13424	7760	6396	6235	5166	5771	5067	6037	8057	6459

Firesetting	306	331	142	423	679	699	798	836	1227	1444	1388
Causes of the fire Total:	8853	16295	10179	8967	8997	8087	8812	8536	9821	12175	10311

Figure 1 illustrates statistical data of Fire and Rescue Service of the Republic of Latvia of causes of the fire from table 1.

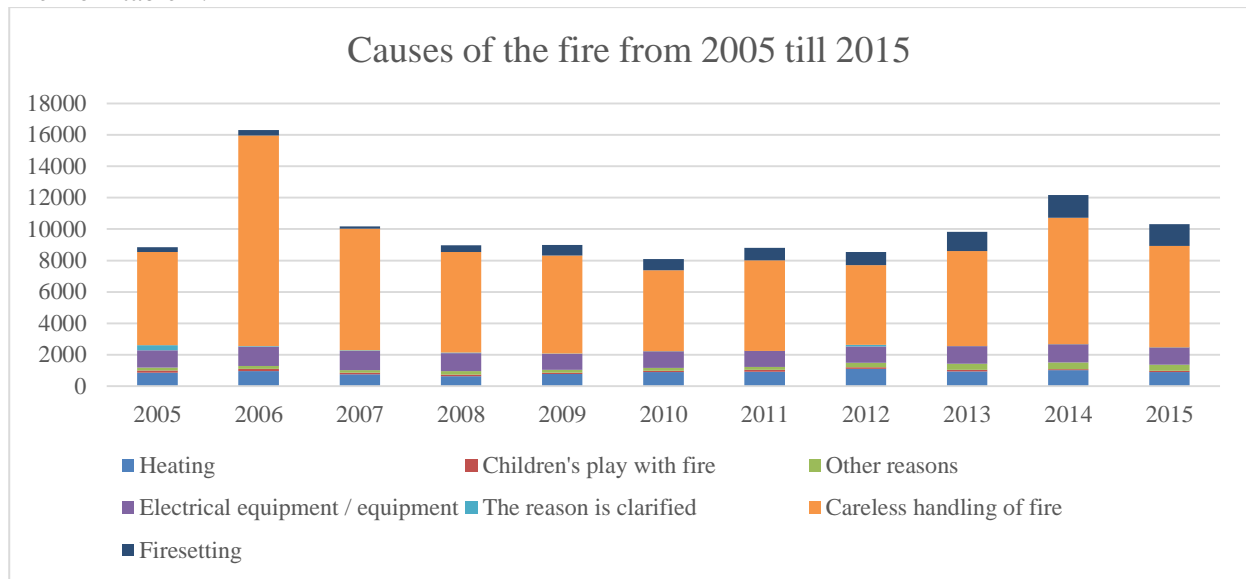


Figure 1. Causes of the fire from 2005 till 2015

The statistics of causes of the fire, from 2005 till 2015 were collected Fire and Rescue Service of the Republic of Latvia, the most reason of fire is careless handling of fire – average more than 60 %, heating and electrical equipment causes – average 15%.

The objective of the study is the fire risk impact on buildings, real estate for the detection of the problems in the context of sustainable development and improvement of the situation. The main tasks of the study are: the theoretical and scientific aspects of the research, management system development and operation, process influencing factors, data analysis, conclusions and recommendations. The comparison, statistical data analysis, logical access methods have been used in the study. Data was obtained from a number of external sources for the purpose of this study.

Findings/Results

The several following proposals are put forward for the improvement of the situation: the state should undertake an active role in this process of the solving the problem targeting fire prevention activities for real estate management, construction industry and insurance. Developing system of activities of fire safety in Latvia.

Conclusions

The results of the study show that fire risk management and the activities of fire safety is a multi-step process, which requires a comprehensive approach and close attention to a number of the existing problems in the country. Some factors, such as the access to finance, structured legal environment and information feedback - all make a direct impact. All the above mentioned aspects have a direct impact on the national and regional economy of the country and the development of it.

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Development of Sustainability of the Construction Sector in Latvia

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Abstract

The construction sector plays an important role in the overall structural division of the economy, with the tendency that its importance grows with each passing year, as is shown by the fact that the number of employees in the sector is increasing every year. The construction sector is characterized by strong influence of the country's economic development, seasonality of certain types of work, high building materials, labor and energy intensity, as well as significant maintenance and acquisition costs of fixed assets. The objective of promoting sustainable construction projects is to promote the demand and supply of housing in the market, which is in line with the basic principles of sustainable construction and management.

Keywords: Civil construction, sustainable construction,

Introduction

Modern, rational and resource-saving building design, thermal insulation, ventilation and heating system solutions can significantly reduce the energy consumption needed for maintenance of the dwelling, so monthly maintenance costs can be 50 to 90% lower. Resource volumes in the world have reached critical boundary, therefore it is forecasted that already available resources of the Earth will be exhausted by around 2050. Also, the global population will increase disproportionately, now exceeding 7.5 billion, which means more and more resource consumption. Many scientists are alarming and point out the potential shortage of resources in the future and their irrational use in the construction process and the further use of buildings today. This issue has been studied by foreign scientists such as H.H.Ali, S.F.A. Nsairats, R.J. Kols, S.K. Chau, M.S. Tse, K.Y. Chong G.K.C. Ding, as well as local scholars: T. Tambovceva, I. Geipele, S. Geipele, A. Korjakin, V. Bokalder, M. Bloka (Ali, H.H.; Nsairat, S.F.A. (2009), Cole, R.J. (2005), Chau, C.K., Tse, M.S., Chung, K.Y. (2010), Ding, G.K.C. (2008), Tambovceva, T., Geipele, I., Geipele, S. (2012), Korjakins A. (2011), Bokalders V., Bloka M. (2013), etc.

Methodology of Research

The aim of the research is to investigate and analyze the state of sustainable construction in Latvia at the moment, identifying possible future development strategies based on world practice and experience.

During the development of the research, the authors used various research methods, i.e., historical and logical approaches, comparative analysis and synthesis methods, as well as inductive and deductive data analysis methods, as well as data processing with SPSS software.

Findings/Results

In Latvia, according to the Statistical Classification of Economic Activities (NACE Rev. 2), construction includes general and specialized construction of buildings and civil engineering structures. It includes new construction, repair, rebuilding and renovation, prefabrication of structures or structures at the construction site, as well as the construction of temporary buildings.

The importance of the construction sector as a united component of modern economic relations and the impact of construction products on international trade have been studied by foreign scientists such as G.Mensch, W.Weidlisha, G.Haag (Mensch G., Weidlich W., Haag G. (1983), etc.

The authors of the study reliably accept the information gathered in the Construction Information System, as the survey of industry experts' opinions suggests that industry-based entrepreneurs consider it necessary to register in this system and regularly update information about their company and their activities, which allows them to participate in construction tenders and projects. related to state and local government orders. Consequently, the authors of the study assume that 5193 construction companies are active in the construction sector. It should be noted that the large number of companies in the industry forces each company to think about increasing its competitiveness, which certainly includes the use of the latest

innovations and technologies. It enhances the productivity of the company and ensures that the project can be developed according to the wishes of the client. In addition to competition, domestic companies are also competing foreign construction companies with the latest technology and innovative solutions for their application.

Conclusion

The authors of the research believe that it is not possible to demand a green lifestyle, healthy, organic food where people live in a half-mass and are forced to choose not the healthiest but cheapest available diet. Also, one cannot plan the formation of a healthy and educated personality, where there is not enough resources for providing high-quality health care and educational services. Of course, one cannot expect the creation of high added value from a society that is being abandoned every day by the unsafe, inaccessible, uncomfortable, non-physical physical environment and social problems.

When constructing buildings according to any of the new, but globally well-approbated concepts in Latvia, it is necessary to increase the competence of all specialists and enterprises involved in the sector, the level of education, and competitiveness; support for local business, research and innovation; the dependence on expensive imported energy resources is reduced; reducing the amount of CO₂ emissions in the atmosphere, and improving the living space and quality of life in the long run.

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Importance of the Marine Cadastre in the Development of the Real Estate Industry in Latvia

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Abstract

In Latvia, issues of the Real Estate Cadastre have been arranged, however, it has to be noted that there has been an uncovered part of the issues affecting the Baltic Sea, i.e. the issues of the Marine Cadastre. The status of the Baltic coastline is very essential element of infrastructure for all countries around the Baltic Sea. This baseline serves the key element or reference for of Marine Cadastre. In place-to-place this line is dynamic element at it is possible to monitor location with advanced and progressive technologies. Issues of the Marine Cadastre are in the agenda in many EU countries, and several international projects are realized. Land parcels from the sea are registered and maintained in the Cadastre Information System. Starting from 2017, the State Land Service of Latvia has started to register coastal areas two kilometres in width from the Baltic sea baseline. Cadastral information about Marine Cadastre will be used for spatial planning and taxes. Spatial data will be used for marine monitoring.

Keywords: Marine Cadastre, sea areas, Baltic Sea, Real Estate Cadastre

Introduction

The United Nations Convention on the Law of the Sea (UNCLOS) accepted in Jamaica on 10 December 1982, but UNCLOS entered into force on 16 November 1994. All European Union member states as well as the European Union itself, have ratified the convention or have acceded to the convention. Different countries Marine Cadastre implementation process and stage of development is very uneven and different, the Marine Cadastre is in operation in Australia, USA, Canada and Trinidad Tobago for example. The leading country in Marine Cadastre from Baltic sea region is Sweden.

Most of the similarities and differences between the Marine Cadastre and its equivalent land units are due to the fact that any marine environment has unique characteristics that are not applicable to the terrestrial environment and hence to the land register and cadastre, although many of the components used in the cadastre, rights, etc., as well as scientific and applied research and other components, are of equivalent status both in the sea and in the ocean (Binns et al., 2004; Collier et al. 2001; Neely 1998; Widodo M. 2003).

Methodology of Research

The aim is being to lay down the framework and main principles of implementation Marine Cadastre in participating countries including space technologies. Research tasks are analysis of best practice about existing marine cadastral systems and the possibilities to implement this knowledge in Baltic Sea conditions; legal matters related to marine cadastre in Latvia; administrative and organizational issues related to marine cadastre; technical issues providing geospatial reference framework related to possible implementation, also as the possibilities to disseminate the information for supporting Blue economy.

The comparison, data analysis and logical access control methods have been used during research development.

Findings/Results

A marine cadastre is a marine information system, encompassing both the nature and spatial extent of the interest and property rights, with respect to ownership and various rights and responsibilities in the marine jurisdiction. (Nichols et.al, 2000).

In Latvia there is not established Marine Cadastre. If Marine Cadastre would be established the definition of marine cadastral parcel would be: Marine cadastral parcel is cartographic demarcated territory of coastal land part and territorial waters.

The authors of the research believe that the development of the Marine Cadastre in Latvia has previously hampered the support of the local legislators (the Ministry of Environmental Protection and Regional Development) for the progress of the INTERREG project, which caused the project to stop. However, with 2017, the first Marine Cadastre has emerged, as from 1 January 2017, the municipality's possession of the right to coastal waters is recorded in the Cadastre information system of the State Land Service (SLS).

The main reasons for establishing Marine Cadastre are to help to ensure sustainable management of the Territorial waters and Internal waters; help to resolve the rights of ownership in the Territorial waters and Internal waters and help to accumulate complete cadastral textual and spatial data for land parcels and buildings, which are located in the sea.

The SLS envisages that in 2020, upon entry into force of the new Law on the State Cadastre, sea units will be registered in the cadastre in the territorial waters of the Republic of Latvia and in the exclusive economic zone.

Conclusion

At present, the Cadastre of the Republic of Latvia registers marine areas only 2 kilometers from the coastline, but in international practice this distance is 3 nautical miles (almost 6 kilometers). It should be noted that coastline data is derived from orthophoto maps of the Latvian Geospatial Information Agency, which are updated every three years - hence it is assumed that the coastline is constant for three years, but in practice the changes are much faster. The authors of the research believe that it is necessary to use satellite data or airborne surveying to track shore line changes more efficiently.

It is also necessary to indicate that normally the areas of the Baltic Sea cadastral area in Latvia overlap, which, in turn, would be an inadmissible situation in the land cadastre.

In addition to complete Marine Cadastre, it is necessary to indicate the utilities, cables under the water surface, the sites of mineral deposits, both already discovered and potential ones. It should include a depth card or bathymetry and various other data. The authors of the research believe that the modern Marine Cadastre means not only the standard cadastral map, but also the possibilities of spatial visualization, similar to the "Google Maps on the Sea", when the cadastral area can be found in the three-dimensional (3D) virtual reality.

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Multi-Story Residential Building Apartments as a Sustainable Construction

Object: Research Results in Riga

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Abstract

A significant part of residents in Riga live in series multi-storey residential buildings, which were projected and constructed in the period from 1950 to 1992. From a modern point of view, these buildings are obsolete; besides, in the course of construction process the durability and reliability grade were planned to be insufficient. Their technical condition requires urgent repair and renovation work. In Riga, residents of series multi-storey residential buildings do not support building renovation and are passive, despite the availability of the EU and government support as well as co-financing of building renovation projects in Riga and all over Latvia.

Keywords: Multi-story residential building apartments, sustainable construction object, renovation

Introduction

Before starting building renovation projects, much opposition is encountered in the matter of restoration work; therefore, it is necessary to investigate series multi - story residential building apartments owners' comprehension of the technical condition of buildings and of the building renovation issues.

Series buildings residents of apartment are among the largest resource consumers. Series buildings were built in the last century. They are both physically and morally obsolete, they need major repairs and renovation.

It is important to find out the opinions of tenants of residential buildings on the dwelling they live in, its technical condition and renovation needs, because the apartment is the subject of sustainable construction.

Energy efficiency is the ratio of the resulting product or service and the energy consumed. In turn, the improvement of energy efficiency means improved energy efficiency as a result of technological, end-user or economic activities.

Renovation or capital repairs, implementing technical and operational improvements of the building, is one of the most important measures in promoting energy efficiency in buildings. (Seo S., Tucker S., Ambrose M., Mitchell P., & Wang C. H. , 2005).

Methodology of Research

The research was conducted with the aim of finding out the views of apartment owners and tenants on their place of residence - apartment buildings and architecture, technical equipment, operation and maintenance, environmental and health issues. The authors of the study want to find out whether residents perceive their apartment as a building of sustainability.

During the development of the research, the authors used various research methods, i.e., historical and logical approaches, comparative analysis and synthesis methods, as well as inductive and deductive data analysis methods, as well as data processing with SPSS software.

Findings/Results

In Latvia, the majority of residents live in series residential buildings, which were projected and constructed from 1950 to 1992. These buildings account for more than 10 % of housing stock. At this time period, these buildings are obsolete; besides. In Riga, where there are more than 6,000 series multi-story residential buildings, residents specifically do not support building renovation and are passive, despite the availability of the EU and government support as well as co-financing for building renovation projects. Under Latvian climate conditions, a dwelling is one of the main basic necessities. However, the prevailing view of the owners of apartments in the residential building is that the state of the residential building is not their responsibility but rather the responsibility of a third party. Although the privatization of multi-

apartment buildings had been completed more than ten years ago, momentum thinking remained from the time when the apartment and the building as a whole were not a family property.

The apartment and co-ownership share of the multi-apartment building in most cases is the largest property, greatest material resource of the families living there. It would be understandable if the family budget resources were assigned to conservation of the dwelling as resource and preservation of its use value.

The majority of respondents assume that the apartment is the most significant asset of the family. 34 %–69 % of respondents have renovated their apartment and save resources - electrical energy, water and heating energy- within their apartment boundaries. Only some respondents evaluate the technical condition of communal property, but most respondents do not have information concerning resource supply and energy accounting as well as are not interested in resource saving possibilities within the building in general, and do not understand the importance of technical maintenance of the building.

88 % of respondents consider that the central task of the building management and maintenance is sanitary maintenance of communal facilities of the building, rather than building development, such as refurbishment and renovation, as well as elimination of depreciation, improvement measures of energy efficiency.

25 % of respondents are ready to make savings for the renovation of communal facilities and energy efficiency improvement of a building. 50 % of respondents considered that the reduced consumption of building thermal energy was the most significant aspect in the building energy efficiency.

Conclusion

The cooperation between the management company of series residential buildings and residents is vital to develop comprehensive understanding of building renovation and energy efficiency issues in the community. Owners of series multi-story residential buildings understand the need for building renovation and energy efficiency improvement, but, there is an obvious lack of knowledge concerning cooperation opportunities within the community of owners of multi-story residential building as well as organization and management of building renovation projects. The authors of the research believe that, the integration of building renovation projects in the building maintenance and management programme is the key aspect.

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Problems and their Solutions of Property Daily Management

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Abstract

The maintenance management is complex of daily processes and has a significant impact on the profitability of the business. Managing this process effectively without computer-based support in our computerizing life is almost impossible, but achieving successful implementation of these systems requires a major change-management program over many years. It is not surprising then that there is a high success if you can optimize your management cost and sell high quality service for clients with optimal price and your property quantity are growing up in a progress. There are not only control the budget but also play the role of decision makers when it comes to the protection of their property. Their responsibility is the same as ours—the protection of people, property, and facilities through the use of security forces, security systems, and security procedures. To incorporate in a computerized maintenance management system (CMMS) a scheduling support tool that given a set of preventive maintenance tasks and the availability of equipment and technicians, returns, solutions and full history what based on a algorithm that aims to minimize the total tardiness. Many CMMS implementations fail because the maintenance organization is not “ready” to be supported by a complex computer system.

Keywords: property management, maintenance, maintenance activities, CMMS.

Introduction

Many companies measure and understand productivity when applied to the creation of the product or delivery of the service they provide – it's the ratio between output and input. This is a measure of the efficiency with which we use scarce resources – we're asking "how much wasted time, energy and material goes into making product X or delivering service Y?" or periodic maintenance what consist of determining an optimal scheduling plan for servicing a set of machines over a planning horizon while minimizing the total costs associated to that problem.

Particular focus in the many asset intensive companies do not measure or understand is that the principles associated with measuring productivity can be applied internally and particularly to their maintenance programs – after all, maintenance is a service. When maintenance productivity is optimized, asset intensive companies often realize a significant commercial advantage over their less effective competitors, if were includes of the development methods through the use of Lean Maintenance techniques: understand about staff time and effort wasting, staff soft skills improvement, doing the work right, development and implementation of balance and to Think Holistically

Methodology of Research

The aim of research is the examination of Latvian Maintenance association to understand management processes aspects and needs for properties daily management and as a result to detect the urgent problems and finding solutions for this area reliability growth while solution choices for improving maintenance effectiveness and efficiency. In this case, which every day become increasingly topical of the European established a foundation of processes and procedures to ensure clear responsibilities and accountabilities for all functions within the maintenance organization. It provided CMMS operations with a comprehensive set of maintenance strategies to ensure functions is preserved, and a baseline for performance measurement and their improvement. The objective of the maintenance management work stream was to establish a series of additional group standards to set direction and procedures for the execution of maintenance activities and business process developing in order to clarify the end to end sequence of events and highlight key decision points within each process area.

Findings/Results

All over the world, including the European Union (EU) is facing unprecedented challenges in Acquisitions Asset Contracts, Activities, Service Management, Inventories, Asset Maintenance, Inventory

Items, Warehouses, Stocks, Spare service, Service requests, Buildings monitoring and status and all of them in connection with oriented function platforms. Analyse Identify Assets, Processes and Services Characterize and prioritize recommend changes prototyping Implement Configuration implement processes Integrate with external applications or company's software. Based on the analysis of Latvian maintenance service provider's topical daily management problems are ; Lack of communication with apartment owners, accessibility of information; e-based voting is 24 %; Asset management and creation of statistics – 18%; Apartment owners do not want to invest in administrative and renovation operations – 12%; Service request and online mode monitoring – 10%; Ownership of low level of informatively and knowledge – 8%; Owner's refusal to the technical condition of buildings – 6%; Lack of good and responsible specialists in all maintenance area – 6%; Other daily management problems – 16 %. Keeping maintenance department information dated with software for maintenance planning and scheduling, means that Every day, the MP reports on the maintenance jobs to be carried out and once they are performed, the MP reschedules the following date to do them again, automatically adjusting the maintenance calendars. Get a free download of our CMMS and start the implementation of your computerized maintenance management software today. If it necessary everyone can control with user's profile activities of planning maintenance, monitoring, distribution, orders, unplanned tasks, status and allocation of task.

Conclusions

The reasons for managements daily life changing able to be changed to generate staff and management efficiency - it is necessary to compose a set of complex actions and solution using progress and a systematic process with performance analysing throughout life cycle, including all processes: Improve the efficiency of investment, Improve operational efficiency, Reduce unplanned maintenance activity, Reduce planned maintenance activity, Reduce the number of failures in assets, Reduce activity in accordance with standards, Reduce exposure to risk, Increased resource utilization, Higher productivity, Simplifying the operating structure, Reduce administrative activity, Improvement in contract management, Improvement in inventory logistics and data, Management maintenance performance operational effort costs.

The study demonstrates that building's operating environment is functioning correctly, it increases productivity and end user comfort. With the automation and remote management technology available today, clients can achieve dramatic improvements in building and process energy efficiency as well as in cost and quality control.

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Spatial Structuration of the Metropolitan Housing Market: a Systemic Approach

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Abstract

The significance of the research is determined by the diversification of the housing market price in the big cities in a wide range. In Europe and other metropolitan cities, housing prices range from 200% to -300%, in some cities even more. But in statistics, market reports and different advertising booklets, the shown prices are relatively homogeneous, with slight differences. This largely ignores the prices existing in metropolitan areas for housing located in different spatial entity of the city. Therefore it is often difficult to make a decision for the households and other market participants to get involved in a housing transaction in an effort to use their disposal income for maximization benefits. Taking a metropolitan as a system and in accordance with the basic principles of the system's operation, it is logical to conclude that housing prices in a metropolitan area and in each of the metropolitan units are the result of interaction of the city's spatial entity.

Keywords: housing market in big cities; housing market spatial entity; systemic approach.

Introduction

Topicality of the research is closely related to the relatively high price volatility in the metropolitan's housing market. The causes of housing price fluctuations are not easily identifiable and measurable. Housing prices in different parts of the city determines not only the socio-economic, technical and natural environment characteristics of the different places of the mega city, but also price changes in other metropolitan's areas. Nowadays it is difficult for professional and non-professional housing market participants to find themselves in the complex labyrinth of price changes. Therefore, scientists in several EU countries are focusing on research of the spatial structure of metropolitan housing market.

The results of the research shows that the first studies of the housing market structure appeared at the end of the nineteenth century and at the beginning of the last century, when city leaders paid attention for the necessity to increase the availability of housing in cities (Ratcliff R.U. (1949) ; Fisher, E.M. and, Winnick, L.A. (1951), etc.). Scientists also came up with a solution to this problem, and offered various solutions for city managers how to proceed raised problems of affordability. Scientifically significant aspects of housing filtering model have been addressed by scientists from different countries - Smith, W.F. (1966), Weicher, J. (1988), Braid, R.P. (1984); Braid, R.P. (1986); Baer W.C., Williamson, C.B. (1988), Arnott, R.J. and Braid R.M. (1997), substantially improving the concept of housing filtering and bringing it closer to research on the housing market structure. During this time, the first research on cities' housing market from the point of view of the systemic approach also appears. These results of the research are used in further detailed studies of the structure of housing market. However, these studies do not reveal the complete spatial structure of the metropolitan's housing market and the basic unit of the market spatial structure is not defined.

Methodology of Research

In view of the topicality of the theme, the following goal of the research has been set:
to develop a spatial structure of the metropolitan housing market within a systemic approach and to identify the basic element of the housing market system.

The research methodic consists of a set of mutually compatible and complementary research methods, in which the central place is taken by a systemic approach methodic. To identify the objective aspects of metropolitan's housing market structure, the observation, comparison, analysis and synthesis methods as well as deductive and inductive methods have been used. For the analytical assessment of scientific articles relevant to the research topic, the deduction, comparison, analysis and logical access methods have been used.

Within the framework of the methodic different researches related to the structure of the metropolitan's housing market has analytically evaluated. The focus of these studies is on the housing market filtration method, its further development, and the development of the housing market filtration model as beginning of applying the systemic approach for the investigation of the structure of a housing market. The concept of "city - system" and its emergence into scientific research plays an important role in the development of the systemic approach. It gives an unique opportunity to get an initial picture regarding to housing market as the significant element of the city - system.

Results

The obtained results of the research on urban spatial structure, the housing market system's elements and neighbourhood, are significant for achieving the research goal. These results are used for identification the spatial structure of metropolitan's housing market and the basic element of this market's spatial structure. As a result of the research, the metropolitan housing market is divided into the following spatial units: metropolitan environs, neighbourhoods, neighbours or adjacency and housing - separate living house or apartment in an apartment house. From the systemic approach follows that mentioned spatial units are elements of a metropolitan housing market system or subsystems.

Conclusions

Using the systemic approach in the spatial study of the metropolitan housing market provides the more detailed and clearer understanding concerning to the price of housing throughout the city and its spatial units. The quantitative and qualitative characteristics of the spatial units of the metropolitans housing market, including price, has determined by the elements of the system, their mutual interactions and interactions with the surrounded environmental. The main element of the housing market system, is a housing - artificially designed construction suitable for living with the adjoin plot of land. The structure of this mini system consists of the following STEGE: social, technical, economic, governance and environment. These elements interact with each other and with the external environment and determines the price of the dwelling that is located in the particular spatial unit of the city. This is the most significant reason why housing prices are varies widely in the metropolitan's area.

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Housing Heterogeneity and Nebulosity of the Valuation Standard: Problems and Solutions

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Abstract

The significance of the research is determined by the unconformity of the content of the housing market system and its basic elements with the standard of appraisal of housing and its practical application. The results of the research show that the International Valuation Standard and European Valuation Standard does not cover all dimensions of the heterogeneity of housing and other kinds of a real estate. These Standards are saturated with qualitative elements in the explanation of various concepts, which are subjective perceptible and explainable. The existence of subjective elements in determining the procedure of valuation and in the conditions of the revelation of the results of the evaluation opens up comparative wide opportunities for manipulation with the situation in the procedure of the valuation. Such weaknesses of the Valuation standards contributes for the intensification of information asymmetries between different groups of the real estate market participants and increases the difference between the estimated market value of housing and its real value as well.

Keywords: housing heterogeneity; valuation standard; unconformity; information asymmetry.

Introduction

There are comparatively few studies in the academic environment regarding to the results of valuation of real state goods, the conformity of a certain market value with the real value of the object of real estate, which consists of such dimensions - the social, technical, economic, management, and environmental dimension. Insufficient attention from the researchers side is devoted to the application of the Valuation Standard in practice and the standard's compliance with the heterogeneity dimensions of real goods. It has proven in practice, that in the case of valuation of the real estate's object, the focus is driven on the technical aspects of the object to be assessed and the location of this object. But more or less ignored has the necessity of analytically assessment of the social, managerial and environmental dimensions of the valued real estate's object. Thus, the requirements of the Valuation Standard and the data contained in the Valuation Report do not correspond to the structure and content of the assessed object, and the user of the valuation report does not obtain the necessary understanding of the utility of the real thing, its potential profitability. Such controversial situation contributes to the widening of the information asymmetries between the participants of the real estate market that do not comply with the basic principles of market supervision and with the primary objective of the International Valuation Standards Council.

Methodology of Research

Accordance of the topicality of the theme, the following goal of the research has been set:

to reveal the unconformity between the dimensions formed the value of housing, their quantitative and qualitative aspects and the real estate's Valuation Standard as well as requirements included therein related to the market value of the assessed real estate object.

Appropriate methodic is used to achieve the purpose of the study. It consists of the set of mutually compatible and complementary research methods. The central place of the methodic is taken by a comparison method, deduction, analytical, synthetic and induction method as well as systemic approach methodic.

Within the framework of the methodic a relatively large number of evaluation reports were analytically analysed with respect to the market value of different housing included in the valuation reports. In this content more attention was paid to the issue: how completely the housing heterogeneity dimensions, their quantitative and qualitative aspects are revealed in the valuation reports.

Results

In the research concerning to the heterogeneity of housing and housing market value included in the valuation reports obvious weaknesses were revealed. Much attention were devoted to the technical dimension of the assessed housing in the evaluation reports, as well as for discovering technical aspects of the housing in relation to its location in the city and the housing market value. Thus, from the part of housing valuer several dimensions of the housing heterogeneity participated in the formation of the housing market value formed of housing are neglected: a social dimension – quantitative and qualitative aspects of the dwelling's residents and residents of the neighbouring dwellings as well as passers-by and city guests; the dimension of housing management and its interaction with the management structures of the surrounding area and the whole city as well; the economic dimension of housing in relation to housing maintenance costs, and management fees, availability of workplaces in the vicinity of the dwelling and throughout the city. The environmental dimension also has ignored in the evaluation reports, it is very important for the health of the population and the formation of healthy lifestyle traditions and their distribution among the inhabitants of different dwellings.

Conclusions

The current version of the International Valuation Standard is not incompatible with the dimensions of housing and other types of the real estate heterogeneity and market value. Several of the heterogeneity dimensions are ignored in the Valuation Standard and Valuation Reports. The revealed shortcomings in the standard facilitates the formation of information asymmetries between market participants. As a result, market participants do not get enough knowledge to make more efficient utilize their disposable income. The Standard Supervisory Commission should complement the Standard text, which would include references to all aspects of the heterogeneity dimensions of real estate.

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Data Mining Process Integration in Sales Process

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Abstract

Information Technology (IT) development allows organizations of different type create and store enormous amounts of data. This process has stimulated cooperation of several disciplines –IT, marketing and statistics to fully utilize stored data in the organization. Organizations that can make use of so called “Big Data” tend to create competitive advantage. The aim of the research is to develop segmentation model without using programming languages for statistics that can be integrated into sales process. The result of research show that without advanced IT and/or statistical knowledge one can analyze “Big Data” and create models that can be transferred and implemented in sales or other business processes.

Keywords: data mining, sales process, big data, segmentation, data analytics, predictive modelling.

Introduction

To gain competitive advantage organizations must utilize to full extent available resources. By analyzing available data that often is stored for other purposes than sales improvement one can identify relationships between different variables and predict target values. It can be done in several ways. One is to use specific programming languages for statistics like R or Python. Another way is to use Graphical User Interface (GUI) type of software like SPSS Modeler or RapidMiner that does not require programming skills.

Methodology of Research

The aim of the research is to create segmentation model by using GUI type of software that can be integrated into sales process. CRISP-DM methodology is used to conduct research. The object of research is organization sales process. The subject of research is data mining process. The research includes case of an organization when segmentation model is created. The analysis and literature review methods have been used in research.

Findings/Results

Results of the research show that it is possible to developed segmentation model that have positive impact on organizations financial performance. It can be achieved with GUI analytical software RapidMiner Studio without programming skills. Outcome of the segmentation model is possible to transfer to Structured Query Language and create predicting variable that can be integrated into core organizations system. This value can be used further in sales process when defining organizations targets.

Conclusions

The result of research shows that data stored in organizations can be used directly or in derived format to improve revenue stream. By using CRISP DM methodology and GUI analytical software RapidMiner Studio it is possible to analyze large amounts of data (also called “Big Data”) and create segmentation model. Predictive model has the same outcome as segmentation model. The results of research show that it is possible to replicate process to create different models and improve other business processes. Business knowledge is needed to define target values and describe variables that can be evaluated for segmentation.

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Characteristics of Land Grabbing in the 21st Century

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Abstract

The phenomenon of land grabbing has emerged on the world scene since 2007 due to the increase of food prices and the expectation of continuous population growth in the coming years as well as high oil prices which stimulate investments in biofuel industries. Since then a lot of research has been published to describe why international land transactions have increased to unprecedented levels. The term 'land grabbing' and also the terms 'large-scale land acquisitions (deals, transactions)', 'land grabs', 'global land grabbing', 'rush for farmland', 'large-scale transnational land deals' are worldwide used. But what needs to be determined is their content and possible unifying characteristics in various countries as well as what are the drivers of land grabbing in Africa, Asia, Latin America and even some regions of Europe? The aim of this research is to find the answers to these three main questions.

Keywords: land grabbing, large-scale land transactions, international real estate transactions, land foreignization.

Introduction

The term 'land grabbing' since 2007 food price increase is used worldwide to describe large scale land transactions through purchase, lease or concessions mostly to develop food and biofuels production as well as mining, urbanisation and other projects in Africa, Asia, Latin America as well in Europe. Main drivers of the investments in farmland abroad at the beginning was food importing countries - the Gulf States, China, South Korea and India directly or through state-owned entities and public-private partnerships with the goal to secure food supplies and energy security. Afterwards in the rush for farmland engaged other actors including international corporations involved in global agro business. Many authors emphasize that land grabbing is not new phenomenon of human history. The process of land grabbing resemble many episodes in the world history - territorial wars, enclosures in Europe in the 16th century and dispossession of native population in North America and Australia etc. The main goal of this research is to determine the unifying characteristics of the term 'land grabbing' in various countries.

Methodology of Research

The methods used in the research was the systematization of the scientific literature for the analysis of the land grabbing, quantitative and qualitative methods, logical constructive and statistical analysis methods of data from different countries. The main difficulties in data analysis occurred because the term 'land grabbing' incorporates different forms of land transactions – purchase, lease and concessions as well as the fact that land grabbings often are characterised by the complexity, lack of transparency and according to the theory of access not always is simple to discover who is benefiting or gets control of land in particular transaction.

Findings/Results

Research results show that international land transactions, which are described as land grabbings, have a great influence on the social-economic and political system of individual nations. In comparison with various nations, the reasons for these transactions are similar but also differ. A transaction, even if it has land grabbing characteristics is not always classifiable as a land grabbing due to the lack of essential qualifying characteristics as, for example, large-scale dimensions. Thus the term 'land grabbing' is not unequivocal and therefore individual authors emphasize a certain aspect of the land transaction or its resulting consequences for example, environmental grabbing, water and forest land grabbing.

Conclusions

Land grabbings worldwide are characterised by – human rights abuse, large scale transactions, low price of resources, low transparency, land concentration, expulsion of native people, transactions mostly are not

made on equal terms between the investors and local communities, change in the livelihood of rural communities, threat to traditional rural livelihood and environmental sustainability, foreignization of land, commodification of land as well as the fact that this is a global trend.

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The Reasons for Significant Limitation of the Program of Temporary Residence Permits for Foreigners Who Have Invested in Immovable Property in Latvia

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Abstract

There exists sharp competition amongst nations regarding increasing foreign investments therefore nations are willing to offer foreign investors and their families some type of political bonus such as a temporary residence permit, permanent residence permit or even citizenship. The simplest way to entice investors is to offer them and their family members temporary residence permits in exchange for investments - simply by purchasing immovable property (via the so-called "Golden Visa" programme). Such a programme was launched in Latvia in 2010, however it was significantly limited in 2014. This research will 1) compare the "Golden Visa" programmes in different countries in the world; 2) determine the impact of the programme on the economy of Latvia; 3) search for the main reasons why limitations were applied to the temporary residence permit programme in 2014, which caused a significant decrease of the international investments in Latvia.

Keywords: temporary residence permits, international real property transactions, land foreignization, Golden Visa.

Introduction

Latvia started to offer temporary residence permits in exchange for investments in real property in 2010 and quite suddenly introduced significant limitations to the programme in fourth quarter 2014. First of all, the aim of the research is to compare similar "Golden Visa" programs in different countries to prove that compared to all other countries in the world until 2014 Latvia offered the most inexpensive opportunity for a foreigner to obtain a temporary residence permit (and thus permission to freely travel within the countries in the Schengen zone) by simply purchasing real property for the minimum price of EUR 71,139. Secondly, the influence of this programme on the real property market in Latvia was assessed, and finally, it was found the answer to the question why the government significantly limited this program.

Methodology of Research

In this research quantitative data analysis was based on the statistical data from the Land Registry of Latvia and the Office of Citizenship and Migration Affairs of Latvia. The current legislation of Latvia and other countries was analysed and pertinent literature was reviewed during the research.

Findings/Results

The impact of the "Golden Visa" programme on the real property market of Latvia until 2014 was significant. As a result from all investments, total sum of approximately 1.5 billion investment was added into the economy of Latvia. In some regions of Latvia the part of real property transactions in which foreigners were involved reached more than 50%. In the segment of new developments, the share of non-residents since September 1, 2014, fell from over 60% to 20-25%. After short political discussions, the limitations were implemented disregarding the fact that many entrepreneurs had counted on the programme and planned business activities in the real property construction market. It took the market players a year and a half to adapt themselves to the new circumstances (the market shift towards domestic demand), by making price adjustments and sometimes even shifting the business model to rental apartments.

Conclusions

The main arguments used by governments to limit foreign investments in real property are as follows: threat to national security, protection of national resources, **threat to national sovereignty**, anti-immigration policy, national and cultural identity protection, nationalistic sentiment, xenophobia and sentiment against foreigners, prevention of land speculation, prevention of land price increase, ethnic argument, protection of

native farmers and questionable allegiance. Despite the large contribution to the national economy of Latvia and high demand from the side of the investors, real property developers and real property agents, the programme was significantly limited. The main reason of the limitation was – threat to national security.

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SUBSECTION

**“BUSINESS ENGINEERING, ECONOMICS, FINANCE
AND MANAGEMENT“**

Emerging Trends of Health Information Systems Implementation in Low-Medium Income Countries

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Abstract

The implementation of comprehensive health information systems in the public healthcare sector is a complex issue plagued with many challenges. This is more evident in healthcare systems within low-medium income countries (LMICs). Most LMICs face a wide variety of health-related challenges, and healthcare systems in these countries are struggling with limited resources and capabilities to tackle some of the challenges. The use of Information and Communication Technology (ICT) could enable healthcare systems to achieve this. As such, Information Systems (IS) in the healthcare sector could provide relevant information to stakeholders to adequately deliver healthcare services to a population. This article aims to identify emerging trends in Health information Systems implementation in the healthcare sector with the goal of contributing towards an understanding on the nature, contributions, and potential of the on-going research on Health information systems implementation for facilitating healthcare service provision in resource constrained environments. In doing so, a range of databases including Google Scholar, EBSCOhost, IEEE Xplore, Proquest and many more were searched to identify review papers that related to the implementation of Information systems in organizational settings focusing on the healthcare sector.

Keywords: healthcare systems, Health information Systems, low-medium income countries.

Introduction

There is a general belief that respective Information and Communication Technology (ICT) enablers can help healthcare systems in resource constrained environments improve service provision processes, by enabling institutions to do more with lesser resources, quicker and cost effectively (Smedley, 2005; Liu, Chen, & Qin, 2014). And given that healthcare is an information-centric type of service sector, efficient information management and sharing tools make a world of difference. ICT tools can help improve efficiencies in a collective use of all healthcare resources, with arguments suggesting that if a healthcare system uses its resources fully in the allocative and technical sense, they tend to achieve total efficiency. Success of the Singapore and Italian healthcare systems substantiates the argument for healthcare information systems associated successes (Mossialos, Wenzl, Osborn & Sarnak, 2016).

Arguments are that adequate use of ICT based enablers are of paramount importance (Chassin & Galvin, 1998) since the delivery of healthcare services to patients is highly dependent on information (Bose, 2003; WHO, 2004). The introduction of ICTs in the healthcare sector especially the application of mobile communications has created the potential to transform healthcare service delivery by making it more accessible, affordable and effective. However, emerging research suggests that these efforts are tainted by calls for more coordinated, standardized and integrated HIS implementations, mostly for the benefit of the under-served population in resource constrained environments (Pagliari, Detmer, & Singleton, 2007; Robertson, Cresswell, Takian, Petrakaki & Crowe et al., 2010). Stansfield, Orobato, Lubinski, Uggowitz, and Mwanyika (2008) argue that HISs in LMICs are usually developed in a silo ad hoc manner resulting in fragmented systems with limited interoperability and software reuse, and plethora of small pilots that are not scalable. Often the end results are inadequate or non-existent health information systems (WHO, 2014). Lack of resources (financing, human and infrastructure) and policies to implement and manage HIS are cited as impediment factors. With these countries indicating that they required assistance with drafting of strategic HIS plan (ibid).

Methodology of Research

The qualitative research methods generally accepted in economic science was applied. The analysis and literature review have been used in the research. In doing so, a range of databases including Scopus, Web of Science, Google Scholar, EBSCOhost, IEEE Xplore, Proquest and many more were searched to identify review papers that related to the implementation of Information systems in organizational settings focusing on the healthcare sector.

Findings/Results

Numerous studies have investigated factors that influence the implementation of various information systems and technologies within the health care sector. The implementation of new technology in the sector has been proven to be quite challenging due to several inter-related factors. A review of some of these studies on health information systems implementation has revealed recurring themes such as inter-related technical, social and organizational factors that need to be considered in different contexts of implementation especially in resource constrained environments. Other factors such ethical, financial and legal aspects need to be taken into consideration. In their study Continuity of Care Document for Hospital Management Systems: an Implementation Perspective Srivastava et al. (2017) postulate that one of the key challenges facing implementation of health information systems such Electronic Health Records (EHR) in LMICs like India has been the lack of implementation of health standards. The authors note that the compliance to standards is crucial as it ensures uniformity and ubiquity in storage and transmission of patient health data among different systems (ibid).

Kuziemyky and Peyton (2016) argue that in addition to these emerging themes, other issues such as interoperability and systems fragmentation can be barriers to effective use and implementation of HIS. The authors also note that the design and implementation of HISs have not lived up to their potential to impact the delivery of healthcare services (ibid). In LMICs the implementation of information systems is still a challenge that needs to be addressed if the benefits and the return on investment on these systems are to be realised especially in the healthcare sector. What is also emerging from literature is that in order to overcome some of the challenges and barriers to the implementation of new technology within the healthcare sector, a collaborative approach with open communication with all relevant stakeholders is imperative. Working closely with an organization and its stakeholders on an on-going basis is crucial to address potential and realised barriers. A collaborative learning process is essential, with flexible system design to allow for adaptations that must be made to reflect changing needs and requirements. It is important to note that when implementing HISs strategic actions such as management involvement and resource allocation such as tactical actions as integrating HIS with health care workflow, and such operational actions as user involvement, establishing compatibility between software and hardware and education and training should be taken into consideration. This is more prevalent in resource constrained environments where there are often challenges with attracting, training and retaining experienced staff.

Conclusions

In conclusion, it is worth noting that issues surrounding the information systems implementation in healthcare settings in resource constrained environment are critical. Literature showcases that for varied reasons IS implementation has not yet gained much research attention. Addressing the issues of implementing health information systems would mean that the increasing diversity of actors and resources contributes evenly and in a sustainable manner to resolving the information gaps at country and global levels. Good legal foundations are essential to ensure security and privacy of personal data and to set standards for database interoperability, confidentiality, data protection and personnel clearance.

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Key Challenges of Long-Term Planning Support for Sustainable Business

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Abstract

The aim of this paper is to investigate the process of long term planning of sustainable business support system from the perspective of stakeholders involved in the process of planning. The research is based on the case study of the planning process of the support system to support sustainable business development in Jelgava municipality till 2028. Findings are based on the analysed results of working groups (focus groups), that were organised in Jelgava city and Jelgava municipality during years 2016-2017. The findings of this research reveal that main challenges of long- term planning support systems for sustainable business is closely related to limited abilities to see the planning perspective which is longer than 4 years and poor understanding of the concept of sustainability. The assumptions of reasons of key challenges have been presented. The conclusions consist of considerations that need to be considered in order to achieve the long-time strategy for establishment of the sustainable business support system.

Keywords: long-term planning, sustainable business,

Methodology of Research

Collecting qualitative data in focus group discussions.

Findings/Results

- All actions for long- term strategy of support system which are proposed by involved stakeholders are based on the existing knowledge and experience of participants
- All stakeholders who are involved in the long- time planning process can not approve that proposed suggestion will be applicable in 10 years long future
- Inability to propose long- term solutions is explained by changing external environment (to rely on EU funds planning (short term) and municipal electoral cycle)
- The sustainability concept among stakeholders is understood as a long- term instead of sustainable
- The low level of business performance on social and environmental aspects is discovered among stakeholders in the long- time planning process

Conclusions

- Long- time planning must be supplemented by capacity building for involved stakeholders
- Stakeholders proposals must be analysed according additional criteria's such as time receptivity and sustainability before they are included in a strategy document.
- Stakeholders who are involved in the long- term planning must be encouraged on their abilities to affect external environment
- External experts must be included in a long- term planning of sustainable business
- For adequate long- term strategy that may support sustainable business development, additional time and human recourses are needed comparing to inclusive bottom- up planning.

Marketing Opportunities for Small And Medium Businesses In Turkey

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Abstract

Analytical part includes the SMEs' contribution to the economy, comparison of SMEs over larger counterparts, analyze of marketing in medium small sized enterprises, analyze of marketing characteristics of small enterprises, evaluate of marketing planning process in SMEs, analyze of marketing activities in SMEs, analyze of marketing types in SMEs, the problems of SMEs. Theoretical part includes affiliate marketing, online content marketing, social media marketing, mobile marketing, search engine optimization. Titles describes overview, types and goals, core concepts, guidelines and standards. Besides, all the necessary examples, economic calculations and statistical data - are provided. The Practical part consists of the recommendations for marketing development for SMEs, marketing strategy development and marketing planning activities on SMEs.

Keywords: SME, Tyrkey, marketing.

Introduction

Small and medium enterprises are being established in almost each of the world countries. Separately the majority of them are not bringing in a lot of profit in comparison with big enterprises, however, when in each country small and medium enterprises are being evaluated as in one group, the profit brought in by them takes up a great share of the overall GDP and only rise economic situation in countries.

Small and medium enterprises are giving employment opportunities for more than 50% of total amount of employees in majority of countries.

In general, small and medium enterprises might not sound as profitable and valuable as big enterprises, but in reality, they are easier to establish, easier to maintain and easier to guide therefore in the last years especially after crises their popularity in the eyes of business people have increased. Numerous of businesses have changed their form from LLC to micro enterprises due to the reduction in tax payable and other advantages.

Opportunity for entrepreneurs without large amount of capital to establish their own business grew due to the easy criteria to establish such enterprise.

However, there are some major disadvantages to such business form. The amount of similar or even completely the same types of enterprises has been growing rapidly causing problems with dividing market share. A lot of SME have already gone bankrupted due to the high competitiveness.

Big enterprises are looking for ways how to register their companies under the name of small and medium enterprise trying to attract some funding or trying to avoid paying large amounts of profit in tax due to the tax reduction for these enterprises.

Methodology of Research

By gathering and analyzing theoretical information about marketing strategy possibilities for small and medium business come up with solution in the form of recommendations on how to establish more effective and efficient marketing strategy for small and medium enterprises in Turkey.

Tasks in order to successfully reveal all the necessary and important things are to:

1. Gather theoretical information about small and medium enterprises
2. Find information about small and medium enterprise establishment in Turkey
3. Gather theoretical and practical information about marketing strategies and activities to be undertaking in order to establish successful campaign
4. Come up with recommendations for Small and medium enterprises in order to increase the quality of marketing campaigns and awareness of businesses

General subject in this research is Marketing opportunities SMEs in Turkey.

Object in this paper is Small and medium business in Turkey.

Conclusions

Taking into account the characteristics of small companies, the empirical data generated up to date and subsequent interpretation and evaluation, some general conclusions about marketing in small companies can be drawn. As literature indicates that small companies have a "distinctive marketing style". There is little or no observance to formal structures and frameworks. Because of their limited resources, the marketing activity of small companies is certainly restricted in its scope and activity. This restriction shows itself in marketing that is simplistic, unsystematic, often responsive and reactive to competitor activity. Small companies, especially those in the early stages of development, are product oriented, so not surprisingly that much of their marketing is also product oriented. Similarly, their marketing is oriented around price, possibly because they have an inherent feeling of vulnerability on price, particularly in relation to large competitors. Perhaps the most significant factor contributing to small companies' marketing style is the effect of the owner/manager. The business proprietor is naturally involved in all aspects of the business and this is no less so in marketing.

Recommendations

If small companies are to be assisted effectively, the government should provide incentives for small and medium-sized enterprises, give the necessary education that SMEs need, establish institutions that will help to small and medium-sized enterprises or help small and medium-sized enterprises to become unionized

Considering the logistics, SMEs especially raw material producers or semi-finished material producers can be located close to big industries or in Organized Industry Areas in order to decrease transportation costs. SMEs also have to link themselves to Internet to follow the changes in the world. The SME owner/manager is involved in all aspects of the business and this is no less so in marketing. The owner/managers have to learn marketing. If they have received some marketing education, there should be periodic reviews of progress and development. The SME owner/managers must also collaborate with universities. As there is a global market structure in the world and the only market is not Turkey, the SME owner/managers should not be narrow-minded.

Employees Attitudes to Organizational Attractiveness in Lithuanian Business Sector

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Abstract

The aim of this study is to identify which dimensions make organizations attractive as employers in Lithuanian business sector. Using content validity, scale comprising 30 dimensions was developed to measure organizational attractiveness of business companies and identify existing employee attitudes towards employment experience in Lithuanian business sector. Telephone interviews were made with N = 1020 respondents. The results indicated a number of factors that are positive for employers' attractiveness. Specifically, the results suggested that good working atmosphere, adequate salary and interesting job are key to the attractiveness as an employer of business companies in Lithuania as perceived by their employees.

Keywords: employer attractiveness, organizational attractiveness, employee attitude.

Introduction

In today's business environment being an attractive employer undoubtedly stands for the most important element of finding the best employees, since people want to work for organizations with strong and positive reputation and prestige (Rousseau, 2008) in preference to higher salaries, thus expecting a pride which will be provided by organizational membership (Cable & Turban, 2006).

Organizational attractiveness as an employer as an influential approach and a new discourse of human resource management has evoked a considerable research attention. The literature examines its theoretical foundations and conceptual framework, analyses its dimensionality (Ambler and Barrow, 1996; Backhaus and Tikoo, 2004; Edwards, 2010; Lievens et al., 2007; Moroko and Uncles, 2009; Mosley, 2007; Wilden et al, 2010; 2005; Hillebrandt and Ivens, 2013; Berthon et al., 2005), explores premises of attraction to an employer (Highhouse et al, 2007; Schreurs et al, 2009; Zaveri and Mulye, 2010; Yu, 2014; Kausel and Slaughter, 2011), investigates other specific aspects of the phenomenon.

Nevertheless, despite the great scientific interest in organizational attractiveness as an employer and its unceasing popularity among practitioners, companies still lack knowledge what features would make them attractive as an employers and practice how to embed these features to the daily HR practices. Moreover, what works in country may be quite different from what works in another, therefore this paper analyzes Lithuanian employees' attitudes and explores what employment experience facilitates organizational attractiveness as an employer of business companies. It should be noted that there was no such extensive research performed in Lithuania so far, providing empirical evidence to define the landscape of organizational attractiveness in Lithuanian business sector, and allowing to identify dimensions which make service business companies attractive as employers. Thus, the object of the research - organizational attractiveness in Lithuanian business sector. The aim of this research is to determine the dimensions of organizational attractiveness of Lithuanian business companies as perceived by the existing employees.

Methodology of Research

The research employs an approach based on a postpositivistic perspective. The relevant literature on organizational attractiveness is critically reviewed, analyzed, compared and generalized. Addressing research objectives, a scale to measure organizational attractiveness as an employer was developed and administered in Lithuanian business sector. During the development of a tool to assess organizational attractiveness in Lithuanian business sector, literature analysis and a survey of best workplace assessment methodologies used around the world (Fombrun et al, 1999, DeVon et al., 2007) were performed. A telephone interview survey method for data collection was used. Cluster sampling was used to calculate a sample of service companies from the whole population of Lithuanian business sector firms (N = 19433). Accordingly, the sample size of n = 1020 allows to generalize to the whole population with the confidence level of 95 % and the confidence interval of $\pm 2.99\%$. Descriptive statistics (means, standard deviations, and frequencies) is used to analyze the data of the study. Synthesis is built upon the results of a logical analysis.

Findings/Results

Table 1 reports descriptive statistics for employee attitudes towards dimensions of organizational attractiveness of Lithuanian business companies in descending order. The total mean of responses ($M = 8.44$) as a threshold was calculated to facilitate the interpretation of results.

Table 1. Descriptive statistics for employee attitudes towards dimensions of organizational attractiveness in descending order

	Dimensions	N	Minimum	Maximum	Mean	Std. Deviation
1.	Good working atmosphere	1020	3	10	9,65	,762
2.	Adequate (satisfactory) salary	1020	1	10	9,63	,824
3.	Interesting job	1020	5	10	9,61	,827
4.	Personal development	1020	1	10	9,53	,883
5.	Good relationship with supervisor	1020	1	10	9,47	,937
6.	Good relationship with colleagues	1020	4	10	9,44	,961
7.	Supervisor support	1020	1	10	9,37	1,021
8.	Professional knowledge improvement	1020	4	10	9,31	,967
9.	Self-fulfilment and self-realization	1020	1	10	9,19	1,178
10.	Employee incentives	1020	1	10	9,09	1,413
11.	Long-term employment guarantees	1020	1	10	8,97	1,529
12.	Good working conditions	1020	3	10	8,95	1,297
13.	Meaningful job	1020	1	10	8,88	1,380
14.	Independence in work-related decision making	1020	1	10	8,81	1,293
15.	Possibility to use technological innovations	1020	1	10	8,68	1,430
16.	Career possibilities	1020	1	10	8,65	1,696
17.	Work-life balance	1020	1	10	8,56	1,838
18.	Participation in strategic decision making	1020	1	10	8,52	1,477
19.	Good image of organization in society	1020	1	10	8,46	1,681
20.	Teamwork	1020	1	10	8,17	1,770
21.	Additional benefits	1020	1	10	8,10	1,880
22.	Social responsibility of organization	1020	1	10	7,95	2,115
23.	Job variety	1020	1	10	7,90	1,719
24.	Flexible work schedule	1020	1	10	7,84	2,167
25.	Organizations location (close to home)	1020	1	10	7,73	2,233
26.	Work-related travel options	1020	1	10	7,43	2,028
27.	International profile of organization	1020	1	10	6,94	2,603
28.	Job enrichment and enlargement	1020	1	10	6,37	2,125
29.	Possibility to work from home	1020	1	10	6,17	2,547
30.	Popularity of organization in social networks	1020	1	10	5,84	2,530

Analyzing the data about the overall organizational attractiveness of present workplace, it was found that respondents evaluate their current workplaces as a fairly attractive employer ($M = 8.51$; $SD = 1.531$). 79.8% (815) have shown a strong confidence in their employers and expressed willingness to recommend them to potential employees.

Conclusion

Data analysis of research revealed that 19 employer attributes are positively linked to organizational attractiveness with good working atmosphere, adequate salary and interesting job being the key to the attractiveness as an employer of business companies in Lithuania as perceived by their employees. Further personal development, good relationship with supervisor and good relationship with colleagues were perceived as very important features, determining organizational attractiveness of business organizations by existing employees. All in all, creating a positive working environment, providing recognition and reward, involving and engaging employees and developing their skills and potential, giving feedback on their achievements and improvement could be a universal rule for the business companies attracting, keeping and motivating their employees.

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Assessment of Impact of Corporate Income Tax Suspension on Financial Performance of Businesses

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Abstract

Though there are numbers of data and studies about impact of tax incentives to investment, research and development, no detailed and systematic analysis has been elaborated on the effectiveness of taxation of profit to financial performance of businesses in general. Businesses avoid corporate income tax to get more net profit. Evasion leads to economic stagnation. It is time to call for changes of the corporate income tax system and introduce tax suspension – tax only shared profit. The aim of the research is to assess the impact of corporate income tax suspension on retained corporate income. The tasks are: to analyse the effects of the corporate tax reform in Estonia. And to conclude and forecast the possible affects if distributed profit taxation reform would be introduced in Latvia. The research extends applicable theoretical foundation and comprehension of elements and factors affecting firms' behaviour. The findings provide grounds for development of applicable model that would assist for government authorities to decide the most effective way of taxation of corporate income.

Keywords: profit, corporate income tax, equity, financial performance, economic development.

Introduction

The degree of stability and reliability of a tax legislation has the strongest influence on sustainable functioning of country's businesses. Corporate income tax is a crucial factor for entrepreneurial activity. Advance payments, tax on calculated profit or other regular tax charges reduce net profit, therefore cash flow for future investment and development of businesses. Businesses try to hide profit, increase business expenses or makes other fictive activities to avoid deduction by tax. Tax fraud impacts fair competition. Evasion leads to economic stagnation as banks do not loans businesses due to official bad financial performance results.

There has been a huge gap between total investments in Estonia and Latvia. And one of the reasons is Estonian corporate tax system that gives them competitive advantage over the neighbouring countries and diverts investment flow to Estonia. Estonia uses the distributed taxation system that only taxes profit that is distributed compared to gross profit taxation system used in Latvia that taxes all profit (Eurostat, 2016).

The aim of the research is to assess the impact of corporate income tax suspension on retained corporate income. The tasks are: to analyse the effects of the corporate tax reform in Estonia. And to conclude and forecast the possible affects if distributed profit taxation reform would be introduced in Latvia.

Tax Suspension

As a possible solution might be corporate income tax suspensions which could motive business do not hide profit or fraud with expenses. Business will be motivated increase profit as state will no charge tax from it until shareholders do not share profit. The undistributed profit increase equity and therefore financial performance. It could be as call for banks start loans business activities; therefore, process will stimulate economic development.

There are many researches about effectiveness of corporate income taxation. The researches about the effects of corporate income tax reform in Estonia concluded positive impact to economic development. (Hazak, 2007, 2009). There was observed positive effect on investment and labour productivity (Masso, Meriküll and Vahter 2011; Masso, Meriküll and Vahter, 2011). The reform did not change the structure of their investments but rather helped to increase their size, so that they could buy better and more expensive machinery for example (Masso, 2011, 2013). The reform has increased the entrepreneurial activity and has been one of the driving forces for the growth in Estonian economy (Prohorovs, Fainglozs and Jonina, 2016). Corporate tax reform in Estonia increased the total tax revenues collected while also allowing to reduce administrative burden and costs of tax administration. (Jurušs, Stinka and Kūma, 2017).

Findings/Results

Applicable statistics and other relevant data has been analysed to find out correspondence for changed corporate tax regime via analysing quantitative (financial) results for different industries and comparing these theoretical projections with actual data and results from the Baltic states.

The data have been retrieved from Amadeus data base. The relevant data about net profit, equity, assets and net turnover have been used. Financial performance of businesses in Latvia can see in Table 1.

Table 1. Financial performance of businesses in Latvia, billion EUR (*By Amadeus 2016*)

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net profit	5216	2500	2912	551	-1135	6	1094	1269	1526	2105	2372
Equity	8658	11006	13953	14629	12160	13024	14687	15929	17702	19941	21768
Assets	25905	35147	47361	53632	49887	50974	53656	57229	58845	60951	62240
Net turnover	30707	39604	48135	50683	36410	39568	46229	51536	53206	53374	53233

The authors assessment shows that corporate income tax transformation from the existing system to the principle that tax is suspended until the distribution of profits will have positive effect. It will have positive impact on growth of businesses equity. According to assessments by the authors every year it will be double growth of equity capital, potential 13 per cent or 3,5 billion EUR in Latvia. Improvement of financial performance would have a more favourable effect on development of businesses environment and increase of investments. Additional investment of capital means that businesses will be motivated to develop their activity. Potential investment increase will be 10 billion EUR each year that can be used as resource to invest in their fixed and current assets. Businesses activity will affect their net turnover (potential 12 per cent or 10 billion EUR growth) and so will increase financial position, productivity and export opportunities in Latvia.

Conclusions

The distributed profit taxation system can be one of the main forces for the country's economy to grow. It increases the entrepreneurial activity and encourages foreign and local investment in the country. The increase in the investment allows companies to improve their quality of investment and productivity which allows them to rapidly grow their revenues and profits in the future.

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The Impact of Human Capital, Networking and Institutional Environment on Internationalization of SMEs

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Abstract

Internationalization of SMEs plays significant role in the growth of small and open economies in terms of revenue generation, creation of new workplaces, economic development of nations, industries and productivity. SMEs due to shortage of resources, intense competition and globalization of the economy are forced to internationalize. However, in some cases internationalization process of SMEs is not fluent and contains some barriers. Corresponding to this government reconsider the policies and tries to facilitate international trade. The researches try to examine the current situation and emphasize the success factors and potential barriers. The paper aims to examine the impact of human capital, networking and institutional environment on internationalizations process of SMEs. This study showed that the main success factors of internationalization are associated with qualities of entrepreneur, business networks and government assistance.

Keywords: human capital, networking, institutional environment, internationalization, SMEs.

Introduction

Over the past three decades there were made huge research efforts by scientists in order to find out the motives, why small and medium size enterprises (SMEs) decide to enter foreign markets (Nisar et al., 2012). Nowadays, there is growing interest of academics and policy-makers in SMEs' international strategy and the potential benefits of internationalization in terms of market competition, employment and technology (Lafuente et al., 2015). The main benefits of internationalization for SMEs are the possibility to actualize their growth potential, specialization and adaptive flexibility that helps to achieve economies of scale and scope, expand manufacturing efficiencies, recuperate investments faster, as well as gain access to foreign technological, marketing, and management know-how (Manolova et al., 2010). The other forces that encourage companies to look for ways of internationalization are globalization of economy and intense competition. Internationalization has significant impact on the economic development of nations, industries and productivity (Korsakienė, Tvaronavičienė 2012). Small and open economies such as Australia, Sweden, Finland and Denmark recognized the importance of encouraging their SMEs to internationalize in order to grow their economies (Chetty and Stangl, 2010).

Nevertheless, the internationalization of SMEs has many benefits, SMEs face to challenges that creates barriers in their internationalization process. Empirical evidence suggests that many competitive advantages that facilitate internationalization process are based on human capital, network relationship or appropriate institutional environment (Manolova et al., 2010). Due to SMEs contribution to the economy by revenue generation and creation of new workplaces, governments have to reconsider policies, create better institutional environment and accelerate the international trade of SMEs (Korsakienė et al., 2014). Wide personal networks and entrepreneurial knowledge could simplify the internationalization process of SMEs as well (Manolova et al., 2010; Ratten et al., 2017).

In this background arises the necessity to identify the impact of main factors on internationalization of SMEs. The study aims to investigate theoretical insights disclosing the role of human capital, networking and institutional environment in the process of SMEs internationalization. The research is based on analysis and synthesis of prevailing scientific sources. This paper is organized as follows. In section 2 the relationship between human capital and internationalization is analyzed. In section 3 networking impact on internationalization is discussed. In section 4 interrelationships between institutional environment and internationalization are investigated. In the final section conclusions are presented. The research is based on analysis and synthesis of scientific literature.

Human capital and internationalization of SMEs

The impact of human capital on internationalization is widely discussed in scientific literature. The study of 319 Romanian SMEs made by Lafuente et al. (2015) revealed that decision to start business internationally is positively impacted by the presence of management and an entrepreneurial team while

maintenance in the international arena is strongly and positively influenced by previous labor experience of employees, who are responsible for decision making. Marinova S. and Marinov M. (2017) added that international orientation of company's owner or manager and contacts in his or her social spaces make stimulus for early export. Ratten et al. (2017) emphasized the importance of an entrepreneurial approach that involves being innovative and risk-taking to internationalization.

The other elements of human capital that have influence to internationalization are ethnic workforce diversity and gender of entrepreneur. Mohr et al. (2011) identified a series of schemes which show that ethnic workforce diversity lead to increased internationalization of SMEs. Alves et al. (2017) examined competitiveness of companies in terms of internationalization aiming better understand, if the businesses led by women are more competitive than those led by men. The findings indicated the low competitiveness of women entrepreneurs in general. Accordingly, businesses led by women are not competitive when compared to those led by men.

Networking impact on internationalization of SMEs

The scientific literature emphasizes the importance of networking during the internationalization process. Crick D. and Crick J. (2014) claim that managers' experience and networks in the sector in which firms operate have significant impact on internationalization strategies. Haddoud et al. (2017) approved by their study that relationships with foreign buyers had a positive impact on SMEs' export performance. Chetty and Stangl (2010) pointed out that diversity of company's network relationships has an influence on its level of internationalization and innovations. Business networking relationships can be also as a strategy for SMEs starting international activities (Brida et al., 2015). Nisar et al. (2012) found that synergistic gains have a significant influence on different entry mode choice in Norway.

Linstrad et al. (2011) noticed a gap in our knowledge of banks' role in internationalization process of SMEs. There were used a sample of 318 Swedish SMEs, which operate internationally. The findings show that banks do not participate in SME business networks when SMEs are internationalizing. SMEs have been dependent on banks only when conducting business and developing their international business relationships.

Interrelationships between institutional environment and internationalization of SMEs

The scholars assume that institutional environment is also important during the internationalization process. Al-Hyari et. al. (2012) examined 250 Jordanian manufacturing SMEs and the results of the survey showed that economic/political-legal and governmental barriers have a significant negative relationship with the export performance of SMEs in Jordan. Hilmersson et al (2015) agreed that there is dependent relationship between political turbulence and uncertainty in internationalization that could be reduced by political knowledge of company.

The impact of government assistance on internationalizations is investigated by scientist as well. Crick and Lindsay (2015) examined usefulness of government assistance during internationalization process and the findings showed positive perceptions linking government support at a macro-level such as individual assistance programmes or ministerial visits to success of internationalization. Haddoud et al. (2017) after investigation found that the export promotion programmes had a direct effect on export performance of SMEs. Menzies et al. (2010) investigated relationship between government policies and internationalization in the context of Australian companies internationalizing to China. In the majority of the cases government assistance was identified as beneficial and government intervention in business had impact on entry modes of the companies. However, public organizations are not aware enough about the current situation and needs of the companies which operate in the retail sector (Gardó et al., 2015).

Methodology of Research

The research was based on analysis and synthesis of scientific literature. The extant studies on SMEs' internationalization and how the process is affected by human capital, networking and institutional environment have been studied. The study considered the recent scientific publications included in "Emerald insight" database, which were published in the period 2010-2017.

Findings/Results

The analysis of literature showed that internationalization is relevant and widely discussed object of the research. The scientists who have investigated human capital impact on internationalization of SMEs listed that such factors as entrepreneur's previous labor experience, international orientation, entrepreneurial knowledge, entrepreneurial approach that involves being innovative and risk-taking have significant impact on internationalization. There were also made some studies for investigating relationships between the

gender of entrepreneur, ethnic workforce diversity and internationalization. The findings showed that men as entrepreneur are better at internationalizing the business and ethnic workforce diversity leads to higher internationalization level of SMEs. Studies approved that networks in all cases had positive impact on internationalization. Government assistance and export promotion programmes were identified as beneficial in internationalization process.

Conclusions

SMEs internationalization is very important for the growth of small and open economies. It has significant impact on the economic development of nations, industries and productivity. The main forces for the internationalization of SMEs are globalization of economy and intense competition. Internationalization for SMEs is beneficial because of the possibility to boost the growth, efficiency of manufacturing, recuperate investments faster, transfer foreign technological, marketing, and management know-how.

This paper examined researchers' studies about the impact of human capital, networking and institutional environment on internationalization of SMEs. Elements of human capital, networking and institutional environment such as experience and international orientation of entrepreneur, wide networks, government assistance correspond to the success of the internationalization process.

Limitations of study occur due to not all stages of internationalization were examined. The only one database were used, therefore, potentially important articles could have been not included in the investigation. The research was only focused on three main factors' impact on internationalization and such important elements as organizational learning, innovations were not analyzed. Future investigations should consider different stages of internationalization and evaluate a wider variety of factors' impact on internationalization. Also combined choice of databases should be made.

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Green Agriculture as a New Trend in Modern Entrepreneurship

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Abstract

Today one of the huge trend in the world entrepreneurship is green agriculture. Ukrainian farmers have to use modern innovative approaches and technologies to become competitive on the world agricultural market. Green agriculture and family farming could not only improve the economic situation in Ukraine and also provide synergetic effect, which includes positive results for the economy, environment, society.

Keywords: entrepreneurship, green agriculture, effect, measures.

Going green is not going away. But the various trends within the green business movement are changing direction, creating opportunities for new products and new businesses. The popularity of the different green trends in business is growing rapidly. It is relevant now to speak about green business ideas such as green financing, eco-friendly retail, production of sustainable construction materials, green agriculture, organic catering, organic or recycled fashion, eco-friendly landscaping, handmade all-natural/organic products, green waste management, composting etc. Looking forward, we can note that green (organic, sustainable) agriculture will be one of the most perspective branch in business and entrepreneurship.

Between 2003 and 2013, the EU's organic market grew fourfold, while the area of agricultural land under organic production had only doubled. «Consolidated Annual Report of IFOAM – Organics International 2015» [1] shows rising of organic farming all around the world. It emphasises three main milestones in the development of organic agriculture.

1. Appearance of organic producers (1000% growth since 1999). Between 2013 and 2014 there has been an increase in the number of producers of by almost 270000, or over 13%.
2. Development of organic farmland (300% growth since 1999). In 2014, almost +500000 hectares were reported compared with 2013.
3. Expansion of organic retail sales (Organic food market has increased from 15,2 bn usd in 1999 to 80 bn usd in 2014). The countries where organic has the highest share of the total market are Denmark (7,6%), followed by Switzerland, Austria, Sweden, USA and Germany.

In today's global agricultural market organic products have significant demand. Organic market in the world is growing rapidly, and this issue is very important for Ukraine as it is defined as an agricultural country which has great potential in the production and consumption of organic food. Ukrainian demand for organic products is growing in the domestic and foreign markets.

The area of organic agricultural lands in Ukraine is increasing year after year: from 164449 ha in 2002 to 410550 ha in 2015 [2]. But is steel 1% of rural lands of our country now. «According to scientists, «in Ukraine there are about 8 million ha of clean black earth». It should be noted that «the total area of land used for organic production in the European Union is 3.8 million hectares» [3]. So, Ukraine country has great potential to develop this branch.

Organic farming can give much more economic benefits than traditional farming. For example, prices of organic products «in Europe are higher by 150%, in the US – in 8 – 12 times». Now Ukraine has significant potential of growth green agricultural production. Namely with favourable climatic conditions, fertile soils and an efficient agricultural sector, Ukraine's agricultural output exceeds the demand of the domestic market. Given this surplus, Ukraine can be a competitive producer and exporter of organic goods. The EU could be in this case an excellent export destination for many of Ukraine's organic products, including cereals, oilseeds, dried pulses, fruits, berries, nuts, herbs and honey.

For greater effect from conversion to organic agriculture it should be implemented on family farms. Such implementations will solve many economic and social problems in Ukraine. For example, in such way we can solve unemployment problem and problem of poverty through the self-employment of people on their own land. It is possible because many Ukrainians have land. Beside this, legislative base gives chance to obtain land those who haven't it yet.

Furthermore, necessary to emphasize and show positive effects from organic agriculture for different domestic levels of economy.

1. Political effects: world lidersheep in agriculture, better place on world market, improving international image of Ukraine.

2. Environmental effects: Saving of biodiversity, preservation of soil fertility, reducing pollution of soil and water by chemical fertilizers.
3. Economic effects: economic growth, development of new industries (like rural tourism), decreasing of unemployment level.
4. Social effects: development of local communities and rural infrastructure, improvement of health, improving the quality of life.

So, Ukraine has great rural potential and enough of clean soils (in 2 times more, than in EU). Implementation organic family farming in Ukraine will make synergetic effect on the economy, environment, Ukrainian society, and political image of our country. We proposed some measures for development of organic agriculture. Public interest and political will are necessary to implement these measures. It is also necessary to outline measures that can help to achieve these effects:

- forming a complete legal framework for organic and family farming;
- state supporting for organic farming through subsidies, tax breaks etc;
- creating a small agricultural cooperatives, to unite communities;
- development retail trade specializing in organic products;
- to carry out information and education programs on organic and family agriculture.

The development of organic agriculture in Ukraine will contribute to: reproduction of soil fertility and preservation of the environment; rural development and enhancement of living standards among the rural population; improving the efficiency and profitability of agricultural production; securing healthy consumer market with quality products; strengthening export potential; improving the image of Ukraine as a manufacturer and exporter of high quality healthy organic products; ensuring food security in Ukraine; improving the general welfare of the citizens of the state.

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Cross-Border Contagion Risk Transmission: A Framework of Monitoring System

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Abstract

Small open economies like the Central and Eastern European countries (CEECs') are exposed to cross-border contagion risk transmission via different channels such as real links, financial links, or capital market imperfections. For this reason, the transmission of cross-border contagion risk is very important for this group of countries. A monitoring system of cross-border contagion risk transmission would very useful as a tool in order to mitigate this type of risk, reduce the probability and (or) potential consequences.

The aim of the research – to provide a conceptual framework of monitoring system of cross-border contagion risk transmission relevant for the CEECs. The monitoring system of cross-border contagion risk transmission shall incorporate potential cross-border contagion risk transmission channels, sources, and indicators (indexes) reflecting the increasing probability of occurrence and transmission of cross-border contagion risk. The indicators (indexes) shall be specific for each transmission channel and shall signal about the potential occurrence of this risk.

The most relevant cross-border contagion risk transmission channels for the CEECs are real and financial channels while the probability of risk occurrence through financial markets channel is less probable. The main direct sources of cross-border contagion risk transmission channels in the CEECs are the largest EU economies while indirect sources are China, USA, UK, Japan, and Germany.

Keywords: cross-border contagion risk, transmission channels, monitoring system, framework, CEECs'

Introduction

Despite the driving forces and potential benefits, financial globalization can carry important risks such as cross-border contagion risk. Small open economies are exposed to contagion via different channels such as real links, financial links, or capital market imperfections such as herding behaviour or panics. According to Halac et al. (2006), Mendoza & Quadrini (2010), imperfections in international financial markets and external factors that determine financial flows make small open economies (e.g. the Central and Eastern European countries (CEECs')) more prone to external shocks. Furthermore, developing countries that integrate into world financial markets become more exposed to cross-border contagion risk.

The aim of the research – to provide a conceptual framework of monitoring system of cross-border contagion risk transmission relevant for the CEECs. Research methods: the systemic, logical and comparative analysis of the scientific literature, and analysis of statistical data.

Methodology of Research

The monitoring system of cross-border contagion risk transmission shall incorporate potential cross-border contagion risk transmission channels, sources, and indicators (indexes) reflecting the increasing probability of occurrence and transmission of cross-border contagion risk. The indicators (indexes) shall be specific for each transmission channel and shall signal about the potential occurrence of this risk. In other words, the monitoring system of cross-border contagion risk transmission shall be as Early-Warning-System (EWS) widely used in the field of finance (financial crises).

The monitoring system of cross-border contagion risk transmission shall take into account two types of cross-border contagion risk: 1) cross-border contagion risk – a risk occurrence in one country caused by a shock in another country when these countries have direct linkages; 2) cross-border contagion risk – a risk occurrence in one country caused by a shock in another country when no direct linkages exists between these countries (Deltuvaite, 2015). In other words, the monitoring system of cross-border contagion risk transmission shall incorporate both direct and indirect linkages existing among countries (see Figure 1).

Dornbusch et al. (2000), Hernandez & Valdes (2001), Pritsker (2001), Forbes & Rigobon (2002), Bae et al. (2003), Caramazza et al. (2004), Bekaert et al. (2005), Corsetti et. al. (2005), Halac et al. (2006), Anoruo et al (2007), Fazio (2007), Tressel (2010), Degryse et al. (2010), Rose & Spiegel (2010, 2012), Beirne & Gieck (2012), etc.), and international financial institutions' (World Bank, International Monetary Fund)

experts distinguish the following cross-border contagion risk transmission channels: real channel, financial channel, financial markets channel and political channel. The monitoring system of cross-border contagion risk transmission shall incorporate three different channels of cross-border contagion risk: real, financial, and financial markets channels.

This empirical study focuses on the 11 CEECs': Bulgaria (BGR), Czech Republic (CZE), Estonia (EST), Croatia (HRV), Hungary (HUN), Latvia (LVA), Lithuania (LTU), Poland (POL), Romania (ROM), Slovakia (SVK), and Slovenia (SVN)). Statistical data have been obtained from United Nations Conference on Trade and Development databases and World Bank Global Financial Development database.

Findings/Results

The concept and the scope of the monitoring system of cross-border contagion risk transmission is provided in Figure 1.

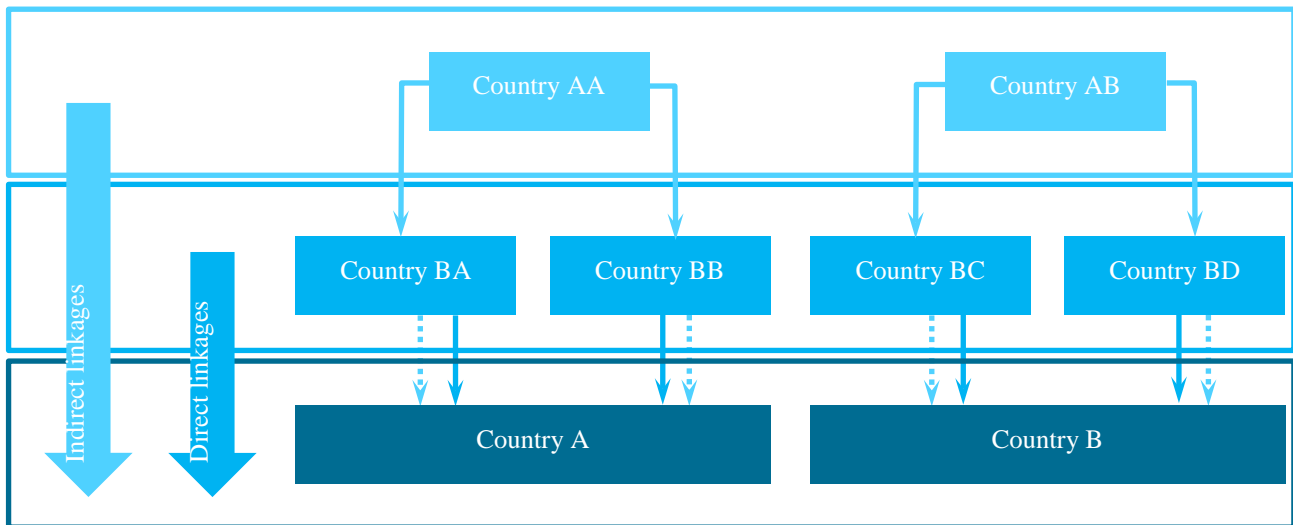


Figure 1. The concept and scope of the monitoring system of cross-border contagion risk transmission
[Source: compiled by author]

First, the relevance of cross-border contagion risk transmission channels for each country shall be determined using the scale presented in Figure 2.

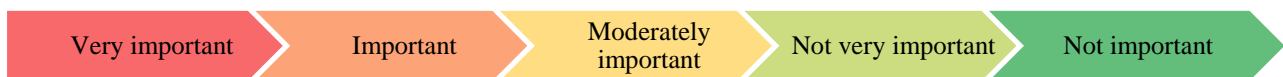


Figure 2. The range of relevance of cross-border contagion risk transmission channels
[Source: compiled by author]

The importance (status) of cross-border contagion risk transmission channels in the CEECs is presented in Table 2.

Table 1. Importance (status) of cross-border contagion risk transmission channels in the CEECs

	Cross-border contagion risk transmission channels		
	Real channel	Financial channel	Financial markets channel
Bulgaria (BGR)	Important	Very important	Not important
Czech Republic (CZE)	Important	Very important	Not very important
Estonia (EST)	Important	Very important	Not very important
Croatia (HRV)	Not very important	Very important	Not important
Hungary (HUN)	Important	Very important	Not very important
Latvia (LVA)	Important	Very important	Not very important
Lithuania (LTU)	Important	Very important	Not important
Poland (POL)	Not very important	Very important	Not very important
Romania (ROM)	Not important	Very important	Not important
Slovakia (SVK)	Important	Very important	Not very important
Slovenia (SVN)	Important	Not very important	Not very important

Source: author's calculation, Deltuvaite (2016).

Second, the direct and indirect sources (countries) of cross-border contagion risk in the CEECs are presented in Table 2 where only important and very important direct and indirect sources are provided.

Table 2. Direct and indirect sources of cross-border contagion risk in the CEECs

	Cross-border contagion risk transmission channels		
	Real channel	Financial channel	Financial markets channel
	Indirect sources of cross-border contagion risk		
Bulgaria (BGR)	China, USA	Germany, USA	USA, UK, Japan, Germany
Czech Republic (CZE)			
Estonia (EST)			
Croatia (HRV)			
Hungary (HUN)			
Latvia (LVA)			
Lithuania (LTU)			
Poland (POL)			
Romania (ROM)			
Slovakia (SVK)			
Slovenia (SVN)			
Bulgaria (BGR)	Germany, Greece, Italy, Romania, Turkey	USA	-
Czech Republic (CZE)	Germany, France, Poland, Slovakia, UK	Austria, France, Belgium	UK, Austria, Slovakia, Belgium, Netherlands, Poland, USA
Estonia (EST)	Sweden, Finland, Latvia, Russia, Germany, Lithuania	Sweden	Finland, Sweden, UK, Ireland, Lithuania, Norway, France, Germany, Netherlands
Croatia (HRV)	Italy, Germany, Bosnia and Herzegovina, Slovenia, Austria	Austria, France	-
Hungary (HUN)	Germany, Austria, Romania, Slovakia	Austria, Belgium, Italy	USA, Austria, Germany
Latvia (LVA)	Lithuania, Estonia, Russia, Germany, Poland, Sweden	Sweden, Norway	USA, UK, France, Germany, Ireland
Lithuania (LTU)	Russia, Germany, Latvia, Poland	Sweden	-
Poland (POL)	Germany, Czech Republic, France, UK	Italy, Spain, Germany, Netherlands, Austria, Portugal	USA, France, Germany
Romania (ROM)	-	Austria, France, Greece	-
Slovakia (SVK)	Germany, Czech Republic, Austria, Hungary, Poland	Austria, Belgium, Czech Republic	Austria, Czech Republic , France, Germany, Italy, Netherlands, Poland, Spain, UK
Slovenia (SVN)	Italy, Germany, Austria, Croatia	Austria, France	Germany, France, USA, Austria, Italy, Spain, Netherlands

Source: author's calculation

The main direct sources of cross-border contagion risk transmission through real channel are the largest economies of the EU: Germany, Austria, France, Italy, Poland, UK. Taking into account both country-level, and EU-level, the main direct source of this risk is Germany. The main trading partners of Germany and the EU are China and the USA, but the importance of these countries in the EU is changing: the role of China as an international trading partner is getting stronger every year, but the USA, on the contrary, is weakening international trade relations with the EU. In addition, the results of meta-analysis of business cycles between China and other countries in the world revealed that the synchronization of business cycles between Germany and China is very strong (compared to other countries). Therefore, after assessing the international trade relations of the main export partners of the CEECs and the synchronization of business cycles between these

countries and their main international trading partners, the potential indirect sources for the cross-border contagion risk transmission through real channel are China and the USA.

The main direct sources of cross-border contagion risk transmission through financial channel is Austria while Austrians commercial banks dominate in most of the CEECs' (Croatia, Czech Republic, Hungary, Romania, Slovakia, and Slovenia). The role of other euro area countries (France, Belgium, Italy) is also significant for the CEECs in the banking sector. However, the Baltic States are dominated by the commercial banks, whose parent banks are registered in Swedish and Norwegian jurisdictions. Having assessed the structure of foreign assets and liabilities of foreign-owned commercial banks operating in the CEECs, the potential indirect sources of cross-border transmission risk are identified: Germany and the USA.

The main direct sources of cross-border contagion risk transmission through financial markets channel are the largest economies of the EU and the USA. Having assessed the structure of portfolio investments (both assets and liabilities sides) the potential indirect sources of cross-border contagion risk have been identified: USA, UK, Japan, Germany.

Conclusions

The monitoring system of cross-border contagion risk transmission shall incorporate potential cross-border contagion risk transmission channels, sources, and indicators (indexes) reflecting the increasing probability of occurrence and transmission of cross-border contagion risk. The indicators (indexes) shall be specific for each transmission channel and shall signal about the potential occurrence of this risk.

The most relevant cross-border contagion risk transmission channels for the CEECs are real and financial channels while the probability of risk occurrence through financial markets channel is less probable. The main direct sources of cross-border contagion risk transmission channels in the CEECs are the largest EU economies while indirect sources are China, USA, UK, Japan, and Germany.

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Acknowledgement

This research was funded by a grant (No. MIP-016/2015) from the Research Council of Lithuania.

Adjustment to Asymmetric Shocks: The Case of the Central and Eastern European Countries

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Abstract

We investigate the evolution of unemployment rate co-movements across the European Union (EU) and identify historical decoupling of heavily-indebted countries in Southern Europe (Portugal, Italy, Greece, and Spain), especially Greece. In addition, we identify co-movements of United Kingdom and US economy and point out decreasing synchronization of United Kingdom with the EU which is still significant with Germany. On the contrary, we discuss very low co-movements between Germany and the European Union after the Hartz reforms have been applied. However, we find significant co-movements between the Baltic countries that have approached the optimum currency area requirements. The results provide evidence that the Baltic countries decoupling from the EU at low frequencies over 16 months, except the years 2007–2011 when the European unemployment cycle leads changes in unemployment in Baltic countries. In the same period, we identified in-phase co-movements between Nordic and Baltic countries. On the contrary, there is a significant evidence of unemployment co-movements between Baltic countries and Russia at frequencies between 32 and 64 months during the whole analysed period. The Baltic countries could adjust to asymmetric shocks by using market-based mechanisms, i.e. "flexible price" solutions (e.g. reductions in real incomes) or/and "flexible quantity/factor" solutions (e.g. labour and capital mobility).

Keywords: OCA theory, cycles, time-series co-movements, wavelet analysis, phase shift

Introduction

The European integration process fosters the catching-up of lagging countries but at the same time forces for specialization of economic activities within the regions. The tendency to increase probability of asymmetric shocks at the regional level boosted after the Eastern enlargement (in the years 2004 and 2007), the European debt crisis since the end of 2009, but especially after the Brexit referendum and subsequent decoupling after the year 2016. Moreover, the recent financial crisis has been the single most important influence on worldwide national business cycles in the last decade. Initially, it acted as a relatively symmetric shock affecting nearly all regions in a similar manner (Kose et al., 2012). However, the medium-run and long-run impact of the financial crisis has become more diverse due to the varying transmission mechanisms and vulnerabilities among countries.

Despite the obvious policy relevance of this issue and the sizeable literature on business cycle asymmetry in the EU (Bayoumi and Eichengreen, 1993; Corden, 1972; Fidrmuc and Korhonen, 2006; Eichengreen, 2007; Frankel and Rose, 1998; Krugman, 1993; Landesmann, 2003), there are only very few contributions on causal inferences on the effects of the European integration on business cycle synchronization during the last decades. This paper aims to extend this line of research and analyse the evolution of business cycles synchronization across the current European Union and identify probable decoupling between the old (core) euro area countries, the Central and Eastern European Countries (CEECs), the opt-outs countries, and heavily-indebted countries of Europe. In addition, we identify directions of causal relationships using wavelet coherence analysis with phase shift and discuss possible adjustments and spread of asymmetric shocks across the European Union.

Methodology of Research

The theoretical background of the paper lies on the optimal currency area (OCA) theory, which identifies economic characteristics that enable countries to benefit from monetary integration (Mundell, 1961; McKinnon, 1963; Kenen, 1969). The taxonomy of shocks is very wide and European Commission (1997) distinguishes four main groups of shocks: 1) temporary and permanent shocks; 2) country-specific and sector specific shocks; 3) real and financial shocks; and 4) exogenous and policy-induced shocks. Given that exchange and interest rate changes are ruled out, the existence of alternative mechanisms for meeting asymmetric shocks - whether cyclical/temporary or structural - is central to OCA theory. A basic distinction can be made between: 1) market-based mechanisms, which can be further subdivided into "flexible price" solutions (e.g. reductions in real incomes) and "flexible quantity/factor" solutions (e.g. labour and capital

mobility); and 2) institutional mechanisms, notably transfers through a central budget ("fiscal federalism") or specific action by public authorities.

The OCA theory emphasizes symmetry of macroeconomic shocks as one of the main considerations for participation in a monetary union. Asymmetric, country-specific temporary shocks would weaken the case for a common currency and increase the need for an independent monetary and exchange rate policy. However, the costs of monetary union rise with diverging business cycles: if business cycles are not synchronized, the higher cost of joining monetary union need to be mitigated by flexible non-monetary adjustment mechanisms: notably price and wage flexibility and cross-border labour mobility. Other factors that ease monetary integration include flexible wages and prices, financial integration, and counter-cyclical fiscal policy which is effective in stabilizing the economy. However, the original OCA theory abstracted from important benefits of integration, most notably enhanced credibility and favourable expectations, but also lower transaction costs and increased political integration (Brixiova et al. 2009).

The empirical approach of the paper is based on the modelling of fluctuations in economic activity representing by unemployment rate in 24 European countries (Austria, Belgium, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, United Kingdom, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, and Sweden), Russian Federation, and the United States. We use monthly unemployment rate measured as a percentage of economically active population provided by the Eurostat employment statistics and Federal Reserve Economic Database in the period 1983M01–2016M12. The average unemployment rate in the selected groups of European countries is weighted by the number of total population provided by Eurostat statistics.

We assume that co-movements are changing in different frequencies and apply frequency domain techniques which provide deeper insights into the dynamic properties of the analysed time series and their co-movements. Our analysis of cyclical co-movement is based on squared coherency (so-called coherence), cross-spectrum and phase shift identification. Our time-frequency domain analysis enables differentiation between the short- and long-term co-movements and its changes in time. We apply Continuous Wavelet Transform (CWT) as a band pass filter to time series $(x_n, n = 1, \dots, N)$ with uniform time steps δt , where the time step is defined as the convolution of x_n with the scaled and normalized wavelet. We follow Grinsted et al. (2004) and define the wavelet power as $|W_n^X(s)|^2$ and:

$$W_n^X(s) = \sqrt{\frac{\delta t}{s}} \sum_{n'=1}^N x_{n'} \psi_0 \left[(n'-n) \frac{\delta t}{s} \right]. \quad (1)$$

where s represents scale in time. In practice, the complex argument of $W_n^X(s)$ can be interpreted as the local phase. To localize a function in frequency and time we use Morlet wavelet ψ_0 which provides an optimal trade-off between both time and frequency localization (Teolis 1998):

$$\psi_0(\eta) = \pi^{-1/4} e^{i\omega_0\eta} e^{-1/2\eta^2}, \quad (2)$$

where $\omega_0 = 6$ is dimensionless frequency and $\eta = s \times t$ dimensionless time by varying its scale s . To identify shocks in co-movements between the analysed time series x_n and y_n we apply the Cross Wavelet Transform (XWT):

$$W^{XY} = W^X W^{Y*}, \quad (3)$$

where $*$ denotes complex conjugation (Grinsted et al., 2004). Additionally, we apply Wavelet Coherence (WTC) to identify common time-localized oscillations in nonstationary time series that can be interpreted as co-movement or correlation. Following Torrence and Webster (1998) and Grinsted et al. (2004) we define the wavelet coherence of time series x_n and y_n as:

$$R_n^2(s) = \frac{|S(s^{-1} W_n^{XY}(s))|^2}{S(s^{-1} |W_n^X(s)|^2) \times S(s^{-1} |W_n^Y(s)|^2)}, \quad (4)$$

where smoothing operator S is defined as $S(W) = S_{scale}(S_{time}(W_n(s)))$. S_{scale} represents smoothing operator along the wavelet scale axis and S_{time} smoothing operator in time, suitable for the Morlet wavelet (Torrence and Webster, 1998).

Moreover, it is very important to identify a direction of causality which is given by the relative lag between the two time series. In this sense we apply phase shift to identify a time offset between the reflection and the maximum value on the waveform. Thus, we interpret phase shift as a lead or a lag between time series. We follow Grinsted et al. (2004) and estimate the mean and confidence interval of the phase difference. The mean phase calculation is based on the circular mean of a set of angles $(a_i, i = 1, \dots, n)$:

$$\bar{a} = \arg(X, Y) \text{ with } X = \sum_{i=1}^n \cos(a_i) \text{ and } Y = \sum_{i=1}^n \sin(a_i). \quad (5)$$

For a better understanding this issue, it is comparable to causality in Granger sense. However, the interpreting the phase as a lead or a lag have to be done relatively to the anti-phase, because a lead of 90° is also a lag of 270° .

Finally, we focus on the edge effects because wavelets are not completely localized in time in the case of very low frequencies. We follow concept provided by Torrence and Compo (1998) who estimated statistical significance against an autocorrelation model with lag 1 and error term represented as white noise. The same approach is applied to identify significance levels of cross-wavelet power and wavelet coherence.

Findings/Results

The chronology of formal European integration steps can be used as an instrument to unveil the effects of constructing an integrated economic space on business cycle synchronization. In particular, the following events provide variation in the experience of different countries in Europe that can be exploited to identify the effects of integration on the symmetry of macroeconomic shocks. First, shock is expected in the year 1995 when European Free Trade Association (EFTA) countries accessed to the EU, taking into account their specifics (Norway did not join the EU, Switzerland joined the European Economic Area (EEA), Sweden joined the EU, and only Austria and Finland also joined the euro area). Second, the introduction of the euro in 1999 (euro adoption) represents the actual creation of the monetary union. Third, the accession of new Member States (the CEECs and Mediterranean countries) to the EU in 2004 and their later accession to the euro area (Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009, Estonia in 2011, Latvia in 2014 and Lithuania in 2015) implies significant expansion of the EU. Fourth, the impact of the global financial crisis is in contrast to the above events because it represents a largely symmetric external shock but with different persistence across economies. Finally, the excessive capital imports in the Europe's periphery countries (especially Greece, Ireland, Portugal and Spain) resulted in the EU sovereign debt crisis that was initiated at the end of 2009 and led to a phenomenon of the two-speed Europe.

Following the proposed methodology, we apply CWT and Morlet wavelet to identify cyclical movements in the analysed time series which explore regularities of time series' movements in time and specific frequencies. The movements of unemployment rates of USA, EU and Russian Federation in time domain and frequency domain suggest that there are significant seasonal cyclical movements in the all analysed time series, especially at a period of 6 months (US) and 12 months (EU, Russian Federation). Also, we identify long term cycles which exceed a period of 32 months. In addition, the results suggest that UK is decoupling from EU but is in co-movement with US. Germany is decoupling from EU and EU core-countries, but there are significant co-movements between Germany and UK, and Nordic countries.

The results provide evidence that the Baltic countries decoupling from the EU at low frequencies over 16 months, except the years 2007–2011 when the European unemployment cycle leads changes in unemployment in Baltic countries. In the same period, we identified in-phase co-movements between Nordic and Baltic countries. On the contrary, there is a significant evidence of unemployment co-movements between Baltic countries and Russia at frequencies between 32 and 64 months during the whole analysed period. Our analysis of phase differences identified changes from 80° to 45° which denotes shortening lag of unemployment in Baltic countries between the years 1997 and 2016. In addition, we show time robust significant in-phase co-movements between all three Baltic countries at low frequencies exceeding 32 months.

Conclusions

We investigate the evolution of unemployment rate co-movements across the European Union (EU) and identify historical decoupling of heavily-indebted countries in Southern Europe (Portugal, Italy, Greece, and Spain), especially Greece. In addition, we identify co-movements of United Kingdom and US economy and point out decreasing synchronization of United Kingdom with the EU which is still significant with Germany. On the contrary, we discuss very low co-movements between Germany and the European Union after the Hartz reforms have been applied.

However, we find significant co-movements between the Baltic countries that have approached the optimum currency area requirements. The results provide evidence that the Baltic countries decoupling from the EU at low frequencies over 16 months, except the years 2007–2011 when the European unemployment

cycle leads changes in unemployment in Baltic countries. In the same period, we identified in-phase co-movements between Nordic and Baltic countries. On the contrary, there is a significant evidence of unemployment co-movements between Baltic countries and Russia at frequencies between 32 and 64 months during the whole analysed period. The Baltic countries could adjust to asymmetric shocks by using market-based mechanisms, i.e. "flexible price" solutions (e.g. reductions in real incomes) or/and "flexible quantity/factor" solutions (e.g. labour and capital mobility).

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Acknowledgement

This research was funded by a grant (No. MIP-016/2015) from the Research Council of Lithuania.

Using Social Media for Civic Engagement. Can Latvia Learn from Foreign Experience?

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Abstract

The study is evaluating if in Latvia it would be possible to use social media as a tool for civic engagement, suggesting that two-way communication tools of social media can be useful for public institutions to engage citizens in the decision-making process. In the study, international cases are identified, analysing how public institutions are using social media for communication with citizens, as well as, statistical data is analysed about the use of social media in Latvia. Results of the study suggest that there are successful examples how social media can be used in regional and national level to improve civic engagement and foster dialogue between citizens and institutions. Taking those examples into account in Latvia there are good conditions for institutions to use social media for two-way communication with citizens.

Keywords: Civic engagement, democracy, public institutions, social media

Introduction

For democracy, it is important that citizens are engaged in the development of the country, that there is a dialogue between institutions and citizens. If citizens are not participating in the elections or decisions about the future development of the country are made without considering the opinion of the citizens it is a reason to question if the country really is democratic. For the last few decades, participation rates in the elections are decreasing, as well as, societies trust to the public institutions is low. To ensure that democracy in Latvia is democratic indeed, there is a need to motivate citizens to participate in the development of their country, vote in elections and give their opinion when public institutions are designing new laws and regulations.

There is one solution that might help to increase rates of civic engagement and foster dialogue between public institutions and citizens – social media. Since the rise of Web 2.0 and development of social media platforms, such as *Facebook.com* and *Twitter.com*, it is easier for people to be connected with each other and exchange information and knowledge worldwide and instantly. However, social media can be used not only for personal contacts but also for communication with public institutions. Naturally, public institutions are aware of this opportunity and nowadays it is common that institution is having not only homepage but is also active on social media. Nevertheless, in Latvia institutions usually are using social media for one-way communication, publishing information about their agenda and activities of the institution's representatives, but are not actively using two-way communication tools that are provided by the social media, such as commentary section, surveys and direct messages. Thus, there is a missing dialogue between institutions and citizens, thereby also opportunity to encourage civic engagement. International experience is suggesting that there is potential for social media to be successfully used for civic engagement. That was proved in 2008 USA elections by Barack Obama campaign, as well as, in the latest 2016 USA elections social media played a significant role. There are also many cases when local municipalities in the European Union had successfully used social media for civic engagement.

Taking into account this international experience, the aim of this study is to evaluate if in Latvia it would be possible to use social media as a tool for civic engagement. Results of the study can be useful to understand how public institutions can use social media to increase dialogue between citizens and institutions and engage more citizens in the decision-making process.

Methodology of Research

In the study, international cases are identified, analysing how public institutions are using social media to foster civic engagement and involve citizens in the decision-making process. As well as, statistical data is analysed about the use of social media in Latvia, identifying aspects that should be considered when the institution is planning communication with citizens on social media.

Findings/Results

In the study is gathered cases of the social media use from the USA, several countries of the European Union, as well as, countries from the Asia. A good overview of the situation with the use of social media is provided in the study of Mossberger et al.(2013), where was analysed the use of social media in 75 largest USA cities with the conclusion that adoption of social media in the analysed cities has increased even several times. However, authors of this study are stressing out question “..given that not all citizens are online, how much time should be invested in social media versus other forms of interaction?” (Mossberger, Wu, & Crawford, 2013) which is important to keep in mind, when thinking about the future development of the online communication. Status with social media use in the European Union can be illustrated with the study of Bonsón et al. (2012) where was analysed use of social media in the EU local governments, highlighting that “Rather than passive onlookers “out of the network,” local governments should reside “in the network,” as an integral part of it, contributing to discussions as peers rather than outsiders.” (Bonsón, Torres, Royo, & Flores, 2012).

Can Latvia learn from this international experience? Statistics about the use of internet and social media suggest that at least there is a good condition for public institutions to be more active on social media. According to Central Statistical Bureau of Latvia in 2016 access to the internet were in 77.3 percent of all Latvian households (Central Statistical Bureau of Latvia, 2017). Thus, public institutions have the possibility to communicate with people online if representatives of institutions are ready to use this opportunity and foster citizens` civic engagement.

Conclusions

Analysis of the international cases is suggesting that there are successful examples how social media can be used in regional and national level to improve civic engagement and foster dialogue between citizens and institutions. However, it takes additional effort from the institution's representatives to provide social media content that is appealing to the people and can motivate citizens to engage in the two-way communication with institutions.

In Latvia, there are good conditions for institutions to use social media for communication with citizens as most people are active online and population is comparatively small. Nevertheless, it is up to institutions if they are eager to be more active on social media and use it not only for one-way communication but also engage in dialogue with citizens and involve them in the decision-making process.

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The Importance of Stakeholders' Engagement in Change Management Process in Universities

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Abstract

Higher education plays a crucial role in the supply of high-level work force for the socio-political and economic development of a nation. To this end, the effective management of this educational sector becomes necessary. In order to ensure effective change management process, the involvement of stakeholders is crucial. The aim of the paper is to analyse the importance of stakeholders' engagement in change management processes in universities. During the research, the review of scientific literature was provided to analyse the best practice and problems of engagement of stakeholders in change management processes in universities, as well as the case study of universities in Latvia was analysed in this field. As a result, the recommendation regarding the involvement of stakeholders in change management processes were formulated.

Keywords: change management, universities, stakeholders' engagement.

Introduction

Change is an ever-present and essential part of life, and the university a constantly evolving organisation. It is particularly difficult to change universities as they are peculiarly resistant to change (Marshall, 2010) and managing change in universities is perhaps the most daunting challenge facing senior managers in organizations today (McMurray, 2001).

With all unique characteristics, higher education institutions certainly have a different approach in institutional governance, management, and leadership than other organizations. Therefore, higher education institutions cannot be handled the same way as other organizations when it comes to change management (Patria, 2012).

In scientific publications about successful implementation of change management in universities many scholars and practitioners focus on factors that are related to people - often referred to as the "soft side" (Boks, 2006; IBM, 2008), the intangibles or the "human factors" of change (Verhulst, 2012). A study from IBM (2008) indicates that this "soft side" is the hardest to change, a finding that has also been identified by Struckman and Yammarino (2003). Empowerment, involvement and communication are mentioned by several scholars (e.g. Lewis et al., 2006). Hiatt and Creasey (2003) confirm the importance of engagement, especially within the change team. In the same time Hoover and Harder (2015) call for more work on understanding the role of human factors such as individual agency, relationships, institutional cultures and power on campus. However, taking into account that universities are peculiarly resistant to change, it is crucial to find effective way how to ensure the engagement of stakeholders in different levels.

The aim of the paper is to analyse the importance of stakeholders' engagement in change management processes in universities.

In order to achieve the aim, following tasks are formulated:

1. To analyse the role of stakeholders' engagement in change management processes described in scientific literature;
2. To describe the practice of stakeholders' engagement in change management processes in universities in Latvia;
3. To develop recommendations for engagement of stakeholders in change management processes in universities.

Within this research, the analysis of scientific publications and scientific research are carried out as well as the case study method applied. The paper contains a review of the scientific publications concerned with involvement of stakeholders in change management processes in universities.

Methodology of Research

During the study, the analysis of scientific literature was provided. In addition, the case study of universities in Latvia was conducted.

Findings/Results

The results of case study analysis showed that the level and methods of stakeholders' involvement in change management processes in universities differs. However, the results showed that involvement of different stakeholders in change management processes in universities ensure more effective implementation of changes as well as decreases the resistance at all levels.

Conclusions

During the study, it was admitted that a key feature that distinguishes successful change management in universities is effective stakeholder engagement. It could be realised using both – top-down and bottom-up approaches. There are different methods how to ensure stakeholders engagement during the change process in universities - via advisory boards, e-mail, newsletters, posters, open forums and conferences, plenary sessions of conferences, road shows and videos, team briefings, focus groups and demonstrations, helpdesk. Each method has its own advantage taking into account specific features of university, stage of change management process, level of stakeholders' resistance, organization culture, etc.

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The impact of digital competences on the emotional capital on E-commerce Enterprises

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Abstract

Get started by defining what it means by digital economy. The dramatic growth what is being called by electronic commerce – enterprises been facilitated by the expansion of access to computers, devices and the Internet in workplaces, homes, schools, etc. The common view that computers and the Internet are producing rapid changes in how goods and services are produced. The nature of the goods and services are brought to market. View the emergence of e-commerce, as part of broad spectrum of the structure of economy related to developments extending over several decades in information technology. With the growth of e-commerce, particularly in business-to-business transactions, the case is to observe not only measuring the impact of digital appliances within organization. Need to assess whether there have been measurable increases in productivity related to improvements in information flows and reduced transaction costs between organizations that do business electronically. To definite is e-commerce is associated with measurable productivity gains in sector and firms that rely on e-commerce with respect to those that employ less extensively and how the digital competence is interconnected with the productivity [1].

Keywords: digital literacy, emotional capital, e-enterprise, digital competence, skills strategic management.

Introduction

The aim of the article is to explore Digital competence is an evolving concept related to the development of digital technology and the aims and expectations of e-commerce companies to improve a knowledge basis for efficient inputs and outputs in competitive area on the market. The digital competence consists of a variety of skills and competences, and its scope is wide, as is its background: from media studies and computer science to library and literacy studies. The concept of ‘e-skills’ focusses on the question of what an organization should do with ICT (Information communication technology). This is theoretical discussion of how emotional capital as a conceptual tool suggests a historically situated analysis of digital competence elements and emotion norms serving to maintain certain ‘affective economies’. and its interaction.

Methodology of Research

The theoretical and methodological background of the study is based on the literature overview of scientific articles, scientific monographs and researches, internet resources, published in Latvia and abroad.

Findings/Results

The study defined the basic abilities used for the operation of activities in the enterprise, Data List which is in the plane of e-Commerce and use of information and communication technology to find, understand, evaluate, create, and transmit digital information. The value of digital literacy, the parameters of which are designated as with the ability to use and create content based on digital technologies, including the search for and exchange of information, answers to questions, interaction with participants of business processes and computer programming. Digital competence covers information management, collaboration, communication and sharing, creation of content and knowledge, ethics and responsibility, evaluation and problem solving and technical operations. Digital literacy’, introduced by Gilster (1998), is considered as the ability to understand and to use information from a variety of digital sources. Digital literacy is distinguished from the more limited technical skills view of digital literacy by explicitly stating that “digital literacy is about mastering ideas, not keystrokes” (p. 1–2). Thus, digital literacy must be more than the ability to use digital sources effectively.[2] On the basis of the literature overview identified the key areas of study digital competencies.

Conclusions

In this regard, the study focused on defining the digital competences for the identification of aspects influencing the creation of emotional capital in assessing the activity of the electronic entities, i.e. enterprises e-Commerce, the specificity of which is due to the investment of significant resources in digital competence as organizations as a whole and its individual members in the development of digital skills. The definition of such activities contributes to the development of a management tool to minimize losses and move on to the productive direction of development of the organization.

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Latvian Fiscal Sustainability Threats

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Abstract

Public fiscal sustainability is to be understood as a government's ability to continue the current policy by fulfilling their financial duties and obligations. An unalienable part of fiscal sustainability is the level of sovereign debt, which is usually expressed as percentage of GDP. Even though in Latvia, the government's debt in relation to GDP still amounts to 40,1% and is one of the lowest in the EU, in absolute figures its volume per capita is almost 4800 EUR, which creates a considerable burden for Latvian tax payers. It must be taken into account that significant funds are being drawn from the state budget towards debt servicing every year, which in turn decreases the amount of funds available for social services (health care, education, etc.). Moreover, since the largest part of the government's debt is made of external debt, these funds flow away from the country without creating additional domestic income. The aim of this research is to depreciate Latvia's fiscal sustainability and to discover potential dangers for its preservation. In analysis were used a variety of qualitative and quantitative methods, such as: scientific literature and empirical research, sheets, diagrams and charts, grouping, comparison, etc. The analysis concluded that the biggest threats to Latvian fiscal sustainability are related to the demographic situation – the decrease of the number of inhabitants of Latvia (on average, by 2 % every year) and the aging of the population, which requires additional expenses from the state budget, as well as comparatively low increase of the GDP (from 2012 to 2016, the average increase of the GDP in Latvia amounted to 2,7% a year).

Keywords: fiscal sustainability, government debt, budget reserves.

Introduction

Since 2011, Latvia has returned to growth, and significant improvements have been achieved in its fiscal position. The general government budget deficit was reduced from 9.1% of the GDP in 2009 to 0.9% of the GDP in 2013¹. In 2016, according to CSB data, the general government budget saldo was positive (3,44 million euro or 0.014% of GDP²). The general government debt in Latvia in relation to GDP is still one of the lowest in the EU³, but its volume per capita is almost 4800 EUR, which creates a considerable burden for Latvian tax payers and already prompts a review of existing tax policies in order to increase the budget revenues. The aim of this research is to depreciate Latvia's fiscal sustainability and to discover potential dangers for its preservation. In analysis were used a variety of qualitative and quantitative methods, such as: scientific literature and empirical research, sheets, diagrams and charts, grouping, comparison, etc. The main research sources include the information available in the databases of the CSB and Eurostat, as well as the studies and publications by the Ministries of Economics Republic of Latvia, Bank of Latvia, European Commission and OECD.

Methodology of Research

In the theory of economics, it is stipulated that in order to maintain public fiscal sustainability, the increase of sovereign debt cannot exceed the increase of GDP (the ratio between nominal debt and nominal GDP must remain unchanged long-term⁴), otherwise, it may occur that the government can no longer sustain the debt. In order to evaluate financial stability of public sector OECD recommends to analyse aspects of solvency, development, stability and justice. Fiscal policy can be considered stable if tax burden and expenditures are divided correctly so that the future taxpayers do not have to pay uncontrollable bills for

¹ The National Economic of Latvia Macroeconomics Review #69/2016-4, Ministry of Economics of the Republic of Latvia, Riga, 2016.

² CSB Database.

³ Eurostat Database.

⁴ Mankiw Gregory N., Taylor Mark P. Macroeconomics. European edition. New York,., 2008.

public services received by current generations⁵. IMF research on the influence of government debt on the growth of national economy long-term presents the conclusion that the increase of the ratio of government debt to GDP by 10 per cent points creates the decline of the speed of increase of real GDP per capita by 0.2 per cent points a year (moreover, the higher the initial level of a government's debt, the bigger the negative influence of the increase of a government's debt)⁶. One must remark that from 2007 to 2012 the average level of sovereign debt in the world grew by 27 per cent points⁷ and this can be directly linked to the weak growth of the world economy. The increasing debt burden has created the need to pay greater attention to the issues of fiscal sustainability in the EU and other countries of the world. In the end of 2011, a set of legislative measures or Sixpack was adopted, its aim being to strengthen the functioning of Stability and Growth Pact and, in addition to budget surveillance, to expand the monitoring of fiscal and macroeconomic imbalances in the EU member states and in the eurozone. In the fiscal domain, the sixpack strengthens both the preventive and correcting measures of the Stability and Growth Pact, ensuring a stricter application of fiscal rules, including the fact that the excessive deficit procedure can be initiated also in situations when the public debt, which exceeds 60% of the GDP, does not decrease at the appropriate speed to the reference value of the Agreement (on average by 5 % per year within a period of three years⁸).

Findings/Results

The analysis concluded that the biggest threats to Latvian fiscal sustainability are related to the demographic situation – the decrease of the number of inhabitants of Latvia (on average, by 2 % every year) and the aging of the population, which requires additional expenses from the state budget, as well as comparatively low increase of the GDP (from 2012 to 2016, the average increase of the GDP in Latvia amounted to 2,7% a year). Therefore the debt burden per capita could increase in the future, which could negatively impact the domestic demand, which is already comparatively low, forcing households and entrepreneurs to lower their expenses. The fiscal policy implemented by the government also creates problems, because the government of Latvia continuously create budget with deficit, and there is a lack of budget reserves which would have allowed to decrease the negative consequences created by economic fluctuations and to overcome the next economic crises. Unexpected burden for public finances can also be created by various external impacts, for example, abrupt increase of prices for natural resources (such as oil, natural gas, *et al.*), the worsening of geopolitical situation, debt crisis in the countries of the eurozone, and so on.

Conclusions

1. Public fiscal sustainability is to be understood as a government's ability to continue the current policy by fulfilling their financial duties (for example, to ensure certain social services, to pay retirement and other social benefits) and obligations (that is, make regular interest payments and pay the amount of borrowed capital when the deadline for its return comes).
2. In 2016 the government's debt in relation to GDP was 40,1% and is one of the lowest in the EU, but the biggest threats to Latvian fiscal sustainability are related to the demographic situation – the decrease of the number of inhabitants of Latvia and the aging of the population, as well as comparatively low increase of the GDP.
3. The debt burden per capita could increase in the future, which already prompts a review of existing tax policies in order to increase the budget revenues.

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⁶ Kumar M. S., Woo J., *Public Debt and Growth*. IMF Working Paper 10/174, July 2010.

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⁸ http://ec.europa.eu/economy_finance/economic_governance/sgp/index_lv.htm

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Case Study of Chinese Third-Party Payment Platform ALIPAY and its Implication in Latvian Market

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Abstract

With the development of financial technology, known collectively as Fintech, the world has undergone a revolutionary change in recent years. Payments are no longer monopolized by the banking industry and money is moving faster than ever. Nowadays, more and more Fintech products are widely used by people, in particularly the third party online payment. In this paper, ALIPAY is chosen as a successful and world-wides discussed in academic research case to be analysed, as it owns the largest mobile payment market share in China. In this paper, in-depth analysis of its business profile and social-economic impact are analysed. Subsequently the paper expands deeper to the implications of this successful case in Latvian market, in how to organize or support a digital online payment in cultural context.

Keywords: ALIPAY, China, Fintech, Latvia, Third-Party Payment Platform.

Introduction

Topicality and Aim of this research:

As its overall economy is rapidly growing, fuelled by the fast development of the its 3G/4G technology and a huge base of Chinese internet users, China has become the centre in the global *Fintech* innovation and adoption. As one of the most successful *Fintech* product in Chinese market, *ALIPAY* has been dominating Chinese third party payment market since it was launched by the *ALIBABA* group (NYSE: BABA) in 2004.

Through a thorough analysis of its ecosystem and operation mechanism, together with the review of its environmental factors, the paper aims at detecting the successful practices by *ALIPAY*, to offer examples and implications for the developments of *Fintech* industry in the Latvian market.

Hypothesis of this research:

With appropriate policy support, market guidance and proper business strategy, Latvian market can develop a successful *Fintech* Product as *ALIPAY*.

Tasks of this research:

To analyse the Eco-system of *ALIPAY*:

1. To analyse *ALIPAY*'S business model, including its products group, its profit model, and the successful factors;
2. To do the comparison analysis of *ALIPAY* with the traditional banking sector, including the relative advantages and potential threats;

To analyse the Social-Economic impacts of *ALIPAY*:

- To analyse the *ALIPAY*'s impact, in general economy, and in development of general society;
- To analyse the legal risks of *ALIPAY*.

To analyse the possible implication in Latvian market:

- To compare the different environment factors that *Fintech* industry facing in Latvia and in China;
- To conclude the successful indications for Latvian market from the case of *ALIPAY*.

Limitations of this research:

As *ALIPAY* is only a sub-branch of *ALIBABA* Group (NYSE: BABA), most of its data are not announced to the public through official channels. Although the experience is widely analysed in academic publications available data is limited to secondary data sources from news reports, scientific papers published in peer-reviewed scientific journals and online articles. In this research paper, data gathered via those sources is an innovative approach and has been cross-checked with the most relevant data presented in *ALIBABA*'s annual

reports, published scientific publications in research journals available in scientific publications data bases to achieve the maximum accuracy.

Methodology of Research

Research methods in this research are mixed, using both quantitative method and qualitative methods. Quantitative analysis is conducted when analysing the social-economic impacts of *ALIPAY*, and qualitative analysis is used in the rest parts, mainly through case study, document analysis, and comparative analysis.

Findings/Results

The main research findings are:

- *ALIPAY* has integrated into the everyday life of its consumers and offers a complete customer experience with a wide spread products package;
- *ALIPAY* has big positive impacts in the general economy and social sectors;
- There are financial and legal risks underneath *ALIPAY*'s business model and operations;
- *ALIPAY*'s success factors lies on three main factors: 1) the huge client base provided by *ALIBABA* group when *ALIPAY* was initially launched; 2) the distrust in Chinese business sector and the absence of an effective escrow system to protect customers' interest; and 3) *ALIPAY*'s correct market positioning strategy: targeting SMEs and individual clients.
- The business environment in Latvia and China is significantly different.

Conclusions

ALIPAY's success shows that a good *Fintech* product has the potential to boost the development of a country's economy and to contribute to functioning of society in general. As for Latvia, the financial sector is key to modern Latvia's development strategy. The *Fintech* sector should be highly promoted.

However, the analysis of legal risks of *ALIPAY* shows the insufficiencies of the current legislation, which leaves potential risks for the protection of user' information and space for customers right to be compromised, *ALIPAY*'s user agreement is an example. And the advantage of *Fintech*'s efficiency also leads to its vulnerability, it can be used as a channel for financial crimes such as money laundry, thus government needs to be aware and evaluate all gains and risks when supporting its development taking into account new findings and new approaches expanding in fast developing countries.

What's more, the comparison analysis of the business environment in Latvia and China shows significant differences, especially in the customer base and their main concerns. Thus, the same business model of *ALIPAY* cannot work in Latvian market. Useful lessons can be learned from *ALIPAY*'s success in Latvian market: 1) For government, policy support and market guidance are highly needed as most of the *Fintech* companies in Latvia are start-ups and very vulnerable; Existing IT companies who already have good client bases should be supported to expand their business area, through special taxing arrangements or offering financial operational licenses; 2) For companies, business owners should carefully positioning itself in the market niche; and use Europe as the targeting market instead of focus only on inner Latvia.

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Investing in Silver Economy: New Trend Requires New Benchmark

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Abstract

Currently, baby boomer generation all over the world is nearing their retirement age. Understanding the ageing population's needs, habits and spending pattern cannot be ignored. So that there is particular need to consider this trend as a significant catalyst to achieve outperformance on the financial market. The purpose of the current paper is using systematic approach of stock analysis to recognise main sectors, which will benefit from the ageing population trend and to detect the stocks that will benefit the most from an increase in the retired population. As a result, the investors will have access to new benchmark index to follow the silver economy trend.

Keywords: silver economy, stock market, index.

Introduction

In the previous decades, many researches on the field of economics and demographics have predicted the negative impact of aging population of the economic development and state in the coming years. According to the statistics published by the United Nations in the next 15 years, the number of individuals worldwide over the age of 60 is likely to raise by more than 50%, amounting around 1.4 billion that makes about 20% of the total population. Moreover, it should be noted that already today the number of 65-olds are bigger than the number of children under 5 years (United Nations (2015)).

On the one hand, the aging population is likely to prepare new challenges for economic state and development in both developed countries (like Japan, Germany and Italy to mention some examples) and emerging markets (Russia and China), but on the other hand, new opportunities could be discovered. The reasons are to be searched in the fact that the high proportion of the aging population in particular in the developed countries is covered by private and/or governmental pension system, so that the purchasing power is probably to be hold (Societe Generale (2017)).

As a result, the rise of so-called “silver-economy” will discover additional opportunities for some specific sectors and economy as such. For example, see the paper by Kyriakou & Belias (2017), where it is shown that aging population is to become one of the biggest and most important market segments for the hospitality and travel industries in Greece. Another example could be found in the research by Zsarnoczky (2016) focusing on development of innovation strategies related to the ageing population and required services, which aim to provide “well-being through health monitoring, robotic assistance, electrical mobility or sport activities”. So that the mentioned sectors could expect significant push in their development and profitability. In order to gain returns from the existing trend and address the necessities in the proper way, system adaptations should be enforced (for more details follow Bran et.al. (2016) and Klimczuk (2016)).

Regardless the importance of the mentioned topic the idea of investing in silver economy is less discussed in the scientific literature. Pauhofova and Dovalova (2015) are discussing the potential of silver economy in the European Union; Kascakova and Kubisova (2016) are describing and evaluating the social and economic situation of the silver population in Slovakia. The authors cited argues about existing considerable potential of the aging population trend, while the investment in the sector is not considered at all. On the other hand, the topic is brightly discussed among professional or hobby investors. On the popular internet resource – Seeking Alpha (<https://seekingalpha.com/>) there are around 12 800 articles covering the topic. So that it would be necessary to address the topic also in the scientific literature providing the interested parties with a new and reliable benchmark tool – Senior Population Stock Index.

Methodology of Research

In order to achieve the goal set above the author uses following methodology: first, the determination of sectors of economy that could benefit from the positive impact of an ageing population (based on the literature analysis and professional view of several portfolio managers), such as Healthcare and Wealth Management, pay-TV and Telecom, Health Insurance, Luxury Goods and Travel/Holiday Services. Second, the selection of companies that have constantly delivered positive growth rate above 1.5% annually over last year (the methodology is based on the index selection approach used by international financial market

players like Societe Generale, Deutsche Bank and Barclays). Third, the selection of 50 companies (without regional restrictions) with the highest market capitalisations liquidity to include in the Senior Population Stock Index. Fourth, back-testing the index based on historical data in order to determine its sustainability and reliability as benchmark index.

Findings/Results

Based on the literature analysis and applying the sectors and stocks selection methodology described above Senior Population Stock Index – as a new benchmark for investors willing to follow the modern trend in the investing process – was constructed and tested (including spread analysis and performance analysis).

Conclusions

Studying the new trend of ageing population one can come to the conclusion that the growing number of retired population will own considerable funds and willing to spend them, while this amount of money is likely to flow disproportionally into certain sectors of economy. As financial investors are particular interested in getting the exposure to the over-performing sectors of economy regarding the latest trends. By back-testing the performance of the Senior Population Stock Index over the last years better performance over the market average could be notified, while the spread's average is positive highlighting the sustainability and reliability of the index created.

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Biometric Industry: Do the Investors Believe in Sophisticated Technologies?

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Abstract

Biometric industry is gaining momentum, keeping annual increment rate on a level of 15% and expecting to reach estimated 32,4\$ billion by 2022. Biometric technology has already achieved a strong presence in the most of crucial end-use industries, including government, banking, health care, border control, commerce, retail, and continues to conquer new ones. Moreover, modern data enrolment and verification systems have progressed much beyond such a common multimodal biometric features as fingerprints, facial recognition or iris scans. New generation portable capturing devices with advanced biometric sensors, wide spectrum of biometric applications on smart devices, expansion of physiological and behavioral modalities (such as liveness detection, body order, ear pattern and other), and stronger legislative background stimulates the dynamic development of the biometric systems' industry.

According to the experts, this is still emerging market and future for the industry looks positive not only for companies that have already established themselves in leader positions, but also for startups. Nevertheless, there has been little investors' attention to publically traded biometric industry companies. Thus, the authors put forward a hypothesis about an existing gap between biometric industry growth and investment activity dynamics described by the stock price fluctuations of the companies engaged in the biometrics. The authors assume that such a situation may be caused by several reasons, including complexity of technological processes that seem obscure for general investor, as well as lack of knowledge about industry insights. Moreover, the topic is less discussed in the scientific literature. The aim of the research is to check whether industry's strong upward trend is reflected in biometric companies' financial performance and further outlook. The methodology of the conducted study includes extensive literature analysis, evaluation trends and forecasts by market research institutions as well as fundamental analysis of the publicly traded companies engaged in biometric industry. Conducted analysis bring value to investment advice practices and contributes to scientific discussion on the field.

Keywords: biometric industry, industry outlook analysis, stock performance, portfolio management.

Venture Capital in Latvia

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Abstract

The aim of the study was to reveal current status of the Venture Capital (VC) market in Latvia and to make recommendations for policymakers regarding desirable actions or refraining from them to help the market to mature. The study reveals that even 14 years after first venture capital (VC) funds launched in Latvia still their funding is largely dependent on governmental/European Union (public) resources. There are no VC funds in Latvia without public capital. There are no signs that during next years any considerable private VC fund will commence its activities in Latvia. The availability of EU funds after 2020 is unclear. A number of studies have shown that venture capital investments in new and innovative enterprises have a positive macroeconomic impact on economic growth and job creation. Therefore it is necessary from today's perspective to make VC market in Latvia more sustainable.

Keywords: venture capital funds, private equity funds, public venture capital, Latvia.

Methodology of Research

The following methods were applied for the study: literature overview, data collection and comparative analysis.

Findings/Results

So far there have been 5 public supported programs for VC funds in Latvia.

The first was launched in 2005. 11.25 MEUR from EU Structural Funds and 3.75 MEUR from Government of Latvia under programme "Entrepreneurship and Innovation" was under the management of 3 funds selected by competition (TechVentures Fondu Vadības Kompānija, EKO Investors, Zaļās Gaismas Investīcijas (ZGI Capital)). The funds had to attract private funding in the amount of 34 % of total funds amount.

The second programme commenced in 2010. 21 MEUR from EU Structural funds and 7 MEUR from Government of Latvia were available under programme JEREMIE. The selected VC funds' management teams (BaltCap, Imprimatur Seed fund, Imprimatur Start-up fund) had to attract private funding in the amount of 33 %, except for Imprimatur seed fund (0%).

During the third programme under „Investment fund for investments in guarantees, credit guarantees, venture capital and financial instruments” commenced in 2012 the selected teams (ZGI Capital, Imprimatur Capital, Excap, FlyCap) received 30 MEUR from EU Structural funds and 10 MEUR from Government of Latvia. The private funding in the amount of 33% was necessary.

In 2012 governments of the Baltic States and European Investment Fund (EIF) agreed to establish Baltic Innovation Fund with 20 MEUR funding from each of the states and 40 MEUR from EIF. In 2015 each State increased its share per 6 MEUR and EIF per 12 MEUR. So far 5 funds (BMP, Baltcap (Private Equity Fund II and Growth Fund), Livonia Partners, Karma Ventures) received money under their management and had to provide private funding in the amount of 50%.

In 2013 Latvian government provided 2 MEUR for soft loans for start-ups and selected for the management of this programme Imprimatur Capital. No private funding was requested to run this fund.

The 6th programme has started this year and in context of it during 2017-2018 seven new funds backed by European Regional Development Fund will commence their activities. Three of them for managing accelerator funds have been already chosen. They have to attract private funding in the amount of 10%. Other funds for later stages of the company's development should attract funding till 40%. In total 30 MEUR private funding for this programme is necessary.

All currently operating funds (9) in Latvia are running under one of programmes mentioned in above.

There are very few private investors and few local companies interested to operate in Latvian VC market, but due to tax reasons (European Commission 2017) and respective infrastructure could choose to shift their presence to neighboring countries.

There are several reasons why it is hard to attract foreign investors to invest in Latvian VC (Prohorovs A. 2014). The clarity regarding full transparency regime for LPs and participating in establishment of Fund of Funds as a tool for big investors to invest could be relatively easy to achieve. The success of Baltic Innovation Fund which attracted more than twice of necessary private funding shows it (instead of 100 MEUR min private capital 234 MEUR were raised from Baltic pension funds, EBRD, as well as private sector institutional and HNWI investors from Baltics and other countries.)

Conclusions

1. The Latvian VC market is still immature and mainly dependent on public investments. There are no fully private financed VC funds in Latvia. The funds struggle to attract private investors even in the minimal amount requested for hybrid funds with public investments.
2. Academical studies (Callagher L, Smith P, Ruscoe S. 2015) show that direct funding is not only one measure how governments can help VC market to thrive. Tax matters and VC related infrastructure should be improved to attract private investors from abroad.
3. After 2020 there is no clarity for availability of EU Structural Funds. The government should act to be ready to fill the gap in funding if there will be no EU Structural funds available after 2020. The short-term goal should be the establishment of Baltic Innovation Fund II under European Investment Fund as a source of private equity funds for next 4 years investment period.

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The Analysis of Operating Activities for Latvian Mechanical Engineering and Metalworking Companies

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Abstract

The analysis of operating activities is an important part of management that managers use in taking significant decisions in relation to investment and financing questions. The aim of the research is to investigate the current situation of enterprises in mechanical engineering and metalworking sector and to offer proposals for improvement management of these enterprises and strengthening of financial stability.

The authors have applied theoretical sources analysis and synthesis. Quantitative research methods such as statistical data analysis, forecasting and other financial calculations were used to analyse trends and structural problems in industry, qualitative methods such as expert interviews in the sector and personal observations were used. In the course of the research the authors have drawn the conclusions that in order to carry out business efficiency evaluation it is possible to apply various methods of financial analysis that are envisaged for different user groups and could be diverse in terms of complexity and the volume of information.

Keywords: Operating activity, financial performance, mechanical engineering and metalworking enterprise, efficiency

Introduction

In a saturated market with a high level of competition, it is essential for managers to plan its operational strategy in order to secure a sustainable development, keep job places and overall stability. Managers need information and knowledge and have to analyze information on the operating activities and their financial results. Financial analysis allows diversifying the enterprise's internal and external resources for various tasks, identifies problematic segments and modify the business model. Mechanical engineering and metalworking industry is one of the leading industries in Latvia, it is a much diversified industry. Mechanical engineering and metalworking goods occupy a leading place in the Latvian export structure.

Methodology of Research

Effective utilization of the financial and other material resources is ensured by the management decisions based on information from financial analysis. (Revsine, 2011) Normally, financial analysis carried out to support the company's solvency, revenue, profit and the amount dividends or the company's market value. (Brigham, 1989) Nevertheless enterprises have different strategic goals set, they may face mainly such problems as low solvency; low capital profitability; decreasing of financial independence. (Van Horne & Vachowicz, 2008)

Escalation of the solvency problems and deterioration of the indicators might be resulted from the operating activity which is not sufficient enough to keep acceptable financial conditions. Enterprise has no potential possibility to keep acceptable solvency level or has no rational distribution of profit. (Bragg, 2007)

One of the reasons why may deteriorate financial position of enterprise is insufficient profit. Profit has influence on all indicators of financial results. (Glen, 2013) The other reasons why the deteriorating financial indicators is investments (investments in production facilities construction, acquisitions, etc.) and irrational usage of current assets – stock management, debtor's policy and working capital management. Low return on capital does not provide the interests of the owners. Mainly it is influenced by the high price of the financial sources. (Brigham & Gapenski, 2008).

Judging by the long-term investment, it should be noted that the most important long-term active in mechanical engineering is fixed assets. Operating activity of the enterprise is characterized by the growth rate of the efficiency. The speed of economic development of manufacturing enterprise depends on many factors reflecting efficiency of current business (profitability of operational activities, turnover of assets and stocks) and financial activities (dividend policy, financial strategy, choice of equity structure).

Findings/Results

European Economic and Social Committee considers mechanical engineering and metalworking industry as one of the most valuable sectors, because it provides machinery, manufacturing systems, components and other services related to other industries. Global economy creates both threats and opportunities for manufacturing sector. Competition from companies in Brazil, China and India is increasing. Also economic crisis has weakened Europe position. In order to increase competitiveness, companies in Europe must develop new strategies, what include high qualified specialists, innovations and new technologies (McKinsey & Company, 2015).

Table 1. Value of mechanical engineering and metalworking industry production in Germany, Estonia, France, Latvia, Lithuania and Poland from 2010 to 2014

	Value of production, million EUR				
	2010	2011	2012	2013	2014
Germany	2405988,0	2716944,8	2707712,8	2688414,0	2671308,0
Estonia	9322,0	12006,9	12160,5	12905,6	13653,3
France	995932,8	1063449,3	1045738,8	1017549,4	997681,2
Latvia	7103,7	(...)	(...)	9220,9	8677,8
Lithuania	15424,8	19728,1	20664,3	21191,5	20140,6
Poland	286998,9	322945,0	327652,0	329231,5	341996,6

From Table 1 it can be concluded how the value of mechanical engineering and metalworking industry production changes in different countries, as well as it can be seen the volume of production in Lithuania and Estonia are much larger than in Latvia. Development of the industry depends on sales market and situation in international markets, in Latvia comparing to neighbouring countries, development process is much slower, as analyzed data of the Eurostat(2017) showed.

The most important sales markets of Latvia mechanical engineering and metalworking industry is the Europe Union, as well as potential development of Eastern markets, in Asia particularly (Dienas Bizness, 2016). Western Europe partners choose to cooperate with companies that are environment friendly. In order to ensure reputation in this field, it is necessary to renew an infrastructure.

The analysis of selected enterprises operating activities shows that the increase in equity capital of enterprises is facilitated by the positive results of operations every year, profits are not paid in dividends.

The survey results also show that although the lack of skilled labor remains a major problem in this sector still have problems that are related to the business: legislation, the total economic processes in the country and demand for the products.

Conclusions

Different methods of financial analysis are useful for the evaluation of effectiveness of operating activity. The model of analysis should be based on the following financial indicators - profitability, turnover ratios as well as liquidity, working capital and liability ratios.

Managers have to pay more attention to asset structure in order to improve stock sales, to reduce costs, to investigate and to consider the possibility to enter the most profitable export markets, to apply the modern financial management methods, financial modelling and forecasting, cash flow planning, they have to carry out analysis and evaluation of investment projects, to assess and analyse the risks, to calculate and analyze the cost of capital. Particular attention should be paid to the business and financial risk management.

Considering the current political situation in the Eastern markets the authors recommend managers to try to expand their activities towards the Western European markets such as Germany, Italy, France and the Scandinavian countries where the metalworking industry is highly developed. As possible options could be offered to conduct marketing researches, to set up subsidiaries and to attract innovative technologies and resources.

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Problems of Environmental Conflicts Management

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Abstract

The formation of an effective system of nature management and the implementation of the principles of sustainable development into the practice of social relations require, above all, the improvement of the concept of nature use. Limited natural resources, reinforced by their uneven distribution, unequal access to them, as well as unfavourable economic, social and cultural-historical factors, are the cause of environmental conflicts. On the basis of a critical analysis of the main economic-environmental and social contradictions, the main theoretical and methodological aspects of environmental conflictology are investigated: the issue of environmental conflict determination in the overall system of ecological and economic security and subject and object of environmental conflict.

Keywords: cooperation, environmental conflict, effect, management, nature.

Introduction

Environmental conflicts (EC) as a social phenomenon arise up during all the history of “society – environment – economics” system existence and it has such personal characteristics: a) on the one hand, EC has the same essence characteristics and development mechanism as any social conflict has; b) on the other hand, EC has specific features inherent only for EC: subject and object; origin process, EC development and solving; EC consequences. EC socio-economic nature, its subject, object and development dynamics research shows that: 1) both resource deficit and surplus can be potential EC sources; 2) EC can be provoked (or can be the result) by the unequal natural resource access possibilities, its distributing and quality.

Methodology of Research

Resource conflicts can be subdivided into 7 groups as follows: 1) land conflicts; 2) water conflicts; 3) forest conflicts; 4) mineral conflicts; 5) food conflicts; 6) assimilation conflicts; 7) complex conflicts.

Ecological consequences of globalization such as trans-boundary pollution, solid and liquid wastes, ozone layer depletion, negative ecological aspects of international trade, resource depletion and ocean pollution require adequate approaches and mechanisms. Extensive use of ecosystems in modern technological processes is one of the major sources of potential EC (or the so-called “resource conflicts”) which have already become visible at a regional level and very soon can become a global phenomenon (Climate, 2002; McNeely, 2000; Understanding, 2004). Resource conflicts can be subdivided into 7 groups as follows: 1) land; 2) water; 3) forest; 4) mineral; 5) food; 6) assimilation and 7) complex conflicts (for details, see: Sabadash, 2006). Ecological and economic effects and costs in an EC. A search by industrial societies of new possibilities of socio-economic growth and competitive edges is characterized the origin of serious contradictions. From the one side economic agents fill the obvious necessity of the any competitive edges using for a receipt, foremost, economic benefits, from other – a cardinal revision is required by the systems and mechanisms of redistribution of effects between subjects in the socio-economic systems. Forming of competitive edges by economic subjects takes a place on two basic directions: 1) progressive, is based on modern achievements of science and techniques (technologies) and 2) resource, is based on the use of naturally-resource potential.

Results

Ecological and economic effects and costs in an EC. A search by industrial societies of new possibilities of socio-economic growth and competitive edges is characterized the origin of serious contradictions. From the one side economic agents fill the obvious necessity of the any competitive edges using for a receipt, foremost, economic benefits, from other – a cardinal revision is required by the systems and mechanisms of redistribution of effects between subjects in the socio-economic systems. Forming of competitive edges by economic subjects takes a place on two basic directions: 1) progressive, is based on modern achievements of science and techniques (technologies) and 2) resource, is based on the use of naturally-resource potential. In both cases competitive activity and behaviour of economic agents on the resources markets acquire the distinct signs of conflict, as a result there is an EC, in basis of which is a conflict of interests, related to the

redistribution of socio-ecology-economic effects between the owner of resource, mediator, producer and final consumer.

As a key factor of EC origin in the field of nature use there is an ownership right on a natural resource. The access modes, managements and resource use, characteristic for the socio-economic system, form rights, possibilities and responsibility of nature use agents.

Intensity, development dynamics and methods of EC settlement, origin reason of which is a right of ownership on a natural resource, depend on the features of economic and legislative relations of nature use agents of in a chainlet to “to own – to dispose – to utilize” (Fig. 1).

State	↔	State
State	↔	Economic agent (enterprise/firm)
State	↔	Individual
Economic agent (enterprise/firm)	↔	Economic agent (enterprise/firm)
Economic agent (enterprise/firm)	↔	Individual
Individual	↔	Individual

Figure 1. Economic agents of the nature management system

Acceptability of results of EC settlement determined by distributing between the conflicting sides of additional effects (ΔB) and costs (ΔC): a) economic (profit, income, rent, potential benefits from resource possessing, possibilities of resource management, development of production infrastructure, investments, creation of workplaces etc.); b) social (maintenance of certain social level and living standard, development of social infrastructure, providing of social safety, decline of unemployment rate, etc.); c) ecological (maintenance of naturally-resource potential, ecological safety, material well-being by resources, use of ecological functions of natural resource, settlement of questions of cross-border pollution, etc.); d) political (settlement of territorial disputes and claims, differentiating of economic activity conduct areas (territories), development of cross-border/international collaboration, international image, etc.); i) other types of effects, for example, institutional, technological, legal.

Costs (expenses) (ΔC), related to EC, and are distributed on such basic directions: 1) guard and renewal of natural resource (atmosphere, water, soil, bio resources); 2) maintenance of socio-economic level development (production, consumption, infrastructure, standard of living, health protection); 3) search and bringing in of alternative resources sources or technologies because of exhaustion of naturally-resource potential and/or low quality of resource; 4) finding and development of difficult deposits of minerals because of exhaustion superficial and accessible; 5) technique and technological modernization of raw materials processing technologies; 6) EC settlement; 7) finding of new territories, suitable for vital functions, because of its loss/reduction because of EC (submergence, felling, degradation of soils, etc.); 8) receiving less of economic value (slowing down of economic development, receiving less of GDP, reduction of workplaces, etc.); 9) problems of opportunity costs and long-term ecology-economical decisions making.

Economic and legislative methods of EC setting could have the following orientation: 1) political; 2) institutional; 3) technological; 4) financial and economic; 5) trade; 6) innovative and informational; 7) social and cultural. Consequently, main problems, the successful and adequate decision of which is able substantially to influence on efficiency of already existing EC settlement and to reduce conflict potential of economic agents conduct in the conditions of resources limitations are ownership rights on natural resources and readiness of economic agents to resource limitations (to receiving less of resource, profit, potential benefits, social effects).

Conclusions

EC remain rather urgent for industrially developed countries as well since their geopolitical and economic interests include cooperation with developing countries. Further development will cause an increase and

intensification of economic interests, correlation and penetration of production and capital including new forms and subject matter. That is why international cooperation can and must prevent and/or resolve EC with the goal of restoring ecological and economic balance on the basis of sustainable development.

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Determining and Analysing the Efficiency of Value-Added Tax Rate

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Abstract

Value-added tax has one of the central roles in generating government revenue, as well as in the overall tax system. Since 2009, the Latvian government has adopted a number of substantive decisions regarding changes in the value-added tax rates, which had certain results, and thus, the objective of this research is to evaluate the efficiency of applicable value added tax rates in relation to the state budget revenues based on the available scientific literature and statistical data. The research finds that changes in the VAT rates did not change the role of this tax in budget revenues. Increases in the value-added tax rates actually reduced the overall tax efficiency in the country.

Keywords: value added tax, state budget, fiscal role, tax efficiency.

Introduction

Value-added tax is a consumption tax, which is widely applied in Latvia, European Union, as well as almost all developed economies. Undoubtedly, revenues from it have a large role in the budget of each country.

As a result of the global financial crisis, value-added tax (VAT) has become one of the most frequently modified taxes in Latvia. VAT rates have been modified several times since 2009 and changes adopted by the government were driven by the need to find additional revenues for the budget. Unfortunately, it is not always possible to find out the effectiveness of the decisions made exactly, because tax revenue depends on several economic indicators, for example, GDP dynamics, the level of tax evasion, household income, purchasing power of the population, etc. Making any changes creates additional expenditures for the state in the process of developing and implementing them, as well as inconveniences and additional burden for the population and business environment as a whole. Sometimes the tax policy of the state does not produce the desired results and therefore changes adopted only create additional expenses, which, in turn, makes one doubt the efficiency of tax policy.

The objective of the research is to evaluate the efficiency of applied VAT rates on state budget revenues, based on the insights from the scientific literature and statistical data, and to provide suggestions for the desired scenarios for VAT development.

Methodology of Research

Using such quantitative and qualitative research methods as economic analysis, analysis of the legislation and scientific research, mathematical and statistical methods, the authors researched:

- The fiscal role of the value-added tax in Latvia;
- The problem of the impact of VAT evasion on state budget revenues;
- The main government motives and expected results, which drove the change in the VAT rates;
- Changes in the share of VAT revenues in total state budget revenues;
- The efficiency of VAT rates impact on state budget revenues.

The research relied on scientific papers and publications, information summarized by the European Union, legislation of the Republic of Latvia, data from the Central Statistical Bureau of Latvia, conceptual and information reports prepared by the Ministry of Finance and Ministry of the Economy, information published in the mass media, as well as authors' experience and knowledge in the application of VAT in Latvia. The research was based on the analysis of data covering the period from 2008 to 2016.

Findings / Results

The analysis in the research confirmed the hypothesis proposed: the increase in VAT rates lowers the efficiency of the tax and does not change the share of the tax in the structure of state budget revenues.

Conclusions

The authors' suggestions are addressed to the Ministry of Finance of the Republic of Latvia and State Revenue Service:

For the Ministry of Finance

- Follow the example of other European Union member states and lower the VAT rate applied to food products. Lowering the VAT rate for food will encourage total consumption, support local producers, lower imports and improve the welfare of lower and middle income households in Latvia.
- As much as possible, lower the group of transactions that are not subject to VAT, because the burden on the final consumers increases as a result of those deals (the firm that has transactions not subject to VAT loses the right to deduct VAT paid on goods and services acquired).

For the State Revenue Service

- Conduct an annual analysis about the effectiveness of VAT rates applied in Latvia, separately identifying results by industry and compare the results in Latvia with other European Union member states. The analysis of this type will help the State Revenue Service to identify easier the industries, where tax rates applied are not effective, thus highlighting the need for changes.
- Public information materials about the changes in tax legislation before the changes come into force.

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Promotion of university study programs using internet advertising

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Abstract

Increasing competition of higher education market forces higher education institutions to rely more on marketing communication and advertising. The most suitable platform in which to advertise higher education institution is the internet, as the target audience for studies can best be reached in the internet. Academic research is devoted in great extent to determining how to use advertisements in the internet to achieve the best possible results for higher education programs. Methods applied in the current paper: analysis of scientific publications and focus group discussions, surveys possible next students in different regions in Latvia. For evaluation of different aspects of choice it was used scale 1 – 10 to have possibility to get the information on factors influencing the choice of the next students as well as to be able to have deeper analysis of data by help of the multivariate analysis. For surveys data analysis descriptive statistical analysis, cross tabulations and correlation analysis, as well as variance analysis and factor analysis have been applied.

Keywords: higher education programs, promotion, marketing, internet advertising.

Introduction

The academic research worldwide has paid a lot of attention for marketing of the higher education institutions and programs and the belief strengthens that higher education should be viewed as specific service, hence the best practice for higher education marketing requires scientific research. This belief is approved by several research carried out in this field in many internationally recognised scientific journals which are included in solid academic data bases. Felix Maringe (*Felix Maringe, 2006*) concluded that in the scientific literature the main focus is towards comparing studies in homeland versus studies abroad and which factors influence the choice. Jonathan Ivy (*Jonathan Ivy, 2008*) has recommended that higher education should be viewed as specific service and should have dedicated marketing MIX 7P model. The author has specified these 7Ps in the marketing MIX for MBA studies - programme, prominence, price, prospektus, people, promotion, premium. Over the last 2 – 3 years the environment for higher education has become more and more competitive and dynamic, hence increasing focus of the research is shifting towards the marketing activities of higher education institutions and programs. Authors Geoffrey N. Soutar, Julia P. Turner (*Geoffrey N. Soutar, Julia P. Turner, 2002*) did a research looking at factors affecting Australian high school students' choice for one or other higher education institution and concluded that these four factors are the most important – availability of courses, academic reputation, career opportunities, quality of education. Rumanian researcher M. Niculescu (*Niculescu, 2006*) has emphasized that in the current competitive environment increasingly significant becomes to look not only for motives behind choice of studies but also for most important dimensions that affect this choice and to provide model that would help broaden the knowledge of the desired benefits for students. Ivonne Mogana (*Ivonne J. Moogan, 2011*) has researched whether higher education institutions can do more to provide potential students with the specific information that the future students require. One of the most dominant channel for delivering information is the internet and it should be intensively and effectively used to promote higher education (*Dholekia and Kshetri, 2004*).

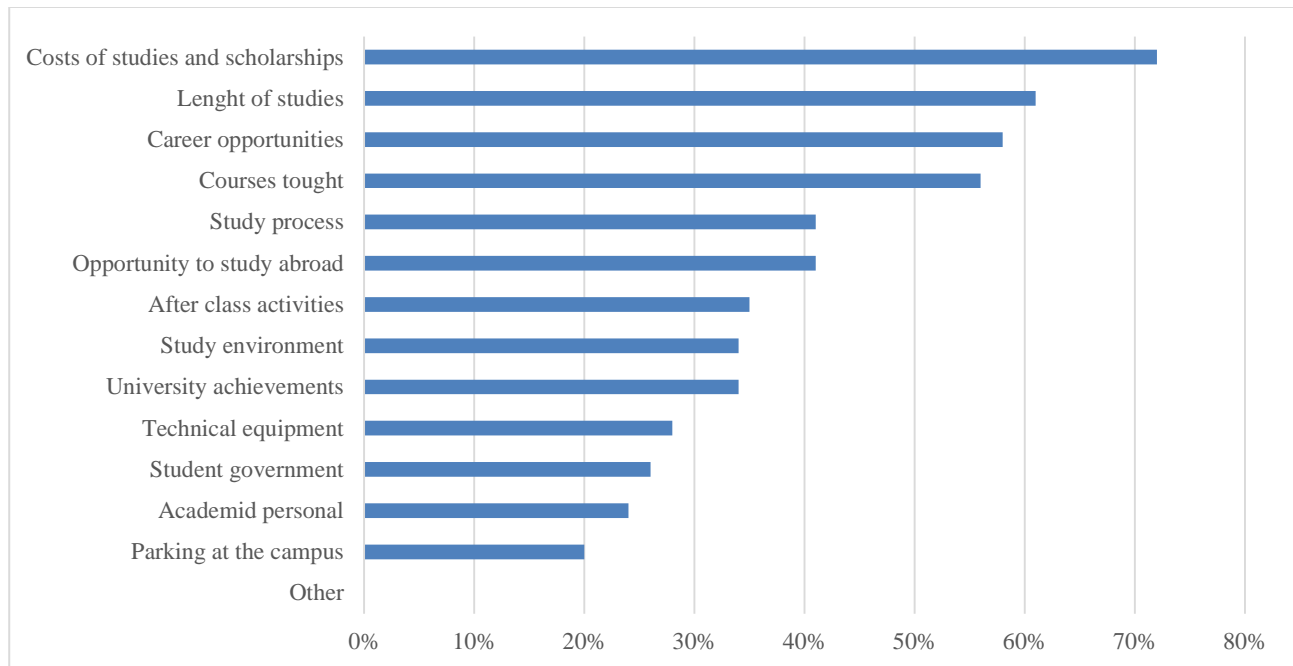
Methodology of Research

The methods applied for the current research are: scientific publications' studies, focus group discussions, survey of possible students in different regions of Latvia. For respondents for the evaluations scale 1 – 10 was used to find out on which side the responses are as well as evaluate the variability of responses. For surveys data analysis descriptive statistics, cross-tabulations, as well as methods of multivariate analysis were used: correlation analysis, variance analysis and factor analysis. The results of empirical studies are compared with theoretical findings of researchers in other countries.

Findings/Results

The main findings of the current research indicate that in advertisements of higher education program future students expect to see the most important information about the program – cost of studies, length of

studies, structure and courses, career possibilities upon graduation. To lesser extent future students view quality of higher education institution facilities and rooms, technical equipment, environment and opportunities for after school activities. For more detailed overview of the information to be included in the higher education advertisements (see Figure 1).



Source: Author's calculations based on secondary school pupils survey in May, 2016, n=327; closed questions with multiple potential answers.

Figure 1. Secondary School Student Evaluation of the Information to be Included in Higher Education Advertisements

Conclusions

Future students of higher education expect to receive information about study programs in a fast and convenient way which in most cases is in the internet. Advertisements of higher education programs should be modern, dynamic, precise, short, concise and should provide detailed information about study process, course structure and career opportunities. Advertisements for each program should be adjusted to highlight the strengths of the program. However, advertisements of programs should also include overall positioning of the higher education institution. The most popular approaches for higher education advertisement in the internet are graduates reviews and success stories, employers' reviews, work of students during studies. Findings of the paper are aligned with the research done in other countries and their empirical results.

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Bibliometric Analysis of Financial Risk Assessment in Baltic countries

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Abstract

The article represents the bibliometric analysis of risk assessment in Baltic countries relying on two scientific databases – Web of Science and Scopus. The purpose of analysis is to study the trends and development of scientific researches when evaluating financial risks as well as reveal resources with high impact to apply content analysis.

Keywords: bibliometric analysis, Baltic region, risk model, risk assessment, risk management, risk analysis, risk evaluation, bankruptcy, insolvency, failure, solvency, creditworthiness, credit risk, credit rating, credit scoring

Introduction

Humanity tried to accumulate knowledge from early times. In the period of Old Kingdom, emerged “houses of life” where were libraries, archives, chronicles and texts of various content. Nowadays with an increasing interest in automatization called Internet of Things, it is vital part when helping to generalize and systematize accumulated knowledge and experience to achieve integration to obtain the picture with current needs. In this article author will investigate risk assessment based on bibliometric analysis. For this purpose, were analysed keywords connected to risk assessment, namely, risk model, risk assessment, risk management, risk analysis, risk evaluation, bankruptcy, insolvency, failure, solvency, creditworthiness, credit risk, credit rating and credit scoring. Geographical region for analysis was limited to Baltic region – Latvia, Estonia, Lithuania to show the influence of scientific work in these countries.

The novelty of approach lies in the fact that the theme we analyze are generated in an automated manner by scientific database, detecting the most cited publications/ articles, consequently, detecting the resources that make an impact.

Methodology of Research

Authors were extracting bibliometric data using two scientific online database libraries – Scopus and Web Of Science. The reasons for choosing these libraries were, firstly, recognized and reliable database, secondly, the existence of optional menu for choosing countries to limit search to Baltic region.

Extraction data quality are represented by the filters used as well as statistical data application. Based on the search results, should be deducted statistical parameters by Baltic region as follows: h-index, journal impact factor, author impact factor, citation network, software comparison and others.

Findings/Results

The findings will be represented by bibliometric quality assessment by statistical parameters as follows: h-index, journal impact factor, author impact factor, bibliometric software comparison and others.

Conclusions

The main conclusions will be represented after evaluation of citation behaviour, consequently, positive or negative.

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Corporate social responsibility in Lithuania: evaluation of CSR reports

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Abstract

The paper compares the methods of evaluation of corporate social responsibility (CSR) reports in the European Union and Lithuania. The purpose of this paper is to evaluate the level of socially responsible behaviour of the Lithuanian companies using CSR reports. This study used content analysis, statistical analysis methods to investigate social responsibility (CSR) reports of Lithuanian CSR organizations. Was created criteria for evaluating process. Were analysed all Lithuanian organizations CSR reports in Lithuania. The most popular instruments to guide CSR work in Lithuanian organizations are three: Global Reporting Initiative (GRI), United National Global Compact (UNGC) and the ISO Standard 26000 (also called the CSR Guide). Our findings showed that the biggest part of Lithuanian organizations as usually used to wrote CSR reports by one United National Global Compact (UNGC) recommendations. No one Lithuanian organization not used Standard 26000.

Keywords: organization, corporate social responsibility, evaluation

Introduction

Nowadays business should be more responsible for society, for employees, for customers. Some of top level managers understand these new requirements. Those who are most interested in corporate social responsibility and seek to implement it are larger organizations, uniting more workers, as well as providing goods or services to a larger consumer market (Simanavičienė, Kovaliov, Šubonytė 2011). Social corporate responsible organizations should report about their works. It can be used different forms, but from their reports should be seen main results how were succeed results, it was enough done for responsibility or not. Society, employees, customers can read and look to these reports and also evaluate about quality of these documents. CSR reports are prepared by using some guidelines, recommendations or instructions. Using the same guidelines organizations can more easily to compare what growth was done through the year, what areas are still needs to pay attention more. For other readers it helps to compare results from different organizations, different countries about possible and done work.

The most popular instruments to guide CSR work are three: Global Reporting Initiative (GRI), United National Global Compact (UNGC) and the ISO Standard 26000 (also called the CSR Guide). Global Reporting Initiative (GRI) was founded in Boston in 1997. Its roots lie in the US non-profit organizations the Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute. GRI is an international independent organization, with a network-based structure; and a Collaborating Centre of the United Nations Environment Programme. GRI is an international independent organization that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others. GRI's Sustainability Reporting Standards are foundational to this success. With thousands of reporters in over 90 countries, GRI provides the world's most widely used standards on sustainability reporting and disclosure, enabling businesses, governments, civil society and citizens to make better decisions based on information that matters. In fact, 92% of the world's largest 250 corporations report on their sustainability performance. (Global Reporting Initiative, 2017). The Global Reporting Initiative carried out an extensive consultation of specialists to define indicators to measure progress on social reporting. It recognises that developing a globally accepted reporting framework is a long-term endeavour. It notes that, in comparison, financial reporting is well over half a century old and still evolving amidst increasing public attention and scrutiny. The methodology is extensively and clearly presented in their report The 2002 Guidelines from which the observations herein have been drawn (Hopkins, 2005). The UN Global Compact is the largest voluntary corporate social responsibility initiative based on ten principles in the four areas of human rights, labor, environment and anti-corruption. Responsible businesses enact the same values and principles wherever they have a presence, and know that good practices in one area do not offset harm in another. By incorporating the Global Compact principles into strategies, policies and procedures, and establishing a culture of integrity, companies are not only upholding their basic responsibilities to people and planet, but also setting the stage for long-term success (UN Global Compact, 2017). The United Nations Global Compact process also

includes an annual Communication on Progress (COP) report. Those who do not meet the COP deadline will be marked “non-communicating” on the Global Compact website. If the nondisclosure continues for an additional year, the companies will be delisted from the Compact; however, these companies may reapply (Bitanga, Bridwell 2010).

One of the latest instruments to emerge to guide CSR work is the ISO Standard 26000 (also called the CSR Guide). ISO 26000 is an international standard for social responsibility guidelines that defines the principles of social responsibility, core responsibilities, stakeholder involvement, and the integration of responsible behaviour across the organizations. This is not a management system standard, it cannot be certified (Lithuanian Responsible Business Association, 2017). This standard states that every organization should consider at least seven general principles when making a decision to contribute to sustainable development; 1) Accountability, 2) Transparency, 3) Ethical behaviour, 4) Respect for the interests of its stakeholders, 5) Respect for the law, 6) Respect for international standards of behaviour, and 7) Respect for Human Rights. The Standard states that there is no set order for addressing the above principles. That will depend on the strategy of each company and the influence each may have on the activities of the company (Methodology for the implementation of CSR actions in energy companies with gender equality, 2014). Not popular in Lithuania.

The benefits of **ISO 26000** are numerous. The evaluation provides a strategic advantage within each company's competitive industry, streamlines internal processes and assures the implementation of commitment to social responsibility and sustainability. It also protects the brand image, increases customer and employee satisfaction and attracts investors and sponsors concerned with social responsibility and sustainable development.

Methodology of Research

This study used content analysis, statistical analysis methods to investigate social responsibility (CSR) reports of Lithuanian CSR organizations. Was created criteria for evaluating process.

Findings/Results

The Global Compact is the world's largest global corporate sustainability initiative, with over 8,000 companies and 4,000 non-business participants based in over 160 countries. 3527 organizations in European Union connected to UN Global compact in 2017 (see Figure 1). The number of organizations is changing each year. We have now 39 in Lithuania, but in 2012 are been 121 organization.

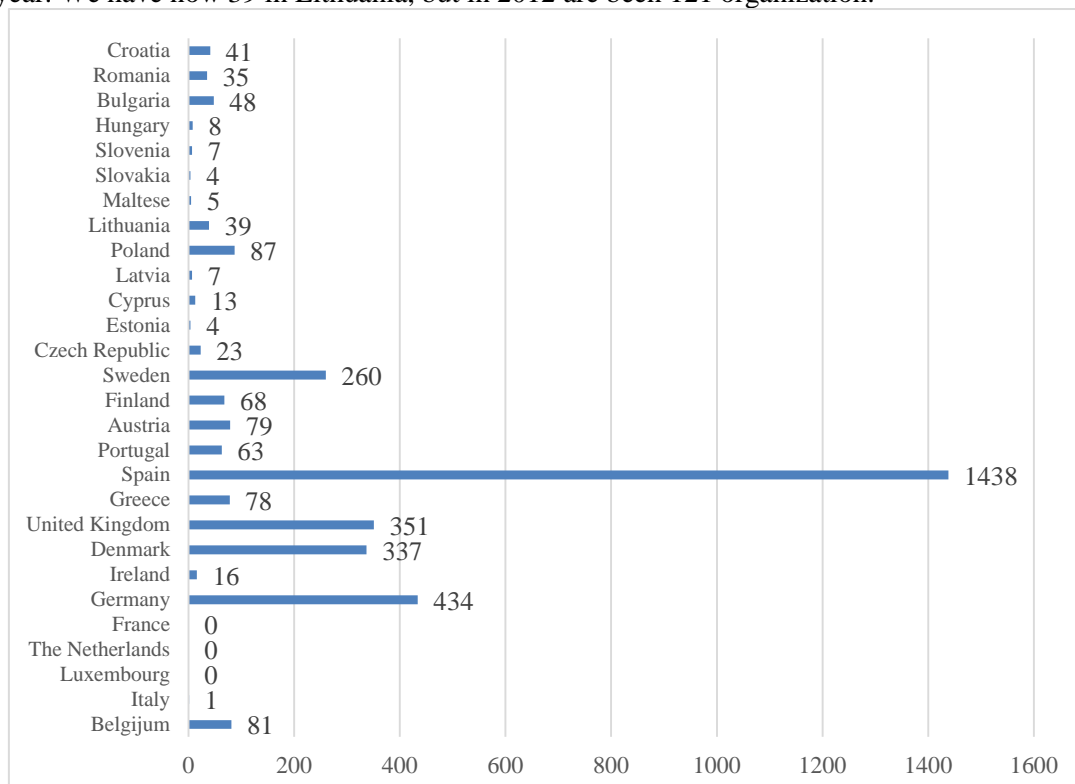


Figure 1. CSR organizations in the European Union

Source: UN Global Compact data (2017)

How was mentioned before Lithuanian organizations using UN Global Compact instrument, where corporate social responsible organizations evaluated their works using ten criteria. The biggest part of reports pays attention to employees, to charitable work, to environmental protection. But it is pity that not enough to human right and prevention of corruption. On one hand it is declared on our country law that we should keep requirements not using child work, gender equality and so on. On other hand it is show that these questions are still important for our society. The same is about prevention of corruption. All organizations in their reports have part about that, but in general it is only short text that “we do not tolerate any form of corruptions”. That is good. But how are real forms of prevention? What steps, processes, requirements, instructions? There in some organizations written procedures about that for internal use. And of course employees of these organizations keep these rules. But it is strange why they do not want to spread officially the best practice how to fight with different corruption form. This is under question for this paper researches. Some organizations wrote about business policy, risk management processes, some other results, information about services, products and market areas. (on working stage)

Conclusions

The most popular instruments to guide CSR work in Lithuanian organizations are three: Global Reporting Initiative (GRI), United National Global Compact (UNGC) and the ISO Standard 26000 (also called the CSR Guide). Our findings showed that the biggest part of Lithuanian organizations as usually used to wrote CSR reports by one United National Global Compact (UNGC) recommendations. No one Lithuanian organization not used Standard 26000.

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Modernization of Ukraine National Economy on the base of EU experience⁹

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Abstract

The abstract analyses providing problems and prospects of environmental modernization of national economy as well as presents the role of innovations in modernization process. It presents the experience of implementation of the innovations for the sustainable development on the base of EU experience. It also focuses on problems of costs of modernization of national economy.

Keywords: modernization, innovation, sustainable development, national economy.

Introduction

Sustainable growth is an urgent constituent part as well as Ukraine and the Europe 2030 vision. Economic recovery for Ukraine requires “a more resource efficient, greener and more competitive economy”. Current modernization strategy has to reflect on the way how Ukraine society and businesses change their modes of action in condition of general EU sustainable strategies. For Ukraine there is a strong need to modernize national economy according to EU sustainable strategies.

Within the framework of the research we highlight the current problems of modernization directions in Ukraine, as well, as suggest prognostication for providing directions of modernization policies according to the potential of Ukraine.

Methodology of Research

The well-known ‘sustainability triangle’ argues for a balance between the economic, the social and the environmental. Similarly, the idea of policy integration, which is so central to the territorial approach, implies the ambition to combine benefits in GDP growth with other claims on resources, such as those related to the environment or to social inclusion. Sustainable Europe means creating a synergy between these factors. As well as measuring the proportion of GDP invested in R&D, the five targets set in Europe 2020 call for measures of employment rates, greenhouse gas reductions, educational attainment and poverty reduction (Research, 2017). The issues of socio-economic modernization, technological and sustainable development were raised by H. Daly, H. Odum, L. Melnyk, etc. In Ukraine issues of economic aspects of sustainable development and the greening the economy are actively researched by scientists. Besides, the aspects of socio-economic transformation for environmental modernization for green growth are not enough depicted. In general scientists have made important contribution to the economic theory and methodology of ecological modernization, defining it as a social and ecological concept that interprets the relationship of environment and the institutional changes in modern society. Today, one of the priorities is the management of environmental modernization of national economy and instruments that impact on the economic agents for the implementation the model of green growth. There are a lot of problems of management of environmental modernization for green economic growth and to develop efficiently mechanism of environmental modernization for social and economic systems in the Ukraine. In order to build the environmental management of modernization of national economy, which absolutely necessary in the modern terms of transformation of socio and economic development of Ukraine, it is necessary to modernize national economic policy, to create a single strategic aims – targets of environmental modernization of national economy. Considering the tasks of development environmental policy involves the gradual modernization of management of the process with specifying the tasks and the expected results. Proposed scientific and methodical approach to managing the environmental modernization of national economy is based on the simultaneous use of the system methods: economic and statistical analysis methods of strategic management and method of expert evaluations. The strategy of environmental modernization of national economy should be a basis for the formation and prospects of the competitive advantages of ecologically safe level of industrial activity, high level of quality of life, “the integral intelligence” of undertakings by which activities and interests of business entities will be directed to achieving sustainable development.

⁹ This material is prepared in the framework of the Lithuania – Ukraine research cooperation project “Forming institutional and economic bases of sustainable development and green economy on regional level” (2016 – 2017).

Findings/Results

The modernization strategy on the innovative basis of the EU is the most acceptable in the current conditions for Ukraine, which is unlikely in the country as a whole because of the country's crisis. For example, for environmental modernization of legislation system of Ukraine it is necessary not less than 1000 euros per person (Table 1). It should be borne in mind that the corresponding expenses are attributed by experts to the terms from 10-12 to 20 years. In addition to the above estimates of the investment cost of implementing environmental legislation, there are other hypothetical estimates in Ukraine. They are in the range of 50-100 billion euros and demonstrate the heaviness of environmental strategies of modernization.

Table 1. Expenditure on the implementation of environmental legislation in EU countries and Ukraine

Country	Investment needs, million euro	Population, million people	Cost per person, euro
Bulgaria	8610	7,5	1150
Latvia	1480-2360	2,3	650-1050
Lithuania	1600	3,6	450
Poland	22100-42800	38,6	575-1100
Romania	22000	22,3	1000
Slovakia	4800	5,4	900
Slovenia	2430	2,0	1200
Hungary	4100-10000	10,0	400-1000
Czech Republic	6600-9400	10,2	650-925
<i>Ukraine</i>	36000-45000	42,3	850-1100

In addition, there are problems of labour resources, high social costs that may arise in implementing this strategy. The environmental modernization should not be limited to technological transformations, but should be based on innovation and should cover socio-cultural and political spheres that are interrelated with it, should affect the entire society. According to the results of the calculation of the index SII (European, 2017) of Ukraine falls into the category of "moderate" innovator, and the value of the index in 2017, decreased by 4.2% compared with the EU in 2010. Index includes such indicative components as: "human resources", "research systems", "innovative-friendly environment", "finance and support", "enterprise investments", "innovator", "communications", "intellectual assets", "influence on employment", "influence on sales". Based on the scientific approach to forecasting time series, when the tendency for the growth or decrease of the time series values by the Holt method was used, we conducted calculations regarding the SII trends for Ukraine and the EU.

Table 2. Results of forecasting of indicators of innovative potential of Ukraine and the EU

SII	EU			Ukraine		
	2017	2018	2019	2017	2018	2019
	101,3	101,6	102,0	31,0	30,8	30,5

Conclusions

Thus, the weak tendency of the development of the overall innovation index remains, while the individual indicators ("intellectual assets", "enterprise investments", "impact on employment") are the driving forces of the innovation potential of the environmental modernization.

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Customer Knowledge Management Model Application in Alumni Relation Management

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Abstract

The research focuses on customer knowledge management (CKM) and alumni relations management in Higher Education and Research Institution (HERI). It studies various roles of alumni and cases where particularly customer role can be attributed to alumni and HERI relationships. Knowledge management in general provides methods to ensure importance of both - implicit and explicit knowledge in the organization, what is apprized, well accessible and reusable. CKM is one part of the process which focuses on capturing, saving and reusing customer knowledge that is of value for the organization. HERI are not an exception and their customer knowledge is valuable for present and future work and competitiveness. Thus, it is important to be aware of the valuable customer knowledge and models that are applicable and most effective in alumni as customer knowledge management.

Keywords: Knowledge management, customer, alumni relations

Introduction

The aim of the research is to discover the applicability of customer knowledge management in alumni relations management in Higher Education and Research Institutions (HERI). Authors accomplish following tasks:

- analyse terms – customer and alumni;
- describe cases where customer role is applicable to HERI alumni;
- review different customer knowledge management (CKM) models;
- identify existing CKM practices in HERI, particularly regarding alumni relations management.

Customer concept implies people or organizations that purchase the goods or services from business or merchant or intend to do so (Cambridge University Press, 2017; Oxford university press, 2017). Alumnus/alumna (alumni for plural) is “a person who has attended or has graduated from a particular school, college, or university” (Cambridge University Press, 2017). On the first sight, these two concepts are controversial since the first one is in present or future transaction but the other implies that transactions and relationship have ended. This has been a common view in HERI for a long time in Europe. Until recently when most of HEI implement alumni relations management as a common practice and an integral part of HEI strategic management. Alumni are HERI customers not only in direct meaning when they purchase HERI services but also continuously because the value of their diploma always depends on the HERI performance at that particular moment (Kotler & Fox, 1995; Taiwo, 2010).

Knowledge management is a process that applies systematic approach in creating, capturing, structuring, disseminating and reusing the knowledge that is important for the organization (Dalkir, 2005; I. Nonaka; H. Takeuchi, 1995; Wiig, 1999). Customer knowledge management changes customers from passive recipients of goods or services into valuable knowledge source for the organization (Sofianti, Suryadi, Govindaraju, & Prihartono, 2010). CKM encompasses acquiring, dissemination and usage of the customer knowledge within the organization for mutual benefit of the product/service provider and the customer (Khosravi, Razak, & Hussin, 2016). Authors distinguish three types of customer knowledge: knowledge about customer, knowledge to customer and knowledge from customer. Each of these types can interact with other and CKM models conduce the understanding of relationships between the processes of creation and application of the knowledge types (Buchnowska, 2011; Zanjani, Rouzbehani, & Dabbagh, 2008). Other models focus on processes dealing with CKM (Gebert, Geib, Kolbe, & Brenner, 2003) or client relationship management integration with knowledge management (Sedighi, Mohamad Mohsen; Mokfi, Taha; Golrizgashti, 2012). Effective knowledge management implies intense human-to-human interaction and requires eliminating barriers that interfere the knowledge flow. There are five critical success factors that eliminate the barriers and improve the flows: (1) shared values, (2) reciprocity, (3) intrinsic worth of knowledge, (4) convenient knowledge transfer mechanism and (5) interpersonal trust and respect (Liebowitz, 2012). These critical

success factors must be taken into account when organization chooses most pertinent CKM model for its alumni, i.e. customers.

Methodology of Research

The study is a result of systematic literature overview by analysis of scientific articles, monographs, conference materials and other relevant literature. Expert opinions were gathered during interviews of alumni relations managers in the European Universities. Qualitative and quantitative data analysis methods were applied.

Research limitations – authors investigate European practices that are similar in higher education financing models and alumni relations management history.

Findings/Results

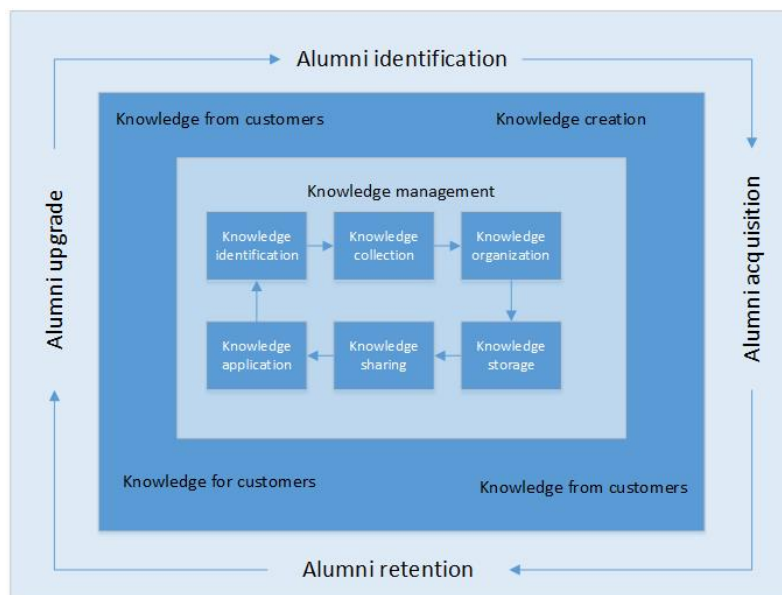


Figure 1. Customer knowledge management model for alumni relations

Figure 1 visually describes how customer knowledge management process interacts with alumni relations management. It evolves step by step in different stages of alumni activity lifecycle.

Conclusions

Main conclusion of the research is that even those alumni who are not in active contract binding relationship with Higher Education and Research Institution are still clients of it and customer knowledge management models can be successfully applied for a mutual benefit.

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Economic Aspects of Benchmarking Innovative Products of Enterprises

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Abstract

The article identified the concept of benchmarking, examining the stages of benchmarking, determination the efficiency of benchmarking in work automakers. The authors improved methodical approach to assessing the selection of vehicles with the best technical parameters based on benchmarking, which, unlike the existing ones, based on the calculation of the integral factor of the technical specifications of vehicles in order to establish a better competitive products of companies automobile industry among evaluated. The main stages improved methodical approach to the choice of the vehicle with the best technical parameters on the basis of benchmarking where authors focused attention on the features of this method. [1].

Keywords: benchmarking, enterprise, phase, automobile industry.

Introduction

The term «benchmarking» has emerged in economic theory relatively recently, only in 70th of the twentieth century and the implementation in practice has not become active. The world is constantly changing, and with it the entrepreneurship develops too, which gave impetus to the emergence of concepts such as benchmarking [2].

The aim of the abstract is to determine the nature and characteristics of the use of benchmarking in the activity of domestic enterprises of automobile industry under the current economic conditions [1].

Methodology of Research

The authors improved methodical approach to assessing the selection of vehicles with the best technical parameters based on benchmarking, which, unlike the existing ones, based on the calculation of the integral factor of the technical specifications of vehicles in order to establish a better competitive products of companies automobile industry among evaluated. Explore them more thoroughly. The first phase of this methodical approach a comparative analysis of the technical characteristics of the analyzed vehicles. Experience shows, the companies of automotive industry that promote electric vehicles in the world markets for the users, there is a number of characteristics by which consumers evaluate and buy the new car. The second phase is characterized by improved methodological approach scoring technical parameters of analyzed vehicles of enterprises automotive industry. Using the method of scores, we define a leader in the automotive industry of the market. The third stage methodological approach is characterized by the choice of vehicle of automotive company better technical parameters on the basis of the proposed integrated parameter of the technical characteristics of the analyzed vehicles. The choice of the vehicle with the best technical specifications will be implemented by calculating the integral index technical specifications for each car (I) [1].

$$I = \sqrt[l]{\prod_{i=1}^n b_i^{v_i}}$$

where n – number of indicators consisting of integral index; b_i – value of i -th index; v_i – weight of i -th index in system of indices, at provided $\sum v_i = l$.

Criterion election of the car with the best characteristics is the highest value of the integral index of the analyzed vehicles [1].

Findings/Results

The principal difference in the use of advanced benchmarking approach is proposed integral indicator technical characteristics of the analyzed vehicles through which the selection of the best offers competitive vehicle [1].

Conclusions

Thus, benchmarking can be regarded as one of the most important areas of strategic marketing oriented research. Enterprises of automotive industry must develop activities for the study the «best» products and marketing process used areas competitors and companies working in similar areas to identify possible ways to improve their methods [1].

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Sustainability of FSI Segment as the Forming Segment of Latvian Corporate Bond Market

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Abstract

In 2013 the sharp growth of the number of Latvian corporate bonds took place. The growth was formed by the financial sector issuers of corporate bonds (FSIs) actively recognising the alternative financing and forming 85% from the corporate bonds issued (Nasdaq Baltic, 2017). High dependency of Latvian corporate bond market on FSIs should be analysed and tested for its sustainability. The aim of this article is to explore corporate bond issuance sustainability of FSI segment by determining the factors stimulating and withdrawing the issuance process as well as revealing the need for alternative financing of the FSI segment. This article discovers the drivers and hindrances of FSI sector participation in Latvian corporate bond market. The paper stresses the importance of taxation stability and Financial and Capital Market Commission role in the corporate bond recognition and sustainability as perceived by FSIs. The methods used in this article are scientific publication analysis, document analysis, questionnaires, in-depth interviews, statistical data analysis.

Keywords: financial sector issuers, corporate bonds, corporate bond market, Latvia.

Introduction

Latvian corporate bond market came into focus in 2013, where the intense rise in the number of issues took place: the annual growth rate of the number of the public issues outstanding reached 7 times in 2013 afterwards stabilising at 40% per annum (Figure 1). The base of both growth and current issues outstanding is formed by the corporate bonds issued by the FSIs. The weight of FSIs in the pool of corporate bond issues is 85% (Nasdaq Baltic, 2017).

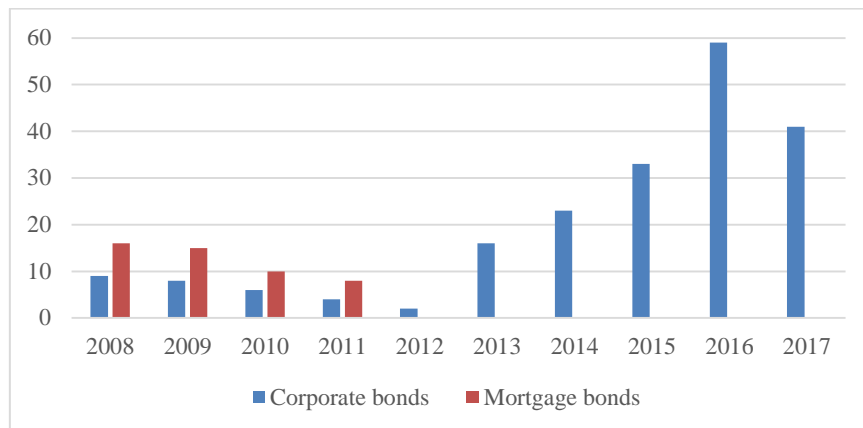


Figure 1. Latvian corporate bonds outstanding in Nasdaq Baltic, 2008-2017.

Source: Author's construction based on Nasdaq Baltic data, 2017.

Academic papers support the view that the financial markets are not the natural first choice for the company. The study of Ma et al (2005) revealed that initially firms rely on internally generated funds or funds borrowed from an extended family of firms. As the economy develops, firms need to secure external funding in the form of loans extended by banks, whereas the importance of debt financing is increasing in the course of the economic development of a country. This view is supported the study of Tetreva (2007). For every credit bank applies the rigid limit system thus measuring the risk and size of the debt, which according to the study of Levine (2002) may oblige the companies to introduce the conservative strategy and low risk thus limiting the potential cash flows. Another burden is that short-term bank loans or a credit line is not the most stable finance basis for a company as the rise in interest rates can deliver high rollover costs or even denial to roll over the debt in the case of capital market troubles. This view was supported by

the study of Arteta (2005), which revealed that crises conditions could prevent the normal credit capital flow to the corporate. Still the broader analysis of the academic papers on the issue of corporate bonds reveals 4 factors, which can summarize the economic rationale for corporate bond issue in comparison to bank credit and selling shares: long-term source of financing, improvement of the cash flow by decreasing the cost of debt, optimization of the financial structure, efficient ownership structure.

The aim of this article is to explore corporate bond issuance sustainability of FSI segment by determining the factors stimulating and withdrawing the issuance process as well as revealing the need for alternative financing of the FSI segment. There are no similar academic studies made on Latvian FSIs corporate bond issuance. This paper contributes in two fundamental ways to the current literature on Latvian corporate bond market (including FSI segment) development. Firstly, the authors scrutinize the existing academic research for discovering the factors affecting company choice for corporate bond issuance and sustainability of chosen financing. Secondly, the authors examine FSI segment in Latvia for determinants of corporate bond financing decision.

The structure of this paper commences with a review of existing literature analysing corporate choice for bond issuance and the main drivers and hindrances behind it. The authors of this paper then analyse the existing studies and data on the sustainability of corporate bond financing decision of the company and factors affecting the choice. Finally, the results of the analysis of Latvian FSI segment and data received from in-depth interviews and questionnaires is made with the focus on sustainability of corporate bond issuance by FSIs, the results of the analysis are presented and described as well as future areas of research are proposed.

Methodology of Research

The methods used in this article are scientific publication analysis, document analysis, questionnaires, in-depth interviews, statistical data analysis. In-depth interviews and questionnaires to FSI sector were run in the period June-August 2017.

Findings/Results

The results indicated the growing recognition of corporate bonds by FSIs, the increasing switch from banking financing as well future development opportunities where the main incentives are regulations, taxes and demand factor. The strong presence and issuing initiative by FSIs is found to further shape Latvian corporate bond market in Latvia. The growing role of the peer-to-peer platform financing is existing and will further influence the FSI segment alternative financing.

Conclusions

FSI segment is the forming segment of Latvian corporate bond market. The financing needs and preferences not only shape the FSI segment profitability but also Latvian corporate bond market sustainability. The analysis of the segment has discovered the short to mid-term financing need planning and flexibility of the FSI segment. The latter provides the risks of FSI sector sustainable role in forming Latvian corporate bond market. The further evaluation of non-FSI sector as potential issuers of corporate bonds within the stimulation provided by Capital Markets Union initiative should be analysed.

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Calculation of Aggregate Quantitative Assessment for Sustainable Development Indicators Systems

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Abstract

This paper reviews existing methods and systems of evaluation of composite sustainability indicators. An attempt to assess their feasibility and optimality in terms of their development and generalization is made. On this basis, proposals have been made of a modified complex methodology for calculating a composite sustainability indicators. It is proposed to extend an existing methodology with development of the possibility of calculating a composite sustainability assessment, which refers to different systems of indicators or for different regions.

Keywords: sustainable development, indicators, methodology, assessment complexity

Introduction

On the basis of the analysis and comparison of the elements of different methodologies an extension have been taken for a more general methodology for creating a system of interrelated indicators of the assessment of the state of sustainable development. An aggregation procedure of quantitative assessment of the different Sustainable Development Indicators systems has been proposed. Based on general methods of Sustainable Development Assessment and Analysis and their indicators, it can be said that the main features of Sustainable Development models form a three dimensional (or 3-D) framework which enable to locate the place of each sustainable development model. The models defining global Sustainable Development are referred to as an ideal final state that reflects models describing the balance, the co-evolution of systems in Sustainable Development for generations forward ("age" horizon) and globally. The proposed 3-D framework is essential in proposed assessment aggregation procedure of the systems of indicators and their regionalization.

Methodology of Research

A synthesis of some of the methodologies used so far suggests a modified methodology for building a system of indicators to determine a quantified complex assessment of Sustainable Development in the following steps:

- Specifying (selecting) objects in the subject area $P = \{P_1, P_2, \dots, P_n\}$.
- Launch a system of indicators for the state of the processes and the phenomena of sustainable development $P_i = \{k_{1i}, k_{2i}, \dots, k_{mi}\}_i, i=1..n$.
- Establishment of a system of interrelated indicators for measuring and assessing the state of Sustainable Development by compiling an accident table consisting of the subject area and the status indicators. The rows and columns fill the established indicators for each object in the subject area. They are selected (by frequency of encounter) and the indicators are summarized where possible.
- Defining the metric space of Sustainable Development Indicators. This space can be normalized or unnormalized. For this, they need to be clarified:
 - information and statistical sources for the assessment of indicators;
 - units of measurement and time limits (for quantitative indicators);
 - scales, ranges, and measurement intervals (for qualitative indicators);
 - selection of indicators based on the incident table;
 - ranging of individual indicators.
- Determination of weighting factors for each of the Sustainable Development Indicators by the Delphi method. Polls are conducted by independent experts in the field of statistics and sustainable development. The sum of the weighting factors is 1.
- Calculation of aggregated quantitative assessment of Sustainable Development on the basis of commonly known methods or other heuristic methods.

- Aggregate quantitative assessment on the basis of aggregation of indicator systems and/or aggregation of the scope of indicator systems by computing a complex assessment

Results

The obtained aggregation procedure results in the process of the development of sustainable indicators systems. This procedure requires, using heuristic methods (such as the Delphi methods), to look for and find a balance about the importance of the relevant indicator in the system of Sustainable Development Indicators and the expert consensus on weight with which the indicators are included separately in the aggregate final evaluation.

Conclusions

This system could be used in the future Sustainability Modelling studies as a starting point for developing Sustainable Development Assessment and Analysis models and a system of indicators in one or more areas. The direction of development is from local to global as well as from global to local, from partial to increasingly aggregated models.

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The Methodological Analysis of the Project Risk Management Concept ‘Risk’

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Abstract

The aim of the current research series is to examine the concept “risk”. Methodological analysis of project risk definitions and concepts is used to answer question how to define concept “risk”, what are the definition types and definition structure. The study is a final study from a series of research on project risk management ontological, epistemological and methodological analysis. The research series aims to improve project risk management. In the previous studies the author analysed the concepts that defines the content of the concept “risk”. Ontological analysis of the concept “risk” definitions and the concepts is used to answer question what the risk in project management and establish the decisive concepts that determine the ‘risk’ concept and assessed the concepts used in the definitions and their use in the sources in accordance with the categories of quality, quantity, relation, action, time and place. Epistemological analysis of the concepts in the concept “risk” definition was used to answer the question what the risk in project management means. In epistemological analysis the author analysed the concept “event” that defines the content of the concept “risk”. All studies with a few exceptions were used publicly accessible sources from the Internet and were used qualitative research methods and free of charge software. Results from the series of research on project risk management ontological, epistemological and methodological analysis can provide more qualitative project risk management, especially project risk register development.

Keywords: project, risk, concept, methodology, methodological analysis, project risk register.

Introduction

The methodological analysis of the project risk management concept of ‘risk’ is part of the current research series is to examine the concept “risk”. Methodological analysis of project risk definitions and concepts is used to answer question how to define concept “risk”, what are the definition types and definition structure. Ontological, epistemological and methodological analysis results are used for project risk register improvement.

Methodology of Research

The research comprised analysis how to define the concepts, especially concept ‘risk’ in 18 different sources. Methodology is notions without generic definition. The methodology Different sources are defined differently. For example, the term ‘methodology’ is defined in the English Oxford Living Dictionaries (en.oxforddictionaries.com) as “A system of methods used in a particular area of study or activity”, in the Cambridge Dictionary (dictionary.cambridge.org): “a system of ways of doing, teaching, or studying something”.

Similar to the previous two investigations, epistemological and ontological analysis project risk management concept ‘risk’ for the study purposes, the author used the Find and Advanced search function of programme *Adobe Acrobat Reader DC 2017 Release* as well as the Concordance, Clusters/N-Grams, Collocates and Word List functions of *AntConc 3.4.4w (Windows)* and Search functions of *Microsoft Word*.

To use the AntConc application for analysing the definitions of the ‘risk’ concept, each definition was saved in a separate text file thus together creating 18 text files.

Findings/Results

All ‘risk’ notions are defined in special parts of the sources with different parts names. The sources size varies from 11 pages to 440 pages. AntConc determined that number of the different words varies. Table 1 summarizes the information about the sources.

Table 1. The sources

Source no.	Source name	Information about source
1.	EAN.UCC Project Management Framework Handbook	Source size (pages; original words): 73; 1670 Glossary name: Glossary of Terms Defined notions and percent against original words: 39; Specific attributes: not
2.	IT Project Management Third Edition Instructor's Edition	Source size (pages; original words): 369; 1728 Glossary name: Glossary Defined notions and percent against original words: 262;
3.	Guidelines for Financial Management and Financial Analysis of Projects	Source size (pages; original words): 293; 4656 Glossary name: Glossary Defined notions and percent against original words: 262; Specific attributes: Glossary references
4.	Development Cooperation Manual	Source size (pages; original words): 178; 4020 Glossary name: Glossary Defined notions and percent against original words: 108; Specific attributes: Definitions the source text
5.	Manual for project formulation	Source size (pages; original words): 92; 2797 Glossary name: Glossary Defined notions and percent against original words: 69;

Source: The author valuation

Most used notions in the notion 'risk' definitions not defined. Table 2 summarizes the information about notions.

Table 2. The notion 'risk' notions

Source no.	Decisive concept or concepts	Other notions	The notion 'risk' notions
1.	something	prevent, project, project success, profitability, delivery, quality, delivered, effectively	Notions are defined – project, for the notion 'delivered' is near 'deliverable' definition Not defined – everyone else
2.	possibility	loss, injury	Notions are not defined
3.	possibility	measurable, possibility, value, uncertainty	Notions are not defined
4.	factors, events	external, affect, progress, success, project, likelihood, assumption, probable, unlikely, analysis of importance, assumptions	Notions are defined – project Not defined – everyone else
5.	factor	external, jeopardize, project, expected, results, assumptions, logical framework matrix	Notions are defined – project, result, logical framework matrix Notions are not defined – factor, jeopardize, expected, assumptions

Source: The author valuation

Conclusions

The methodological analysis of project risk management sources provides for analysing the definitions of concepts provided by the authors of the sources, thus answering the question about methods used for defined notions, particularly, the definition of 'risk'.

The author believes that the conducted research accounts for the confidence that ontological analysis is the method in which, together with the epistemological analysis (Uzulans J., 2017.), it is possible to perform the analysis of risk management sources aimed at improving risk management. In the previous research the author wrote that "The content of the concepts of 'event' and 'uncertainty' is very different and maybe the analysis of the ontological, epistemological and methodological and real project risk register of the definitions of 'event' and 'uncertainty' will provide the analysis, which reveals relationships, which could not be identified by the methods used in previous studies (Uzulans J., 2017.)."

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Generation Z Business Students as Future Employees of Organisations in Latvia: Empirical Study

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Abstract

Some organisations have difficulties of their employee's motivation and management. It becomes even more challengeable, when there are employees, who represent different generations. A new challenge for organisations is generation Z employees, young labour market representatives in age of 23 and younger, who have certain characteristics that differ from other generation representatives' characteristics and need to be considered by employers. The aim of the study is to define generation Z motivation factors on working place in case of Latvia. A survey was developed and conducted for this purpose. The authors are focusing on business and economics bachelor and master students from tertiary education institutions of Latvia in age from 18 up to 23 (incl). The respondents highlighted that they are mostly motivated by personal and professional development, flexibility, job satisfaction and its significance, adequate monetary benefits package and the direct manager attitude. The main results are used to develop a description of the group of generation Z employees' motivation factors on working place for business organisations.

Keywords: generation Z, employees' motivation.

Introduction

Generation Z employees (people born from mid of 1990 up to mid of 2000 (Stillman & Stillman, 2017) are topical for many organisations (Comaford, 2017; Patel, 2017) as employers need to adapt to the new generation characteristics to be able to manage and motivate them effectively, because those of them, who are tertiary education holders, already start to enter labour market. Generation Z representatives are (Kouloupoulos & Keldse, 2016, Steele Flippin, 2017; Stillman & Stillman, 2017): pragmatic, addicted to virtual life as well as to constant information consumption, do-it-yourself people, interested in customisation of their job description, confident that "they are competitive with people doing the same job".

Generation Z is a popular topic of management research in many countries (Bohdziewicz, 2016; Cseh-Papp et al., 2017; Gayeski, 2015; Iorgulescu, 2016; Jiří, 2016), however, the authors of the present paper admitted a lack of studies about generation Z representatives from Latvia (Ergle, 2015). The authors assume that differences between generation Z representatives from Latvia and for instance the US might exist. This is a hypothesis of the study. The aim of the study is to define generation Z motivation factors on working place in case of Latvia. Relevant literature (books and articles by practitioners, scientific articles) was reviewed as well as a survey was developed and conducted to meet the objective of the study.

Methodology of Research

The authors of the paper used both scientific literature and literature produced by practitioners. As the topic of generation Z is a new one, most of the sources available were published few years ago. Searching articles, the authors used EBSCO Host database. Most of the studies reviewed by the authors were conducted in the USA. The main attention of the authors was paid on generation Z representatives characteristics as employees and the factors that motivate them.

The second part of the study was devoted to a survey development and conduction. The online questionnaire was used. The population of the study includes business and economics bachelor and master students from tertiary education institutions of Latvia in age from 18 up to 23 (inclusive). These students were selected, because they often work in professional services sector where the main value-creating asset is human capital, hence employee retention is vital for business. Additionally, focus on a specific field of studies helps avoiding divergent personal values and factors of motivation. The chosen age group represents the youngest employees in the job market, so the study reflects the most recent trends of generation Z work values. The students, who participated in the survey are from four tertiary education institutions in Riga, Ventspils and Valmiera. There are 27 tertiary education institutions in Latvia, which provide business and economics bachelor and master programs. The tertiary education institutions for the survey were selected by applying random method using MS Excel function. The limitations of the study: the difference between bachelor and master students and proportion of bachelor and master students is not considered, the sample

type is convenient. The first round of the survey was conducted from September 19 to September 21, 2017. It is planned to have the second round of responses collection from September 22 to October 8.

The online questionnaire included 11 open-ended questions and 117 statements for evaluation about respondent's personal and professional values, job satisfaction, experience and motivation factors, as well as expectations of managers. 10-point scale is proposed for the statements evaluation, where 1 is completely disagree and 10 is completely agree.

Findings/Results

The authors of the study have analysed the results of the first round of the survey. To define the rating of the most important factors that motivates generation Z employees the average meaning and moda were considered. The survey results showed that personal values are more important than the professional values, and work-life balance plays a significant role in lives of generation Z representatives. Most important professional value in their life is to be able to do a job they are passionate about. They expect respect, training and professionalism from their manager and detest emotionality, micro-management and arrogance. Respondents prefer face-to-face communication and receiving regular feedback about their work. They are dedicated to work hard and put in their best effort to achieve professional goals, however, none of the employed respondents believe in long-term employment in the current work place. In their current workplace, they lack instructions, training and clear career advancement opportunities, there are not enough monetary benefits offered and fall short on social responsibility.

Conclusions

Preliminary results of the study show that generation Z values career prospects, job significance and satisfaction, personal and professional development and flexible work arrangements the most. The authors believe that the importance of career growth and advancement opportunities can be explained by them only entering job market, hence they prefer to invest in self-development and prioritize career growth over other professional factors. It is important for them to obtain valuable skills, knowledge, and practice, so the company should convince their generation Z employees of various growth possibilities within the company to retain them. The survey findings correspond to studies in the USA that revealed that generation Z demand challenging work and personal development opportunities, as well as value company's technological sophistication.

The study needs to be continued to gather more data and compare them with the preliminary results.

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Health Care Spending Structures in Poland, Latvia, Lithuania and Estonia over the Years as Compared to other EU Countries

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Abstract

After joining the European Union in 2004, post-communist countries have dramatically changed the structure of expenditure for medical services. The cause is legislative and ownership changes in new economy. The study analyzed the expenditure on medical services in European Union with a special focus on Poland, Latvia, Lithuania and Estonia. The European Union countries were divided into clusters using different methods i.e. Ward's, Two Step and Centroid Clustering. In the paper the structure and changes in health expenses were presented according to types of expenditures over the years 2004–2015. Countries were assigned to clusters based on three variables: medical products, appliances and equipment, out-patient services and hospital services. Variables were considered as percentage of household budget and per capita expenditures. In Lithuania, Latvia and Estonia there is a clear increase in out-patient services spendings compared to hospital services expenditure, which is more apparent when per-capita expenditure is taken into account.

Keywords: consumption, households, health, structure of expenditures.

Introduction

Health is one of the basic needs of every society. European Union countries have changed the structure of expenditures for medical products and services in recent years. The possible cause is legislative and ownership changes in the new economy.

The aim of the research is to identify the expenditures on medical products and services in European Union in years 2004–2015 with a special focus on Poland, Latvia, Lithuania and Estonia. Based on this objective three research issues were identified:

1. Presenting the share of health expenditure in the total spendings and the structure of expenditure in households from Latvia, Lithuania, Estonia and Poland as compared to other European Union countries in 2004 and 2015.
2. Identification of changes in expenditure structure of aforementioned countries in the period of 2004 and 2015,
3. Grouping the European Union countries according to households' health care expenditure.

Methodology of Research

Research data came from Eurostat database. The study covered the years 2004-2015 and concerned European Union households with particular attention to Estonia, Latvia, Lithuania and Poland. Besides calculating basic statistics the European Union countries were divided into clusters based on three variables: medical products, appliances and equipment, out-patient services and hospital services. Variables were considered as percentage of household budget and per capita expenditure. Different clustering methods were used i.e. Ward's method where the variance analysis approach is used to estimate distances between clusters (Field, 2014). This method was chosen since it's stable and provides homogeneity of objects within the cluster and heterogeneity between clusters (Ward 1963). Beyond Ward's method K Means, Two Step and Centroid Clustering techniques were applied. During the analysis SPSS and Statistica software were used.

Results

During the years 2004-2015, the share of health expenditure in total household expenditure in Estonia, Lithuania and Latvia, despite fluctuations, has remained almost stable, however the share for health care expenditures of Polish households has increased. Among other EU countries, the largest increase in the share of health expenditure in total expenditure was recorded in Romania, with the largest drop in the Netherlands and Greece. Apart from changes in the share of health expenditure, changes in the spending

structure were recorded. Compared to year 2004, in 2015 Estonian, Latvian and Lithuanian households spend less for medical products, appliances and equipment, and more for out-patient services. In Latvian households health care spendings on out-patient services has reached a dominant position. In the budgets of Poles the share of expenditure on health in total expenditure has increased, however it was the smallest change in the structure of health expenditure among the analyzed Baltic countries. In the other EU countries, the biggest changes in the structure of health spendings have been observed in Greece and Romania, where the importance of medical products, appliances and equipment and out-patient services have increased. In Luxembourg and Portugal the importance of out-patient services have grown, however spendings on medical products, appliances and equipment have decreased.

The aim of the cluster analysis was to identify similarities and differences in the structure of EU health expenditure in EU households. It was found that Baltic countries in 2004 belonged to one group with Romania, Slovakia and Czech Republic. Households in these countries were characterized by high rate of whole medical expenses. Eleven years later, the costs of medical products, appliances and equipment still have dominated in Estonia, Lithuania and Poland, while in Latvia out-patient services has gained in importance. Thus, the structure of health expenditure in Latvian households has become similar to the structure of the countries such as Finland, France, Austria and Germany (Mitenbergs 2014). Private health spendings in Belgian households deserve special attention, where hospital services constitute the largest share in the structure of whole expenditure.

Conclusions

During the years 2004-2015 there has been recorded a significant change in the structure of health expenditure in the Baltic Countries where the influence of treatment services has increased, indicating that the share of health services in health care spendings have grown significantly. The smallest changes in the structure of health expenditure were recorded in Polish households. Consumers' behaviors in the medical services market are influenced by various economic, demographic and social factors. Presumably the Poland's basic obstacle to develop health care market is a shortage of households funds (Nieszporska 2017).

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Assessment of the Stability of Insurance Companies: the Case of Baltic Non-Life Insurance Market

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Abstract

The purpose of the research is to summarise stability statistics on solvency ratios, risk profiles, capital surplus which was contained in Solvency and Financial Stability reports 2016 published first time by non-life insurance companies in European Union and Baltic market (Latvia, Estonia, and Lithuania). Solvency II has come into force in 2016 and these reports were prepared using new requirements of the Solvency II framework. All non-life insurance companies are required to have eligible own funds at least equal to solvency capital requirement (SCR) in order to avoid supervisory intervention (own funds divided with SCR are required to be at least 100%). Baltic non-life insurance companies are strong capitalized (median 155%) in 2016. It means that all Baltic companies can survive even if 1 in 200 years events have incurred although Baltic solvency coverage ratio is lower than median ratio in European Union (210%). For Latvian non-life insurance market solvency ratio median is even the lowest in European Union comparing by countries. The authors have analysed the market historical development and have calculated financial results ratios, Gini's concentration index, and dissimilarity index, too. The authors have investigated internal, external risks and issues for Baltic non-life insurance market now and in next future such as political environment, low yield environment, market competition because of new M&A activities, new rule for accounting for insurance companies IFRS17.

Keywords: Baltic non-life insurance market, Solvency II Directive, risk management, capital management.

Introduction

Baltic non-life market leader's business growth in 2016 in gross written premiums is 10 percentages and has huge potential (analysing average premiums and comparing with other EU countries). Baltic insurance market is interesting also for abroad investors by analysing M&A transactions, reorganizations. More than one year has passed in Solvency II framework. Companies globally have invested huge human resources. Collecting data and other interesting information from public reports there can calculate, compare different ratios, aspects for Baltic and European Union companies.

Methodology of Research

The methodology of research is Solvency II standard formula, Regula 2015/35 Pillar 1 principles (see Figure 1). Capital model is based on value at risk with confidence level 99.5%.

$CorrSCR =$	SCR_{mkt}	SCR_{def}	SCR_{life}	SCR_{health}	SCR_{nl}
SCR_{mkt}	1	0.25	0.25	0.25	0.25
SCR_{def}	0.25	1	0.25	0.25	0.5
SCR_{life}	0.25	0.25	1	0.25	0
SCR_{health}	0.25	0.25	0.25	1	0
SCR_{nl}	0.25	0.5	0	0	1

Figure 1. Standard formula structure
(Based on EIOPA (2014))

$$SCR = \sqrt{\sum_{ij} (Corr_{i,j} \times SCR_i \times SCR_j + SCR_{intangibles})} + SCR_{operational}, \quad (1)$$

where

$Corr_{i,j}$ – correlation matrix between i and j risk

SCR_i – solvency capital requirement for market (mkt) (or default (def), life, health, non-life (nl))

$SCR_{intangibles}$ – solvency capital requirement for intangibles

$SCR_{operational}$ – solvency capital requirement for operational risk

Findings/Results

Summarizing all market premiums it can be seen that there are high concentration level in market. Market share of 7 companies are 90 percentages and only 10 percentages have for other 7 companies (See table 1).

Table 1. Concentration ratio for non-life Baltic insurance market

Type	2016	2015
Dissimilarity Index	27%	28%
Gini's Concentration Ratio	86%	91%

Median risk profile using standard formula for Baltic non-life insurance companies can be seen in Figure 2.

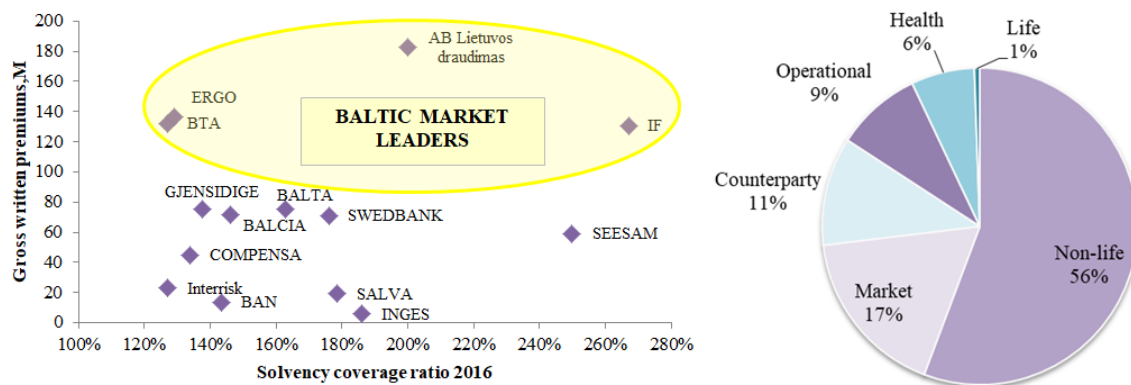


Figure 2. Median risk profile and individual solvency coverage ratios by companies (created by the authors)

There is weak correlation between Baltic market share and solvency coverage ratio (or own funds and solvency ratio). There is also weak correlation between own funds and profit. Baltic non-life companies are not using alternative solvency methods (internal or partial models), using only standard formula. Ordinary share capital has not been increased by non-life insurance companies comparing Solvency I regime period end and SII beginning period 2016. Baltic non-life insurance companies are strong capitalized (median 155%) in 2016. Baltic solvency coverage ratio is lower than median ratio in European Union (210%). For Latvian non-life insurance market solvency ratio median is even the lowest in European Union comparing by countries.

Conclusions

Non-life underwriting risk in risk profile has the highest share and it should be necessary to investigate standard formula appropriateness for Baltic non-life insurance market. Solvency coverage ratios between market leaders in 2016 are wide ranging (138%), high standard deviation.

Baltic insurance market has huge growing potential. Insurers should increase return on capital. One of the main reasons why it is so low is economic factors - swap negative rates, government bond yield stays in low level more than 3 years. Possible future external risks can be political environment, cyber-crime risks, digitalization and market competition increase because of M&A transactions.

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SUBSECTION

“INNOVATION AND QUALITY TECHNOLOGIES“

Degraded Swamps Hydrological Regime Restoration Using System Dynamics Modelling

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Abstract

Aim of this study is to explore possibilities of degraded swamps hydrological regime restoration using system dynamics modelling. While researching scientific literature the author has not gained any evidence that there is system dynamics model developed in order to simulate tree cutting intensity in degraded swamps after filling up drainage ditches with the aim to speed up restoration of hydrological regime, thereby this approach would be an innovative way of solving this problem.

Studies of other author experience have helped to determine elements which shape swamps ecosystem and interact with each other. Based on exploration of elements forming the swamps ecosystem, conceptual model have been constructed. System dynamic model in STELLA® environment can be developed on grounds of conceptual model. It is planned to develop STELLA® model in a way which, by changing input data and some of the parameters, allows to use it in restoration's project of every degraded swamp with disturbed hydrological regime in Baltic States.

Keywords: system dynamics, modelling, swamp, hydrological regime restoration

Introduction

After construction of drainage ditches, thus changing its natural hydrologic regime, swamps have been degraded, leaving a negative impact also on the adjacent unaffected and slightly affected hydrologic regime of raised swamps and other wetlands.

Since after drainage of swamps and its adjacent forest area swamps became overgrown with trees, density of tree stands increased in the swamp's territory and its adjacent forest stands. The large volume of crown by interception limits rainwater from reaching the ground, because it evaporates from crowns back into the atmosphere, as well as trees favour water absorption from the soil through the roots that further enhance the drainage effect.

To ensure restoration of hydrological regime of swamps, it is necessary to improve the condition of the existing European Union protected habitats during the period until 2020, in respect of which the European Commission has developed a strategy for the conservation of biodiversity in the future. The aim of this strategy is to ensure maintenance and improvement of ecosystems (Swamp woodlands 91D0*, Old or natural boreal forests 9010*, Forests of slopes and ravines 9180*) and its services by creating green infrastructure and renewing at least 15% of the degraded ecosystems (Vides risinājumu institūts, 2014).

Tree cutting in degraded swamps forest stands would speed up restoration of ecosystems disturbed hydrological regime, thereby improving locals and swamps visitors' quality of life – swamp would restore ability of self-cleaning, surrounding area flood risk would reduce, risk of wild fire would decrease, favourable conditions to pick berries and mushroom would emerge, favourable conditions for moss, lichens and other moisture-loving organism population evolution and existence would obtain.

Methodology of Research

In development of conceptual model theoretical methods was mostly used - literature analysis, research of case studies.

Very valuable scientific publication that helped to understand the complexity of the swamps hydrological system, was "Simulation of hydrological processes on reconstructed watersheds using system dynamics". It clearly explains how the water held in the pores of the soil moves downwards to the till and the shale layer (Elshorbagy et al., 2007). Research "Different views on tree interception process and its determinants" interpret how tree crown structure and size determines the amount of the total precipitation that stays in the tree crown and does not reach the ground (Klamerus-Iwan, 2014).

Results

As study shows components affecting swamps hydrological regime are: Interception, Sublimation, Evaporation, Leaf area index, Lake evaporation, Peat layer, Till layer, Shale layer, Overland flow and Lake outflow. Swamps ecosystem is influenced also by external factors such as: Rain, Snow, Sun radiation, Temperature, Wind speed. After this study it is feasible to construct a system dynamics model which can determine optimum intervention intensity in ecosystem – thinning intensity so that by cutting trees as little as possible, the desired result would be achieved – increase in soil water saturation, what would promote swamp`s and swamp woodlands habitat regeneration.

Conclusions

This study helped to understand complex interrelationships existing between different elements within a system. The swamp`s ecosystem boundaries are clarified and the key building blocks, representing the physical processes are identified. The next step is to develop a system dynamic model that can simulate and quantify the behaviour of swamp`s ecosystem hydrological processes through mathematical relationships.

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Organizational Culture's Link to Quality Culture

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Abstract

The study aims to characterize and analyze terms “organizational culture” and “quality culture”, evaluate their mutual linkage and impact on uninterrupted improvement of organization's performance. The research was conducted on the basis of scientific literature and publications review, using logical and comparative analysis methods.

Keywords: organizational culture, quality culture, performance effectiveness

Introduction

Organizational culture that based on quality culture principles of effective management and resource-oriented approach is becoming more and more significant for development of organizational culture of Latvian enterprises. While implementing principles of good governance, quality culture should be viewed as set of organization's values that stimulates to develop effective management focusing on organization's long-term interests and goals. The study aims to characterize and analyze terms “organizational culture” and “quality culture”, evaluate their mutual linkage and impact on uninterrupted improvement of organization's performance. Organizational culture cannot be defined unambiguously, however all the explanations sufficiently emphasize that organizational culture is a set of beliefs, behavioral norms and a way of thinking. Quality culture is a specific aspect of organizational culture helping to unite the organization and improve routine working methods and results.

Methodology of Research

The research has been conducted on the basis of scientific literature and publications review. Study of the terms and summarizing of information has been conducted using logical and comparative analysis methods. Characterization of linkage between organizational and quality culture has been done reviewing miscellaneous literature.

Findings/results

Organizational culture is not only study subject for social psychology, psychology of management, corporate behavior, industrial psychology and other scientific fields, but also set of major organizational values, behavior models, norms, rituals and assumptions. This set perhaps is not defined anywhere in a formal way, however it describes behavior and style of working of individuals, as well as mutual relations and performance results of the organization (Schein, 2002).

Organizational culture is a complex pattern of assumptions about the group's place and function in the world. The values and expectations that direct behavior and learned, based on what has worked for and against its welfare in the past. There are two complimentary survival functions that drive the development of organization culture. The first survival function is adaptation to external change. Experience in defending the group and advancing its cause in context creates a worldview. The second survival function is the development and maintenance of an integrated, stable, internal identity (Millington, Schultz, 2009). Similar opinion is being expressed by other authors, describing organizational culture as relatively stable set of major organizational beliefs, values and social norms that has been created strengthening organization's internal integration and adapting to the surrounding social economical environment (Reņģe, 2003).

The term of organizational culture cannot be defined unambiguously, however all the explanations sufficiently emphasize that organizational culture is a set of beliefs, behavioral norms and a way of thinking. Quality culture is a set of group values and practical techniques that encapsulate the ideology of the group or organization and guide how to improve routine working methods and results (Harvey, 2004).

The result of performance of any organization are products, services and efficiency. The main resources affecting the results are individuals, finance resources, raw materials, technology and information. It is being considered that organization is creating its image in business environment, taking into account products and services offered, as well as rules of behavior of employees and ethical principles (Milner,

2000); the effectiveness of organization's performance depends on perception of its environment and adaptation to particular situation (Praude, Beļčikovs, 2001). Change in organizations is pervasive because of the degree and rapidity of change in the external environment. The conditions in which organizations operate demand a response without which organizational demise is a frequent result (Cameron&Quinn, 1999). Organizations like any other systems face the eternal need of solving the dilemma of changing or developing and maintaining their internal stability (Dāvidsone, 2011). Situation analysis reveals that creation and existence of organizational culture is being determined by mutually interconnected outer and inner environment factors – social environment, economic situation and particular individuals.

Total quality management is an enterprise's philosophy, way of thinking about its goals, organization, processes and human resources and also a ground for creation of the quality culture. The predominant role of the Total Quality Culture leader is to have visions and dreams, to define an organization's mission, and to identify its superordinate goals (Batten, 1992).

Organizations are being established, developed, getting successes, slacked and finally stop their activities. Manager should know which stage of development the organization is located at and should determine the management style considered to be the most appropriate for the cycle (Milner, 2000). In the fast changing environment that is today's world, excellent organizations are agile, flexible and responsive as stakeholder needs and expectations change, often frequently and quickly. Excellent organizations measure and anticipate the needs and expectations of their stakeholders, monitor their experiences and perceptions, and monitor and review the performance of other organizations. Information is gathered from both current and future stakeholders. This information is used in order to set, implement and review their policies, strategies, objectives, targets, measures and plans, for the short, medium and longer time (Janauska, Mazais & Salenieks, 2006).

The notion of quality culture is understood here as comprising shared values, beliefs, expectations and commitments toward quality that are supported by structural and managerial elements and processes that enhance quality (Rapp, 2011). Organizational culture and quality culture approach is an essential factor to achieve effectiveness of enterprise's performance and excellence.

Conclusions

The author has come to a conclusion that the term of organizational culture cannot be defined unambiguously, however all the explanations sufficiently emphasize that organizational culture is a set of beliefs, behavioral norms and a way of thinking. Quality culture is a specific aspect of organizational culture helping to unite the organization and improve routine working methods and results.

Organizational culture is closely linked with organizational efficiency and is determined by mutually interconnected outer and inner environment factors – social environment, economic situation and particular individuals. The result of performance of any organization are products, services and efficiency. The main resources affecting the results are individuals, finance resources, raw materials, technology and information.

Organizational culture that based on quality culture principles is significant factor for utilization of organizational competencies, creating effective management and resource-oriented approach that is being developed focusing on organization's long-term interests and goals.

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The Risk Analysis of Certification Process in the Field of Energy

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Abstract

The development of the energy sector is an essential precondition for sustainable growth of the national economy; therefore, the national energy policy is directed not only to the promotion of competition and efficient use of energy resources, but also to increased security of power supply. Because faulty operation of electrical equipment and construction or maintenance of low quality dangerous electrical equipment may cause serious risks, there is a need for professional qualification certificate stating the person's competence in the sphere. However, not always the certificate issued by a certification body confirms the person's compliance with the professional competence requirements laid down in the industry, whereas it protects the employee from the consequences that may result from incompetent professional performance. The study aims to analyse the main risks that can occur in the certification process of energy constructors in order to develop possible solutions for the improvement of the certification process of energy constructors.

Keywords: conformity assessment, certification, certification of persons, energy constructors, professional competence, risk analysis.

Introduction

Certification of energy constructors nowadays is becoming increasingly important because it is closely related to enhancing safety in the operation and maintenance of electrical installations, as well as minimizing workplace injuries and accidents. The process of energy constructor certification, in spite of its important role in promoting security of power supply and ensuring quality in construction and maintenance of electrical equipment, has been very little researched. The analysis of the certification process of energy constructors has so far been considered only in the context of changes in the laws and regulations with the aim to ensure the compliance of certification with the requirements laid down in laws and regulations. In order to characterize the end-result of the certification service process as corresponding to the requirements, and to ensure that it is not only effective, but also useful in terms of the resources consumed, the certification body, like any organization, must be aware of the factors influencing its activities. This provides the certification body with an opportunity to develop specific strategies in order to manage risks and exploit the newly opened options. The certification body in accordance with the requirements of ISO/IEC 17024 has to focus on the factors that could increase the probability of risk occurrence, as well as recognize and prioritize them in order to identify the weakest stages and focus on their control.

The authors' study discloses the main risks that can occur in the certification process of energy constructors and how to use tools of risk management in order to transform them into new opportunities thus gaining information necessary for further development of measures required for the improvement of the certification process of energy constructors.

Methodology of Research

Identification of risks in the performance of the certification process of energy constructors was made using the Failure Mode and Effects Analysis (*FMEA*) and Delphi method. These methods were also used to find out which areas of certification service organization need to be developed in order to improve the quality of the work performed and increase the satisfaction with the final result of the service provided.

Findings/Results

Building services, embracing primarily electrical, are essential to proper functioning of buildings – satisfactory design, construction and operation and maintenance entail not only the input of quality materials and equipment, but also the deployment of competent building service engineers (Yik, et al., 2012). For an organization's professional performance to be relevant and competitive, employees should be able to demonstrate a high level of professional competence in their sphere, because the organizations work in a highly regulated environment (Pagell, 2009). While the service processes are becoming more complex, risk

management has a very significant role in improving the quality of service performance (Song, 2013). The growing importance of risk management in service quality improvement is detected by the need for early detection of factors influencing each process, as the service system is a process-based system and failure in one stage of the process may result in failure in another stage of the service process (Geum, 2011).

According to the requirements of standard ISO/IEC 17024 and normative acts, the certification process in energy construction should be organized so as to be able to identify the main impact factors with the help of objective assessment tools. Therefore, an effective risk analysis is predicated on an effective informative risk assessment process (Fan, *et al.*, 2017).

Upon summarizing the received data, the most typical failures with the highest risk priority assessment can be observed in the supervision of the certification process of energy constructors and in the examination stage, the causes of which lie in inadequate human resource planning, work process organization and failure to provide internal control systems and supervisory functions. The factors that can be classified as first and second level risks regarding the supervision of the energy constructors' independent practice are related to defining supervision criteria and the number of human resources. Whereas the factors that have the greatest impact with regard to meeting the deadlines in organizing the examination process in accordance with the normative acts are related to the organization and planning of the examination process.

Conclusions

Today, with processes becoming more and more complex and resources and deadlines ever shorter, risk management has a very significant role in improving the quality of service performance. By implementing all the process stages related to risk management, service organizations are able not only to identify the risks related to the organization's operating environment, but also to turn the risks into new opportunities in order to be able to ensure continuous improvement of the service process. Certification of energy constructors is not only a way of confirming their professional competence, but also one of the most important qualification control mechanisms in the regulated sphere where the person has no rights to pursue their professional activities without an adequate proof of their competence. Risk analysis in the sphere of certification of energy constructors plays an important role in ensuring public and work safety in order to prevent circumstances in which untrained personnel's performance because of their professional incompetence or non-compliance to professional requirements may result in harm to the environment and public safety.

Certification bodies should avoid a situation when certification is perceived solely as a control mechanism. Certification of energy constructors is a socially responsible and sustainable process that does not end with obtaining the certificate, but continues by putting forward a certified person's professional competence development.

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Economic Issues of Lifestyle Evaluation: EU and Ukraine Experience

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Abstract

This study analyzes the experience of Ukraine and the European Union (EU) of the evaluation of the lifestyle. Detected interrelationships between the sustainable lifestyle and the sustainable, economic and human development of Ukraine's regions. It is concluded that the background for the sustainable development of the territorial community is the formation of sustainable lifestyle of its population.

Keywords: lifestyle, development, sustainable.

Introduction

During the last half-century, the volumes and structure of material goods and services, consumed by mankind have changed significantly; human's demand for the planet resources was increased considerably because of growth of population and individual consumption. Current lifestyle does not satisfy the principles of sustainable development, and therefore leads to a deterioration of the social, economic and environmental spheres of human life. The investigation of sustainable lifestyle "...patterns of action and consumption, used by people to affiliate and differentiate themselves from others, which: meet basic needs, provide a better quality of life, minimise the use of natural resources and emissions of waste and pollutants over the lifecycle, and do not jeopardise the needs of future generations" (CSD, 2004) gains its applicability.

Methodology of Research

In the worldwide scientific practice takes place the row of indices and indicators, which allow to measure and assess the social, economic or environmental dimensions of society's development. Until recently, the main indicator of development and welfare of countries was the gross domestic product (GDP), which replaced the gross national product (GNP) in 1991.

On the base of conducted studies, notably under the direction of Nobel laureate Joseph Stiglitz, scientists came to the conclusion that GDP is not an ideal indicator of welfare and development. Therefore, a higher-precision indicator should take into account not only the volume of the gross domestic product, but also the quality of life, in particular the level of income and consumption, as well as the availability of education, health, environmental pollution, and others.

In 1990, United Nations Development Programme released its first Human Development Report, which contained innovative Human Development Index, made in contrast to GNP. The original idea of the report (considered at that time as radical), was simple: national development should be assessed not only by national income, as formerly, but also by the expected span of life and literacy rate (Human, 2016).

Under the influence of the concept of sustainable development, the main idea of which resolves itself to the thesis: the satisfaction of the vital needs of the planet's population should not be achieved at the expense of future generations, scientists have proposed a row of indices and indicators, which assess the condition of the environment and biodiversity.

The ESI Index, developed by the Center for Environmental Law and Policy at Yale University (USA), quantifies the ability of a country to protect its environment both in the current time period and in the long view, based on the following five criteria: the presence of a national ecological system; possibility of counteraction to environmental influences; reduction of people dependence on environmental influences; social and institutional capacity of the country to respond to environmental challenges; the possibility of global control over the ecological state of the country.

In addition, this index can be used as a powerful tool for decision-making on an analytical basis, taking into account social and economic dimensions of sustainable development of the country (Environmental, 2005).

Annual «Living Planet Report» is based on the two indicators that complement each other. One of them is the Living Planet Index, which displays the state of Earth's ecosystems, and another – the Ecological Footprint, which shows the scale and nature of the load on human ecosystems (Live, 2016). The Ecological Footprint corresponds to the space of the biologically profitable territory and water area, which is necessary

for the production of resources, consuming by individuals, groups of the population, or in the performance of one or another activity.

The experience of EU countries testifies to that catalysts for sustainable development are sustainable communities. The Global Development Research Center considers that as there is no common definition of sustainable development, so there is no single accepted definition of the concept «sustainable community». Communities must determine sustainability taking into account local features. One interpretation of a sustainable community is a settlement which:

- has a stable, healthy population;
- understands that humans are only one of many life forms which share a sustainable region;
- is a population with a strong sense of place, history, and global responsibility;
- is empowered to guide an ecologically regulated economy based on the sustainable harvest and conservation of local natural resources;
- shares both its surplus production and culture with other communities and regions;
- has a collective ethic of conserving its culture and natural resources for future generations;
- does not export pollution to other regions;
- does not base its affluence on the draining of other regions of their resources;
- reduces to a minimum income leakages which leave the community;
- gains fullest possible value from harvest and manufacturing of natural resources through use of locally controlled and adapted appropriate technologies;
- is committed to the goal of providing equal opportunity for a high quality of life for all residents of the community;
- is a population which strives to continuously learn of its changing needs through the passage of time (Sustainable, 2013).

Findings/Results

Previously, we have proposed a methodology for assessing of sustainable lifestyle at the local level, based on the calculation of the Sustainable Lifestyle Index (SLI) (Kovalov, 2011). The information content of this index was also created. It contains 25 indicators, that allow to simulate the way of life of the members of the community and describe the ethics and culture, education, health, social welfare, incomes and expenditures of the citizens; industrial, external-economic and entrepreneurial opportunities of the community, as well as the ecological condition of community taking into account the leverage measure of the ecosystems, natural resource intensity and the participation of its members in environmental projects.

In addition, in 2009 the Institute for Applied Systems Analysis of the National Academy of Science of Ukraine and the Ministry of Education and Science of Ukraine proposed a system of factors (indices and indicators) and developed a metric for measuring the sustainable development processes in order to evaluate these processes for the regions of Ukraine. According to this method, sustainable development is evaluated using the corresponding index (Isd) in the space of three dimensions: economic (Iec), ecological (Ie) and social + institutional (Is) and is calculated on the basis of 137 parameters (Zgurovs`ky`j, 2009). On the basis of this data, the rating of the territorial communities of Ukraine was built and the link between sustainable lifestyle and sustainable development of communities was confirmed. The comparative analysis of the regions by the ratings of the sustainable lifestyle index and the GRP provided an opportunity to establish a correlation between sustainable lifestyle and the economic development of the territorial communities. As a result of the community ratings analysis according to Sustainable Lifestyle Index and Regional Human Development Index, the correlation between sustainable lifestyle and human development has been established.

Conclusions

Territorial communities, which have the best value for the sustainable lifestyle index tend to rank high or middle places in sustainable development ranking while communities with a poor level of sustainable lifestyle are low.

Such interconnections have been established between sustainable lifestyle and economic development of the territorial community (as measured by the GRP), as well as the human development of the community (Regional Human Development Index). Therefore, the prerequisite for the sustainable development of the territorial community is the formation of a sustainable lifestyle of its population.

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Transformation of Economy in Conditions of Industry 3.0 and 4.0: the EU experience

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Abstract

Energy security strategies are the core pillar for countries economic growth on the way to sustainable development. The Fourth Industrial Revolution brings new challenges and forms the basis for Industry 4.0. The European Union is constantly seeking for information, economic and technological transformations that would lead to formation of Energy 4.0 concept. Ongoing digitalization of industries causes the transition to renewable resources. It refers basically to "green" energy (solar, wind, geothermal heat, tidal energy).

Keywords: energy security, renewable energy, Industry 3.0, Industry 4.0, cyber-physical systems, digitalization

Introduction

Current energy security issues are an urgent constituent part of countries sustainable development strategies. Reflecting on the way how societies and businesses change their modes of action in condition of Industry 4.0 is urgent especially nowadays when the EU is looking for energy security strategies. For Ukraine there is a strong need to develop its own Energy 4.0 sector.

Within the framework of the research we highlight the current energy security strategies in the European Union as well, as suggest directions for providing energy security strategies with the potential of energy renewables as well as measures for reduction negative impacts on energy security in Ukraine.

Methodology of Research

The Fourth Industrial Revolution is a logical continuation of the Third Industrial Revolution, in which a synergetic basis is the driving force of socio-economic systems development. The term "Industry 4.0" is a buzzword used widely in German speaking countries for the Fourth Industrial Revolution currently taking place. Other terms frequently used in this context are cyber-physical systems, internet of things (IoT), smart factory, smart product, big data, cloud, machine to machine (M2M) (Lang, 2016).

The Fourth Industrial Revolution concept has received great significant after the speech at the International Environment Forum in Davos (January 2016) of one of the main theorists of "Industry 4.0" phenomenon Swiss economist Klaus Schwab. He described this phenomenon as the blurring between physical, digital and biologic areas (Schwab, 2016).

For the first time the concept of the Fourth Industrial Revolution has been formulated at the Hanover Fair in 2011. The phenomenon was defined as the introduction of cyber-physical systems in production processes. Currently it is Germany that is taking the leadership in the Fourth Industrial Revolution. A public-private program «Industrie 4.0» has developed. Large German corporations having research grant support from the Federal Government are to create a fully automated production lines (smart factories), in which products interact with each other and consumers within the concept Internet of things (Khel, 2016).

The Third Industrial Revolution led to new modes of energy production and consumption. We cannot but mention that renewable energy sources such as solar and wind provide energy production with minimal labor costs at the use stage. American economist John Rifkin called this phenomenon as energy with "zero variable cost". In addition, in the process of renewable energy use costs materialized in the extraction and processing of raw energy are practically excluded compared to the carbon and nuclear energy. Modern energy sector is a quickly changing system. The basic directions for changes here are: intermittent renewables; additive materials and technology; nuclear phase-out; new transmission and distribution grids; new ways of storage

Ongoing digitalization of industries causes the transition to renewable resources. "Green" energy (solar, wind, geothermal heat, tidal energy) allows doing without fuel and chemical processes of burning it. It means that from production cycles are eliminated entire industry links that ensure: the extraction of mineral resources, recultivation of ruined landscapes, transportation of raw materials (cars/dry cargo ships - in the case of charcoal or tanks/pipelines/tankers - in case of oil and gas), fuel combustion in power plants;

manufacturing of purification equipment and waste management, as well as the processes of creation of engineering and construction companies, which generated power for the realization of all these processes.

Effective energy storage is one more issue that needs a particular attention. This direction for development of technological systems can eliminate the controversy between when to produce energy and when there is a need for its use. Thermal power plants operate most efficiently at a constant mode of operation.

Findings/Results

For the formation of a reliable Energy Security Strategy the so called stress tests were carried out by 28 European countries. The tests simulated two disruption scenarios: a complete halt in Russian gas imports to the EU and a disruption of Russian gas imports along the Ukrainian transit route (Stress, 2014). The European Commission released its Energy Security Strategy in May 2014. The Strategy aims to ensure a stable and abundant supply of energy for European citizens and the economy (Energy, 2016). To ensure secure, sustainable, competitive and affordable energy for European consumers the European Commission presented an ambitious Energy Union Strategy. It was launched on 25 February 2015 (The Energy, 2015). On 30 November 2016, the Commission published a proposal for a revised Renewable Energy Directive to make the EU a global leader in renewable energy and ensure that the target of at least 27% renewables in the final energy consumption in the EU by 2030 is met. The current 2020 framework sets a EU 20% target for energy consumption which relies on legally binding national targets until 2020 (Directive, 2017).

Conclusions

Ukraine with its strong potential for renewable energy sources is strongly trying to apply the EU energy efficiency experience. The best Renewable Energy Prospects for Ukraine is The REmap 2030. Ukrainian Government together with international organizations and civil society are on the road to develop a renewable-energy policy and form its future energy system. The progress in solving energy security issues is quite great. The introduction of a market-based process for granting operational or investment support to renewable energy producers will ensure not only compliance with the competition acquires and internal market principles, but also bring the country towards its trajectory to 2020 in a cost-effective way. "According to the new strategy, the new structure of energy needs is as follows: nuclear energy will give 50% of the country's electricity by 2035, renewable sources - 25%, hydropower - 13%, and the rest will be covered by thermal power plants" (The Government, 2017). Ukraine has to step up its efforts to create a comprehensive framework with the EU for the promotion of energy from renewable sources and to regain investor confidence, which was significantly affected in the last years due to the retroactive measures imposed.

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Factors that Influence the Safety and Compliance of the Products

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Abstract

This document presents abstract of research paper aimed to identify and classify factors that influence the product safety. The research paper is developed on the basis of qualitative content analysis of the literature and publication. The validation of the results is done by focus group of the experts responsible for market surveillance of non-food products. This paper provides important information for the product compliance and future quality improvements.

Keywords: conformity assessment, product safety, compliance evaluation

Introduction

A topic of product safety is not new and various authors have looked at this area trying to identify the possible reason of unsafe, non-compliant product availability on the market. The European Union regulation clearly determines the system that should ensure the safety and compliance of products made available on the Community market. Nevertheless since 2005 more than 20000 measures were taken against unsafe products found within the European Union (European Commission Rapid Alert System (RAPEX) 2017). The unsafe, non-compliant products not only influence the economic interests of the consumers but also create unfair competition on the market. The identification of possible reasons that influence the compliance of the products will provide essential information for needed proactive actions in order to ensure the compliance of the products.

Methodology of Research

The research mainly employed qualitative research methods: qualitative content analysis of the literature and publications and focus group.

Findings/Results

Different authors have identified possible reasons that influence the compliance of products in various sectors. The erroneous test results, the uncertainty in the applicable requirements, their interpretation; unclear responsibilities; equal understanding of safety issues and practices; suitable strategies for tackling differing requirements in several markets; local modification of the products and the awareness of these modifications are determined as reasons of possible non-compliances (Vasara, and Kivisto-Rahnasto, 2015; Liepiņa R., Korabļova L. 2014).

The possible reasons are determined by analyzing the situations from the different perspectives. Berman, B and Kinal Swani (2010) determined the factors that contributed to the poor safety of Chinese imported goods. Fiegenwald V., Bassetto S and Tollenaere M. (2013) identified factors that are enabling the propagation of product non-conformities. Identification of possible reasons or factors that influence the compliance of the products will provide clear understanding of the nature of non-compliances.

As a result of the qualitative content analysis, multiple factors influencing the safety compliance of products have been identified: Globalization, Economy, Behavior, Environment, Information, Manufacturing, New Technology and Process Management.

The analysis showed that the top drivers influencing the safety compliance of products are – Behavior, Manufacturing and Process Management. The behavior-related issues are the most challenging to control as it is fully dominated and triggered by a human element. In the process of analysis it has been identified that there is an interrelation between the categories, for example, some of the identified manufacturing-related issues are caused or accelerated by the issues that fall under the Globalization category.

Additional factors were identified through the qualitative content analysis results validation by the focus group of the experts responsible for the market surveillance of non-food products. The role of the market surveillance and its effectiveness is identified as a one of the key elements that influence the compliance of the product. Key element of effectiveness is the availability of enforcement procedures. Market

surveillance without enforcement measures becomes an information gathering activity that does not change the behaviour on the market (Wainwright N., 2014). The globalization process as well as the nature of the European Union market require a coordinated market surveillance approach.

Conclusions

The research identified multiple factors that are influencing the safety and compliance of products. The research indicates strong indication that external factors such as globalization, technology, economy, environment, as well as internal factors such as behavioral human element are all drivers for a higher risk of product non-compliance. In addition, the analysis showed that there are indicators of correlation between these factors which can lead to a higher risk exposure of non-compliant goods on the marker. One of such interdependencies is the accelerating nature of globalization and manufacturing-related issues, as the nature of geographically fragmented manufacturing-process is attributed to the highly globalized economic environment. These findings may indicate that the rate of non-compliance should be addressed through mitigation measures that target these external factors-influencers.

A deeper analysis of the identified factors influencing product safety compliance is required. As well as the validation of results with other stakeholders in the industry such as consumers and economical operators validation is performed through a focus group approach with the industry experts, including governmental representatives responsible for product compliance made available on the local market.

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Managerial Competences Development in the Context of the Fourth Industrial Revolution

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Abstract

Industry 4.0 shapes external environment tremendously fast and the changes makes significant impact on the organizations and human resources. Company that operates in the context of the fourth industrial revolution (4IR) is the quintessence of knowledge intensive business service (KIBS) enterprise. Hereafter a new set of managerial professional competences is required to direct and lead the cross-cultural interdisciplinary teams, as well as higher level of competences and skills are expected from the ones who manage KIBS firms. Hence the aim of the paper is to overview professional competences that are necessary for manager who acts as entrepreneur, manager, and leader simultaneously during 4IR era.

Keywords: manager, competences, skills, 4IR, industry 4.0, fourth industrial revolution, knowledge intensive business services, KIBS, lifelong learning, LLL

Introduction

As was already pointed out by many researchers (Derwik, Hellström & Karlsson, 2016; Guðmundsson, 2012; Lapina & Aramina, 2011; Urošević & Grahova, 2014), managerial competences are subject to change due to effect of changes in external environment. Technological novelties invented within last decades are characterized with tremendously fast diffusion of innovations; its pace rate is equal to five years nowadays that is ten times less than it was 150 years ago (Grath, 2013). Acceleration of technological adoption is one of core elements for the fourth industrial revolution development, and as a result it is logical to assume that the changes requires from the modern managers to develop new abilities and skills to respond to external environment challenges. Previous researchers (Barbato, 2015; Oosthuisen, 2017; Akhtar, 2017) already pointed out that role of the manager who operates in the context of the fourth industrial revolution or industry 4.0 differs from a manager who had to manage enterprises before; therefore, we'd like to investigate professional competences of the person who controls or administers an organization or team in the 4IR framework. It was already defined by some of researchers (Oosthuisen, 2017) that the person should act as entrepreneur, manager, and leader simultaneously. Consequently, the aim of the paper is to identify and overview professional competences of the manager operating in the context of 4IR.

Methodology of Research

The research paper's study was conducted applying qualitative content analysis method for literature overview.

Findings/Results

The main findings of the research are rooted from the hypothesis that manager operating within 4IR era should combines skills and competences to act efficiently in different roles – entrepreneur, leader, and manager. The new manager is required to demonstrate inspirational leadership and create new organizational form in the framework of digital organization staffed with technically skilled people. It is assumed that he is capable to establish trust relationship with all stakeholders and create open environment for creativity, new ideas generation and decentralized decisions making. Apart from it industry 4.0 defines (Marr, 2016) a new requirement for information transparency and as a result it demands genuine integrity of the new leaders. Hence is was observed the followed:

1. Manager's operational decisions are data-driven, i.e. he should be
 - a. IT-savvy, familiar with latest digital technologies because his technical skills are required to drive organization forward with automated business decision, facilitate dialogue with team, which became more tech skilled than in the age of 3rd industrial revolution or earlier, and create new organisational form due to increased machine intelligence;

- b. Capable to reveal analytical skills and quantitative techniques to operate with big data findings and analytical insights.
2. Requirements for transferrable social skills are higher than decades ago (Kuokkanen, Varje & Väänänen, 2013) and manager's core soft skills sets includes the listed abilities:
 - a. Emotional intelligence and transferrable social skills, especially ability for collaboration, openness to novelties, and aptness to encourage dialogue with different stakeholders;
 - b. Potential for lifelong learning (LLL) to develop new competences continuously and be ready for visibility, appraised to professional community.

Conclusions

The research unveils that a high level of technology in the 4IR workplace lead to increase in level of requirements for soft social skills and competences demanded from a manager to drive organisation forward and contribute to its sustainability as well as continuously requires developing and keep up-to-date "hard skills" that are essential for operational data-driven decisions.

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SUBSECTION

“INTERNAL SECURITY AND CIVIL PROTECTION “

Environmental Pollution and Population Health: Convergence Estimations

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Abstract

Health convergence estimations are used to check the directions of interregional health indicators within Ukrainian territories. Ukrainian regions are experiencing health convergence with negative policy implications, since all regions do converge to some “steady state” through the processes of morbidity increase. It is found that regions with higher initial cardiovascular disease (CVD) rates do increase their levels at lower rates

Keywords: environmental quality, cardiovascular disease (CVD), economic activates.

Introduction

Economic growth and sophistication of social life do change modern health hazards comparing them with traditional ones. Thus, *traditional health hazards include*: disease and infectious viruses, housing and shelter, drinking water and sanitation, dietary deficiencies and reproduction, indoor air pollution from cooking and injuries in agriculture, etc. *Modern health hazards include*: tobacco smoking and alcohol consumption, water and outdoor air pollution, transport and workplace hazards, use of chemicals, complexities with food safety and security, growing urbanization, unhealthy work environment etc. Comparing traditional and modern health hazards, modern ones are not so aggressive and their negative effect is more lasting in time.

It was found in Pop et al. (2012) that decrease in income inequality and increase in wealth can help to improve health in developing and poor countries. A group of 16 researchers from 9 developed countries Doorslaer et al. (1997) using data for their domestic countries have found a strong correlation between inequalities in health and inequalities in income. Thus, relatively high levels of health inequality were found in the United Kingdom and United States; medium levels of health inequality were found in the Netherlands, Spain and Switzerland; medium levels were found in Finland and West Germany; and low levels were found in East Germany and Sweden). As for Ukraine the ratio of the highest to lowest per capita regional income has decreased from 2.91 in 2000 to 1.7 in 2010. That is difference between rich and poor regions decreased in 1.8 times over ten years. It is expected some positive changes in regional health indicators as well. Bellow small review on economic convergence is provided to apply proper model for regional health convergence estimations.

Methodology of Research

In empirical researches there are basically four main approaches to study convergence processes: absolute beta convergence, conditional beta convergence, sigma convergence, and stochastic convergence. Current study addresses only first two approaches, which is enough to reveal the presence of convergence processes.

One of the ways of health convergence estimation is to run model (1), with modified dependent and some explanatory variables.

$$RH_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 S_{it} + \beta_3 P_{it} + \beta_4 H_{it-1} + \varepsilon_{it} \quad (1)$$

RH_{it} – absolute illness per 100 thousands;

H_{it-1} – lagged value of health indicators.

E_{it} – vector of economic parameters

S_{it} – vector of social parameters

ε_{it} – error term.

H_{it-1} – is a crucial factor in this specification for estimating the speed and direction of convergence/divergence. It is expected that higher initial illness leads to a slower illness growth or faster improving of health indicators. That is if β_5 is negative the regions do converge in health direction.

Instead of *absolute illness per 100 thousands* as a dependent variable one could use *rate of change of a specific disease* in comparison to previous year and add data lagged values of specific disease.

Findings/Results

Health convergence estimations are needed to check the directions of interregional health indicators. The specific interest is to reveal whether Ukrainian regions are converging or diverging in terms of health quality. In order to check the health convergence hypothesis the model 1 has been estimated, yielding for the following results (table 1-2):

Table 2. Estimations of health convergence issues (case of cancer)

Source	SS	df	MS	Number of obs = 25		
				F(1, 23) = 4.05		
Model	.035892652	1	.035892652	Prob > F = 0.0559		
Residual	.203674777	23	.008855425	R-squared = 0.1498		
				Adj R-squared = 0.1129		
Total	.239567429	24	.009981976	Root MSE = .0941		

lncancer_r~e	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lncancer_90	-.2202794	.1094147	-2.01	0.056	-.446621	.0060622
_cons	2.083964	.7833064	2.66	0.014	.4635718	3.704357

Table 3. Estimations of health convergence issues (case of CVD)

Source	SS	df	MS	Number of obs = 25		
				F(1, 23) = 7.75		
Model	.083603654	1	.083603654	Prob > F = 0.0106		
Residual	.248147947	23	.010789041	R-squared = 0.2520		
				Adj R-squared = 0.2195		
Total	.3317516	24	.013822983	Root MSE = .10387		
lncvd_rate	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lncvd_90	-.3781131	.1358315	-2.78	0.011	-.6591019	-.0971242
_cons	3.340191	1.079798	3.09	0.005	1.106459	5.573922

$$\ln \left(\frac{H_{CVD2011}}{H_{CVD1990}} \right) = 3.34 - 0.37 \ln H_{CVD1990} \quad (3)$$

where, $H_{CVD2011} / H_{CVD1990}$ – is a cardiovascular disease ratio during the period of 2011 and 1990.

Economic interpretation of this result is as follows: an increase in regional health CVD morbidity in 1990 by 1% has caused a 0.37% decrease in a specific region's CVD illness, which means that initially (in 1990) more sacrificed regions in terms of CVD have shown slower rates of morbidity growth than initially more healthy regions.

The average CVD morbidity levels in 1990 were 2,863 people per 100 thousands (with minimal level of 2,099 and maximum level 3,885). The average CVD morbidity levels in 2011 were 3,994 (with minimal level of 3,065 and maximum level 5,780). It is clearly seen that CVD levels are increasing from time to time. The issue is that regions with higher initial CVD morbidity do increase their levels at lower rates.

Conclusions

Ukrainian regions are experiencing health convergence with negative policy implications, since all regions do converge to some "steady state" through the processes of morbidity increase. An increase in regional health CVD morbidity in 1990 by 1% has caused a 0.37% decrease in a specific region's growth rate of CVD, which means that initially (in 1990) more sacrificed regions in terms of CVD illness have shown slower rates of illness growth than initially more healthy regions.

Acknowledgment

This research was prepared in the framework of the joint Ukrainian-Lithuanian research project "Development of institutional and economic basis for sustainable development and "green" economy at

regional level" (№ 0116U007179) and was funded by a grant (No. TAP LU-4-2016) from the Research Council of Lithuania.

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Parallel Import and Export of Medicines in Latvia

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Abstract

Parallel export is an intermediary informal activity focusing on the export of medicines to another Member State of the European Union, since this is more profitable than selling medicines at the internal market. In this way, the trade is informal, but are not illegal, as one of the four fundamental freedoms of the European Union is the free movement of goods. Medicines are imported in another Member State of the European Union without permission of the medication manufacturer or official reseller. At the same time the exporters reduce the prices of exported drugs, thereby affecting the prices of other medicines and market situation. Parallel exports as well as imports focus on intellectual property rights. Producers working to supply their domestic market are forced to worry that the production will be parallel exported and there will be the lack of medicines at the internal market.

Keywords: Parallel import of medicines, Parallel export of medicines, intellectual property.

Introduction

Nowadays the parallel import has a high importance in the trade. The competition's rising due to the parallel import, which is good thing. Customers may choose the necessary medicaments on the cheapest range. Parallel export is an intermediary informal activity focusing on the export of medicines to another Member State of the European Union, since this is more profitable than selling medicines at the internal market. In this way, the trade is informal, but not illegal, as one of the four fundamental freedoms of the European Union is the free movement of goods. Medicines are imported in another Member State of the European Union without permission of the medication manufacturer or official reseller. At the same time the exporters reduce the prices of exported drugs, thereby affecting the prices of other medicines and market situation. Parallel exports as well as imports focus on intellectual property rights. Producers working to supply their domestic market are forced to worry that the production will be parallel exported and there will be the lack of medicines at the internal market.

There are 17 companies in Latvia which are parallel importers of medicaments. There are 18-22% of all medicaments have been delivered into the home market by using parallel import, and sales revenue have reached 5,5 billion of Euro per year. But we cannot deny the fact that the counterfeit production came into Latvian market due to the factor of parallel import as well. By using parallel import procedure in 2015, the counterfeit products amount to 5-10% of the total volume of imported medicaments.

The parallel imports are common in the countries where it can compete to the medicaments manufactured on the home markets. In example Germany, there are 54% of all medicaments are the products which have been delivered by using the parallel import.

The aim of the research is to study the supporting factors for parallel imports and exports in order to recognize the advantages and downsides of parallel imports and exports for economy of Latvia.

Methodology of Research

Here statistics data and comparisons are generalized in the research, so that the influence of the parallel import on to home market could be seen clearly and to show the ways how the other EU countries confront to its spreading in their markets.

Findings/Results

The State Agency of Medicines of Latvia data show that parallel import of medicines in Latvia remain at the level of 18-22%.

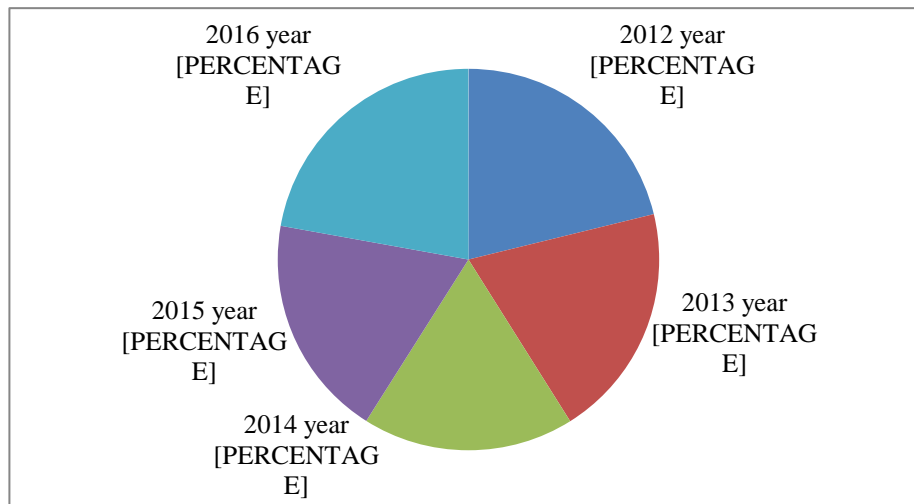


Figure 1. The amount of parallel import of medicines in Latvia.

The biggest amount of parallel imported drugs is registered in 2016 (Fig. 1), when there was a change in the legislation regarding parallel imported medicines.

Conclusions

The parallel import and export of the medicaments has to be under compliance monitoring and strictly regulated accordingly. The medicaments which imported in parallel are much low-costed than the manufactured and realized in Latvia ones. This is the reason of national market's slowdown. Latvia could reduce the volume of the medicaments that imported in parallel on the home market by using the experience of the other countries.

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SUBSECTION

“INTERNATIONAL BUSINESS AND LOGISTICS”

Implementing Work-based Learning in Latvia – from Piloting to Systemic Approaches

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Abstract

The quality of vocational education and training (VET) greatly depends on its links to the labour market developments. In Latvia a comprehensive VET reform is ongoing. One of the recent developments is the introduction of work-based learning which started as a pilot project in 2013 with the subsequent adoption of a legal framework in 2016. Systemic approaches create new challenges for public administrations, and existing empirical evidence may offer clues for optimal solutions. An important aspect is the opinion of the involved parties on the potential support measures for the involved stakeholders. The current paper analyses results of scientific research in this field by using the empirical results of two surveys: survey of social partners and survey of employers. For most of the evaluations of respondents on different aspects analysed in the surveys evaluation scale 1-10 was applied to get detailed attitude of respondents and make deeper statistical analysis of survey results. The data of both surveys are analysed by descriptive analysis, cross-tabulations and multivariate analysis – factor analysis. The results have indicated the priorities of motivating factors in the implementation of work based learning allowing for better decision making for public administrations.

Keywords: vocational education and training, work-based learning, entrepreneurs, motivation

Introduction

Vocational education is becoming increasingly important in education systems in many countries. For this reason scientific research in this field grows world-wide. In recent years work-based learning is in the focus of attention both, for researchers and policy makers. In Latvia the introduction of work based learning at system level started in 2016, with a three year piloting phase before it. During the piloting phase the best practice from other countries and research findings analysis was performed in order to ensure a smooth transition from the piloting phase to the system level with a country specific approach. Since the employers are key stakeholders in the process and their involvement an important precondition for the success of the reform, a targeted research was needed. The aim of the research is to study the opinions of experts and employers regarding the usefulness of approaches of public administrations in Latvia in support of work-based learning. The results of the research allow to draw the conclusions and policy recommendations regarding the optimal procedures for work-based learning development at system level. Various authors have analysed work-based learning from different perspectives, e.g. regarding optimal organisation models (Ganefri, Hidayat, 2015). For varied branches of national economies the experience differs, and so do the requirements for education of qualified labour force (Claeys, et al, 2015). Selection of approaches for vocation training in work-based learning include problem oriented methods which are being discussed by researchers (Hatisaru & Küçükturan, 2009). New approaches in work – based learning are needed also for educators – this field is on academic research agenda (de Bruijn & Leeman, 2011). The experiences and approaches vary from country to country – each country choosing the best possible approaches for their specific situation (Taousanidis, & Antoniadou, 2008).

Methodology of Research

Research methods used in the research: scientific publications studies, in empirical part survey of employers and experts of vocational education and training was applied. Analysed aspects were evaluated in scale 1 – 10, where 1 – not important; 10 – very important. Survey data were analysed with main indicators of descriptive statistics – indicators of central tendency or location, indicators of variability; cross tabulations and one of the most often used multivariate analysis – factor analysis.

Main results of employers and experts evaluations are reflected in Table 1.

Table 1. Main statistical indicators on evaluation of statements on the question “What aspects do you find important for successful implementation of work based learning in Latvia?”

		Support to the enterprise during the organisation of the work placement	Possibility to be flexible in the provision of the theoretical studies according to the employers needs	Individual consultations for the employers	Information campaigns in mass media	Material support by the state to the mentors working with trainees at an enterprise	Tax reduction for enterprises involved in WBL	Improved legal framework	Pedagogical/ methodological support to mentors working with trainees at an enterprise	Compensation to employer's for covering trainees expenditure on transport fees, specialised clothing etc.	Coordinated activities by public administration institutions in addressing training and employment issues
N	Valid	117	117	115	116	114	117	115	116	117	117
	Missing	15	15	17	16	18	15	17	16	15	15
Mean		8,68	8,37	8,07	7,38	8,42	8,50	8,62	8,34	8,20	8,89
Std. Error of Mean		0,167	0,143	0,169	0,218	0,191	0,202	0,162	0,164	0,199	0,152
Median		9	9	8	8	9	10	9	9	9	10
Mode		10	10	10	10	10	10	10	10	10	10
Std. Deviation		1,804	1,551	1,815	2,347	2,043	2,188	1,740	1,770	2,151	1,644
Variance		3,256	2,407	3,293	5,507	4,175	4,787	3,028	3,132	4,625	2,703
Range		7	7	8	9	9	9	9	7	9	9
Minimum		3	3	2	1	1	1	1	3	1	1
Maximum		10	10	10	10	10	10	10	10	10	10

Source: Ilze Buligina conducted administrator's and expert survey, n = 132
Evaluation scale 1-10, where 1- not important; 10 – very important

As results of the survey indicated - the most important among the analysed aspects is “Coordinated activities by public administration institutions in addressing training and employment issues” with the highest average evaluations and lowest variability in evaluations by administrators and experts. Another important among the evaluated aspects is “Support to the enterprise during the organisation of the work placement”. The evaluations for most of the analysed aspects have covered most of the evaluation scale.

Conclusions

The proposed approaches and motivating factors have been evaluated as relatively equally important, with a particular emphasis on a coordinated actions by public administrations. Support to the enterprise during the organisation of the work placement is also seen as an important factors. Those aspects have been noted and taken into account for work-based learning organisation in Latvia.

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Management of Tax Payments Under the Definitive Value Added Tax Regime

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Abstract

There is a large value added tax fraud in the European Union. The current value added tax system is an universal as tax is applied to all parties involved in the chain transactions, thus creating a risk of tax losses if one of the parties involved in the chain transaction does not pay tax in good faith. There is the action plan to introduce the definitive value added tax to prevent tax fraud in intra-community transactions. However, in order to ensure normal value added tax administration in all member states, a number of measures are needed to be done. It is necessary to develop a mutual settlement mechanism in cases of intra-community transactions. The aim of this research is to develop a possible solution for management of tax payments under the definitive value added tax regime. As solution the special clearing system could be introduced.

Keywords: value added tax, definitive tax principle, clearing system, tax fraud

Introduction

Present VAT system has been in action for almost a decade, and VAT is the main revenue source for most of the countries in EU. Trade in goods between EU Member States (intra-EU trade) was valued — in terms of dispatches — at EUR 3 110 billion in 2016. This was 78 % higher than the level recorded for exports leaving the EU-28 to non-member countries of EUR 1 745 billion (extra-EU trade). Intra EU trade has been increasing since 2009. The biggest VAT problem which is fraud usually occur during intra EU trade from one country to another.

The aim of this research is to develop a possible solution for tax payment clearing system in new definitive value added tax system in the EU.

Clearing system

Research is about new clearing system mechanism for intra community trade. The basis for calculations is the total balance of payments, which is found as the difference between the revenues due to total payments of VAT for goods imported into the country and the revenue received for the total VAT on the goods exported by the country. Formula 1 can be used for calculation:

$$B_n = \sum A_n - \sum S_n, \quad (1)$$

Where: B_n – total balance of payments for country ;

$\sum A_n$ – revenues due to total payments of VAT for goods imported into the country;

$\sum S_n$ – the revenue received for the total VAT on the goods exported by the country.

The total amount of value added tax due for imported goods is calculated as the sum of all VAT payments due on goods imported from other countries involved in this settlement. For example, the total VAT on goods imported into Latvia can be calculated as the sum of goods imported from other Member States. In this case it can be calculated according to Formula 2:

$$\sum A_n = A_{n1} + A_{n2} + \dots A_{n27}, \quad (2)$$

Where: $\sum A_n$ - total VAT on imported goods in Latvia;

$n1 - n27$ - the relevant Member States.

With a similar calculation VAT payments that are payable on goods exported from the state are calculated. For example, the tax on goods exported from Latvia to other Member States can be calculated according to Formula 3:

$$\sum S_n = S_{n1} + S_{n2} + \dots S_{n27}, \quad (3)$$

Where: $\sum S_n$ - total payments of value added tax for imported goods in Latvia;

$n1 - n27$ - the relevant Member States.

Clearing system is based on the fact that the total balance or the sum must be zero. It needs to be noted that only a logical result can be derived from the calculation of each country's balance, that is if a country pays to another country, then there can not be a situation where the balance of that other country shows that this other country has to pay the first etc.. The result can be simply verified by the fact that the sum of the total balance of payments of all three countries should be equal to 0, since there can be no surplus or a balance in mutual settlements. The total balance sum of all the member states should be 0. It can be described by Formula 4:

$$\sum B = B_1 + B_2 + \dots + B_{28} = 0, (4)$$

Where: $\sum B$ - VAT mutual payments in all member;
 $B_1 - B_{28}$ - the relevant member state balance.

Findings/Results

As a result of these calculations, using Formulas 1-4 results can be calculated, for example, if Latvia has to pay to other countries revenue from VAT on goods exported to these countries or has to receive VAT payments from other countries.

If the result is a negative balance ($B_1 < 0$), this means that Latvia has to pay that amount to other countries, but if the result is a positive balance ($B_1 > 0$), this means that Latvia has to receive this sum from other countries

Table 1 shows the system of mutual settlement of VAT revenues between countries. The example shows how countries should pay for the relocation of goods in reciprocal trade

Table 1. System of mutual settlement

	Acquisition (A)				Supply (S)				Balance (B)
	Country X	Country Y	Country Z	Total A	Country X	Country Y	Country Z	Total S	
Country X	n/a	20	100	120	n/a	50	20	70	50
Country Y	50	n/a	10	60	20	n/a	10	30	30
Country Z	20	10	n/a	30	100	10	n/a	110	-80
Total									0

Conclusions

There are number of thing what need to be done before implementing this VAT system to coordinate and monitor. It is a billing system between countries, which reduces transaction amounts and reduces money flow between member states governments. The cooperation and exchange of information about trade between member states will reduce possibility of VAT fraud.

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Knowledge-Based Services and Transportation Industry Development in Latvia

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Abstract

Transportation and storage industry in Latvia contributes significant part of total GDP and employs more than 9% of economically active inhabitants. Despite this, there is relatively low productivity in this sector that might inhibit further development of branch and economy in total. During last 5 years, Latvian companies specializing in road transportation services have reviewed their activities and switched from transit to into-European services. The aim of this study is to develop guidelines that would help transportation companies to switch from core to knowledge-based innovative services and hence, improve marginality and productivity. In frames of this study, a literature review was conducted that included contemporary researches of services and innovations in logistics, as well as quantitative research of economic indicators related to transportation and storage industry in Latvia.

Keywords: logistics, transportation, knowledge-based services

Introduction

Transportation and storage industry is one of the main contributors in Latvian economy. In 2016 amount of GDP generated in transportation and storage industry reached 1996,39 million euro, which is 7,98% of total GDP and 9,08% of total economy's added value. Even though since 2009, when transportation and storage accounted for 9,46% of GDP, contribution of this industry to Latvian economy has been slightly decreasing, it is still one of core branches. In the fourth quarter of 2016 top five industries by added value in Latvian economy were wholesale and retail (14%); manufacturing (13%); real estate (12%); transportation and storage (9%); professional, scientific and technical services (9%).

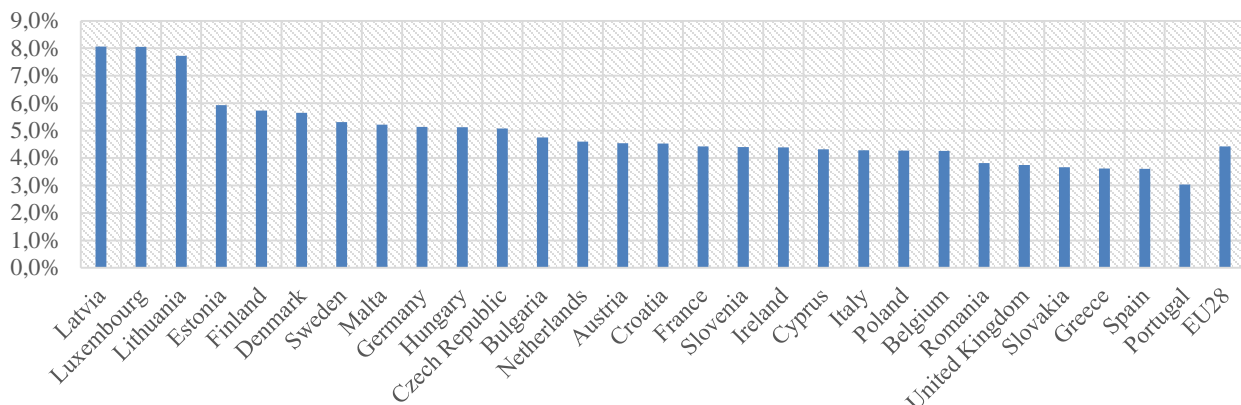


Figure 1. Share of employees in transportation and storage industry in EU (2014) (author's made using Eurostat data)

Another fact that justifies importance of transportation and storage industry is employment. In 2016 there were 83,3 thousand people working in this branch in Latvia, which is 9,3% of total number of employed inhabitants. Figure 1 shows that in 2014 Latvia was main transportation and storage specializing country in EU.

Despite the high employment rate, transportation and storage industry in Latvia is far from being one of the branches with high productivity. In 2016 there were 23,97 thousand euro per annum generated by single employee, putting this branch on the 10th place. The highest productivity was measured in real estate (133,80 thousand euro per annum per single employee). Per author's, this might be one of key challenges for transportation and storage industry in Latvia.

There is high potential for Latvian companies to operate in European market using own resources and knowledge. As international practice shows nowadays, leading logistics companies choose to switch from provision of core transportation services to advanced knowledge-based innovative services with higher marginality. A structure and landscape of logistics industry has dramatically changed in the last few years. Apart from traditional logistics services, an integrated approach of supply chain management has become

more important. Considering increasing complexity of supply chain management, a type of logistics service providers is emerging that act as intermediaries at various stages of supply chain by developing and adopting new operating model – knowledge based logistics. Core competences of companies that provide knowledge based services are: relationship management with customers and partners; knowledge of the vertical industry and geography; laws and practices of clients and suppliers; redesigning and automating material and information flows; integration of IT systems.

In logistics innovation is defined as degree to which customers perceive services offered by logistics providers as new and useful solutions to satisfy own needs. The main elements for logistics service innovation are following.

1. Knowledge. A key element in the flow of material, information and services. There are two major aspects of knowledge – information and communication technology and people.
2. Technology. Logistics providers, to improve their market standing and provide efficient operation, must keep pace with information and communication technology.
3. Relationship networks. Due to increasing competitive pressure and demanding customers, logistics providers are forced to work on building linkages within own network and restructure intrafirm relationships.

In any case, it is important to have both customer and provider contribution to successfully implement innovation projects. There are three types of contributions. Capital - innovation projects should be financed by collaborating companies. Knowledge - direct interaction between customer and logistics service provider employees is mandatory for development of innovation. Testing opportunities - customer and logistics service provider support innovation project team by providing opportunities for testing new services and processes.

Methodology of Research

To discover development opportunities of transportation and storage industry in Latvia, firstly, a systematic literature review was conducted that included contemporary studies of services and innovations in logistics. Second, quantitative research of economic indicators was made related to transportation and storage industry in Latvia and EU.

Findings/Results

Despite the high employment rate in transportation and storage industry in Latvia and important contribution to total economy's added value, there is relatively low level of productivity in this branch. Also, there is high potential for Latvian companies to work with EU customers by providing value-added services.

Conclusions

Main emphasis in contemporary research is done on knowledge-based services. Many specialists agree that core logistics services are tended to be replaced by value-added services. Only by innovating services, improving service level and adding more sophisticated solutions into portfolio, logistics companies can enhance customer satisfaction, establish long-term cooperation and reach higher productivity ratio.

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Development trends in the logistics sector in Bulgaria

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Abstract

This study presents the development of the Logistics sector in Bulgaria over the last ten years. The analysis is based on data and results for the *Logistics Performance Index*, which is determined by the World Bank for a large number of countries around the world for the period from 2007 to 2016. This study confirms the informality and usefulness of this indicator. The results of the analysis show the trends of development and the role of the logistics sector in Bulgaria and allow comparative analysis for the countries of the World economy.

Keywords: Logistics sector, Logistics Performance Index, development.

Introduction

International logistics is of greater importance to the economy, growth and competitiveness of the countries and the logistics sector is now recognized as one of the main elements of the economic development of the countries. Developed countries not only have the best results, but increasingly, in emerging economies, the need to implement policies to promote the efficiency of sustainable supply chain operations as a driver of economic growth.

The *Logistics Performance Index* (LPI) is an interactive comparison tool designed to help countries identify the challenges and opportunities they encounter in implementing logistics. For the past ten years, LPI for a different number of countries has been formed and calculated for 2007, 2010, 2012, 2014 and 2016. The LPI 2016 allows comparisons in 160 countries. The LPI is based on a worldwide survey of on-site operators (global freight forwarders and express carriers) providing feedback on the "friendly mood" logistics of the countries in which they operate and of those with whom they trade. They combine in-depth knowledge of the countries in which they work, with informed quality assessments of other countries where they trade and experience in the global logistics environment. Feedback by operators is complemented by quantitative data on the performance of the key components of the logistics chain in the country of operation.

The purpose of this study is to present the development of the logistics sector in Bulgaria over the last ten years, based on the data on LPI. The analysis is based on data and results for the LPI, which is set by the World Bank for a large number of countries around the world for the period 2007 to 2016. This study confirms the informality and usefulness of this indicator. The results of the analysis show the trends of development and the role of the logistics sector in Bulgaria and allow comparative analysis for the countries.

Methodology of Research

The method section describes in detail how the study was conducted. The method of investigation include:

- Macroeconomic analysis;
- Overview research by means of questionnaires;
- Research through case studies;
- Studies of global production;
- Overviews of the global logistics market.

The logistics performance index (LPI) is the weighted average of the country scores on the six dimensions:

1. Efficiency of the clearance process (i.e., speed, simplicity and predictability of formalities) by border control agencies, including customs;
2. Quality of trade and transport related infrastructure (e.g., ports, railroads, roads, information technology);
3. Ease of arranging competitively priced shipments;
4. Competence and quality of logistics services (e.g., transport operators, customs brokers);

5. Ability to track and trace consignments;

6. Timeliness of shipments in reaching destination within the scheduled or expected delivery time.

The scorecards demonstrate comparative performance - the dimensions show on a scale from 1 to 5 relevant to the possible comparison group of all countries (world), region and income groups.

Basic information sources are data of global production, the Word Bank data, research and publications, the international score of the Logistics Performance Index, etc.

Results

Some results of the analysis for Bulgaria are presented in Figures 1 and 2. They show overall Logistics Performance Index score and overall Logistics Performance Index rank of Bulgaria for the years of investigation – 2007, 2010, 2012, 2014, and 2016.

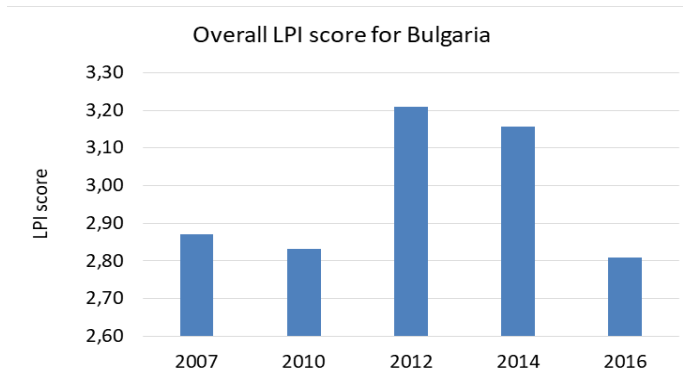


Figure 1. Overall LPI score for Bulgaria for 2007-2016

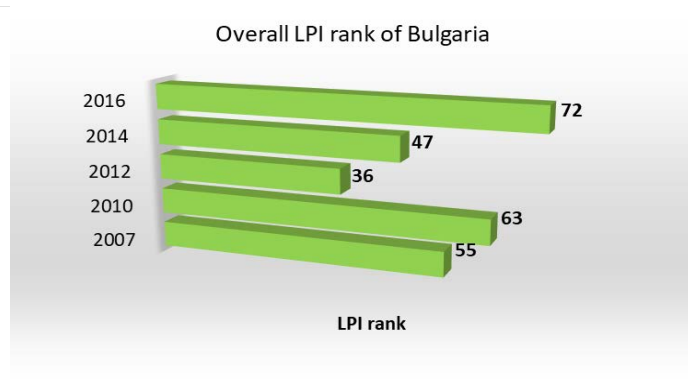


Figure 2. Overall LPI rank for Bulgaria for 2007-2016

Logistics Performance Index score values increase significantly for two of the scoring periods. The LPI rank is lowest for 2016. Higher LPI rank Bulgaria registered for 2012 year when its value is 36 of 155 places. The results of LPI rank of Bulgaria for the five investigated years are in the range first 50% from countries in the focus. LPI for Bulgaria is comparatively low throughout the period of investigation (from 2007 to 2016) of the development indicators of the Logistics sector. The countries bordering Bulgaria do not have high values of this index. This negatively affects the Logistics sector in the country and its development.

Conclusions

LPI for Bulgaria is comparatively low throughout the period of research of the development indicators of the Logistics sector. The analysis shows the informative and usefulness of index data for all participants in the supply chain management.

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Revealed Comparative Advantage: Comparison of the Baltic States

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Abstract

The paper provides the results of the research of the revealed comparative advantages of the Baltic States to find out the competitiveness patterns of the Baltic States and their implications for further cooperation. Revealed comparative advantage (RCA) index, comparing exports in three Baltic States with the exports of the EU, have been calculated and analysed. Results show that all the Baltic States have some similar comparative advantages and some unique ones, with Lithuania as a slight leader in the number of goods categories. All the countries compete also for transit flows. Further analysis is needed to distinguish in which fields can all countries cooperate, and where they are direct competitors.

Keywords: Revealed Comparative Advantage, Exports of Goods, the Baltic States.

Introduction

Export is one of the main driving forces of the economic development as it provides the opportunities for companies to sell their goods and services to more clients. This is especially true for small open economies, which do not have a large domestic market. However, such countries alone can face a disadvantage of low recognition and thus it is sometimes useful to be a part of a group of countries, which is known globally. In case of the Baltic States, membership in the European Union (EU) can be considered as an advantage.

The Baltic States are three small open economies – Estonia, Latvia and Lithuania, which have similar historical and economic development patterns and geographical characteristics. Regarding the competitiveness, this might mean that the Baltic States are competing with each other not only in their own markets, but also globally. Therefore the aim of the research is to reveal the competitiveness patterns of the Baltic States and their implications for further cooperation.

Literature shows various ways to evaluate the competitive advantages. One of them is related to calculation and analysis of revealed comparative analysis indexes (French, 2017). These indexes have been calculated both in gross exports terms and in the value added exports terms (Ozoliņa, 2016) with different and sometimes conflicting results. However the shortcoming of the value added approach is related to the data availability – data on value added exports can be obtained with the considerable lag and thus do not show the recent trends.

Methodology of Research

The research uses Eurostat data on the EU trade since 1988 by SITC classification (Eurostat, 2017). Balassa index is used in this research (Eq. 1), however in this case it compares exports of the Baltic States with the exports of the EU, as this diminishes the differences between the trade regimes faced by the EU countries and the other countries.

$$RCA = \frac{X_{ij}/X_i}{X_{EUj}/X_{EU}}, \quad (1)$$

where RCA is the revealed comparative advantage index, X_{ij} is the value of the exports of a group of goods of a country, X_i is the total exports of a country, X_{EUj} is the EU exports of a group of goods and X_{EU} is the total exports of the EU. As this index does not allow making comparisons both in time and across countries, analysis concentrates on stating, which groups of goods show revealed comparative advantages in each of the countries (the value of the $RCA > 1$) without judging, which one is more competitive.

Normalized revealed comparative advantage index is suggested as a tool for comparison (Ceglowski, 2017) and it was calculated also in this research for exports to all countries to check if the results show different comparative advantages. It was not the case in this research, therefore normalized comparative advantage indexes were not used.

Findings/Results

Analysis of the broad export categories shows that all the Baltic States have comparative advantage in crude materials (SITC 2), Latvia and Lithuania – in food (SITC 0) and beverages (SITC 1), Latvia and Estonia in manufacture of goods classified by material (SITC 6) and Estonia and Lithuania also in mineral fuels (SITC 3) and miscellaneous manufactured articles (SITC 8). Latvia and Estonia have more competitive advantages in extra-EU exports, but less in intra-EU exports, however Lithuania has the same advantages.

More detailed analysis shows that Lithuania has more revealed competitive advantages in food products, Latvia comes the second. All the Baltic States have advantages in beverages, Lithuania also in tobacco products. Lithuania has more advantages also in crude materials and chemicals and related products. Latvia has more categories of products with revealed comparative advantages in manufactured goods classified chiefly by material, Estonia has more advantages in machinery and transport equipment and miscellaneous manufactured articles.

Conclusions

The results of the analysis show not only the revealed comparative advantages in selling their own goods, but also in attracting transit flows. All the Baltic States have some similar groups of goods with the revealed comparative advantages; however there are also many groups, where each country is in a different position. Further analysis is needed to find out, in which fields could the Baltic States cooperate in order to strengthen their competitive advantages, and where each country should act individually.

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The paper was supported by the National Research Program 5.2. EKOSOC-LV.

How to Raise the Position in University Rankings – Possible Solutions for More Effective Research Work Organization at the Universities

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Abstract

Despite failures, evident biases and deficiencies, university rankings are here to stay. They are becoming more and more important for the reputation of universities, for student and financing attraction, for research and employment of respective university graduates. However, it is important to underline, that only approximately 1% -3% of the world universities (200 – 500 universities) are represented in the most popular international rankings. Previous studies confirm that most international rankings focus predominantly on indicators related to the research function of universities. Therefore the purpose of this study is to search for some possible solutions for more effective research work organization at the universities and correct reflection of achieved results to raise their position in university rankings. The methods used in this study are scientific publication analysis, investigation of university ranking results with special attention to research organisation at the university and expert interviews and expert survey. Main findings: possible solutions for more effective research work organization at the universities with aim to raise the position in different university ratings, are innovative encouragement and financial support of academic staff for active scientific publication creation, as well as practical and methodological support in the preparing of high level publication for young scientists. Also significant aspect is support of academic staff for international communication and extensive information on research results.

Keywords: university rankings, research organisation, expert interviews.

Introduction

Since the emergence of global rankings, universities have been unable to avoid national and international comparisons, and this has caused changes in the way universities function. The existence of rankings encourages universities to improve their performance. The question is, however, which type of actions they lead to. Striving to improve their position in the rankings, universities are strongly tempted to improve performance in those specific areas that are measured by the indicators used to prepare rankings (Rauhvargers A., 2011).

As it is highlighted in the “IREG Guidelines for Stakeholders of Academic Rankings” (www.ireg-observatory.org; 2017), while academic rankings provide information about quality and performance and serve to promote transparency of information about higher education, they do not provide causal analysis of differences in performance among the systems, higher education institutions and their activity. Different rankings have different purposes, target different groups, select different indicators, and use different methodologies.

The methodology of rankings is relatively new and important field of the study of higher education. The attention must be drawn to the context of the policy of ranking, the character and choice of indicators is very important (Clarke M., 2002).

There is very important role for research output in analyzing research profiles of higher education institutions - how research production is related to desired outcomes from higher education; is there evidence that research leads to economic gains for states and nations; to what extent is research used by the industry to develop new products and services that can benefit society; are students better in terms of employment as a result of university research? (Toutkoushian R.K., Webber K., 2011).

Similarly, it is very essential to study the way in which research is organized at university, departmental and team levels (Lansley P.R., Luck R., Lupton S., 1995) – considering the level of funding, the type of research projects and the resulting outputs, especially, how these benefit the industry.

There are many academic investigations with practically available suggestions for the facilitating of the research (Padilla-Meléndez A., Garrido-Moreno A., 2012). For example, W.Siwinski (2016) emphasizes, that the professional literature on quality in higher education shows that international rankings are doing well only in the area of science.

Taking into account the above mentioned and that, how essential role ratings have in the forming of the reputation of higher education institutions, the purpose of this study is to search for some possible solutions

for more effective research work organization at the universities and correct reflection of achieved results to raise their position in university rankings.

Methodology of Research

The methods used in this study are scientific publication analysis, investigation of university ranking results with special attention to research organisation at the university and expert interviews and expert surveys.

For expert interviews were invited internationally recognized university management representatives: former rector and active professor at University of Latvia and Berkley University (USA), former rector and active professor at Vilnius Gediminas Technical University (Lithuania) and several vice rectors and administrators at universities in several countries.

Findings/Results

There were analysed publicly available data of most popular international rankings of higher education institutions, such as QS, THES, ARWU and Leiden Ranking. Main attention was paid to the methodologies of rankings and especially to the indicators related with research activities of higher education institutions. There were compared publicly available data of number of high level publications and citations, total and research income and other results of the research activities of the world top universities.

As well there were elaborated a questionnaire and defined questions for expert interviews. Interview contained questions related with the role of strategy and research programme at the university, questions about the defined research results and their impact in the university's strategy, questions about the decision making process regarding the research results, financing and other supporting activities etc.

Conclusions

Possible solutions for more effective research work organization at the universities with aim to raise the position in different university ratings are innovative encouragement and financial support of academic staff for active scientific publication creation, as well as practical and methodological support in the preparation of high level publication for young scientists. Significant aspect is support of academic staff for international communication and extensive information on research results. Important is popularisation of research findings in mass media which are very important aspects and often not seriously recognised aspects by several universities and higher education administrators as well as higher education administrators on state level.

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Invested Time in Social Network Sites Influence the Employment Seeking Process

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Abstract

The paper investigates the existence of relevant statistically significant relationships between the use and behaviour of SNSs member for the employment seeking process and their investments in social network sites (SNSs) to evaluate reasons to use SNSs for employment seeking relevant issues. The investments in SNSs are time and size of the network. Human resources management need knowledge about potential applicants and how to identify candidates or to provide needed information to them. The research method works with a survey with 308 participants. The investigation has been done in cooperation with the University of Ludwigshafen. The difference between private and business SNSs is confirmed and the influence of the investment on use and behaviour of SNSs is verified. The relationship between items and factors is investigated with Spearman correlation coefficient analysis.

Keywords: social network sites, human resources management, recruiting, social capital

Introduction

This paper investigates the relationship between the use of SNSs for the employment seeking process and the investment in SNSs. The investments are “duration of membership”, “number of contacts” and “time on use of SNSs (in minutes per day)”. The time per day to use SNSs is an indicator that people use SNSs extensively to exchange information and resources, and for the access to beneficial information and resources. The duration of membership is an indicator for the experience and history with a SNS. A member would not stay for a long time with a SNSs if that would prove to be beneficial, e.g. to get a reputation. For further analysis the duration of membership as an indicator for the amount of investment is important (Paldam, 2000; Sander & Teh, 2014). It is logical that individuals who stay longer with a network have more opportunities to invest in network resources and information. The number of contacts is an indicator for the reputation of the individual in the network - that somebody has desired or needed information or resources. That makes the individual with a high number of relationships an interesting contact. Those individuals can bypass gaps between groups which creates the advantage to have access to additional information, different perspectives from other SNSs members on problems and more opportunities to identify information (Burt & Panzarasa, 2012; White, 2002; Burt & Panzarasa, 2012). In turn, those individuals have the opportunity to provide access to many other members and to influence other SNSs members. These are identified as important factors to explain the behaviour of individuals in SNSs.

Different kinds of SNSs exist. The paper investigates private as well as business SNSs. Private SNSs are online platforms to exchange and share private information and resources e.g. leisure activities. Business SNSs are online platforms to share and exchange business relevant content e.g. information about employment opportunity. The difference between SNSs for the employment seeking process is investigated and confirmed. Differences in the use of and behaviour with different SNSs especially comparing private and business SNSs can be noted (Caers & Castelyns, 2010; Sander, Sloka, & Pauzuoliene, 2015). This paper compares private and business SNSs. The statement is that business SNSs are more suitable than private SNSs. SNSs provide many opportunities to communicate and to provide an advantage to their members compared to traditional communication channels (Pentland, 2014; Castells, 2007). Individuals can share and exchange information, comments on posts are possible and often used at SNSs. Very often SNSs are a beneficial tool to support each other to find a decision. SNSs are enormous networks with a large audience (Li & Bernoff, 2011; Bernoff & Schadler, 2010). SNSs empower individuals to influence other individuals and to use SNSs to collect information and resources - their members have an advantage in the employment seeking process. Companies can use SNSs to identify suitable candidates and motivate individuals to apply.

The human resources management need new opportunities to identify suitable candidates and SNSs a suitable channel to provide employment relevant content to a large audience. A new opportunity presents itself through SNSs (Ollington, 2013; Sander, 2013). Many companies already use SNSs for employment

branding reasons and recruiting issues. The reason to use SNSs by individuals is important to know, so companies can use SNSs successfully.

Conclusions

There does not exist any one factor which provides a general influence on the use and behaviour at SNSs. The results lead to the conclusion that the investigated items are punctually influenced by the factors how individuals use SNSs. This information is important for companies so they know who they might reach in SNSs. Of further interest is the insight that the investment in SNSs does not prove to have a strong influence on the employment seeking process. Experience with SNSs shows not to be a strong factor to use SNSs for the employment seeking process.

There is a difference between private and business SNSs. Business SNSs show more factors which influence the investigation for employment opportunities.. This implies that business SNSs is more suitable for the employment seeking process but the investments in SNSs is negative for the employment seeking process. That means that members who invest a lot of time or have many contacts in business SNSs use SNSs less often for the employment seeking process. The assumption is that the experience and knowledge about business SNSs influence the use of business SNSs by employment seeking individuals.

The factors “use of private SNS (in minutes per days)” influence the items “general known image about the online platform” and “the structure and use of the page has to be easy and logical”. The “number of contacts at business SNSs” influence the item “online platforms are not a suitable place for me for the employment seeking process” and “I need a benefit with the information I can collect that I use this platform”. Those are the only factors which influence the analysed two items. This indicates that the influence of those two factors is higher than the influence of the other evaluated factors. The second interesting point is that the item “friends and known person use this platform” is influenced by the factors “use of business SNSs (in minutes per day)” and “duration of membership of private SNSs (in years)”. This result provides the findings that the influence of the factors depends on the reason for the SNSs being used. We note that the factors compared with each other have different influences. This information is important for the human resources management to gain a deeper understanding about potential applicants and the usefulness of SNSs.

The Social Capital Theory is evaluated and confirmed with the results for SNSs. Investments in social networks influence individuals use their behaviour of SNSs. Time in SNSs is invested to maintain relationship This investment provide additional experience to the member and might be a reason that this knowledge is the reason to use or none use SNSs for the employment seeking process.

Further research is required to investigate more items and factors to identify reasons for the use of SNSs for the employment seeking process. This knowledge is called for to use SNSs successfully and to transfer information to employment seeking individuals as well as to personnel management.

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Gas Market Liberalization, Optimization Model and Development Prospects in the EU

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Abstract

The liberalization of the gas market in the EU is directly related to the "third energy package", consisting of two EU directives and three regulations. After the energy packs, natural gas and electricity sellers should not have natural gas and electricity transmission infrastructure, information about the market situation should be open and accessible to all participants, etc. In general, it will boost competition and lower market prices for consumers. The article study the EU gas market after liberalization based on the ENTSOG data, actual data is compared with developed optimization model data, and based on its conclusions are drawn about gas market development prospects in the EU. Calculations shows, that it is possible decrease gas transportation costs in the EU for 28,89%.

Keywords: Gas market liberalization, optimization model, transportation problem, linear programming, transportation cost.

Introduction

The liberalization of the gas market in the EU is directly related to the "third energy package", consisting of two EU directives and three regulations:

1. Directive 2009/72/EC concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC
2. Directive 2009/73/EC concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC
3. Regulation (EC) No 714/2009 on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation (EC) No 1228/2003
4. Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005
5. Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators.

After the energy packs putting into operation, natural gas and electricity sellers should not have natural gas and electricity transmission infrastructure, information about the market situation should be open and accessible to all participants, etc. In general, it will boost competition and lower market prices for consumers.

In accordance with EU Regulation 715/2009, the ENTSOG (Association of Gas Transmission Operators, consisting of 31 operators from 21 countries) has been created in the EU to form a common natural gas transmission system. The ENTSOG collects and publishes information on the natural gas distribution system, its technical capabilities, actual transmission volumes, prices, etc.

The article study the EU gas market after liberalization based on the ENTSOG data, actual data is compared with developed optimization model data, and based on its conclusions are drawn about gas market development prospects in the EU.

Novelty elements are related with market analyse and optimization model development.

Methodology of Research

Based on data analysis, the EU gas market is characterized by:

1. Several consumers and limited number of exporters;
2. Limited number of suppliers and manufacturers.

In this case, optimization model can be developed based on extended classical transportation problem (Eq. 1):

$$Z = \sum_{i=1}^m \sum_{s=1}^k c'_{is} x_{i,n+s} + \sum_{s=1}^k \sum_{j=1}^n c''_{sj} x_{m+s,j} \rightarrow \min \quad (1)$$

$$\text{Where: } \sum_{s=1}^k x_{i,n+s} = a_i, (i = 1, 2, \dots, m)$$

$$\sum_{s=1}^k x_{m+s,j} = b_j, (j = 1, 2, \dots, n)$$

$$\sum_{s=1}^k x_{i,n+s} = \sum_{s=1}^k x_{m+s,j} \leq g_s, (s = 1, 2, \dots, k)$$

$$x_{i,n+s} \geq 0, (i = 1, 2, \dots, m; s = 1, 2, \dots, k)$$

$$x_{m+s,j} \geq 0, (s = 1, 2, \dots, k; j = 1, 2, \dots, n)$$

Results and Conclusions

Based on the developed model, calculations show that it is possible to decrease gas transportation costs in the EU by 28.89%. This significantly changes the gas market in the EU.

Before the liberalization, the gas transport system relied on both long-term transport contracts and day-to-day contracts. For example, the difference between the annual and daily contracts is 40%.

The gas supplier's strategy before liberalization was related to the "reserving of pipes" in a long-term phase, thus ensuring long-term gas supply and low delivery costs.

In reality, long-term (annual) contracts have been concluded with such a large reserve, as it would often be advantageous to use day-to-day contracts. Reserved, but unused capacity of pipes could form a secondary market power. (Currently, it's almost not functional, there are only a few deals.)

In the secondary market, the shipping cost could go from zero to daily contract prices. But if the market algorithm is fully operational in this area, daily contract prices in the secondary market will be slightly below the annual contract prices.

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Homepages for Higher Education Export

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Abstract

Higher education export is on research agenda by many researchers world-wide as it is big international competition for foreign students and has big potential in Latvia. The current paper covers theoretical finding analysis reflected in scientific publications, analysis statistical data on foreign student time series, in empirical part of analysis there are evaluations of potential sources of information for potential foreign students, analysis of foreign student survey and interviews of foreign relations organisers at universities, interviews of recruiters and experts. The research results have indicated that there is a space in implementation of recent findings for foreign student attraction for studies in Latvia.

Keywords: higher education export, webpage, survey, interviews.

Introduction

The researchers have paid great attention for attraction of foreign students for studies at higher education establishments in many countries – several details has importance, like reputation of higher education institution (Plewa, et al, 2016); different aspects of branding (Dean, et al, 2016); aspects of higher education influence on economic development of respective country (Kruss, et al, 2015); cross-countries comparisons and analysis (Lašáková, et al, 2017); importance of internationalization in higher education (Roga, et al, 2015); also factors, influencing choice of higher education establishment (Sarkane, et al, 2015); role of social networks (Sloka, et al, 2015). Statistical data of foreign students in higher education establishments indicate that the number of foreign students during recent years is growing but still the numbers have not reached strategic goals of higher education establishments in Latvia.

Methodology of Research

Research methods for the paper: theoretical analysis of scientific publications, analysis of statistical data, analysis of webpages of official institutions representing different aspects of country including possibilities for attraction of foreign students, survey of foreign students, interviews of foreign student officers, interviews of foreign student recruiters, interviews with possible foreign students. In survey it was used 1 – 10 point scale to evaluate different aspects included in survey. For data analysis there were used indicators of central tendency or location, indicators of variability, cross tabulations, testing statistical hypothesis.

Findings/Results

The main research findings are: there are important aspects needed to be taken into account in involving foreign students in studies: information about higher education study programs, information on quality assurance, information on internationalization, reliable information on webpages of official state institutions, like Institute of Latvia, Agencies of Education (there are several of them but information is different and not always information for importance of possible foreign students), links to higher education establishments from official state institutions (Institute of Latvia, education agencies, higher education institutions).

Research results have indicated that recent findings in international marketing are applied only partly especially indicating information about higher education possibilities in Latvia on relevant webpages, good involvement of recruiters for attraction of foreign students and not all possible information channels are used for higher education export information provision.

Conclusions

The main conclusions of research are: there are important aspects needed to be taken into account in involving foreign students in studies: reliable information on webpages of official state institutions, like Institute of Latvia, Agencies of Education (there are several of them but information is different and not always information for importance of possible foreign students), links to higher education establishments from official state institutions (Institute of Latvia, education agencies, higher education institutions).

Research results have indicated that recent findings in international marketing are applied only partly and have big potential if applied for higher education export information provision.

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The paper was supported by the National Research Program 5.2. EKOSOC-LV

Impact of International Higher Education in National Economy Structure in the Baltic States in 2005-2015

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Abstract

Competitiveness of education in global economy stays more and more significant. The national economy structure of each Baltic State shows the impact of education in national economy structure and it is important impact, about 5 %. If we talk about competitiveness in global scale, in global economy, it is important to evaluate international higher education and international higher education's impact to education sector and national economy. According to The Organisation for Economic Co-operation and Development (OECD) publications and other leading researchers' publications, Baltic States need to increase the competitiveness of education, why authors decided to analyse international higher education. The aim of the research is to determine the role of education in national economy structure in the Baltic States during the period 2005–2015 and in details to analyse international higher education role in education sector and whole national economy.

Keywords: international higher education, national economy, Baltic States

Introduction

After joining the European Union in 2004, the Baltic States experienced a rapid economic growth. The share of education in value added in 2005 was 5.0% in Latvia, 4.6% in Estonia and 5.7% in Lithuania (Supe, Jurgelane, 2017). In 2009, along with the economic downturn in the global economy, the Baltic States experienced a sharp decline in the national economy. Analysing growth rates, the biggest increase in education sector has been in 2007 and the biggest decrease in 2009 and 2010. In 2015 share of education in value added was 5.0% in Latvia, 4.7% in Estonia and 5.0% in Lithuania (Supe, Jurgelane, 2017).

The education ranks in approximately 7th place in structure of national economy of Baltic States by added value. In total there are 20 sectors. Education has always been significant and one of the main foundations of successful economic development. Education sector has always been stable in national economy structure. More and more leading researchers are talking about international education, especially international higher education. Many higher education institutions in Baltic States are at particular stage of this internationalization process in higher education. This is relatively new field for research, but important in strategic planning for higher education intuitions and for education sector at all.

During research in depth is analysed the number of international students in Latvia, Lithuania and Estonia, as well as how much students from Baltic State countries obtain higher education in other countries in context with total population and strategy of international higher education in each country.

Researches by leading researchers from Baltic States about education and its impact in national economy as well as national reports on the development of the national economy are used and analysed.

Methodology of Research

Quantitative and qualitative methods were used – monographic or descriptive method, analysis and synthesis method; data statistical research methods – grouping, comparison, analysis of relative and average indicators, establishment and analysis of dynamic series. For analysis, statistical data of 10 years were compared. Calculations and data processing are performed using the software Microsoft Excel. Data on the national economy sectors were retrieved from the Statistical Bureaus of each Baltic State, as well as from the national reports on the development of the national economy. To calculate the value added by each sector to the overall structure of the national economy, the authors used the data of the Central Statistical Bureau data on gross value added broken down by kinds of activities, at current prices, without separating into subsectors, but on the basis of key sectors according to the NACE classification. To calculate growth rates the authors used the data of the Central Statistical Bureau data on gross value added broken down by kinds of activities, at current prices, separating in subsectors on the basis of key sectors according to the NACE classification.

Findings/Results

According to the statistical classification of economic activities, in the European Community the education sector is divided into 6 groups - Pre-primary education, Primary education, Secondary education, Higher education, Other education, Educational support activities (Eurostat, 2017). During 10-year period the total amount of education institutions have decreased from 1723 institutions in 2005 to 1580 in 2015 in Latvia (CSB, 2017), from 1307 to 1222 in Estonia (Statistics Estonia, 2017) and 1314 in 2015 in Lithuania (Statistics Lithuania, 2017). The amount of higher education institutions has not changed significantly in Latvia – 57 higher education institutions in 2005 and 2015, but in Estonia the total number of higher education institutions has decreased from 39 in 2005 to 26 in 2015 (Statistics Estonia, 2017). In Lithuania in 2015 the total amount of higher education institutions was 45 (Statistics Lithuania, 2017), it is less than in previous years. Mostly in 2015 in Latvia where are state universities and colleges – 34 and 23 universities and colleges founded by legal entities, plus 2 foreign higher education institution branches (Ministry of Education and Science, 2015). The number of foreign students has grown significantly, in 2015 was 4700 foreign students in Lithuania (Statistics Lithuania, 2017), 3670 foreign students in Estonia (Statistics Estonia, 2017) and 4477 foreign students in Latvia in 2014 (CSB, 2017). According to this tendency, it is needed to analyse factors, which influence international higher education and which other activities form international higher education, for example, participation in international projects, persons, who participates in different mobility programmes, joint and double degree study programmes etc. These all factors will be analysed in next researches.

Conclusions

Education sector is significant in national economy structure by added value - in 2005 5.0% in Latvia, 4.6% in Estonia and 5.7% in Lithuania and in 2015 5.0% in Latvia, 4.7% in Estonia and 5.0% in Lithuania.

The number of higher education institutions compare to the number of potential students is very high, only Estonia has significantly reduced the number of higher education institutions during 10-year period, from 39 in 2005 to 26 in 2015.

Development of international higher education depends on different factors – international higher education development tendencies in the world; relations between countries; the future of European Union etc.

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SUBSECTION

**“NATIONAL RESEARCH PROGRAM EKOSOC-LV:
 <<THE DEVELOPMENT OF INNOVATION AND
ENTREPRENEURSHIP IN LATVIA IN COMPLIANCE
WITH THE SMART SPECIALIZATION STRATEGY>>
 &
 <<INVOLVEMENT OF THE SOCIETY IN SOCIAL
INNOVATION FOR PROVIDING SUSTAINABLE
DEVELOPMENT OF LATVIA>> “**

Ethical Behaviour and Organizational Innovation: Analysis of Small and Medium-sized Enterprises in Latvia

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Abstract

Innovations can provide small and medium-sized enterprises (SMEs) a significant competitive advantage considering the ambiguous business environment. SMEs may face lower capacity and more constrained funding for long-term investments, however, understanding innovation in a broader way and looking into organizational structures, behaviours and processes, SMEs have an opportunity to become more competitive. The purpose of this study is to analyse the impact of ethical behaviour as a part of organizational culture on organizational innovation in SMEs. It further explores the impact of ethical behaviour on business competitiveness. Six hundred SMEs in Latvia were surveyed to assess whether employees follow the principles of business ethics in their work and what is the organizational innovation performance in these enterprises. We found that stronger organizational culture leads to better organizational innovation performance, and that ethical behaviour and organizational innovation increases competitiveness. The study proposes insights that contribute to theoretical and practical discussions on fostering small businesses innovation in small economies.

Keywords: ethical behaviour, organizational culture, organizational innovation, small and medium-sized enterprises, competitiveness.

Introduction

SMEs play an important role in many European economies, thus, their ability to innovate is vital for welfare and economic growth. Innovative SMEs could differentiate themselves from the competition (Porter, 1980), yet the share of innovative SMEs in Europe is very low – according to Eurostat, 48% of SMEs were innovative; this proportion was much higher - 78.1% - amongst large enterprises (Eurostat, 2017). Innovation process is complex and includes substantial ambiguity and risk (Kline and Rosenberg, 1986). Smaller enterprises might have more constrained resources for long-term, large-scale innovation projects (Acs and Audretsch, 1988; Nooteboom, 1994). They might also have shortage of skilled personnel to effectively implement innovations. Considering these aspects, SMEs might have higher relative costs to innovate in comparison to large companies.

Meanwhile, SMEs could take advantage of leaner structures and more entrepreneurial approach (Nooteboom, 1994), particularly when implementing non-technological process changes or organizational innovations. We consider a holistic Schumpeterian approach towards innovation, envisaging five forms – new products, new production methods, new markets, new supply sources and new forms of organization (Schumpeter, 1934). Organizational innovations can be defined through teamwork, decentralization and continuous improvement for competitiveness (Womack et al., 1990), through the use of new managerial and working concepts and practices (Damanpour, 1987). Organizational innovations include new organizational methods in the company's business practices, workplace organization or external relations (OECD-Eurostat, 2005). SMEs could benefit through using their internal factors - work practices and attitudes - towards enhancing organizational innovations. In this study we look particularly at the role of ethical behaviour as an organizational practice and attitude towards organizational innovation and competitiveness.

In times of globalization and increasing importance of corporate social responsibility, companies with a strong business ethics and sound corporate reputation can gain a sustainable competitive advantage. Ethical behaviour is constructed from many intangible aspects and can be defined in many diverse ways – considering the outcomes of organization's actions, considering the intent of organization's actions, or considering ethics as a value rather than morality of actions (Boatright 1997; Fisher and Lovell 2009). Ethical behaviour has several clear advantages - businesses can be more effective, when employees have a clear vision and can take the right actions decisively. Ethical and transparent working methods also help to develop long-term external relations with stakeholders, and can contribute to organization being perceived as an attractive employer. Unethical employee behaviour, on the other hand, can harm businesses in many ways, can negatively affect corporate reputation and create internal tensions amongst employees, who act ethically, and those, who do not. In this study, we assess, how ethical behaviour affects organizational innovation.

Methodology of Research

In order to answer the research questions, we developed a structured, closed-ended for senior managers of SMEs in Latvia. The first part of the questionnaire consisted of statements about organizational culture and ethical behaviour – whether employees follow the principles of business ethics in their work, the second part – about organizational innovation. The final part covered information related to company's profile – how long and in which industries the company operated, how many employees and what annual turnover it had, and where the company was located.

The questionnaire was distributed amongst senior managers of randomly selected economically active SMEs in Latvia. This study as considers SMEs as enterprises, which employ fewer than 250 persons. The fieldwork was conducted by research agency Kantar TNS using computer-assisted telephone interviewing (CATI) method in cooperation with the University of Latvia Foundation and support from the patron Eights Dāvis Timermanis. 636 interviews were conducted in May and June of 2017, of those 604 were suitable for further analysis. The results were analysed, using various quantitative statistical techniques.

Findings/Results

Microenterprises – companies with less than 10 employees, reported the highest level of ethical behaviour – rated on average 8.32 in scale of 10 in comparison to small enterprises – rated on average 7.53 and medium enterprises – 7.49. In terms of turnover, smaller enterprises with the annual turnover till 50.000 EUR and the largest enterprises with the annual turnover of more than 5 million EUR reported the most ethical behaviour, which gradually lowered for medium levels of turnover. Companies from Riga reported higher levels of ethical behaviour (on average 8.30 out of 10), followed by companies from small cities (8.20), companies from other larger cities (7.79) and rural areas (7.39). And companies in service sectors reported higher levels of ethical behaviour (8.07 to 8.35) in comparison to agriculture companies (6.94) and manufacturing companies (7.23).

Assessing the impact of ethical behaviour on organizational innovation performance, when comparing groups of microenterprises, small enterprises and medium-sized enterprises, we found a statistically significant relation between ethical behaviour on organizational innovation performance, meaning that more ethical companies also had slightly better organizational innovation performance.

Conclusions

Six hundred SMEs in Latvia were surveyed to assess their approach towards ethical behaviour and organizational innovation performance. We found that stronger organizational culture leads to better organizational innovation performance, and that business ethics and organizational innovation increases competitiveness. The study proposes insights that contribute to theoretical and practical discussions on fostering small businesses innovation in small economies.

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Involving Academia in Social Innovation, Based on Human-Centered Design – the Case of the „Open Source University"

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Abstract

The presented academic research is devoted to the issues of involving the academic sector in effective social innovation initiatives, requiring the active engagement of the stakeholder groups, whose problems are being addressed, and resulting in new solutions that are tailor made to suit their needs. The process of shaping the academia-driven “Open Source University” project through the application of human-centered design tools and techniques is used as a case study within the current research article in order to demonstrate the approach of optimizing existing initiatives by generating ideas, building prototypes, and progressing ahead in a collaborative manner, eventually putting innovative solutions out in the world, together with the stakeholders they are designed for.

Keywords: Open Source University, design thinking, open collaboration.

Introduction

As a result of the technological and broader socioeconomic changes in the dawn of the 4th Industrial Revolution, associated with blurring the lines between the physical and the digital worlds (Schwab, 2015), individuals from all ages, dispersed all around the world (more than 3.5 billion of whom are already online) live in times of great uncertainty, but also of opportunities of great proportions. Social problems with broad implications on developing economies, such as addressing the brain-drain processes on a national level, and the school-to-work transition in an ever-changing business environment, are complicated, context-dependent, and cross-boundary in nature (Dobele, 2015). And with the rise of the globalization-driven changes in today's technology-enabled economy (e.g. global value chains, distributed production, dispersed project teams, etc.), solving these problems effectively and efficiently by a single individual or organization, is no longer the case, hence the need for open collaboration throughout the network of stakeholders (Daskalov, 2017).

The “Open Source University” project, aiming to help the diverse community of proactive individuals and organizations in their efforts to bypass the existing geographic, socioeconomic, and institutional barriers to high-quality education by co-creating a shared space, which enables a self-enhancing diversity of innovative knowledge transfer and learning and development (L&D) models, is a good example in the direction of open collaboration for the sake of solving the existing challenges within the educational system, related to the misalignment with the market (EY, 2017) and the human capital flight phenomena, because it is based upon the main principles of open source development, among which are peer production and free access (Weber, 2015).

The research aim is to examine the setup of the Open Source University project and to identify areas for structural improvement, according to what is perceived by representatives of the local stakeholders to be of importance when it comes to solving the challenges in front of Latvia's human capital preservation and development.

The objectives of the research are:

- To analyse the current organization of the project, which is based on findings from the open source innovation body of knowledge, including best practices and promising pilot initiatives from around the world.
- To propose directions for improvement of project's implementability on a local level through the application of design thinking tools and techniques on the stages of problem discovery and system solutioning.

The main hypothesis the research advances is that the application of design thinking tools and techniques would lead to improved project design that supports the effective involvement of Academia in social innovation for sustainable development of Latvia.

Methodology of Research

To reach the aim of the current research the following methods were applied: analysis of project and scientific publications, design thinking problem discovery and system development techniques, incl. brainstorming, insights ranking, themes synthesis and group discussions, among others. The empirical data, which served as a basis for the research, was gathered by the researcher from the workshop “Customer Development and Design Thinking Techniques”, organised by TechHub Riga in collaboration with LIAA (Investment and Development Agency of Latvia), funded by the European Regional Development Fund, as well as from the annual “Youth Speak” Forum, organized by AIESEC Latvia and EY (Ernst & Young).

Findings and Results

The findings from the research follow the strict logic of implementation of the ideation and idea development flow, associated with the implementation of human-centered design, as showed on the figure 1:

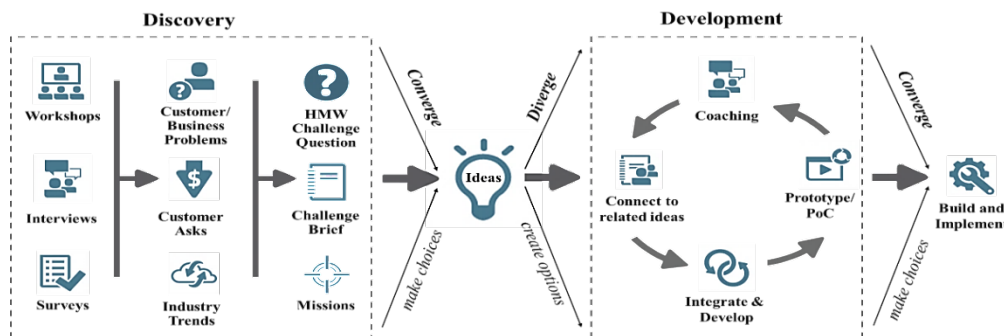


Figure 1: Design thinking flow from problem discovery to system development and optimization

Based on analysis of stakeholder data, it became clear that the structure of the innovative academia-driven Open Source University software project is suited for the purpose of tackling some of Latvia's most urgent human capital preservation and development challenges, as outlined in the beginning, in particular when it comes to learning and development. The review of the service offerings on top of the platform, focused around the purposeful management of the knowledge flows across organizational boundaries through application of innovation management and community engagement tools and techniques, concluded that strategic changes need to be implemented into the model of operations for the online platform to become an effective, thus attractive tool for Academia to leverage for the purposes of social innovation in the country.

Conclusions

The main conclusions of the article are related to the fact that in order for the Open Source University to become world's leading ed. tech. project to innovate academic studies, thus influence social change, it needs to roll-out the opportunities for mutually benefiting partnerships of social and commercial value it offers, adapted to the needs of the local stakeholders, which in the case of Latvia are generally agreed upon.

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The Analysis of Business Start-Up Factors

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Abstract

The objective of this paper is to investigate the factors that motivate to start business in Latvia. This study analyses a sample of 209 business start-ups. In analysis there were included 19 motivating factors for business start-up (selected by findings in scientific literature) and other factors that can influence decision making on business start-up were researched. Authors used the following methods: analysis of scientific publications; statistical analysis of survey results (descriptive statistics analysis, cross tabulations, non-parametric statistical tests). The study results indicated that important motivating factors to start business were to make own decisions, to enjoy and to increase income. About 33% of starting entrepreneurs started own business for economic reasons. About 54% of starting entrepreneurs had manager experience and about 50% experience in the business sector that influenced they performance expectations.

Keywords: business, start-up, survey.

Introduction

The issues related to business start-up are topical in Latvia. The statistical data about entrepreneurship has shown that since 2011 the number of registered new businesses has systematically decreased (Lursoft, Enterprise Register of Latvia, 2017).

The academic research worldwide has paid considerable attention to business start-up factors. One of the most important business start-up motive in the post-socialist countries is unemployment (Goran, 2014), different ideas including on recycling the unused ideas and technologies of a large corporation into new business by start-ups are on researchers agenda (Hossain & Simula, 2017). Scientific publications outline, that business environment have an influence on new business creation (Stranieri, et al, 2017). Question on joining family business or not is on researchers agenda already for decades, where different aspects are examined and evaluated (Parikh, 2017), as well as important dilemma on taking business over or starting from nothing (Parker & van Praag, 2011). Many other aspects are investigated by academic researchers and discussed in scientific publications and scientific conferences.

Methodology of Research

The survey of nascent and starting entrepreneurs was used in empirical part of research. The survey was realised by personal invitation of respondents in web, by telephone and face – to face interview by paper version of the questionnaire. For survey data analysis there were used indicators of descriptive statistics – indicators of central tendency or location and indicators of variability, cross tabulations, non-parametric statistical tests.

Findings/Results

The empirical study has shown that among the most important motivating factors for entrepreneurs to start business were to make own decisions, to enjoy and to increase income. About 33% of nascent entrepreneurs started own business for economic reasons (unemployment, poverty). About 54% of starting entrepreneurs had manager experience two and more years and about 50% of starting entrepreneurs had experience in the business sector. The starting entrepreneurs with manager experience higher evaluated performance expectation “being recognized by clients” than without manager experience (see Fig. 1).

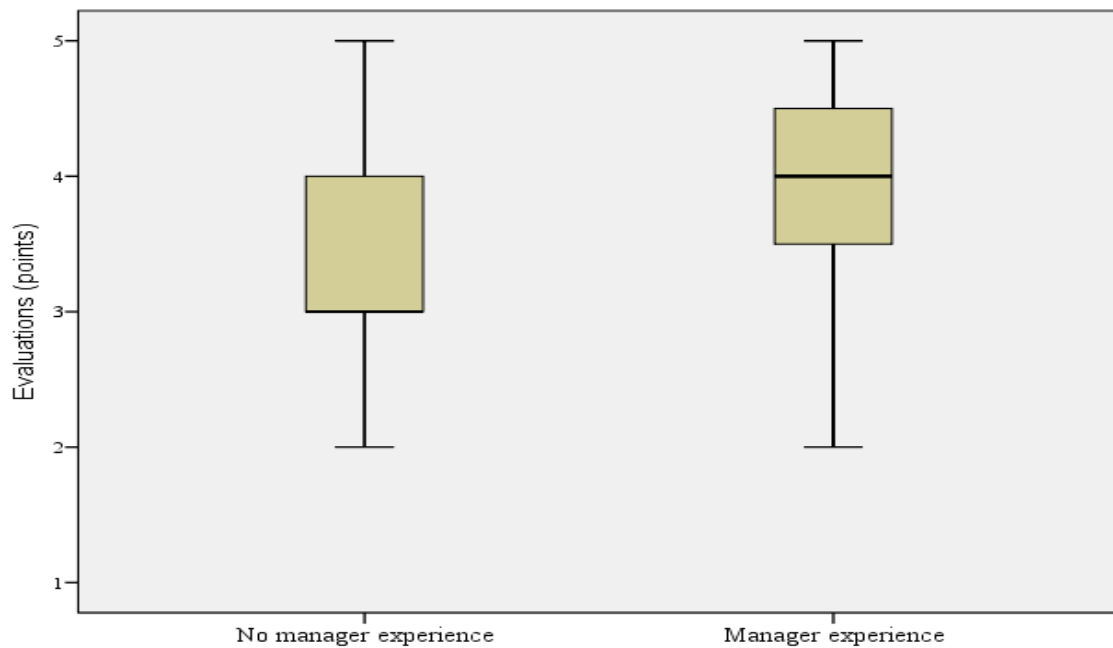


Figure 1. The distribution of starting entrepreneurs with manager experience and without manager experience evaluations on performance expectation “being recognized by clients” (n=209)

The evaluations of starting entrepreneurs with manager experience and without manager experience on performance expectation “being recognized by clients” differed statistically significant (chi-square test, $p < 0.05$).

Conclusions

The economic reasons were relevant business start-up factor in Latvia; every third entrepreneur started business for economic reasons. The most important motivating factors to start business were to make own decisions, to enjoy the business ownership and to increase income. The prior manager experience influenced manager’s performance expectations.

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The paper was supported by the National Research Program 5.2. EKOSOC-LV.

Multiple Device Usage in Online Shopping: Latvian Internet Users' Survey Results

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Abstract

During the last decade the electronic commerce (e-commerce) has become an important branch of global economics. It is growing rapidly in Latvia however there is plenty of room for growth. Internet usage has increased both by consumers (browsing internet, reading news, writing emails, shopping online and other activities) and companies as well (moving their businesses online). Digital channel and new technologies are changing marketing and retailing practices on both sides – consumer and companies. Companies who sell online should monitor and understand user behaviour trends and act accordingly. The current paper covers theoretical findings regarding multiple screen usage in online shopping behaviour as well as empirical findings based on internet users' surveys. Two surveys were carried out online in 2016 and 2017. The results of this paper have shown main trends of consumer behaviour online like multi-screen usage for browsing and purchasing, top of the mind e-commerce websites and others.

Keywords: consumer behaviour, e-commerce, multi-device usage, top-of-the mind websites, survey.

Introduction

During the last decade the electronic commerce (e-commerce) has become an important branch of global economics. By *Eurostat* data about two thirds of internet users in the EU shopped online in 2016. E-commerce is growing rapidly in Latvia, providing real opportunities for entrepreneurs. However, based on latest available *Eurostat* data Latvia still falls behind compared with other European Union countries in digital technology usage, including website, e-commerce and social media usage. The authors believe that improving knowledge on consumer's behaviour online and show main trends could help entrepreneurs to improve e-commerce efficiency.

In recent years the usage of smart phones and tablets has increased very fast. More users report browsing internet using other devices rather than laptops. Different devices are used to search for information, as well as to buy. This behaviour has been noticed by companies. As a result multi-device strategy is needed to satisfy consumer needs more precisely.

Methodology of Research

In this paper the following research methods are used: theoretical analysis of scientific publications, survey of internet users and statistical analysis of survey data, as well as publicly available statistical data. To achieve representativeness data were weighted using independent research center SKDS data about internet users' socio-demographic characteristics. Survey data were collected in cooperation with global marketing research company *Gemius*. Data were collected twice - in 2016 and 2017, surveying more than 1000 internet users each year. Thus survey results are also compared by years. Survey questions consisted of different questions regarding user behavior using e-commerce websites. The main focus of this paper is to analyze multi-screen usage and top-of-the mind pages.

Findings/Results

Khan and Mahapatra (2009) remarked that technology plays a vital role in improving the quality of services provided by the business units. New digital channels are an established reality that has changed marketing and retailing practices, both on the company and on the consumer side (Verhoef, *et al*, 2015). Consumers use different devices to search for information, as well as to buy, and this is stimulating the development of multi-device strategies (Verhoef, *et al*, 2015; Rigby, 2011). Users can use multiple devices interchangeably and even together in the same time.

Consumers are actively using multiple devices (laptops, tablets and smartphones) in all stages of their shopping online.

The main research findings are as following: 79% of internet users in Latvia are buying goods or services on-line. Internet users are browsing internet using different devices (computers, smartphone and tables). Most consumers are not only browsing, but also involve in e-commerce activities across multiple devices. The number of users who use non computer devices for e-commerce purposes have increased.

Users from Latvia mostly are buying from Latvian e-commerce websites, however, many also buys goods from other countries. *Top of the mind* websites mentioned are *e-bay.com* (32%), *aliexpress.com* (30%) and *220.lv* (29%).

Conclusions

The main conclusions are as following. Online user behaviour is one of the main topics among researchers today. Multi device usage is one of online user behaviour subtopics that is not investigated enough. The number of users who use different devices for e-commerce purposes is increasing in Latvia. As customers are more actively using multiple devices in all online shopping related stages, companies who sell online should be aware of consumer behaviour trends online (such as multi-screen usage) and act accordingly, for instance, make mobile/tablet friendly websites or applications and adapt to whatever device is accessing it in order to provide the most friendly user experience.

The need to better understand consumer behavior, influence and intent are key components to engaging them in cross-device shopping.

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