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“BUSINESS ENGINEERING, ECONOMICS, FINANCE AND MANAGEMENT“
Proactive Personnel and the Ability of Decision-Making under Conditions of Risk

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Abstract

The research is focused on determination of preparedness of young specialists with and without experience for decision-making process. Authors directly connect the level of employee productivity with logical, qualitative and effective decision-making process. Having a systematic approach for assessing helps to analyze how proactive and how good are personnel decision-making. Does company’s employees have appropriate skills and understanding of decision-making process, does their steps are objective and thought-out. Decision-making is an integral part of the management process and one of the fundamental principles of business continuity and sustainable development of the company. Authors have used the «MindTool» quiz for assessing employees’ current decision-making skills. As a result, the students without work experience haven't fully matured in decision-making yet, but students with experience, on the contrary, have a good understanding of the basics, but not enough proactive. To identify skills of proactivity that are not enough developed, helps company to realize the weaknesses of defective business continuity concept.

Keywords: Proactive management, proactive personnel

Introduction

To implement proactive management in a company, the most common methods for today are BRP (business process reengineering), KPI (key performance indexes), BSC (balanced score card), budgeting, modelling on the IDEF0, IDEF3, SADT, UML standards base, and many other approaches and techniques. To ensure sustainable business development it is important to realize a process of personnel management: to identify the key employees, to assess the risk of dismissal, to keep employees motivated, engaged and improve their proactivity.

The concept of proactivity includes two components: activity and responsibility. A proactive person aspires to become a subject, not the object of action. The result of content analysis shows that he has an ability to intervene into management processes, to foresee what could happen with acceptable certainty and to use appropriate actions and means to avoid risks before they occur. Proactive people’s behavior depends only on their own decisions, they are responsible for everything that happens to them, and their actions are the result of conscious choice, based on their own top values, not dictated by the emotions, circumstances or society.

The aim of this work is an research «Proactive personnel and the ability of decision-making under conditions of risk». The subject of this work is proactive personnel, that is an integral part of contemporary enterprise. The object is to represent the abilities of proactive people and the need for proactive employees (workforce) for decision making in preventing risky situations.

The traditional techniques of proactive personnel evaluation include tests, questionnaires, scaling (essay appraisal method, graphic rating scale, straight ranking method), comparative methods (paired comparison, method of classification), critical incidents methods, etc. The aim of this research was to determine how proactive the youth are in decision-making and is there a difference among the employed and unemployed students. The object of the research is proactive personnel and the presence or lack of proactivity skills. The object of the research is proactive personnel and presence or lack of proactivity skills. The subject of the research - ability of decision-making process under conditions of risk.

Methodology of Research

Proactive people are endowed with skills that allow to anticipate what the future will be, and to react accordingly before it actually happens. That is very important in business world, where every bad decision has an impact on business continuity. Strategic errors such as Overreliance on intuition, Emphasis on Speed, Underestimating Risks Until It’s Too Late are the most common errors in decision-making that contribute to the collapse.
To avoid making bad decisions and help to identify persons, there is a need for systematic approach to identify the level of person’s confidence making decisions. One of the possibilities is using a “MindTool” quiz, that is rather simple, but objective, because is based on six essential steps in the decision-making process: Establishing a positive decision-making environment, Generating potential solutions, Evaluating the solutions, Deciding, Checking the decision, Communicating and implementing. Authors think that generating potential solutions and evaluating the solutions are the most important steps in decision-making process.

Authors, using “MindTool” quiz in February 2015 had interviewed 38 students of 2 different groups: one student group with work experience of 2 years at least, and other group with no work experience (see Table 1).

Table 1. The results of decision-making process assessment of respondents

<table>
<thead>
<tr>
<th>Skills</th>
<th>Steps in decision-making quiz</th>
<th>Max. score, points</th>
<th>With work experience of 2 years at least, points</th>
<th>With no work experience, points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Proactiveness</td>
<td>Generating potential solutions</td>
<td>15</td>
<td>8.86</td>
<td>8.80</td>
</tr>
<tr>
<td></td>
<td>Evaluating the solutions</td>
<td>15</td>
<td>10.67</td>
<td>10.70</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30</td>
<td>19.53</td>
<td>19.50</td>
</tr>
<tr>
<td></td>
<td>Deciding</td>
<td>15</td>
<td>10.52</td>
<td>10.26</td>
</tr>
<tr>
<td></td>
<td>Checking the decision</td>
<td>10</td>
<td>7.05</td>
<td>6.92</td>
</tr>
<tr>
<td></td>
<td>Communicating and implementing</td>
<td>15</td>
<td>10.24</td>
<td>10.05</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>41.48</td>
<td>40.66</td>
</tr>
</tbody>
</table>

Conclusions

Most of the respondents scored the number of points corresponding to the 1 group of grade (from 18 to 42) which means, that their decision-making are not fully matured. They are not objective enough, and rely too much on luck, instinct or timing to make reliable decisions. As it is seen from the table above, the score of men in experienced group match to the 2 group of grade (43-66). This means a good understanding of the basics, but lack of multivariate analysis of the best alternative under conditions of risk. As a result, all respondents need to improve decision-making process and become more proactive. Authors have not identified the level of proactivity between experienced and inexperienced respondents. The average score activity of proactivity is 67% of the maximum score. The results shows, that respondents are not ready for decision-making process, especially if it is multivariable or under conditions of risk.

References

Non-financial Enterprises in Kazakhstan: Scoring Assessment and Prediction of the Insolvency Risk

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Abstract

Article describes financial state of Kazakhstan non-financial enterprises and possibility for the application of foreign insolvency risk assessment techniques and methods. Furthermore, article covers scientific findings of academic researchers from different countries on the questions related to the insolvency risks and its prediction. Statistical data on liquidated and rehabilitated companies in the country is presented. Paper describes the insolvency risk forecasting accuracy on the practical application of five different bankruptcy risk assessment models on 30 Kazakhstan non-financial enterprises and covers results of this analysis.

Keywords: economic analysis, insolvency, bankruptcy, financial risk

Introduction

Bankruptcy and insolvency questions are very important economic and financial issues. Foreign and domestic economic practice uses various methods and mathematical models for the evaluation of the bankruptcy probability. Nowadays, countries with developed market economy recognize the need for the governmental regulation of enterprises’ bankruptcy procedures in order to support and maintain the development of the industrial and financial sectors of the economy. The object of the study is the scoring assessment and prediction of the insolvency risk, therefore the subject – non-financial enterprises in Kazakhstan. The goal of this thesis is the development of theoretical and methodological framework for the most effective insolvency risk assessment for non-financial organization in conditions of Kazakhstan’s economy. In order to achieve stated goal following tasks should be fulfilled:

1. Analyse the effect of the current financial and economic situation of Kazakhstan on insolvency of local companies.
2. Introduce an analysis on bankruptcy statistics and rehabilitation processes for insolvent companies in Kazakhstan.
3. Apply three different classes of bankruptcy prediction models in practice on the example of Kazakhstan enterprises

Following hypothesis to be proved in the course of this study:

H1: Insufficient values of liquidity coefficients are the signals for the managers to start insolvency investigation process; H2: Insolvency risk assessment models introduced by foreign investigators have to be checked and verified to be used or the enterprises’ insolvency risk assessment.

Methodology of Research

Study consists from three major parts. Firstly, current economic situation in Kazakhstanis described and main terms and regulations related to economical and legal aspects of the bankruptcy procedures are discussed and analysed. Furthermore, it contains statistical information on liquidated and rehabilitated companies in the course of insolvency procedures. Next section deals with evaluation of economic factors influence on the companies’ insolvency and covers scientific investigations of foreign and national authors into the insolvency assessment questions. Last section describes the practical application of five different bankruptcy risk assessment models on 30 Kazakhstan non-financial enterprises and covers results of this analysis. In the end, conclusions and recommendations are introduced.

Findings/Results

In the course of the study insolvency risk assessment was performed on the example of 30 Kazakhstan enterprises which are publicly traded on the Kazakhstan Stock Exchange (KASE). Five different insolvency risk assessment models were tested on the possibility of application under the conditions of Kazakhstan’s economy. It should be noted that the use of such models requires great caution: they do not fully suited to
assess the risk of bankruptcy of Kazakhstan domestic economic entities due to the differences in the methods of reflection of inflationary factors, differences in the assessment of the capital structure as well as due to differences in legislation and information base.

Table 1. Fragment of insolvency assessment models calculations

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Model</th>
<th>Real state of the firm</th>
<th>Assessment result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Z</td>
<td>Z'</td>
<td>P_Z</td>
</tr>
<tr>
<td>1</td>
<td>1.48</td>
<td>0.18</td>
<td>-0.60</td>
</tr>
<tr>
<td>2</td>
<td>1.21</td>
<td>0.30</td>
<td>-0.81</td>
</tr>
<tr>
<td>29</td>
<td>0.02</td>
<td>0.29</td>
<td>-1.30</td>
</tr>
<tr>
<td>30</td>
<td>7.90</td>
<td>-1.37</td>
<td>1.38</td>
</tr>
</tbody>
</table>

Note: Constructed by authors based on the results of the findings

\(Z\) – original Altman Z-Score, \(Z'\) – Altman Z-Score for China, \(Z''\) – Altman Z-Score for Japan, \(Oo\) – Ohlson O-Score, \(Dd\) – David Durand;

\(B\) – bankrupt, \(N\) – non-bankrupt.

Among five applied models Ohlson O-Score is the only model that is completely inapplicable in Kazakhstan. The reason for that is different balances sheet structure and value of weighted coefficients. What is about Altman Z-Score models it can be said that this model have to be adjusted for Kazakhstan, as well as David Durand method. As it was concluded by many researches all countries require its own assessment models. Results of the investigation prove that all models should be adapted to the specific conditions of each countries’ financial and economic standards and norms for the most accurate and effective application.

Conclusions

The main conclusions of this thesis can be summarized as follows:

1. Inability to assess bankruptcy risks can be dangerous for companies and for whole industries in general. Efficient and wisely managed bankruptcy institution government can regulate amount of debts, perform successful rehabilitation procedures when it is needed and create new effective companies on the place of liquidated.

2. Majority of the insolvency decisions are based on the legislative acts and issues, while social and economic aspects of the enterprises insolvency are usually ignored or paid a little attention.

3. The most challenging thing for the Kazakhstan’s companies is the long run forecasts and prognoses due to the insufficient experience in comparison to western countries.

4. Conducted investigation proves both hypotheses.

5. Efficient assessment model should meet international methodological standards and requirements of financial reporting, moreover specific features of the industry and economy will be taken into account in order to perform more deep and full analysis.

References


Return on Shareholders’ Equity of Baltic Pension Fund Management Companies

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Abstract

The research is focused around return on shareholders’ equity of Baltic pension fund management companies from the perspective of competitiveness of small and medium companies with no or low exposure to non-pension fund management business compared to other companies in the marketplace. The research period covers post crisis years from 2009 to 2014. The research outcome is reasoning why small and medium pension fund management companies are capable of generating competitive return on equity to its shareholders compared to the one of companies with bigger assets under management and bigger share of non-pension fund management income.

Keywords: Pension fund management, return on equity, cluster analysis.

Introduction

Return on equity (ROE) is one of pivotal financial efficiency indicators. Stakeholder theory asserts that managers should make decisions that take into account the interests of all the firm’s stakeholders. This will include shareholders, employees, suppliers, customers, local communities, the government and environment (Pike, Neale, 2009). Both too low and too high return on equity can lead to market distortions, which will cause adverse effects. The goal of this research is to assess whether small and medium pension fund management companies are capable of generating competitive return on equity compared to the one of companies with bigger assets under management and bigger share of non-pension fund management income.

Methodology of Research

ROE is calculated as pre-tax profit divided by average equity of the pension fund management companies. Average equity is calculated as a sum of equity value in the beginning of the year and end of the year divided by two. Pre-tax profit is profit after all expenses are deducted and before corporate income tax. Pre-tax return on equity was calculated for all twenty pension fund management companies operating in Estonia, Latvia and Lithuania in years 2009 through 2014.

A regression analysis was run to examine whether companies with bigger assets under management and bigger share of non-pension fund income generate higher ROE. Because of the independent variable assets under management is expressed in millions of euro, assets under management figures were normalised for each year of the research by using the formula:

\[ x_{\text{Norm}} = \frac{(X-x_{\text{Min}})}{(x_{\text{Max}}-x_{\text{Min}})} \]  

where X stands for actual variable, xMin is the least variable, xMax is the largest variable and xNorm is a normalized variable. The regression equations are expressed in the following manner:

\[ \text{ROE} = \beta_1 \times \text{NormAuM} + \beta_2 \times \text{ShareNonPensInc} + \alpha \]  

\[ \text{NormROE} = \beta_1 \times \text{NormAuM} + \beta_2 \times \text{ShareNonPensInc} + \alpha \]

where ROE is a figure for actual return on equity, NormROE is a figure for normalized return on equity obtained by using the formula 1, NormAuM is a figure of normalised assets under management, ShareNonPensInc is a share of non-pension fund revenue and \( \alpha \) stands for intercept. Furthermore, pension fund management companies are assigned clusters by using the single linkage method (Lee, 2015) in accordance with volume of their assets under management and share of non-pension fund management income. These cluster analysis criteria are chosen to segregate companies, which have pension fund management business as their core activity and which are not big, from companies, which are big market players or have other investment management activities.
Findings

The regression analysis revealed that there is no correlation between both actual ROE and normalized ROE and normalized assets under management and share of non-pension fund management income. Findings are summarized in the Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Normalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted R-squared</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Significance</td>
<td>0.05</td>
<td>0.37</td>
</tr>
<tr>
<td>Observations</td>
<td>118</td>
<td>118</td>
</tr>
</tbody>
</table>

Significance of the model assuming actual ROE is strong enough to support an argument that companies with bigger assets under management and or higher share of non-pension fund management income do not generate higher ROE. As a result of the cluster analysis, five clusters and outliers were identified. Clusters, which constitute special scientific interest are number one, two and four. The first cluster represents small to medium pension fund management companies (i.e. assets do not exceed EUR 400 mio) with none to low share of non-pension fund management income (i.e. typically 0-15%). The second one are big companies (i.e. assets range EUR 400-930 mio) with none to low non-pension fund management income (i.e. up to 9%). Number four are big companies (i.e. assets range EUR 500-950 mio) with moderate exposure to non-pension fund business (i.e. 14-34%). Furthermore, top quartile of companies with the highest ROE is selected and companies are presented at the cluster level in the Figure 1.

Figure 1. Top quartile of ROE cluster members

Small and medium companies from the first cluster (ROE max= 67.8%) proved to be represented in the top quartile along with big companies from the fourth cluster (ROE max= 94.8%). The second cluster companies are also represented in five years out of six (ROE max= 74.3%). Appearance of the third cluster in 2009 can be considered to be occasional.

Conclusions

The regression analysis revealed that pension fund management companies with bigger assets under management and bigger share of non-pension fund management income do not generate higher ROE. Findings of the ROE analysis from the cluster perspective demonstrated that top quartile of ROE consists of small to medium pension fund management companies with none to low share of non-pension fund management income and big companies with none to low non-pension fund management income as well as ones with moderate exposure to non-pension fund business. Thus, there is evidence obtained that small and medium pension fund management companies are capable of generating competitive return on equity to its shareholders compared to the one of companies with bigger assets under management and bigger share of non-pension fund management income.

References

Opportunities for the Use of Business Data Analysis Technologies

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Abstract

The paper analyzes the business data analysis technologies, provides their classification and considers relevant terminology. The feasibility of using of business data analysis technologies handling with big data sources is overviewed. The paper shows the results of examination of the online big data sources analytics technologies, data mining and predictive modeling technologies and their trends.

Keywords: Business Intelligence, Business Analytics, Analytics Platforms, Online Analytical Processing, Data Mining, Predictive Modelling.

Introduction

The accumulated data volume is steadily growing in enterprises and organizations. Enormous amounts of data have been created that have different data types and part of the data is stored in a poorly structured format that does not meet traditional database relational models, such as journals, history lists, videos, text documents. The data is stored in different data sources (relational databases, non-relational databases - NoSQL databases, spreadsheets, text documents etc.). The goal of this paper is to consider the usage and tendencies of the business data analytics technology, terminology and the proposed business data analysis tools.

The business data analysis technologies have been developed for the accumulated data analysis, which are rapidly developing. More recently, business analysis has used the structured data, and task of an analyst (or a business user) was to get the answers to pre-formulated questions and later make the corresponding report. Nowadays, the job of an analyst or a business user is an interactive process involving the search for hidden relationships and patterns in the data. It is a process where the raw data are transformed into useful information. For business data users’ in order to access their large volumes of data the special software packages or applications are needed, which search for the relationships between the data, and that ensures more well-grounded decision-making.

The range of business data analysis tools is very wide, and recently the Business Intelligence (BI) and Analytics Platforms (AP) market is experiencing significant changes. The requirements for BI tools are being changed. Business users are increasingly demanding tools with an interactive user interface, which provides data analysis without any special knowledge of information technology requirements (Gartner Group, 2015).

Lately in both the scientific literature and web publications in connection with the business data analysis technology different terms are used: Business Intelligence (BI), Business Analytics (BA), Analytics Platforms (AP), Online Analytical Processing (OLAP), Data Mining, Advanced Analytics, Visual Data Discovery and Big Data (BD).

Methodology of Research

The research on the usage and tendencies of the business data analytics technology and its terminology is performed by means of scientific literature study and by practical applying of BI software and applications.

The starting point was the first generation of BI applications which ensured the selection of data from relational databases. The next BI application development stage made it possible to use Data Mining technologies and Predictive Modelling methods. The second generation BI systems also were used with focus on the Internet and cloud computing technologies (Myers, 2015).

Results

During the analysis various data analysis technologies were investigated and used in practice as well as classified according to their aims. As a result is was evident that the Online Analytical Processing (OLAP) technology provides data selection, transformation and storage in multidimensional databases (Al-Aqrabi et.
The associative data analysis technology based on the use of random-access memory at first was implemented on QlikView platform (Bitterer et. Al., 2015). The Data Mining technology, which provides the search for the hidden regularities in large volumes of data, gives possibility to analyse data which correspond to the different measurement scales.

Meanwhile the Text Mining technology performs the semantic text analysis, solves the problem of navigation in large text arrays, searches for the relationship between the main text concepts as well as searches for information that is expressed in a natural language. By means of the Predictive Modelling the calculation of models based on the analysis of large amounts of data was used in order to predict a variety of processes (including business processes) (Gandomi & Haider, 2014). The Advanced Analytics as a set of analytical methods was used in forecasting including predictive analytics, simulation, optimization, graph analysis, complex event processing, and neural networks. (Gartner Group, 2015).

The traditional BI platforms' development companies are trying to comply with new trends and develop simplified BI tools for interactive data analysis that often uses in-memory technology. The main BI software developers provides different tools for simplified data analysis. For example, Microsoft proposes PowerPivot and Data Mining suitable to integrate Microsoft Office Excel software into applications, SAP has developed SAP BusinessObjects Explorer, and IBM offers IBM Cognos Express. Recently open source BI solutions have been or are being developed (Bitterer et. al., 2015).

Conclusions

The first generation of BI applications ensured the selection of data from relational databases and data transformation, creating the multidimensional databases (OLAP cubes and QlikView analytic cloud), data presentation and visualization tools, as well as offered integration tools with corporate information systems. The next BI application development stage makes it possible to use Data Mining technologies and Predictive Modelling methods.

The second generation BI systems are focused on the Internet and cloud computing technologies. Innovation continues to develop in areas that provide more intuitive and rapid BI system implementation for the use in data sources of large amounts.

References

Tourism Networks in Latvia: Purposes and Coverage

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Abstract

21st century can be characterised as cooperation, network and alliance period in enterprise and organisation interactions. Still there is always a question who cooperates with whom? Is the particular cooperation network purpose to exchange the knowledge, joining of resource or just another type of competition? A tourism industry analysis comprises purpose, sectorial and coverage study of tourism industry associations and similar organisation groups in Latvia. Conclusions and suggestions are drawn for overall tourism industry as system improvement and tourism organisation cooperation logical spread-out management.

Keywords: networking, cooperation, cooperation networks, tourism.

Introduction

At a time of increasing environmental turbulence and operational complexity for organisations additional interest in collaboration in tourism has arisen. Researchers of tourism industry are identifying problems, which have appeared in this industry for last ten years - short term planning in tourism, necessity of systematic and integrated events, still their consequences can be solved using collaboration between organisations in tourism industry using private and public-private partnerships. A key reason for the growing interest in collaboration in tourism is the belief that organisations and destinations may be able to gain competitive advantage by bringing together and sharing their combined knowledge, expertise, capital and other resources. Widespread adoption of collaborative working will be critical to the future of the tourism industry: firms and organisations will increasingly need to work together. Researchers of tourism industry are recommending networking, in this way helping enterprises to expand systematic perception of industry beyond. With the accelerating pace of technological innovation and the ever hastening trend towards globalisation, traditional adversarial relationships among tourism organisations are increasingly being swept away and replaced by enduring collaborative arrangements. The rapidly developing technological environment set additional need for cooperation in order to keep pace with the latest developments and from other hand technological innovations set a basis for the new facilitated possibilities for cooperation networks.

Methodology of Research

As research methodology for the main in Latvia tourism network list is used tourism expert evaluation. Purpose and coverage analyses is based on the information gathering from the secondary data from tourism networks of Latvia. Use of social networks for representativeness is evaluated gathering tourism network activities in web, twitter, Facebook, LinkedIn, YouTube, Flickr, vimeo, draugiem.lv.

Findings/Results

Findings show the differences in tourism network purposes based on typology, purposes and coverage from sectoral and geographical perspectives.

Conclusions

Tourism network analyses allow drawing conclusions related to geographical coverage and professional network representativeness gaps and improvement possibilities.

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Zemgale Tourism Association www.travelzemgale.lv

Sigulda Region Tourism Society www.entergauja.com/

Latvia Tourism State development Agency www.tava.gov.lv
Competitiveness of Small Open European Economies under Global Imbalance

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Abstract

The achievement of long-term economic growth of EU Member States will require increasing total factor productivity, investing in knowledge-based and sustainable development that can lead to enhancing competitiveness of the European economies. Transition to the innovation-driven model of development especially in small open European economies is more linked to the search for efficient tools of macroeconomic adjustment and strong strategies that affect the strengthening businesses investment activity. This paper analyses the relationship between the incentive for investment and innovation diffusion, competitiveness level and the economy’s rate of growth. The empirical analysis focuses on revealing challenges facing small open European economies (case of the Baltic States) in innovation performance and explores what macroeconomic adjustment is necessary for creation of new knowledge and effective aggregate demand for innovations.

Keywords: investment, productivity, sustainability, growth, competitiveness.

Introduction

In terms of a global competition the investment on formation, accumulation and commercialisation of knowledge, R&D intensity, innovative technologies in the industries and the management, allowing receiving super-profit, became new criterion of the international leadership. However, the strong international competition as the factor of rising efficiency of economic development should not turn into destructive force especially for models of sustainable growth. The globalisation as an inevitable process has not generated a path for the world economy development yet. The G20 countries stimulated their economies by monetary policy of 'quantitative easing' and expansionary fiscal policy which has led to a 'debt overhang' and created problems for global recovery. Moreover, the neo-liberal model of globalisation has impacted strengthening the risks of imbalances. With deepening of the globalisation processes which are asymmetric, the gap in the levels of income per capita between the "poor" and "rich" countries is not decreased. The risk of imbalance is caused by the uneven distribution of benefits arising from globalisation when there are the unilateral advantages. Without large investment in human capital and industrial development, economies of the poor countries get into poverty "vicious cycle".

Under the conditions of a global imbalance and increasing openness of national economies the international economic relations more and more will depend on trends in dynamics of the European economy. Taking into account the key objectives of the EU Research and Innovation programme Horizon 2020, the European economy needs innovative and inclusive growth model based on strengthening industrial leadership in innovations. From the point of view of long-run development and effect of a synergy, the basis of sustainable innovative growth of the European economy should be provided not by resource factors, but by transmission of knowledge, foreign direct investment in the science-intensive industries, and diffusion of new technologies especially in small European economies.

Non-coordination of fiscal and monetary policy at supranational level in the EU, significant distinctions in economic growth quality complicate governance by the European economy. With the increasing needs in loans and enlargement of the international market segments small economies of New European countries have no investment possibilities to use comparative advantages by participating in the global innovation process. Then the question is natural, what is effect of innovation activity on economic growth and competitiveness of these countries and where are opportunities for sustainable economic growth? Moreover, whether such economies can develop owing to using internal resources and how can increase the national income per capita growth rate?

It is necessary to note that the measurement of the effect of innovation performance on competitiveness of national economies and sustainability of economic growth still remains a complex research problem, which has to include the estimation of the effective investment demand for innovations, impact of innovation diffusion on total factor productivity changes, the producer choice, business cycle dynamics, and openness of economy. Most of studies towards European economies are focused on research and comparison of European growth models (Bohle and Greskovits, 2007, Hein, 2013, Stockhammer et al., 2015), macroeconomic imbalances within the EU (Ederer and Reschenhofer, 2013), current account imbalances in the EMU (Dodig and Herr, 2015), EU enlargement, for example, structural changes of trade
in the enlarged EU (Curran and Zignago, 2012). Meanwhile, the relationship between innovation diffusion, competitiveness and economic growth more specifically for small European economies is not explored in many studies.

This research is aimed at revealing challenges in transition to innovation-driven model of development, evaluating the impact of innovation diffusion on competitiveness level and economic growth, and determining effective macroeconomic adjustment for enhancing innovation activity in small open European economies (case of the Baltic States).

Methodology of Research

The methodology of research is based on decomposition of the global competitiveness index, the Europe 2020 competitiveness index for the Baltic States and conducting the empirical analysis of the impact of country’s innovation performance on the sustainable competitiveness and global competitiveness indexes, index of openness and economic growth rates. This empirical analysis adds to comparison of European growth models that provides comprehensive approach to choice of strategies of macroeconomic adjustment increasing capacity of entrepreneurship to innovation and promoting balanced economic growth.

Findings/Results

The empirical analysis of innovation performance trends of the Baltic States has revealed considerable disparities on the one hand between these countries and at the same time a large gap with Old small European Economies on such indicators as gross domestic expenditure on R&D, public R&D expenditure, business expenditure on R&D, innovation expenditure as a percentage of turnover in manufacturing, high technology venture capital investment, employment in knowledge-intensive service sectors and high-technology manufacturing sectors, high-tech exports. As consequence, one can observe the dispersion in competitiveness indexes and substantial differences in growth potential of economies.

Conclusions

To enhance innovation capacity and competitiveness of the Baltic States economies the macroeconomic adjustment has to encourage the R&D investment, financing engineering, allocation of resources for supporting a full innovation cycle in science-intensive industries and creating innovation demand as the initial condition for the sustained economic growth. Taking into consideration a smaller effect of fiscal policy than monetary policy in an open economy, it is necessary to keep specificity of monetary adjustment of the national economies. The strategy of endogenous economic growth should be guided to increasing the internal saving, gross private domestic investment and gradual reduction of dependence on the short-term foreign capital.

References

The Relevance of Cross-Border Contagion Risk Transmission in the Central and Eastern European Countries

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Abstract

Despite the driving forces and potential benefits, financial globalization can carry important risks such as cross-border contagion risk. Financial globalization can lead to financial crises in countries with weak fundamentals as the economies become subject to the reaction of domestic and foreign investors, however, globalization can also lead to crises in countries with sound fundamentals. 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. The aim of the research – to assess the relevance of cross-border contagion risk transmission in the CEECs’. The empirical results of this study show that the degree of economic openness is very high in all CEECs’ (except Croatia, Poland, and Romania) and CEECs’ are among the world’s most open economies. This imply that CEECs’ are very vulnerable to the external shocks that can be transmitted through real channel. The financial systems of the CEECs’ are mostly bank-based and dominated by foreign-owned banks with relatively. These empirical results suggest that CEECs’ are exposed to external shocks in the financial systems of neighbouring countries. Although some CEECs’ could be vulnerable to FDI outflows there is substantial empirical evidence that such investment are resilient during financial crises.

Keywords: cross-border contagion risk, economic and financial integration, financial and economic openness, globalization, CEECs’

Introduction

The recent wave of financial globalization has intensified global linkages through cross-border financial flows. According to Halac et al. (2006), the main potential benefit of financial globalization for developing countries is the development of their financial system that can be promoted through two main channels. First, due to the increasing financial globalization new sources of capital and more capital become available in developing countries allowing to better smooth consumption and deepening financial markets. Second, financial globalization can improve financial infrastructure in developing countries which can mitigate information asymmetries and thus reduce problems of adverse selection and moral hazard. Despite the driving forces and potential benefits, financial globalization can carry important risks such as cross-border contagion risk. Financial globalization can lead to financial crises in countries with weak fundamentals as the economies become subject to the reaction of domestic and foreign investors, however, globalization can also lead to crises in countries with sound fundamentals. 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. Moreover, 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.

The aim of the research – to assess the relevance of cross-border contagion risk transmission in the Central and Eastern European countries (CEECs’). The object of the research – the financial and economic openness of the CEECs’. Research methods: the systemic, logical and comparative analysis of the scientific literature, and analysis of statistical data.

Methodology of Research

Dornbusch et al. (2000), Hernandez & Valdes (2001), Pritsker (2002), Bae et al. (2003), Caramazza et al. (2004), Bekoer 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. Real cross-border contagion risk transmission channel is the fundamental economic relationship among economies, whereas, financial links
that exist when two economies are connected through the international financial system create financial cross-border contagion risk transmission channel. However, even if real or financial links do not exist between two countries, herding behaviour by international investors or panic in international financial markets can result cross-border contagion risk (financial markets channel). The World Bank’s experts also distinguish political cross-border contagion risk transmission channel that exists due to the political relationships among countries.

This empirical study focuses on assessment of the financial and economic openness of the CEECs’ in order to determine the main cross-border contagion risk transmission channels that are relevant for this group of countries (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)). The financial and economic openness of the CEECs’ have been assessed using the following relative ratios: 1) the degree of economic openness (sum of imports and exports of goods and services divided to gross domestic product (GDP)); 2) the degree of financial openness (inward foreign direct investment (FDI) stock divided to GDP; outward FDI stock divided to GDP; foreign bank assets divided to total bank assets; a number of foreign banks divided to total number of banks). Statistical data have been obtained from United Nations Conference on Trade and Development databases and World Bank Global Financial Development database.

**Findings/Results**

The empirical results of this study show that the degree of economic (trade) openness is very high in all CEECs’ (except Croatia, Poland, and Romania) and CEECs’ are among the world’s most open economies ((Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia, and Slovenia were in the world’s most open economies TOP-30 in 2014) (Fig. 1). Small economies like CEECs’ specialize in producing few goods and services in order to attain optimal scale and be competitive. Due the small size of their domestic markets small countries must export those goods and services in exchange for the imports of the goods and services those are not produced in these countries. The empirical results of this study show that CEECs’ are very vulnerable to the external shocks that can be transmitted through real channel.

The financial systems of the CEECs’ are bank-based and dominated by foreign-owned commercial banks with relatively (Fig. 1). In most of CEECs’ foreign banks dominate in terms of assets and number of participants (except Slovenia). The results of this study also show that there is regional integration of CEECs’ banking systems, i.e. foreign banks operating in CEECs’ are mostly from neighbouring countries, e.g. Scandinavian banks operate in the Baltic countries, Austrian and German banks – in Czech Republic, etc. These empirical results suggest that CEECs’ are exposed to external shocks in the financial systems of neighbouring countries and decisions of parent banks shareholders.

![Figure 1](image_url)

**Figure 1.** The economic openness of the CEECs’ in 2014 (on the left side) and the openness of the banking systems in the CEECs’ in 2009 (on the right side)

*Source: [United Nations Conference on Trade and Development, World Bank]*

The empirical results of this study show that Bulgaria, Estonia, and Hungary had attracted more FDI comparing to other CEECs’ while Lithuania and Slovenia suffer from lack of this form private capital flows
These empirical results suggest that financial openness of CEECs’ in terms of FDI differs. However, some empirical studies confirm the resilience of FDI during financial crises. Loungani & Razin (2001) argue that FDI has proved to be resilient during financial crises, e.g. FDI was remarkably stable in East Asian countries during the global financial crises of 1997-1998 while other forms of private capital flows were subject to large reversals during the same period (Dadush et al. (2000), Lipsey (2001)).

Figure 2. Inward (on the left side) and outward (on the right side) FDI stock in CEECs’ in 2013

Source: [United Nations Conference on Trade and Development]

Although some CEECs’ could be vulnerable to FDI outflows there is substantial empirical evidence that such investment are resilient during financial crises.

Conclusions

The degree of economic openness is very high in all CEECs’ (except Croatia, Poland, and Romania) and CEECs’ are among the world’s most open economies. This imply that CEECs’ are very vulnerable to the external shocks that can be transmitted through real channel. The financial systems of the CEECs’ are mostly bank-based and dominated by foreign-owned commercial banks with relatively. These empirical results suggest that CEECs’ are exposed to external shocks in the financial systems of neighbouring countries and decisions of parent banks shareholders. The empirical results of this study show that Bulgaria, Estonia, and Hungary had attracted more FDI comparing to other CEECs’ while Lithuania and Slovenia suffer from lack of this form private capital flows and financial openness of CEECs’ in terms of FDI differs. Although some CEECs’ could be vulnerable to FDI outflows there is substantial empirical evidence that such investment are resilient during financial crises.

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Theoretical Aspects of Cross-Border Contagion Risk: Risk Definition, Transmission Channels and Systemic Events (Shocks)

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Abstract

Most policymakers and government officials prefer the broader definition of contagion that captures the vulnerability of one country to events that occur in other countries regardless the causes of contagion and the type of linkages existing between countries. However, there is no theoretical or empirical definition on which scientists agree. Most scientists agree that when two economies are located in separate geographic regions and have no direct real or financial linkages, the propagation of a systemic event (shock) from one country to another is contagion. However, there is some disagreement on whether the term contagion applies to the transmission of a systemic event (shock) between two countries that are closely related through real or financial linkages during tranquil periods as well as turmoil periods while spread of a systemic event during a turmoil is just a continuation of the same cross-border linkages that exists during more tranquil periods. Therefore, the purpose of this paper – to summarize different concepts of contagion and distinguish the main types of contagion, to identify the main contagion transmission channels and systemic events that cause the propagation of contagion. The analysis of the scientific literature allows to distinguish two types of cross-border contagion risk. First, cross-border contagion risk – a risk occurrence in one country caused by a shock in another country when these countries have direct linkages. Second, 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. The main transmission channels of cross-border contagion risk are: real channel, financial channel, and financial markets channel. The most common systemic events (shocks) that cause the occurrence of cross-border contagion risk are: GDP shock, exchange/interest rate shock, price deviation (equity, real estate, and credit), fiscal shock, foreign currency depreciation, changes in terms of trade and commodity prices.

Keywords: cross-border contagion risk, risk transmission channels, systemic events

Introduction

The scientific literature provides many definitions of contagion, however, there is no theoretical or empirical definition on which scientists agree. Most economists agree that when two economies are located in separate geographic regions and have no direct real or financial linkages, the propagation of a systemic event (shock) from one country to another is contagion. However, there is some disagreement on whether the term contagion applies to the transmission of a systemic event (shock) between two countries that are closely related through real or financial linkages during tranquil periods as well as turmoil periods while spread of a systemic event during a turmoil is just a continuation of the same cross-border linkages that exists during more tranquil periods. Claessens & Forbes (2004) note that most policymakers and government officials prefer the broader definition of contagion that captures the vulnerability of one country to events that occur in other countries regardless the causes of contagion and the type of linkages existing between countries. Therefore, the purpose of this paper – to summarize different concepts of contagion and distinguish the main types of contagion, to identify the main contagion transmission channels and systemic events that cause the propagation of contagion.

Methodology of Research

While the type of this article is theoretical the following research had been used: the systemic, logical and comparative analysis of the scientific literature.

Findings/Results

There are many definitions of contagion in the scientific literature, however, there is no theoretical or empirical definition on which scientists agree. Pritsker (2001), Halac et al. (2006) distinguish narrow definition of contagion: “a shock in one market or country that is transmitted to another market or country, but is not related to fundamentals” as well a broad definition of contagion: “contagion occurs when a shock to one or a group of markets, countries, or institutions spread to other markets, or countries, or institutions”.

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Forbes & Rigobon (2001), Claessens & Forbes (2004), Li (2009), De Castro Miranda et al. (2012) distinguish two definitions of contagion. They argue that when two economies are located in separate geographic regions, have very different structures, and have virtually no direct linkages through channels such as trade, the propagation of a shock from one to another is contagion. While a significant increase in cross-market linkages after a shock to an individual country is shift-contagion. Pericoli & Sbracia (2003) summarized different definitions of contagion which are commonly used in the literature: (1) contagion is a significant increase in the probability of a crisis in one country, conditional on a crisis occurring in another country; (2) contagion occurs when volatility of asset prices spills over from the crisis country to other countries; (3) contagion occurs when cross-country co-movements of asset prices cannot be explained by fundamentals; (4) contagion is a significant increase in co-movements of prices and quantities across markets, conditional on a crisis occurring in one market or group of markets; and (5) (shift-) contagion occurs when the transmission channel intensifies or, more generally, changes after a shock in one market. In summary, the following main definitions of cross-border contagion risk can be distinguished (see Fig. 1).

Cross-border contagion risk is defined as a risk that a shock will spill out from one country to another when two economies are located in separate geographic regions and have no direct linkages (trade, financial, etc.)

Pritsker (2001), Bunda et al. (2009), Bekaert et al. (2011), World Bank (2013)

Cross-border contagion risk is defined as a risk that enthusiasm for stocks in one market brings about enthusiasm for stocks in other markets, regardless of the evolution of market fundamentals

Karolyi & Stulz (1996), Bekaert et al. (2005)

Cross-border contagion risk is defined as a situation when the occurrence of a crisis in one country increases the probability of a crisis in other country


Cross-border contagion risk is defined as a significant increase in cross-market linkages after a shock to an individual country (or group of countries)


Cross-border contagion risk is defined as significant increases in cross-market co-movements

Forbes & Rigobon (2002), Chiang et al. (2007)

Cross-border contagion risk is defined as a risk that a shock will spill out from one country to another when two economies are located in the same geographic region, with many similarities in terms of market structure, and with strong direct linkages through trade and finance


Figure 1. The main general concepts of cross-border contagion risk

[Source: compiled by author, according to the sources mentioned in the figure]

Some scientists (Pritsker (2001), Kaminsky & Reinhart (2003), Bekaert et al. (2011), OECD (2012)) distinguish different types of cross-border contagion risk, for example, Pritsker (2001) differentiates rational from irrational contagion, OECD (2012) – direct from indirect contagion, while Bekaert et al. (2011) – global from domestic contagion. In summary, the following types of cross-border contagion risk are recommended to use (see Fig. 2).
Halac et al. (2006), Tressel (2010), Rose & Spiegel (2010, 2012) 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. Real cross-border contagion risk transmission channel is the fundamental economic relationship among economies, whereas, financial links that exist when two economies are connected through the international financial system create financial cross-border contagion risk transmission channel. However, even if real or financial links do not exist between two countries, herding behaviour by international investors or panic in international financial markets can result cross-border contagion risk (financial markets channel). The World Bank’s experts also distinguish political cross-border contagion risk transmission channel that exists due the political relationships among countries. Forbes & Rigobon (2001), Li (2009) distinguish two groups of channels in the international transmission of shocks: crisis-contingent and non-crisis-contingent channels. Crisis-contingent channels imply that transmission mechanisms change during a crisis (contagion exists), and non-crisis-contingent channels imply that transmission mechanisms do not change during both stable (contagion does not exist) and crisis periods. If cross-market linkages do not change significantly during financial crises, then shocks are transmitted through non-crisis-contingent channels (trade and financial sector linkages). Even if there is evidence of contagion, there are different channels of transmission through which countries can be linked (see Fig. 3).

Analysing the cross-border contagion risk, it is also important to distinguish different systemic events that cause the occurrence of cross-border contagion risk. Systemic events are composed by two elements: (1) the shock, which can be idiosyncratic, sector wide, regional, or systemic; and (2) the propagation (or contagion) mechanism, which describes how the shock can propagate from one country or market to the other. Pritsker (2001) states that there are three possibilities of how a shock can appear to spread between countries: 1) a coincidence – two countries both get hit with independent shocks at the same time; 2) a common global shock – both countries were exposed to the same global shock; 3) a contagion between two
countries. Table 1 summarizes different types of systemic events (shocks) that cause the occurrence of cross-border contagion risk.

Table 1. Systemic events (shocks) that cause the occurrence of cross-border contagion risk

<table>
<thead>
<tr>
<th>Author (year)</th>
<th>Systemic events (shocks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pritsker (2001)</td>
<td>There are two types of shocks that can be transmitted among economic units and economies. The first type is intermediary-specific shocks. This is a shock that hits a bank or non-bank financial market participant, but which is specific in its origin to that bank or financial market participant. Intermediary-specific shocks should be viewed as idiosyncratic to that intermediary. The second type of shocks is real shocks. A real shock is a shock to the real sector of the economy. Real shocks include but are not limited to “innovations” in technology, or a flow of information on the performance of real or financial assets.</td>
</tr>
<tr>
<td>Pericoli &amp; Sbracia (2003)</td>
<td>Changes in terms of trade and commodity prices are well-known examples of global fundamental shocks affecting financial and exchange rate markets worldwide.</td>
</tr>
<tr>
<td>Cerutti et al. (2012)</td>
<td>Scientists distinguish the risks originating from the asset side (e.g. credit, country, and market risk) and the liability side (e.g. funding risk) of banks’ balance sheets, as well as risks which arise from the interaction between the two sides (e.g. liquidity and/or currency mismatches) as systemic events.</td>
</tr>
<tr>
<td>Rebucci et al. (2012)</td>
<td>GDP shock</td>
</tr>
<tr>
<td>Blancher et al. (2013)</td>
<td>GDP shock (domestic/foreign), exchange/interest rate shock, price deviation (equity, real estate, credit), fiscal shock, foreign currency depreciation</td>
</tr>
</tbody>
</table>

[Source: compiled by author]

Dornbusch et al. (2000) argue that the causes of contagion can be divided into two categories. The first category emphasizes spillovers that result from the normal interdependence among market economies. This interdependence means that shocks, whether of a global or local nature, can be transmitted across countries because of their real and financial linkages. The second category involves a financial crisis that is not linked to observed changes in macroeconomic or other fundamentals but is solely the result of the behaviour of investors or other financial agents. Under this definition, contagion arises when a co-movement occurs, even when there are no global shocks and interdependence and fundamentals are not factors. A crisis in one country may, for example, lead investors to withdraw their investments from many markets without taking account of differences in economic fundamentals. This type of contagion is often said to be caused by “irrational” phenomena, such as financial panics, herd behaviour, loss of confidence, and increased risk aversion.

Conclusions

The analysis of the scientific literature allows to distinguish two types of cross-border contagion risk. First, cross-border contagion risk – a risk occurrence in one country caused by a shock in another country when these countries have direct linkages. Second, cross-border contagion risk – a risk occurrence in one country caused by a shock in another country when no direct linkages exist between these countries. The most common systemic events (shocks) that cause the occurrence of cross-border contagion risk are: GDP shock (domestic/foreign), exchange/interest rate shock, price deviation (equity, real estate, and credit), fiscal shock, foreign currency depreciation, changes in terms of trade and commodity prices.

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Main Problems of Increasing the Level of Innovation in Latvian Companies

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Abstract

Today innovation performance is a crucial determinant of competitiveness of companies and national progress of countries. Innovation is a leading factor for increasing the efficiency of production in any company. But despite the importance of innovation, many countries, including Latvia, are facing difficulties in strengthening performance in this area. Indeed, many countries have seen very little improvement in innovation performance within the last decade despite the new opportunities offered by globalization, huge amounts of results of completed scientific research and new technologies, especially the information and communication technologies.

The article presents results of the research. The main goal of the research was to conduct a comprehensive evaluation of the level of innovation in Latvian companies. The author of the research analyzes the main reasons and economic aspects based on which companies have to be interested in innovation. The results of research discover close relationships between efficiency of production and innovation, the main problems and obstacles of increasing the level of innovation facing the Latvian companies as well.

Keywords: innovation, efficiency of production, competitiveness.

Introduction

Innovation policy development and its implementation are playing an increasing role in any company. This policy covers a wide range of business and economic activity subjects (enterprises, scientific institutions, consumers) and institutions (legal, legislative, financial and social). All these economic activity subjects and institutions must actively cooperate in the production process sharing and making use of the competitive advantages of companies. Innovation activity in a small economy such as the Latvian is the key national economy’s development tool. The world’s economically developed countries’ experience obviously proves it. These are the countries where in recent years approximately 75% of the gross domestic product growth is provided by implementation of wide range of innovation.

Unfortunately, the process of innovation implementation in Latvian companies is going very slowly. By the index of innovation, Latvia presently is standing at the last positions through all the European Union countries. That was the reason for providing the research with the goal - to set up the main problems of increasing the level of innovation in Latvian companies.

Methodology of Research

Qualitative and quantitative research methods were applied in the research – interviews and questionnaires of experts and top managers of Latvian companies, financial analysis of companies, as well as, analysis of statistical data.

Findings/Results

The research was provided in three stages:
1. Research of motivation of Latvian entrepreneurs for implementation innovation in companies.
2. Setting the quantitative impact of innovation to financial achievements of companies.
3. Identification of main problems for increasing the level of innovation in Latvian companies.

The results of research show a small motivation of entrepreneurs in implementation of innovation in their companies. Only 36% of entrepreneurs are interested in innovation. Exist a close relationship between the level of innovation and efficiency of companies operation. As bigger is the company, as tighter is this relationship.

The main problems and obstacles in the process of increasing the level of innovation of Latvian companies were discovered:
1. No institutional approach to innovation.
2. Lack of knowledge of innovation for top managers and owners of companies.
3. Shortage of finance for implementation of innovative technological and organizational solutions in companies.
4. Slow commercialization of research results.
5. Weak cooperation between researchers and business community.

Conclusions

There are certain economic aspects which defined the necessity of companies to be innovative. First of all, the competitiveness of companies very much depends on the level of innovation.
A close relationship between the level of innovation and efficiency of companies operation exists.
The Latvian companies are facing with the problems of implementation the innovation.
Current approach to innovation in Latvian companies is not capable of enhancing economic growth.

References

AirBaltic Case Based Analysis of Potential for Improving Employee Engagement Levels in Latvia through Gamification

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Abstract

In the past few years, gamification has emerged as a trend within the business and marketing sectors, and has recently grabbed the attention of academics, educators and practitioners (Seaborn & Fels, 2015). At this moment some of the most common applications of gamification are in the areas of employee performance, innovation management, education, personal development and customer engagement (2015).

According to a survey of Harvard business review (2013) engagement is by companies seen as a factor most likely to bring success. This places engagement as a top 3 business priority for companies. Of all factors that can drive success, reduce costs and increase revenue and growth, engagement is seen as a key factor with a percentage of 71%.

In 2014 airBaltic Corporation introduced a gamified electronic platform with a purpose to increase its employee engagement. Article looks into approach organization has been using, analyzes results, advantages and drawbacks it has experienced, but mainly draws recommendations for the organization in order to improve impact on employee engagement through gamification.

Keywords: Employee Engagement, Gamification, Human Resource Management

Introduction

In 2014 airBaltic Corporation introduced a gamified electronic platform, called Forecaster, with a purpose to increase its employee engagement. Scope of the study was to look into approach organization has been using, analyze results of implementing Forecaster, advantages and drawbacks organization has experienced, but mainly to draw recommendations for the organization in order to improve impact on employee engagement through gamification. Aim of this study was to draw learnings for other organizations in Latvia that are concerned with improving their Employee Engagement levels.

Methodology of Research

Research was mainly done within the organization analyzing documents, survey reports and procedures available internally, as well as interviewing employees and managers. Next to quantitative data available from Employee surveys qualitative data was used to get a deeper understanding about the current situation concerning employee engagement and Forecaster at airBaltic. Interviews were carried out with those employees who were behind Forecaster, with the regular users of the game, as well as with non-users to understand the reasons.

Theoretical background served the purpose to choose applicable definition of gamification and employee engagement. It was a necessary step as gamification and employee engagement are constructs that are being used with different definitions. Theoretical research also allowed to differentiate engagement with the game from engagement with the company. Theoretical research helped to create conceptual framework, which provided structure for further data collection within organization through deep dive interviews.

Theory provides for a deeper understanding of gamification and how employees can be engaged in using Forecaster or other gamified electronic tool according to theory. Based on the theory, synthesis of a conceptual framework is described with a step by step plan for designing a game like Forecaster.

Findings/Results

As a result of the research, Author develops the 8 steps model that is part of conceptual framework. It is a model derived from different authors who have written about gamification. All authors highlighted different steps which are important when creating gamification in an organizational setting. The first four steps in the model, and also step 7, are derived from Deterding (Gamification: designing for motivation, 2012). In this article he explains some crucial steps that are used by consultants when designing gamification. Aparicio (Analysis and application of gamification, 2012) confirms the first 3 steps that Deterding proposes in his research. Step 5 and 6 are also derived from Aparicio et. Al. (2012). Step 8 which
is the last step is about continually monitoring and improving the game itself. This last step is derived from Robson et al. (2015), who mentioned importance of ongoing monitoring and adjustment of gamification methods.

This 8 steps model is as follows:
1. Identify the overall business goal top management want to reach;
2. Identify the main objective of gamification: know the entity you want to gamify in order to reach business goal
3. Identify the users: what’s in it for them, what motivates them to engage, what is their interest? Know the stakeholders.
4. Identify context/culture in which the game will be used
5. Designing game and game mechanics: selecting game elements that engage user while accomplishing the business objectives
6. Create a measurement plan to determine effectiveness and ROI
7. Implementation and communication plan
8. Constant monitoring effectiveness and added value of game: Keep adjusting and improving the gamification experience

Above model is useful and applicable for any organization looking into possibility to increase their employee engagement levels through gamification at work.

Conclusions

Although Forecaster can have a significant impact and increase engagement this does not mean that it is going to solve all engagement weaknesses. Therefore it is recommended to investigate other solutions that address other causes for low engagement. Forecaster can potentially be a highly valuable tool in increasing engagement. However Forecaster in its current form needs to be changed in order to have more impact on employee engagement. Learnings from airBaltic experience are helpful for other organizations that look for solutions to increase their Employee Engagement.

References


The impact of Stakeholders in Human Resource Training Projects

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Abstract

The purpose of the paper is to create the evaluation model of stakeholders’ importance in human resource training projects. To attain the papers purpose the literature review, content analysis, expert survey and qualitative synthesis are used. The main results of study reveal that training participants mostly consider the training projects’ appropriateness to own professional and personal interest. While managers and training providers highly value the application of new knowledge, skills and attitudes derived from training projects. Therefore, in order to generate stakeholders’ interest to human resource training projects and to ensure the projects’ usefulness, the individual benefits of training and the possibilities of learning application should be analysed and communicated for relevant stakeholder group. In view of the fact that human resource training projects are primarily focused on improvement of organisational performance, the congruence of training participants’ and their managers’ expectations about such projects is significant.

Keywords: Stakeholder; Human resource; Training, Project; Evaluation

Introduction

Nowadays, the innovative approaches to human resource training should be applied to ensure organisation with knowledgeable and skilful human resources. The fast “ageing” of knowledge and skills make reasonable the development of short-term training as projects that are worked out for specific training needs. To provide maximal benefits the training projects must incorporate interests of main stakeholders groups.

The stakeholder theory, elaborated by Freeman (1984), has growing interest in various areas of management. In project management literature, stakeholder research is viewed as complex and difficult, but there are clear understandings that stakeholders have a key role in project implementation and performance indicators.

In project management theory, the stakeholders are analysed in the context of innovation (e.g. Elias, Cavana & Jackson, 2002), construction project management (e.g. Olander, 2007), information and communication technology (e.g. Bailur, 2006) etc. However, there are a few studies devoted to the application of stakeholder approach in management of human resource training projects. The theme of stakeholder approach to training as such is popular in human resource development, but in the most of studies, conducted in this area, the stakeholders are analysed in the context of training viewed as formative or standardised process (e.g. Michalski & Cousins, 2000) or in the context of the certain model of training evaluation (e.g. Nickols, 2005). Therefore, this paper is focused on exploration of stakeholders’ interests or requirements in the different phases of the training project lifecycle, based on the theory of the project lifecycle and the human resource training stages, and on the different, well-known models of training evaluation.

Theoretical background of human resource training projects for stakeholders

In human resource management literature, human resource training is defined as the application of formal processes to impart knowledge and help employee to acquire the skills necessary for them to perform their jobs satisfactorily (e.g. Armstrong, 2009). The term “formal” in this and similar definitions of training emphasizes the training that follows some designed form, contrary to informal training that does not have a consistent form. The effective human resource training should be systematic, therefore some authors stress that training is the systematic process by which employee learning is promoting (e.g. Latham, 1988).

There are some differences between human resource training process, system and project. A training process produces results through work being done in the process, while a training system produces results through the interaction of processes (Hoyle, 2009). Training process is uniform and regular, but training project is more innovative, unique, with clear beginning and end states (Lidow, 2014). Therefore, training projects are managed in distinctive way than standardised training in organisations.

To analyse the stakeholders’ importance in human resource training projects, Weiss’s and Wysocki’s (1992) theory of project phase and Armstrong’s (2009) list of human resource training stages are linked up.
Thus, a number of training stages as Establishing of learning needs, Defining of learning objectives, Deciding on content, methods of delivery and on the location and facilities required, the budget and who delivers the programme, Preparing information on the event relate to Project Planning phase. The stage of Delivering the learning corresponds to Project Execution phase, and the stage of Evaluating the learning corresponds to Project Monitoring and Control phase. Only phases of Project Initiation and Project Closure have not analogic stages of human resource training what is conformable to meaning of project.

Since stakeholders involved in human resource training project consider various aspects of such training opportunity, the models of training evaluation are screened out. After analysing of reviews on training evaluation theme (e.g. Scofield, 2010; Zinovieff, 2008), the thirteen models were chosen for further exploration to identify essential criteria of training evaluation to different groups of stakeholders.

In despite of analysed models’ conceptual (mainly between so-called “goal-oriented” and “system-oriented” evaluation models) and terminological differences, the similarities between models’ proposed criteria were summarised. To summarise these similarities, the content analysis method was used, by which the specific criteria of models were aggregated into thematic groups. As a result, the nine criteria groups are highlight (see Fig. 1). The “Context” comprises aspects of training project referred to target group, training necessity and training goals accordance with training needs of target group. The “Input” relates to such aspects as required resources, number of trainees, project uniqueness, and appropriateness of training content, form and methods to training goal. The “Process” consists of training project’s aspects characterised the feedback, adjustment and attendance. The “Reaction” comprises aspects of trainees’ satisfaction with the organisation of training and with the training in overall. The “Learning” includes aspects of direct results from training, i.e. acquired knowledge, developed skills and changed attitudes. The “Application” refers to aspects described the application of training results in workplace, organizational support for such application, and changes in trainees’ behaviour. The “Effect” consist of aspects expressed the changes in trainees’ professionalism level in general, in theirs work indicators as productivity, quality etc. and theirs job satisfaction and motivation. The “Efficiency” includes aspects related to changes in financial and economic indicators of organization. The last criteria group, “Societal impact”, consists of training aspects characterised the social and economic impact of training on large social groups.

The identified criteria groups and specific criteria within these groups represent the more comprehensive list of potentially significant aspects of training for different stakeholder groups. This list enables training project managers to take into account the broader scope of stakeholders’ interests or requirements that could facilitate the usefulness of project.

![Figure 1](image-url)
In accordance with functional role of stakeholders in human resource training projects, there are such stakeholder groups as trainers, participants, participant’s managers, finance managers, executive directors, and personnel specialists (Allan, 2008). For detailed analysis of stakeholders’ importance in human resource training projects the three stakeholder groups were selected – potential participants of training project (participants), managers of potential participants (managers), and training specialists (providers).

**Methodology of Research**

To verify the importance of the criteria of human resource training projects for chosen group of stakeholders the expert method was applied. The three expert groups were formed representing three stakeholders’ groups using the opportunity sampling method. Initially each expert group comprise 10 experts, but because of unsatisfactory agreement level of experts was found from preliminary data analysis the expert groups size was reduced. The experts stated different opinion from majority were eliminated. Table 1 shows characteristics of expert groups.

All experts were contacted by face-to-face or e-mail and asked to fill questionnaire, respectively, to rank a) training evaluation criteria group and b) specific criterion within criteria groups. The untied ranking scale was exploited. Experts were offered to rank each of the scale’s item in order of importance, from the “1” most important item through the “m” least important item.

**Findings/Results**

Table 2 demonstrates that there are average level of agreement among experts in majority of questionnaire’s scales. It might be explained partly by the small size of expert groups and the request to rank criteria towards training in general, without specifying training details. Nevertheless, there are certain tendencies observed. The training participants have consensus on Context of training, while managers and training providers – on Effect and Societal impact of training; managers have a similar views on importance of learning results’ Application as well.
Based on the results of expert survey the model of stakeholders’ importance in human resource training projects is developed (see Fig. 2). The importance of projects’ criteria groups is presented for participants and providers, but not for managers because relevant expert group did not demonstrate sufficient level of agreement in order to draw strong conclusions.

The expert survey results reveal that the Context and the Input of training projects have higher importance for training participants, while training providers value higher the Learning and the Application. As least important criteria group participants assessed the Societal impact, and providers – the Reaction. Managers have not strong agreement on priorities of criteria groups, but it should be noticed that rank “1” was most given to the Application (n=3; mean rank = 3, that is most higher value in managers’ estimations) and rank “9” to the Process (n=3).

![Figure 2. Model of stakeholders’ importance in human resource training projects (1 = most important; 9 = least important)](image)

Looking through opinions of participants it could be detected that the most important criterion of training projects within the Context is the eligibility of training goal to participants’ professional or personal needs. Consequently, the importance of training necessity and the target group is assessed as second and
third criterion. As for the Input, where participants have average level of agreement, there is a tendency to value more the appropriateness of training content to training goal, the project uniqueness and the required resources (financial, time etc.). The least important criterion in this criteria group is the size of training group.

For training providers, in despite of their consensus on high importance of the Learning and Application, there is some disagreement concerning significance of specific criteria. However, in both criteria group is relative consonance about the most important criterion. Respectively, this is the level of developed skills and the application of training results in workplace”.

Having rather low level of agreement on priorities of training projects’ criteria groups, managers share the opinion that the most significant in the Application is the application of training results in workplace. The second is the changes in trainees’ behaviour, and third is the organizational support. In other criteria groups received lower estimation as the Effect (Mo = 6; mean rank = 3,5), the Societal impact” (Mo = 5; mean rank = 5,7) and the Process (Mo = 9; mean rank = 7,5) there is consensus on following matters:

- the changes in trainees’ work indicators are most important than the changes in social indicators (employee turnover, cohesion, reputation of organisation etc.) and the trainees’ benefits derived from training;
- the economic benefits of human resource training projects for society are more important than the social benefits;
- the trainees’ attendance is most important factor than the possibility to adjust training process and to receive or give feedback in accordance with managers’ wishes.

It is worthy to notice that, within criteria group “Effect”, managers and providers have similar viewpoint on importance of the changes in trainees’ work indicators, but providers value higher the trainees’ benefits than the changes in social indicators of organisations. As for the Societal impact of training project, providers, unlike managers, consider as more important the social benefits.

Conclusions

The study results approve that training participants, providers and managers value differently the various aspects of training projects. For participants the projects’ accordance with own professional and personal interests is most important. Providers and managers highly evaluate the application of acquired knowledge, developed skills and changed attitudes in workplace that might be viewed as positive factor for successful cooperation.

From theoretical standpoint, the highlighted criteria of training project evaluation can contribute to further development of the stakeholder value theories. To gain the more complete insight into the importance of stakeholders in the different phases of the training project lifecycle, it remains for further research to investigate the larger sample of stakeholder groups, analysed in this study, and other possible stakeholder groups such as personnel specialists, inner and external sponsors of training, consumers. Because the stakeholders’ priorities may differ for specific types of training, it is rationally to explore in future studies the stakeholders’ preferences in the context of the certain type of training.

From practical consideration, the proposed model can be used by human resource professionals to develop or choose the human resource training project in accordance with stakeholder approach in organisation management

References

Research and Development Expenditures and Economic Growth in EU: 
a Panel Data Analysis

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Abstract

The main purpose of the paper is to investigate the empirical relationship between research and development (R&D) expenditures and economic growth in European Union member states during 2001-2013. The paper also analyses whether the impact of R&D investments on economic growth differs between old and new EU members.

The empirical analysis is based on panel data model estimation. The sample was made from a state-level panel data (EU countries) for time period 2001-2013. The model was built like a standard growth equation model corresponding to the production function that adds R&D among other types of the capital.

For almost all various robustness checks performed (several sub-periods, dummies for crisis, sub-panels, various control variables) results imply significant R&D coefficient. There is a difference in estimates for old and new EU member states, for chosen period of analysis the convergence is observable, but still significant between these two groups.

Keywords: Research and development expenditures, economic growth, panel data analysis.

Introduction

Theoretically, for achieving a long term economic growth the amount of investments in research and development (R&D) is highly important. R&D plays major role in innovation, raising productivity and increasing economic growth. (Romer, 1994) Therefore, theoretically R&D expenditures have a positive and persistent effect on growth. However, empirically there are problems in effect’s measuring due to direct and indirect effects of different types of R&D. That is the reason for numerous empirical studies, which differ greatly in terms of aggregated level (companies, industries or countries), sources of data (time periods, countries) and measurements of key variables (stocks, flows or differences). Therefore the results of these studies are not directly comparable, however in general empirical results confirm theoretical assumptions.

The aim of the present paper is to investigate the role of research and development expenditures for the economic growth of all EU countries and compare the results in two sub-groups: old and new member states with application of panel data econometric modelling.

Numerous studies also deals with panel data analysis in R&D and growth relationship evaluation. Results varies for different panels, time periods, variables and econometric methods. Useful literature review about aggregate level effects of R&D was done by Svensson (2008). He compared results for developed and developing countries. Main finding was that there is no link between R&D and growth in poor countries, but significantly positive effect is observable in developed countries.

Silaghi et.al. (2014) analysed business and private R&D expenditures in Central and Eastern European Countries (CEECs). A dynamic panel estimation results showed a statistically significant impact of business R&D on economic growth in new EU member states. Public R&D was found to be with neutral effect: does not stimulate growth, but also does not crowd out private R&D.

To our knowledge there are not panel data studies for all EU countries where dynamic panel results (short run and long run effect estimates) are obtained.

Methodology of Research

To estimate the effect of R&D on the economic growth for EU countries, the panel study is applied. The sample was made from a state level panel data for EU countries for time period 2001-2013. Time period was selected according to data availability. The dynamic panel was estimated using Generalized Methods of Moments (GMM), based on a production function approach. R&D was added among other types of capital in a standard growth equation (see Goel and Ram, 1994).

Following Caselli et.al. (1996) recommendations, the first-differenced GMM estimator for the empirical growth model was used. The short-term estimates reflect immediate changes in economic growth due to a temporary increase in explanatory variable with assumption that other factors do not change. The long-run coefficients were deduced from error correction form.
For robustness of results, several specifications of the model are compared. First, results were compared for different sub-periods. Different dummy variables were employed to test significance for differences between these sub-periods. Special interest was paid to recent crisis period. Second, as panel of EU countries make heterogeneous panel, results were compared between subpanels. Robustness of results was checked also with running specifications with 3, 4 and 5 years moving averages.

**Findings/Results**

The results obtained in this research are consistent with theoretical and empirical findings done in previous researches. Our results showed positive, statistically significant relationship between R&D expenditures and GDP per capita in almost all specifications. Long run effects are higher than short run ones. Estimates varied for different specifications. Results depend on countries’ development level.

**Conclusions**

Empirical analysis confirmed statistically significant impact of R&D expenditures on economic growth in EU countries.

As descriptive statistics showed high heterogeneity within EU countries, in further analysis it should be important to consider more factors that influence R&D effectiveness – such as institutional framework, type of R&Ds, sectors of performance, quality of human capital etc.

**References**


The Development Features of State-Owned Enterprises: the Case of Latvia

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Abstract

This document presents results of research on the participation as state as an owner in enterprises. Specifically, the research covers enterprises owned by the Latvian state during different periods of time, reasons for their formation, their operational volume, for example, number of employees, and state capital investments in them. Furthermore, the authors of the research analyse the main reasons and economic aspects based on which state-owned enterprises were formed during the respective time period in Latvia, and what problems and risks are identified in their leadership and management. A slight insight is also given into enterprise privatization processes.

Keywords: state-owned enterprise, state-owned enterprise formation, state-owned enterprise management

Introduction

Existence of state-owned enterprises has a relatively long history; states go through various stages - both intensively forming enterprises, and privatizing them later. Moreover, each state during the respective time period has significant goals and needs due to which it is necessary to form state-owned enterprises because the owner of each enterprise sets outs its specific tasks and functions. In order to gain a better understanding of the development of state-owned enterprises, the authors of the research set out the research goal - to analyse the development of Latvian state-owned enterprises, reasons for their formation and to assess their operational volumes during several time periods. The research covers the time period of 1920s-1940s and the time after Latvia re-gained its independence.

Opinions on formation of state-owned enterprises and their operational results are relatively extensive, for example, scientist Alesi (1983) stated that private enterprises comparatively more often implement innovations for reducing costs, diversifying production than those owned by the state which indicates that the operation of private enterprises will be more efficient, therefore other aspects for state forming enterprises must be considered.

As indicated in the researches (Radygin, Simachev, and Entov, 2015), in some cases, the market is one of intensive competition, and it achieves optimal results through competitive interaction between state and private companies. In other cases, companies owned by the central government or by local authorities take advantage of their privileges, exploit their monopoly position, and place technical-organizational, administrative, and other barriers in the way of access to a particular branch of the economy.

A statement made by Bailey (2010) saying that just as the regulatory movement of the 1930s reflected the view that market failure was pervasive, so the deregulation movement of the late 1970s and early 1980s reflected the view that economic regulation of prices and entry was a government failure, generating misallocations and inefficiencies - confirms that opinions change over time. Also, the Latvian government has admitted that involvement of public persons in business creates market distortion risk. The main economically justified reason for a public person to take part in capital enterprises is to eliminate market imperfections, thus, increasing public welfare.

Methodology of Research

Quantitative research methods were applied in the research - summarization and analysis of scientific literature, normative acts and historical sources, as well as quantitative methods - analysis of statistical data.

Findings/Results

The Latvian state fully or partially owns a significant number of capital enterprises that have a big influence in the nation economics of the state, i.e., according to financial data, 18.2% of the Latvian gross domestic product at the end of 2012. Post May 2015 the state had 100% ownership in 66 capital enterprises, the state had decisive influence in 5 capital enterprises, and in 46 capital enterprises the state had a participation level of 50% or less. In total, the state directly participates in 117 capital enterprises (Ministry
of Economics, 2015). These enterprises remained in state ownership or were newly-formed after end of privatization. However, the situation is changing and it has been acknowledged that after a certain period of time it is necessary to reassess state participation in capital enterprises and its compliance with the principles of public person business operations.

Having analysed the summarized information, table 1 shows the possible reasons for forming state-owned enterprises that also represent the respective economic situation in the reviewed period of time.

**Table 1. Reasons for forming state-owned enterprises**

<table>
<thead>
<tr>
<th>Period of 1920s-1940s</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>• enterprises taken over from the former Russian government or German occupation forces;</td>
<td>• if the market is not able to ensure public interest implementation in the relevant field;</td>
</tr>
<tr>
<td>• enterprises formed due to considerations of national economics, and the purpose of these enterprises is to serve public and state goals in general;</td>
<td>• in an industry where there is a natural monopoly;</td>
</tr>
<tr>
<td>• enterprises formed for fiscal purposes;</td>
<td>• in a strategically relevant industry;</td>
</tr>
<tr>
<td>• enterprises formed due to lack of private initiative;</td>
<td>• in a new industry;</td>
</tr>
<tr>
<td>• enterprises formed for carrying out narrower - special tasks</td>
<td>• in an industry where its infrastructure development requires large capital investment;</td>
</tr>
<tr>
<td></td>
<td>• in an industry where in conformity with the public interest it is necessary to ensure higher quality standards</td>
</tr>
</tbody>
</table>

Both in the 20th and 21st century gaining profit were not the main argument for state as the owner in forming enterprises. The reasons are hidden in the economic situation, for example, spirits monopoly, as well as in the social aspect, for example, enterprises that operate in the branch of hospitals or culture where it is impossible for a private owner to gain sufficient revenue for the development and operation of the enterprise.

**Conclusions**

The state as an owner must make decisions regarding extending, narrowing or retaining ownership rights in enterprises with the consideration of the respective economic development period. Such decisions must be justified and weighed out in order for the state to implement business activities in any branch. There have been various periods in Latvia during which the state has even defined monopoly in individual business branches, as well as carried out privatization of big enterprises for handing them over to private owners.

**References**


Organizational Innovations in Crisis Management of Project-Based Enterprises

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Abstract

Organizational innovations and crisis management have a lot in common. Crisis may come in many various forms. It can be a result of economic slowdown or recession influencing industry, therefore some of its organizations. However, firm disaster can be the result of wrong management decisions or unexpected events. Each form of crisis has its own causes which influence the company in a number of ways. The main objectives of the paper are to describe the nature of crisis management in project-based enterprises and define the scope and role of organizational innovations in it. The conducted research shows that the organizational innovations are the crucial elements of crisis response strategies. Applying organizational innovations, the entity can gain short-term benefits because they aim at improving the flexibility and adaptability of the company and the supervision of the running projects.

Keywords: organizational innovations, project-based enterprise, crisis management

Introduction

The main objectives of the paper are to describe the nature of crisis management in project-based enterprises and characterize the scope and role of organizational innovations in it. The research subjects are the entities that execute various projects for external client. It is the core business of the companies, main part of operation activity. The examples of project-based organisations are: IT enterprises, construction companies, shipyards, custom-made machinery manufacturers etc. The project-based entities have their own peculiarities. They need particular approaches regarding organizational framework and supporting management tools.

The studies of project-based organizations have been conducted by a number of researchers (Söderlund, 2008, 41), however, there is a gap connected with the role of innovations in crisis management. The issue is important because we can observe the increase of uncertainty in the environment. The fluctuation of the economy becomes unpredictable and influences the organization in various ways causing development or deterioration.

The assumption of the paper is the statement that the organizational innovations are the crucial elements of crisis response strategies of project-based organizations and should be designed and implemented at least since the crisis hit the entity.

Methodology of Research

In order to verify the presented assumption and gain the paper objectives the research was conducted in following steps.

First, the influence of business cycle on the economic position of project-based companies (thereof sustainability) and the fluctuation of innovation expenses (investments) in various types of entities were analysed. The presented conclusions have been drawn on the basis of statistical analysis of correlation between economic cycle and investment expenses that were conducted for Polish economy in years 2000-2014 (Marciniak et. al., 2015, 31-40), literature review, and indirect observation of research subjects since 2008.

Next, selected research findings in management literature connected with crisis management in general and project-based enterprises were described and confronted with business practice. The analysis of main determinants and means was conducted using the project-as-practice and traditional approach.

The results of literature review and findings from previous steps of the research were compared with the selected examples (case studies) of crisis response strategies of project-based enterprises. The analysis of crisis response strategies was conducted among construction companies (general contractors) operating in Poland in years 2008-2014. In the study, own direct observation and information from management board reports of research subjects was applied. Research sample was selected from well known in Poland general contractors listed at the Warsaw Stock Exchange due to availability of the data and information.
Findings/Results

The conducted macro analysis of changes in GDP and investment expenses (Marciniak et. al., 2015) shown the positive correlation between them. Decline in GDP influences decrease of company investments. Project-based companies, that are executors of investments or providers of advertisements and consulting services, are affected by the above mentioned changes in a different scope and time, depending on organization type.

Some project-based enterprises (e.g construction or machinery manufacturers) experience the economic crisis partly with some delays but mostly with double force (more than non-project organisations). The above mentioned time-lags are connected mainly with long duration of PLC (Project Life Cycle) that dominate in object investments. Lack of new investments influences predominantly the company backlog for next years and decreases the amount of turnover in the future. In such conditions managers have to prepare the company for worse time by introducing crisis management (Mallak, Kurstedt, 1997, 14-21), thereof design and implement organizational innovations.

The macroeconomic analysis of changes in GDP and innovation expenses in Poland, conducted between 2008 and 2014, shown the slowdown of economy and construction industry (Głodziński, 2015). A lot of enterprises cancelled, reduced, or postponed the object investment. The number of company bankruptcies increased significantly. In the above mentioned conditions the entities applied crisis management concept that consisted of operational and strategic actions, mainly connected with organizational innovations. The operational ones improved the economic situation of the organization in short-period of time. They had to protect against farther company deterioration (transition to next crisis stages). Strategic actions implemented the changes that ensure sustainability in new environment in a long-period of time.

Conclusions

The study confirmed that organizational innovations play a vital role in crisis management of project-based organizations. In order to avoid further company deterioration the managers should implement recovery actions that can generate fast feedback. It can be done by implementing the changes in daily work of the employee through innovations in company procedures, working methods, and further evaluation of organization culture and framework.

The study showed that the project-based organizations may be affected by economic crisis much deeper than other types of entities. Project–based organizations archive profits from new investments which are very often canceled, reduced or postponed by customers. By doing these the customers want to increase short-term efficiency. As a result, project-based organizations can be affected.

The study pointed that, in crisis management, supported project team services (departments of: controlling, risk management, technics etc.) are very important. In first stages of company crisis more attention should be focused on: acquisition stage (responsibility of tender departments), supervision of project execution (responsibility of risk management and controlling departments), and more efficient cooperation with the client (the need of improvement in contract administration).

References

Trends of Social and Economic Development of Counties Municipalities in Kurzeme Planning Region

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Abstract

Sustainable development of country is very closely linked to development of the regions, and directly dependent on it. On the one hand, there can be positive synergy between regions in terms of social and economic development. On the other hand, negative trends in one region can result in undesirable processes in other regions. And, of course, there can be also competition between regions (e.g. for state budget funding, private investment, human resources etc.). In Latvia, two levels of regions can be stated – planning regions and municipalities (of cities and counties). Aim of the research – to assess the main trends of social and economic development of counties municipalities in Kurzeme planning region. For research, method of comparison, method of ranking and correlation analysis was made. For analysis, information from Central Statistical Bureau of Latvia about counties in Kurzeme planning region was used.

Keywords: socio-economic development, county municipality, gross wage, Kurzeme planning region.

Introduction

To ensure sustainable and balanced social and economic development of country, well-considered and successful development of regions is critically important. Competitiveness of regions or counties, thus, can be characterized likewise as competitiveness of country. Four attributes are: factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry. (Porter, 1990) Also, mutual interaction of regions or counties must be taken into account – it can be with positive or negative result (i.e. synergy or competition).

For Latvia and its regions, there are many challenges for development, as there are negative or unwanted trends in such very important indicators as number of population, structure of GDP, quality of life and others. (National Development Plan of Latvia for 2014-2020) To some of regions and counties in Latvia, these problems are especially topical. On the other hand, there are different approaches to evaluate relationship between population change and sustainable development (Marsiglio, 2011), so demographic situation in Latvia and regions cannot be seen as unambiguously poor, without thorough analysis. Nevertheless, if we assume that there is positive correlation between number of inhabitants and economic growth, reduction of population number is an unfavorable trend for sustainable development. Furthermore, there are also changes in the age structure of population that can be essential threat to possibilities of economic growth of region. (Kalniņa-Lukaševica, 2011)

Even if there are positive trends in social and economic situation, results must be interpreted carefully. Main participants of economic development are inhabitants. If the results of growth benefits only small part of population, it cannot be called as development. (Barānova, 2004)

Methodology of Research

To assess social and economic development trends in counties municipalities, several indicators was used: number of population, population density, migration, demographic burden, gross wages and salaries, number of enterprises. For analysis, comparison method was used – data of counties was compared with average level of Kurzeme region and average indicator of Latvia. Also, method of ranking was used to evaluate differences in situation of small, medium and big counties. By using correlation analysis, hypothesis about interaction between social and economic situation was verified.

Findings/Results

Accordingly to the Catalog of state and local government positions, in Kurzeme planning region are 3 big, 6 medium and 9 small county municipalities. Counties are different – by population number, population density, migration indicators, demographic burden, gross wages and salaries, number of enterprises.
According to figure, size of county can be considered as the factor that influences population income. But this can be seen also contrary – number of population in county depends on the prosperity of population. There is also correlation between changes in population number and population income.

Conclusions

Kurzeme planning region, in context of Latvia, is average development level region. If compared to other planning regions, Kurzeme region is 3rd best (such indicators as household income, unemployment level, GDP per capita and other was used). If compared to average indicators of Latvia, situation in Kurzeme region is worse. As can be seen from analysis, indicators that characterizes Kurzeme region, are formed from very different situation of counties municipalities. Differences in population income is correlated to (or influences) decrease of population number in counties. On the other hand, decrease of population number contribute to decrease of economic activity in county and so – to decrease of wages. In long term perspective, these processes reinforce each other and thereby creates very topical problem in Kurzeme region and Latvia – empty and inactive countryside.

References


The Role of Management of Satellite Towns in Promoting Well-being for Citizens: Case of Latvia

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Abstract

The aim of the paper is to substantiate the importance of management of satellite towns in promoting well-being for citizens in Latvia. To achieve the aim, such qualitative and quantitative methods of research as comparing, grouping, graphical analysis, focus group methods would be used. The main results and findings of the paper: the identification of Latvian satellite towns; the qualitative and quantitative analysis of them; the provision of principles for the management of satellite towns.

Keywords: well-being, satellite towns, citizens’ involvement.

Introduction

Tracing back to the middle of 18th century, Industrial Revolution had brought unprecedented economic growth and urbanization development. However, conflicts of urban spatial structure became increasingly acute and urban diseases were widespread after Industrial Revolution. In this context, some pioneers who had idea of reforms had begun their attempt of building “ideal city” with “Satellite Cities” (Mengyi, 2011).

The concept of “Satellite Cities” was introduced by Graham Romeyn Taylor in 1915. At that time, factories were proposing to move to satellite cities which should be built in suburbs of big cities to relieve excessive concentration of metropolis downtown (Taylor, 1915). In the 1924 Amsterdam International City Planning Conference, the issue of planning the metropolis was the central topic of debate. In the Conference, a model of the core city ringed by a green belt and surrounded by satellite towns linked by a radial and loop rail system was highly influential (Wang & Lu, 2006).

Satellite towns, is a kind of small or media-sized settlement located around a large metropolis. It is physically separated from the main urban area, but economically they are an integral part of a large urban body (Golany, 1976; Kasarda, 1985). Some elements of satellite towns have been identified by many scholars as follows: Firstly, the distance of a satellite town from a major urban area differs due to availability of land, accessibility, transportation network etc., but the distance should be close enough to justify both a rapid commuting distance and the open space needed to separate the town settlements. Also, it should be far enough to give a physical identity to the satellite town. Secondly, satellite towns should be totally economic dependent on the neighbouring urban centre where the majority of satellite town residents find their jobs (Feng et al., 2008). Thirdly, an independent local government should present and run the town to gives it identity so that it is different from normal urban suburb (Golany, 1976).

In case of Latvia, the municipalities of Riga agglomeration like Olaine, Salaspils, Sigulda, Ogre etc. could be considered as the satellite towns, because of the intensive pull migration and connections with capital city. The impact area of Riga is shown in Fig.1.

As significant number of citizens lives in these towns, it is important to ensure well-being of the citizens taking into account particularities like pull migration, use of specific services, low local patriotism and week communication between municipality and society. In this case there should be revised the management system of the municipality which is aimed to improvement of the dialogue between local authorities and citizens.

The aim of the paper is to substantiate the importance of management of satellite towns in promoting the well-being for citizens in Latvia.

The main tasks of the paper:
- to provide the definition and description of satellite town in Latvia;
- to analyse the different indicators of Latvian satellite towns;
- to describe the management practice of Latvian satellite town in context of promoting well-being for citizens;
- to present the results of research conducted in satellite town (Salaspils) on improvement the management of the municipality in context of promoting well-being through citizens involvement.
Methodology of Research

To achieve the aim the qualitative and quantitative methods of research like comparing, grouping, graphical analysis, scientific literature studies, several stages of focus group discussions, statistical data analysis, SPIRAL methodology would be used.

Findings/Results

During the research, the satellite towns of Latvia were defined based on different criteria. Further, the qualitative and quantitative analysis was conducted to compare the objective well-being in these cities. In addition, on a basis of research on subjective well-being indicators conducted in one of the satellite towns of Latvia (Salaspils) the management principles would be formulated aiming to improve the well-being of satellite town citizens.

Conclusions

The role of the management of satellite towns in promoting the well-being has been increasing due to increasing number of citizens who prefer to live there instead of the centre of agglomeration. In addition, local authorities have autonomous functions, intensive informative links and wide range of available economic and social instruments to substantially affect the well-being level of society. In this process the dialogue with citizens, as well as the involvement of them in decision making process is crucial.

References

Estimation of EU State’s Innovation Activity Using Benchmarking

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Abstract

Development of innovation activity is a determinative factor of economic development of any state. In each country the strategic plan of innovative development of economy is carried out. The high-tech component has become a crucial source of competitiveness and value added in practically all the branches of national economy. Enterprises focusing on high technologies and application of high technologies in industries can develop only in an innovations-friendly economic environment supporting innovative efforts, i.e., in a country that is consistently implementing a national policy for developing innovations and having an effectively operating national innovations system. Innovation plays a role in the international competitiveness of nations. Benchmarking is an effective method for comparison of activity of technological, production or social and economic system with practice of others the most successful systems. The analysis of methods and results of activity of the compared systems is made on uniform indicators characterizing methods of management of the compared systems and results of their activity.

Keywords: innovation activity, state economic development, benchmarking.

Introduction

Benchmarking is a tool for improving your business process, to measuring your own performance for each variable and comparing the results, to determine the gap between your firm and the best-in-class examples and to implement programs and actions for achieving the best result. The paper deals with the process of estimation of EU State’s innovation activity using benchmarking. The objective of benchmarking is to understand and evaluate the current position of innovation activity EU states in relation to "best practice" and to identify areas and means of performance improvement. Innovative activity of the European Union states is measured through SII (Summary Innovative Index) and BI (Benchmarking Index). Measurement framework of the Innovation Union Scoreboard is shown in the Table 1.

<table>
<thead>
<tr>
<th>BI</th>
<th>Groups of innovation indicators</th>
<th>Subgroups in the group</th>
<th>Number of indicators in the subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enablers, (A)</td>
<td>Human resources</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open, excellent,</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>attractive research systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finance and support</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Firm activities, (B)</td>
<td>Firm investments</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linkages &amp; entrepreneurship</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intellectual assets</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Output, (C)</td>
<td>Innovators</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economic effect</td>
<td>5</td>
</tr>
</tbody>
</table>

The aim of investigation consists in analysing and comparing the changes which happened in development of innovative activity in Europe Union and Latvia for the period till 2015.

Methodology of Research

The process of investigation of economic systems using benchmarking method should be based on an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria. It is important to link investigation goals to movements of a small number of indicators. Single indicators can rarely be linked to any specific sustainability goal. Linking the use of deterministic and qualitative modelling approaches is a useful means for projecting indicators and important interdependences between factors. Indicators modelling work is most suited to identifying main linkages and implications on large systems. Greater focus is required on modelling frameworks that can use incomplete data sets or
qualitative information. The scheme of benchmarking process is shown in the Figure 1. Types of benchmarking are shown in the Figure 2.

![Benchmarking Process Diagram]

**Figure 1.** The scheme of benchmarking process  **Figure 2.** Types of benchmarking

For benchmarking realization calculation we denoted the free main sets of innovation indicators by letters A (Enablers), B (Firm activities) and C (Outputs). Indicators of benchmarking in every set A, B and C are $x_{ij}^{(A)}$, $y_{ij}^{(B)}$ and $z_{ij}^{(C)}$. Denote the leader innovation indicators as $x_{ij}^{(A, leader)}$, $y_{ij}^{(B, leader)}$ and $z_{ij}^{(C, leader)}$. Now we can compare our indicators with the leader indicators using traditional comparing method and receive benchmarking index (BI) (see Eq. 1).

$$BI = \sum \sum w_y^{(A)} \left| y_{ij}^{(A)} - x_{ij}^{(A, leader)} \right| + \sum \sum w_y^{(B)} \left| y_{ij}^{(B)} - y_{ij}^{(B, leader)} \right| + \sum \sum w_y^{(C)} \left| y_{ij}^{(C)} - z_{ij}^{(C, leader)} \right|$$

(1)

where $w_y^{(A)}$, $w_y^{(B)}$, $w_y^{(C)}$ weight coefficients for every indicators group. Weight coefficients are appointed by the expert commission which before it is checked for competence. We can also evaluate index BI independently for group A, B and C and get information about possible improvement of indicators in every group.

**Conclusions**

Benchmarking using at research of the estimation of EU State’s innovation activity as a complex social and economic system, allows to compare values of the parameters (indexes) describing activity of studied systems. Tendencies of change of parameters (indexes) of one system can be accepted by the best as an example for development of other systems. Research of tendencies of change of parameters (indexes) of development of the best representative in certain cluster, allows to develop and realize the program of the actions directed on perfection of functioning of investigated social and economic system, and also constantly to analyze the processes occurring in investigated system, comparing the given changes with the changes occurring in reference system. Besides there is an opportunity of research of influence of social (qualitative) parameters (indexes) on change of complex parameters of economic activities social and economic systems, in particular on character of change of EU state’s GDP.

**References**


Where to Invest? A Post-Crisis Case of Latvia

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Abstract

Considering the importance of investments in the post-crisis economy of a developing state, this paper endeavours to identify the most promising industries and companies that can attract domestic and foreign investors to support Latvian economy. To succeed with this task, this study observes financial ratios of the most successful 39 companies among 101 highly-profitable enterprises that operate in Latvia. In total, it covers the performance of the 13 major industries during 2011-2013. The observed financial statistics includes the next variables: the net profit, net profit margin, average assets value, ROA, turnover, ROE, equity capital, and EBITDA. It is presumed that financial ratios can be fully comprehended only while being viewed together with the major macroeconomic factors of the state. The findings reveal that 'Municipal Services' industry is the most attractive in terms of investments. It complies with the social issues of high poverty level and polarization that limits the growth the industries that provide goods and services for an average citizen. At the same time, the cheapening of oil creates further favorable conditions for 'Municipal Services' as well as provides better possibilities for businesses from other industries.

Keywords: investments, post-crisis, Latvian economy, ratios, financial statistics, municipal services.

Introduction

As it is known, after the collapse of the Soviet Union Latvia was enjoying the fast economic growth. To a great extent, the success was stipulated by the geopolitical factors. In particular, Latvia benefited from productive relations with Russia and at the same time, was supported by the EU, which it joined in 2004. Despite the overall tendency economic growth, Latvia faced a number of challenges. Firstly, during the post-independence period the domestic economy of this state was negatively affected when total cumulative output declined for 50% (Vanags et al., 1999). As a result, it prevented Latvia from becoming a member of the group of countries that experienced “high contractions” (Mundell, 1997). The next three years displayed the positive tendency. Entering 1995 Latvia was expected to demonstrate the first (after the post-independence period) positive Gross Domestic Product index (GDP), but the collapse of Banka Baltija in 1995 overturned the positive tendency (Lace, 2004). Thereafter, Latvia has both positive and negative economic trends, but in general, the country's economy continued to grow creating a promising financial environment. Unfortunately, in 2008, along with other countries, Latvia faced the global economic crisis. As a result, the EU has been experiencing the negative GDP growth inclusively up to 2013. In these circumstances, Latvia suffered from domestic financial crisis because its economy was greatly depended on the offshore financial structures and investments, whereas, due to global economic crisis, the capital inflow was stopped. Striving to prevent the deterioration of the economic situation Latvia conducted improvements in banking and financial operations. As a result, political and financial atmosphere in the state became more favorable for multinational corporations, foreign investors and banks. Undoubtedly, it became a positive tendency for running businesses in this state since the level of uncertainty was considerably decreased (Pilinko & Romancenco, 2014).

This premise is proven with the corresponding data. Consider the case, "GDP increased by almost 90 percent from 2000Q1 to 2007Q4, followed by a decrease of 25 percent from 2007Q4 to 2009Q3 and then a recovery, as of 2013Q2, of 18 percent" (Blanchard, Griffiths & Gruss, 2013, p. 326). As the statistics reveals, today, the economy of Latvia is on its way to recovery. It goes without saying that this peculiarity is expected to induce significant capital inflow in the near future. The following fact supports the previous statement: in 2015 the Ripplewood Company from USA together with a group of twelve international investors bought one of the main banks in Latvia - Citadele Bank, paying 74.7 million EUR for their shares. The new shareholders also have increased the Bank’s equity capital investing 10 million EUR in the Bank. American investments in Latvia’s financial system improved security, balanced foreign investments, and sent positive indications to other potential investors (Citadele, 2015). Furthermore, the importance of foreign investments can hardly be overestimated; therefore, Latvian domestic businesses should consider the transparency of the financial ratios that display good perspectives for enhancing one's income as vital.

In this regard, it is appropriate to hypothesize that the Latvian macroeconomic factors are positively related with the financial ratios of domestic businesses. That is why, studying the appropriate statistics one is
capable to comprehend the general financial climate of the country, its weaknesses, strengths, and perspectives. Together these arguments can help taking the right decision regarding investing in the economy of Latvia. Therefore, this study is aimed at identifying such financial ratios as EBITDA, the net profit, net profit margin, turnover, average assets value, and equity capital. In addition, the purpose of this research is to detect return of assets (ROA) and return of equity (ROE) for 2011-2013 of the leading companies that conduct business in this Baltic state. Further, it is appropriate to align the obtained statistics with the recent trends in geopolitical and social aspects of the contemporary Latvians life. This approach is used to track the connection between these variables and, in accordance with the findings, determine the appropriateness of foreign investments in the particular industries and/or businesses of this country.

**Methodology of Research**

The sample is the most successful companies (according to 2013 EBITDA data) that conduct business in Latvia. Among the 101 leading firms, the three best companies within each industry (13 in total) are chosen for identifying their financial ratios (Prudentia/Nasdaq, 2014). The findings are compared within industry, and between various Latvian industries. Moreover, the findings are linked to the above-discussed macroeconomic factors. This approach is supposed to provide a better outlook on the feasibility of future investments in the economy of this state.

**Findings/Results**

**Turnover Ratio.** The level of turnover is the highest in 'Trading: Industrial Goods Industry' and is 1217 million euro. Within this industry the best results demonstrate Uralchemtrading. The lowest ratio of turnover for 2011-2013 years is detected in 'Other Commercial Services' sector, which is 6,7 million euro. This result displays Ald Automotive Company. In overall, positive tendency in the turnover growth is noticed in 28 companies among the 39 observed. The fastest growth of turnover is seen in Storent that belongs to 'Other Commercial Services' (the turnover grew twice from 2011 to 2013: from 9 to 19 million). Besides, good tendency also show 'Municipal Industry' and 'Trading Industries': energy resources, consumer goods, and industrial goods.

**Net Profit.** The biggest net profit is generated in the 'Municipal Services'. In particularly, within this industry, the largest net profit displays Latvenergo (937,0 million euro). Similarly, the lowest net profit is identified in the 'Transport, Transit and Logistics Industry': business operation of Ventspils Nafta in 2013 showed the loss of 61, 2 million euro. Apart from that, considerable negative results are fixed in Plesko Real Estate (-5.7 million). In contrast, the fastest growth of net profit is observed in Rigas Siltums that belong to 'Municipal Services' (from 8 in 2011 to 501 million in 2013).

**Average Assets Value.** The biggest average assets value belong to the 'Municipal Services', particularly, Latvenergo possess 3224,4 million euro. Naturally, this company displays the highest average assets value ratio within the 'Municipal Services'. The lowest ratio is fixated in Storent: 10, 8 million euro in 2011. Nevertheless, it is necessary to admit that up to 2013 the value grew as much as twice and reached 22, 9 million euro. In addition, fast increase of assets value displays Lattelecom ('IT and Telecommunication Services'), Elko Grupa ('Trading: Consumer Goods'), and Plesko Real Estate ('Real Estate').

**Equity Capital.** As it can be expected from the above-revealed statistics, the maximum equity capital is recorded in Latvenergo (2047, 7 million euro for 2012). It is appropriate to mention that it insignificantly decreased in 2013 (fell to 2042,4 million). Among other companies with considerable equity capital there are Ventspils Nafta ('Transport, Transit and Logistics'), and Latvijas Gaze ('Municipal Services'), --the average level is 561, 2 and 569, 2 million euro respectively. In contrast, the lowest equity capital is fixed in Storent: 2,4 million euro ('Other Commercial Services').

**Net Profit Margin.** The largest net profit margin (79, 69%) displays Rigas Siltums ('Municipal Services'). Apart from that, high rates are recorded in Delta Property ('Real Estate')-- 38, 89%, Latvenergo-34, 40%, and Olympic Casino Latvia ('Consumer Services')--34, 06%. The negative net profit growth is fixed in Plesko Real Estate, --minus 3, 24% (the average result for the period of 2011-2013). Nonetheless, it is necessity to point out the rapid and abrupt deterioration of the situation for this company. Specifically, its net profit margin fell from 20, 31% in 2011 to -29, 38% in 2013.

**Return on Assets.** The greatest percentage of ROA displays Rigas Siltums ('Municipal Services')--105, 55%. Other companies with high ROA level are Olympic Casino Latvia ('Consumer Services')--60, 34%, Mikrotikls ('Incured Industry: Industrial Goods')- 42, 89%, and Joker Ltd ('Consumer Services') --31, 38%. In contrast, the negative return of investment is reported in Latvijas Dzelzcels ('Transport, Transit and
Logistics'), - minus 3.02%; and in Plesko Real Estate --minus 1.07%. Apart from these two companies, other 37 analyzed business demonstrate positive percentage of ROA.

**Return on Equity.** The highest ROE that amounts 146.21% is fixed in Rigas Siltums ('Municipal Services'). Furthermore, considerable ROE also display Mikrotikls ('Incured Industry: Industrial Goods')--43.82%; Rimi Latvia ('Trading: Consumer Goods')--36.26%; Nordtorf ('Natural Resources Extraction')-32.54%, and Alfor ('Consumer Services') --30.53%. At the same time, a significant negative ROE demonstrates Plesko Real Estate: 10.72% in average for three years; the tendency towards deterioration is clear visible: in 2013 the company's ROE was minus 42.54%.

**EBITDA.** The ratio of EBITDA is the highest for Latvenergo ('Municipal Services') --249.1 million euro in 2013. Besides, this measurement is also high for Latvijas Valsts Mezi ('Natural Resources Extraction')--95.8 and Latvijas Dzelzcels ('Transport, Transit and Logistics')-- 78.8 million euro. The smallest level of EBITDA is 3.6 million, which is recorded in business performance of Pindstrup Latvia ('Natural Resources Extraction'). Considering the revealed findings, one can rightfully conclude that the most promising industries are 'Municipal Services', 'Trading: Industrial Goods', 'Incured Industry: Industrial Goods', and 'IT and Telecommunication Services'. Furthermore, pointing out concrete businesses, it is necessary to emphasize that the companies Rigas Siltums and Latvenergo (both belong to 'Municipal Services' industry) are the most attractive for investors in terms of their financial health.

This data is in consistence with the social situation in Latvia that has a high at-risk-of-poverty-level and social inequity since limited customer solvency inhibits the development the spheres of consumption. In contrast, 'Municipal Services', to a great extend, addresses the needs of the multinational corporations that conduct businesses in Latvia. Therefore, this industry has good customer demand with the adequate paying capacity. Linking this peculiarity to the latest tendency of oil prices fluctuations, it is relevant to suggest that the Latvian 'Municipal Services' will become even more profitable in 2016-2018 years. Consequently, this industry in general and the highlighted firms are worth investing.

Detecting the limitations, it is appropriate to state that this study is based on the statistics for 2011-2013. Considering the rapid changes in the modern global economic trends, it may not fully represent the current Latvia's business environment. Besides, the financial ratios of the most prosperous companies may differ from the average situation with the Latvian business. In other words, the sample consists of the large businesses, whereas, the financial health of small enterprises is not identified. Consequently, defining the future directions, one should consider obtaining fresh data for 2015 year while studying and comparing the financial ratios of large, medium, and small businesses.

**Conclusions**

The findings reveal that 'Municipal Services' industry is the most attractive in terms of investments. It complies with the social issues of high poverty level and polarization that limits the growth the industries that provide goods and services for an average citizen. At the same time, the cheapening of oil creates further favorable conditions for 'Municipal Services' as well as provides better possibilities for businesses from other industries.

**References**

Flexibility of Working Time at The Enterprises of Belarus

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Abstract

We examine compulsory reduced working time (CRWT) in five Belarusian factories, to assess its impact on employment relationships. Local use of CRWT increased between 2001 and 2012, and took a form more inimical to worker interests, thereby differing from official macro statistics. Managers expressed discontent at being pushed by state policy to use CRWT, but used it as a disciplinary tool. Workers perceived worsening work relationships and threats of collective response were in evidence.

Keywords: working time, enterprises, short-time work, employment relationships.

Introduction

This article examines the incidence, operation and consequences of ‘administrative leave’ and short-time work in a group of Belarusian enterprises in the Twenty First Century. We jointly designate both practices ‘compulsory reduced working time’ (CRWT), distinguishing between them where necessary. The subject is important because it bears on the questions of how ‘patient’ (Beissinger and Sasse, 2013) workers in the region are in the face of worsening conditions and considerable repression. It also helps understanding of the social settlement in this important economy on the ‘transitional periphery’ (Wood and Demirbag, 2012; Bedo et al, 2011). Societies on the ‘transitional periphery’ (Belarus, Ukraine, Moldova, the countries of the Caucasus and the Central Asian republics) are characterised by the apparent continued importance of ‘soviet institutional and cultural legacies’ their geographic position on the edge of neighbouring major economies, their historic subordination to large powers, rapacious elites, and weak democratic traditions (Wood and Demirbag, 2012). They contrast with the ex-soviet countries now in the European Union, which have evolved in more democratic directions. On the transitional periphery, élites have captured state apparatuses, suppressing opposition. They have re-regulated employment relations by weakening employees’ positions and trade unions, suppressing previous trends to increased collective voice.

We use short-time working and administrative leave as routes into our broader issues for two main reasons. First, their impact and incidence across time indicates how far the official ideology of a ‘social economy’ may be considered plausible or sustainable. Second, income stability is a central concern to managers and employees and therefore crucial to how they view the wider social settlement. Both short-time working and administrative leave are forms of CRWT with serious implications for workers’ earnings, household economies and for employees’ willingness to invest in themselves and their current employers.

Methodology of Research

The enterprises selected for detailed study are four large quasi-privatised and one large state-owned enterprise located in the Mogilev region: a major chemical fibre manufacturer, two textile and two machine-building plants specialising in agricultural and construction machinery. All are controlled by government through ministries or conglomerates (kontserms). Quasi-privatised enterprises are state-owned, since the government is their largest shareholder (retaining up to 99 percent of shares). These plants are major employers in the region, with 15,546 employees in 2012 and are representative of large-scale national industry.

Some enterprise-level information collected for the study derives from monthly, quarterly and annual panel data on labour for 2001-2012. Other data on personnel we examined included average monthly wages (per enterprise), and evidence on CRWT incidence. We were also able to conduct five semi-structured interviews (Cresswell, 2008) with labour planning managers and non-managerial employees, and a short survey of non-managerial workers in order to assess the impact of CRWT on employees.
Results / Conclusion

There is a mismatch between enterprise and macro level results for CRWT. At micro level, the data collected from our five enterprises for the period 2001-2012 shows increased use of administrative leave, but the opposite trend is reported in official statistics for the national labour market. According to the latter data, employer-initiated administrative leave had virtually ceased to exist as a management practice by 2012.

Short time (in the form of shorter working days) was used by enterprises only down to 2006; the data demonstrate a rapidly decreasing trend in the use of this practice. We therefore see no evidence of its use in enterprise statistics after that point. Simultaneously, at micro level, the data demonstrate a steadily increasing trend in the overall amount of time worked across the period 2001-12.

The reason no evidence for the use of short-time working was obtained for macro level is simply because these data are not collected at country level. Thus the difference between the two levels of statistics potentially arises from simple sample bias. However, the alternative possibility is that the inclusion of data from small and medium-sized enterprises in the national statistics dilutes the apparent incidence of administrative leave since small companies make very little use of it (Carraher and Carraher, 2006).

Thus, macro-data on CRWT suggests that enterprises are reducing such practices, which is consistent with the image of a socially-oriented, worker-protecting economic model. However, the micro-level data show a different picture. The micro-level statistics suggest that the legal structuring of employer preferences towards the less equitable form of CRWT, i.e. administrative leave, became material from 2006 onwards. From that point, the more equitable short-time working disappeared in practice. A second inequitable element arises from the use of administrative leave. Partial pay is a possibility, particularly for ‘core’ personnel. A standard practice when putting both core and peripheral workers on administrative leave is to put the latter on unpaid leave to save funds which are then redistributed to provide partial pay for core personnel. We report further on this below.

This evolved towards exclusive use of administrative leave from 2006 in the enterprises studied, in a trend that ran contrary to that which may be identified in official statistics at national aggregate level. Since the end of the observation period, we have been informed that its use increased still further in 2013. The statistics and management responses to our questions made it clear that it has become an established part of enterprises’ labour management routine. It is used as a way of adjusting labour costs to demand without challenging government ideas of socially-responsible labour policy, and as a disciplinary tool to remove certain workers. Increased use of administrative leave undoubtedly had a considerable negative effect on workers’ earnings and by extension household budgets.

Our second question was how this strategy was perceived by managers and workers. Both groups expressed dissatisfaction with CRWT use and we speculate that the two may be mutually reinforcing; discontent with the technique clearly has different roots for the two groups, but there is also a degree of overlap between the two groups’ perceptions. For senior managers, it was a blunt tool for achieving control within state-imposed restraints while for more junior managers it brought opprobrium from workers. Among the latter, it evoked a number of reactions including a worsening of internal relations between workers and management and between groups of workers who were differentially impacted.

Our final question concerned workers’ perceptions of employment and unions. Widespread feelings of dissatisfaction with management and work were expressed by respondents to our questionnaire and in interviews. Uneven downward communication by managers in different plants was complained of, accompanied by frustration at the lack of voice possibilities and indeed considerable fear in expressing negative views for fear of victimisation. Survey results showed a more or less universal lack of confidence in unions but interviews also evoked anger at their behaviour indicating that workers still expected unions to do something for them in a bargaining direction rather than in social or associative senses. Thus, the removal of union independence has not also removed workers’ expectation that unions should listen to worker problems and make some efforts to bargain for them.

Two findings have significant implications for the study of Belarussian society and constitute the first aspect of our contribution. First, the gap between official portrayals of the situation at national level and the reality at least in the workplaces studied here is considerable; the findings of the large number of studies based on these statistics are therefore questionable. Second, and directly linked to the first point, it appears that even before the financial crisis there was a deterioration in the social settlement.
References

Current Challenges of Latvian ICT, Global Best Practices to Drive Innovation and ICT Development and Potential Recommendation for Latvian ICT More Rapid Growth by Utilizing Innovation and R&D

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Abstract

The aim of the study is to analyze current situation and challenges experienced by Latvian Information Communication Technology (ICT) industry and propose recommendation based on applicable global practices for further ICT industry growth. The scope is limited to IT solutions and application development, excluding telecommunications and infrastructure. Literature reviewed are World Economic Forum materials, surveys on global ICT development, International business 3rd edition by O. Shenkar, Y. Luo and Tailan Chi and materials prepared by Latvian Investment and Development Agency. Most widely used is information gathered from focus groups interviews and analyses of Central Statistical Bureau data. The main conclusions of the study is that despite several very positive success cases, Latvian ICT industry lacks government strategic attention that would facilitate faster growth of the industry and its export competitiveness.

Keywords: ICT, R&D, innovation, growth, export

Introduction

World Economic Forum recognizes ICT industry as important factor of economic growth globally (The Global Information Technology Report 2013, 2013). As well European Union (EU) emphasizes ICT industry’s importance in EU planning documents - Europe 2020 Strategy (EUROPE 2020: A strategy for smart, sustainable and inclusive growth, 2010). Majority of world’s countries ICT is less than 10% of GDP but nevertheless 90% of public and private sectors are dependent on ICT services and products. ICT solution implementation at least triples annual productivity growth rate. (Atkinson, 2015) Latvian ICT sector stands for 3.7% of GDP and 7% of taxes administrated by Tax Administration. Companies’ number operating in ICT industry increased 60% from 2010 to 2013 in Latvia, turnover in the same period increased 50% and employment increased 36% (total employed 23 577 in 2013). (ICT sector statistics, 2013) Latvian ICT sector export increases year over year at least 16%. (IKT nozares eksperti: Latvijas prezidentūra ES jāizmanto, lai izceltu nozares panākumus, 2014) This shows that industry has a potential, its significance continuously grows and ICT industry could become leading employer and exporter in Latvia if the current challenges are properly addressed. For Latvia ICT industry is particularly important as it does not depend on natural resources (which Latvia is not rich in) and insufficient local market as technological development allows the products and services to be delivered immediately to any part of the globe. The main issues are relatively low Latvian ICT competitiveness in export markets, insufficient amount of highly skilled professionals and lack of resources for R&D. (Focus Group, 2015)

Methodology of Research

The research is based on literature review learning about the importance of the ICT industry’s role in facilitating overall countries’ economic growth and competitive advantage. Current situation and its potential of Latvian ICT industry is assessed based on statistical data provided by Central Statistical Bureau and Latvian Investment and Development Agency. Global picture is gained by analysing data from ICT Development Index survey. An important source for assessing current Latvian ICT industry’s challenges and development vision is Focus Group’s interviews. Focus Group consists of 2 Latvian ICT associations (Latvian Information and Communication Technology Association and Latvian IT Cluster), TechHub Riga and largest industry players: Accenture Latvia Branch, DPA, Exigen Services Latvia, Lattelecom, Latvian State Radio and Television Center (LVRTC) and Tilde. 6 onsite interviews were conducted, 1 telephone interview and 2 email questionnaire’s based interviews. Focus Group is a valuable source of providing information on how other countries acted to increase ICT industry’s competitiveness. For the purpose of learning about successful case studies globally on ICT industry development websites of Chilicon Valley and Estonian ICT association are used.
Findings/Results

US is the country with fastest ICT growth and new ICT solutions’ / products’ development. The key success factor – traditionally successful universities scientists’ cooperation with industry – commercialization of new products / services / solutions. (O. Shenkar, 2015) Other important factors – market size, highly qualified labour pool not only in ICT but as well in supporting services like marketing and financial management. Besides that US is rich in capital and venture capital funds are very developed.

Estonia is globally known of its ICT industry due to being primary export industry and well supported by government officials helping to create global awareness of Estonian ICT achievements. Estonia managed to start cooperation with Silicon Valley and attract venture capital funds ten times more that Latvian companies. In ICT Development index Estonia is ranking: 21 compared to Latvia ranking only: 33. (Measuring the Information Society Report, 2014)

Country support for ICT development is insured as well in Chili where year 2010 a Start-up commune Chilicon Valley was started now being the largest start-up community globally.


Latvian ICT market is very limited, the largest customer is government which means that solutions are customized and cannot be replicated within a country in majority of cases. 90% is coding services for global companies’ branches in Latvia for their international customers. ICT graduates are best suitable for such coding services, but this does not create high added value. ICT education lacks interdisciplinary programs and development of soft skills required by the industry. RTU ICT programs are rated highest among employers. (Skolu un studiju TOPs, 2014) The amount of ICT workforce is insufficient to create base for sustainable ICT industry growth. ( informatīvais ziņojums par darba trigus vidēja un ilgtermiņa prognozēm, 2014) Supporting services professionals, e.g. marketing lack global vision and ability to pack and promote products abroad.

Conclusions

Education is key to successful ICT industry growth therefore stakeholders should promote interest to choose IT as further education after school. Foreign students should be attracted and motivated to stay after graduation.

EU funding particularly Horizon 2020 is the main resource to solve the lack of international cooperation, exchange of knowledge and commercialization of research.

Government should involve more in Latvian ICT industry awareness creation abroad thus increasing foreign markets’ trust which is critical factor for venture capital funds’ interest to invest in Latvian ICT facilitating R&D and innovations.

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The Triad of Management Decisions for a Small and Medium Enterprise

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Abstract

Small and medium-sized enterprises (SMEs) represent 90% of all businesses in the EU. One of typical characteristics for SME is that company founders and owners keep active role in company management acting as the CEO, board member or active directors. As result, personality and skills of owner have a significant impact on operating model and ultimate success of enterprise.

Traditional management theories, to be implemented successfully, requires from management to have deep understanding of theory and tools, and ability to allocate significant time and effort for developing and improving management system. However, time is a scares resource, especially in a SME.

The Triad of Management Decisions, developed by author on basis of analysis of management theories and practical cases, suggests a simple framework, relevant for a SME, with a set of guidelines on how to start building management system for a lasting success.

Triade consists of: decision about strategy – selecting business model, defining target market and setting goals, decisions about configuration – setting up process, operations and organisation; and decision on implementation – planning, financing and controlling.

Keywords: Small and medium enterprise, Management system, Owner-manager.

Introduction

Small and Medium Enterprises (SMEs) form a large part of private sector both in developed and in developing countries. In European Union Small and medium-sized enterprises (SMEs) represent 90% of all businesses.

Management aspects of SMEs have been a subject of multiple research and studies over past years. However, owners-managers of small or medium sized companies still experience struggle in managing and developing their companies. Traditional management tools and approaches often are not used within SMEs due to their excessive complexity. Personality traits and preferences of owner-manager also have significant impact on selection and development of management system for company.

The Triad of Management Decisions, developed by author on basis of analysis of management theories and practical cases, suggests a simple framework, relevant for a SME, with a set of guidelines on how to start building management system for a lasting success.

Methodology of Research

Qualitative research, Interviews, Methodological triangulation.

Findings/Results

According to EU recommendations there are two main factors determining whether a company is an SME - number of employees (Less than 250 employees for a medium company and 10-50 employees for a small company) and either turnover (less than 50M EUR and less than 10M EUR respectively) or balance sheet total (<43M EUR/ <10M EUR). Micro companies, according to the EU recommendations, are those with the less than 10 employees, turnover and/or balance sheet total less than 2M EUR.

In addition to EU recommendations, in this research an SME was considered a company with a founder/owner working in the company management.

There are multiple research conducted on management aspects of SMEs. However, many owners-managers of small or medium sized companies still struggle with managing and developing their companies. Their decisions and choices are impacted by personality traits and subjective preferences.

Owner-manager personal values have significant impact on business strategies, and enterprise performance (Kotey, B.; Meredith, G. G., 1997). Adizes (2009) defines the phase when owner has not been able to adapt management system and structure in accordance to company development as a “Founder trap”. Interviews with business owners also proves mental and habitual obstacles for making management decisions.
Traditional management tools and approaches often are not used within SMEs due to their excessive complexity.

Triad of management decisions developed by author suggests dividing management decisions in enterprise in three logical parts. This creates simple to understand and easy to act framework for a entrepreneur, whose background often lies in specific industry, product or competence, not a management.

First block includes traditional strategic issues – setting goals for a business, defining target market, selecting business model. From perspective of the owner, these issues are highly related to his/her personal values, ambitions and temper. Therefore, this block is highly affected by subjective factors of founder-owner-manager. In a one word, the first block of Triad can be described by question “Why?”

Second block of Triad contains configuration questions – defining relevant organisation, establishing processes production. These questions can be impacted by owner’s subjective preferences, however there is much more influences of rational, market and environment driven factors. Relevant question for this block ir “How?”

Third block of Triad is about implementation and control – what needs to be done, what resources are needed, who will be in charge and how we make sure that all tasks are performed in desired quality and state. This is the “What?” block of the Triad. Owner management style, resource availability, change intensity and risk tolerance are very subjective factors having implication on third block of Triad.

There shall be relevant tools and frameworks selected for all the elements and questions in Triad to create a single and integrated management system. For a SME it is important that these tools are simple and easily applicable, yet effective. Business Modelling Canvas (Ostervalder A., Pigneur Y., 2010) is one of tools demonstrating combination of simplicity and effectiveness.

Ideally, management system for an SME shall be simple, effective and adaptable to both business factors and owner-manager personality.

Conclusions

The research summarized in this article is one of the first steps of the more extensive research on owner-manager impact factors on SME development and appropriateness of management system. Three blocks of the Triad of Management decisions for a Small and Medium Enterprise combines external factors of business management and development with the personality preferences of Owner-manager of the SME. Further research shall more analyse practices and case studies exploring drivers and critical factors influencing both personalities and business.

References

Forecasts of the Business Cycle Dynamics as a Corrective Factor within the Context of Investment Portfolio Efficiency Maximisation

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Abstract

The research „Forecasts of the Business Cycle Dynamics as a Corrective Factor within the Context of Investment Portfolio Efficiency Maximisation” describes methods which enable efficiency improvements of investment portfolio structuring and conjuncture determination as well as prediction of its future value. The newly designed forecasting and decision-making model, previously described in several authentic published researches, such as „Investment planning in a context of business cycle volatility”, was supplemented with correction factor - business cycle dynamics forecasts. The efficiency of the model was tested in terms of practical experimentation and the results of the improved model were compared with previously obtain corresponding values in order to verify the defined research hypothesis. The main problamatic solved in the current research may defined as efficient decision making and stock monetarisation, investment environment and portfolio structure analysis and evaluation.

Keywords: technical analysis, fundamental analysis, stock analysis, decision-making models, forecasting models, investment portfolio, business cycle forecast.

Introduction

Stock markets provide significant opportunities for financial resource allocation, redistribution and accumulation, thus making it an attractive option of capital placing, despite the risk involved, which are caused by unpredictable stock quote fluctuations and generally high development volatility. Fundamental analysis provides an opportunity to evaluate and forecast security price dynamics, caused by objective heterogeneous factor influence, such as macroeconomic environment conditions, restructuring of national economy sectors or the intrinsic value of stocks. The founding fathers of the fundamental analysis are David Dodd and Benjamin Graham, who were first to describe principles of the mentioned methodology in their research “Stock Analysis”, published in early 1934. Despite the lengthy timeframe of the relevant method development, it is still quite popular among investors, who prefer long – term liability maturing and empirical multifactorial assessment, thus allowing fundamental analysis to stand out among its more tactically orientated counterparts. On the contrary, technical analysis, provides an opportunity to assess and forecast security price dynamics caused by subjective, sometimes logically inexplicable reasons, such as mood and expectations of the market participants. The founder of Technical analysis was Charles Dow, who was first to describe the method of forecasting stock price fluctuations by using historical data and its’ graphical interpretation. Charles Dow described his method in a “Wall Street Journal” article in the beginning of the 19th century. Even though this method is seemingly geriatric, it nevertheless remains crucially topical and becomes progressively popular with each subsequent generation of investors. Previously conducted research “Investment planning in a context of business cycle volatility” verifies that the above described methods deliver significantly more accurate results in case of harmonised simultaneous implementation and proves the efficiency benefits of further enhancing of capabilities of the unified forecasting and decision-making, which had incorporated both of the previously described methodologies into a single quantitative framework of econometric productivity. The latter statement consequentially leads to the main research goal of the current paper, defined as the furthered efficiency maximisation of the developed forecasting method by improving the previously developed model with harmonised incorporation of additional corrective coefficients into its core structure.

Methodology of Research

The main idea of the current research is that methodological combination of both fundamental and technical analysis forecasting and analysis methodologies outperforms the method of their parallel or independent usage, especially when supplemented with relevant corrective factors, which help to adjust the forecasting results to the specifically volatile market situation. It does not focus merely on the combination of instruments and its’ result comparison in a process of decision-making, rather setting the priority as related to the creation of a single combined stochastic model, which will bind together several forecasting
instruments and techniques in order to get a positive synergetic effect such as a unified and precise price forecast serving as an output of the model. The purpose of the current research is the experimental research of some forecasting techniques related to fundamental, technical analysis and the analysis of the market through the prism of volatile business cycle phase determination in order to create the most optimally – efficient analysis and forecasting algorithm and to create a stock quote forecasting combined stochastic model achieving a positive synergetic effect by simultaneous usage of different approaches. The creation of such a methodology will lead to the minimization of the risk and forecasting error, easement of the decision-making process, minimization of the role of subjectivity in a decision-making process, more versatile analysis, more precise forecast, more effective investment portfolio structure and maximization of income.

Findings/Results

Generalizing the results of the conducted experiment it should be mentioned that “Johnson & Johnson” USA enterprise forecasted future price is 71,46 USD, “Hoffmann La Roche” Swiss enterprise forecasted future price is 172,59 USD, “Grindex” Latvian enterprise forecasted future price is 6,71 USD. After the implementation of the investment portfolio structures’ calculation table it is offered use a “bullish” strategy regarding all the stocks (unlike it was when classical model was implemented – advising to sell GRD stocks) to create an investment portfolio which will include 47% “Johnson & Johnson” USA enterprise stocks, 5% “Grindex” Latvian enterprise stocks, 48% “Hoffmann La Roche” Swiss enterprise stocks. If trader would have used only results of separate classical models then his income would be 96570,33 USD. Using the newly developed analysis, forecasting and decision-making methods and taking into account the real price dynamics – investors income will be 107016,32 USD. Comparing the results it can be seen that the newly created methodology is much more efficient and delivers more accurate results. But still, by implementing a newly added to the described model corrective factor can help to minimise the risk of forecasting error by average 8.7%, which will definitely be followed by bigger profit and more accurate accomplishment of the set performance goals.

Conclusions

Summarizing the conducted research as well as the acquired qualitative and quantitative analysis results, the following conclusions can be made:

1. The proposed research hypothesis had been positively verified during the conduction of the current research;
2. The conducted analysis confirmed the relevance and correctness of the forecasted dynamics of the selected stock quotes;
3. The proposed analytical algorithm had been proven efficient in terms of practical implementation with the goal of achieving a higher precision forecast, thus optimising and easing the investment decision-making process;
4. The newly implemented corrective factors, namely, business cycle forecasted dynamics may play a crucial role in clarification of the model generated forecast and minimisation of the corresponding forecasting error.

References

The Development Managers' Competency in Employment People with Disability

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Abstract

The aim of this paper is to identify the possibilities to improve managers' competence of employment disabled people. The problem is that only 40% of them are employed in EU. One of the more important barriers, exactly in Latvia, is the employers’ inadequate competencies in employment disabled people. The study is based on survey and expert interviewing of employers, as well as on the best practices and the secondary study resources. The first main result is that there are many ways towards in the directions of the improvements of managers’ competencies in employment disabled persons in future. Towards enabling practice: to work out and adapt the special disability management module.

Keywords: Barrier-free workplace, Competencies in employment, Disabled people, Latvia.

Introduction

The authors of the article are concerned with how developing disability management in the workplace could open the possibilities for work for people with disability and can be matched with the opportunities of increasing the employment rate according to the European Disability Strategy (2010–2020) objectives [4]. As the problem is that people with disabilities for represent around one-sixth of the EU’s overall working-age population, but their employment rate is comparatively low. Disabled people are almost twice as likely to be inactive as non-disabled people. In 2012 46.3 per cent of disabled people are in employment compared to 76.2 per cent of non-disabled people [2, 3 un 4].

As stated by several research projects in Latvia, there are no common statistical data on the employment of people with disabilities. According to the State Employment Agency of Latvia registers, the number of people with disabilities in Latvia is about 5% of populations, only 2% of them have found employment as of the year of 2014 [5].

People with disabilities still face numerous barriers throughout the EU and the Latvia. It does not correspond to the European Employment Strategy objectives of reducing unemployment, raising the employment rate, and fighting against social exclusion [3]. Within this context, the authors of this paper is focused on the demand (employers/managers) sides of the new paradigm in the employment of workers with disabilities.

Methodology and Research

Within this context, the authors analyze the literature recounting the perceptions and experiences of the employers/managers on the employment disabled people. The research method used was qualitative, reflecting the aim to capture individual in depth accounts of personal experiences, and this was achieved through 15 semi structured interviews with HR managers and employers on issues related to the situation integration of people with disability into the workforce, providing background for the needs on an evaluation of the use managers’ competencies in employment disabled people and identify the areas of improvements in further, according to the European Disability Strategy 2010-2020 to achieve the EU’s growth targets [2].

The theoretical and practical basic

Much has been written about the barriers faced by disabled people in their attempts to access the labour market (Barnes and Sheldon, 2010 [1]; Waldschmidt, 2009 [8]). The topic - the barriers-free workplace has been given rather limited research attention in the Latvia so far (Korniljevs, Łubkina, 2011 [6]; Živitere un Člaidze, 2011 [7]). For all that, when the time comes to recruit, hire and promote, people with disabilities are often overlooked. Every employer looks for to hire qualified people, and want to draw them from the largest possible “pool” of candidates. What are the views of the use of managers’ competencies in employment disabled people? – The managers have doubts about hiring people with disability, their incapacity for work. The main concerns are:

- Concerns with regard to social interaction (Will people fit my team? Will they able to deal with customers? Will customers have negative reactions? Will other staff members have negative reactions?).
• Concerns with regard to carrying out the professional activity and costs (Will people do less for their pay? Will they slow down the process? Will they do their job properly? Will their work be of quality?).
• Concerns with health and safety aspects (Will they be less safe? Will there be more work accidents? Does it mean higher absenteeism?)
• Concerns with problems linked to loss working capacity (need for technical aids and adjustments in the work place etc.).

Most managers required support to overcome their worries and possible problems. The main help for employers would come from vocational training and rehabilitation centre or from job coaches who follow up and support workers with disabilities [5].

Findings

The authors came to the findings mentioned below.

• On the demand sides at the present moment exists the new paradigm compare with the past system as a heritage from the Soviet Union in the employment of workers with disabilities in Latvia.
• The content of new paradigm: specific controlling the cost of disability in business and industry and its ultimate impact on employee productivity is not a simple task; complex and conflicting relationships exist between employer goals, resources and expectations; the needs and self-interests of workers, the services available in the community, and productive employment and etc.
• In general Latvian companies play a passive role in recruiting disabled people. The managers’ interviews show a considerable number of problems in economic, legal and social sectors, which influence a recruitment and employment of disabled people. There are the companies, where is accumulate positive good practices on the changes in an evaluation of the use managers’ competencies in employment disabled people.
• In the conclusion, we discuss where further research is needed to address remaining employment inequities for people with disabilities.

Conclusions

During the carrying out of the research it was found out that the evaluation of a contribution of the updating of the knowledge and competencies of employers and managers in the workplace are important nowadays in Latvia. The survey shows a considerable number of changes in the development managers’ competencies in employment people with disability. The summarising of the good practice of developing a disability management in the work place in the European countries and particularly in Latvia uncover success, problems and difficulties and shows that there are many ways towards in the directions of the improvements in future.

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Development of State Owned Enterprises of Transport Industry in Latvia

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Abstract

The transport infrastructure and State owned enterprises (SOEs) controlling these areas are very significant influencers of competitiveness of transport industry, and indirectly determining the business environment in related sectors as well. All transport related state’s strategies and policies in Latvia are developed, controlled and overviewed by the Ministry of Transport, eleven companies are engaged in commercial/non commercial activities and evaluated whether the liberalization of certain activities would provide efficiency among SOEs in transport industry of Latvia.

Authors summarize the key data and company profiles providing insight for state control and interests in particular areas where private companies potentially could compete, improve quality, reduce costs and positively impact business environment in the given market conditions and states strategies. There is limited and contradictory debate in what extent Latvian state should involve in business activities, and how to balance the multiple interests and targets of business, society and politics.

Research in the area is based on the scientific papers, official documents of World Bank and OECD (Organization of Economic Cooperation and Development), company websites and annual reports.

Keywords: state owned enterprises (SOEs), transport industry, entrepreneurship, business, competitiveness;

Introduction

Although large SOEs, mostly national champions in their respective sectors, retain their state affiliation and are thus subject to government influence, private entrepreneurial firms are increasingly operating in a free-market environment (Tan, 2002), reflecting many advantages of private ownership over state control (Perotti et al., 1999).

There are numerous reasons for establishing or retaining public enterprises. Jones and Mason (1982) categorized as follows: ideological predilection, acquisition or consolidation of political or economic power, historical heritage and inertia, and pragmatic response to economic problems. As the main regulator of the economy, the state is not only the source of formal institutions (North, 1990), but is also a significant factor in many economies (Hou & Moore, 2011; Okhmatovskiy, 2010). In many countries, the state has an ownership stake in numerous firms (Aharoni, 2000; La Porta, Lopez-de-Silanes, & Shleifer, 1999). There is broad consensus among economists that shifting from public to private ownership tends to increase efficiency and profitability, especially in areas where competitive pressure can be strong (Meggison and Netter, 2001). The main purpose of this article was to identify the main factors and principles why Latvian state engages in entrepreneurship and maintains control of the assets in transport SOEs. Scope of this research is limited to analysis of services provided by Latvian SOEs in transport industries since transport comprises the significant share of national GDP.

According to Baltic Institute of Corporate Governance, 2012: “states involvement in commercial activities is not welcomed, because states objective cannot be to gain profit from commercial activities, additionally states involvement in business activities creates market distortion risks.”

SOEs in competition with private sector businesses, or in areas where private sector businesses could potentially compete is impacting business environment. The experience of OECD countries illustrates that in these competitive or potentially competitive markets, several possible sources of competitive distortions can arise because of advantages some public sector businesses have due to their government ownership.

Methodology of Research

Exploratory research, synthesis and categorizing are main scientific methods used during the writing of this article. The literature research was conducted to discover the SOE specific issues: governance, performance, political and business environment in SOE dominated industries.

Research of main practice differences and preconditions of SOEs, which are typical to state controlled industries. From more than 140 Latvian SOEs were selected 11 operating in transport industry under
supervision of Ministry of Transport, short company profiles summarized collection of primary and secondary data, definitions, concepts and their evolutions.

Analysis of main services provided, and possibility of substitution by private companies in case of liberalization efforts enhanced by OECD and IMF recommendations.

The basic idea behind the SOEs service analysis, was to distinguish between commercial / and non-commercial activities, as well core functions of SOEs and auxiliary functions not typical to the strategic SOE, what should be kept under state ownership, or at least control.

**Findings/Results**

SOE are containing large part of OECD countries GDP, and the main industries are natural resources, infrastructure, utilities, transportation, and telecommunications.

SOEs are under constant public pressure for transparency and performance, market distortions and influence on business environment in the industry, also increase competition increases the quality and reduces costs according to research in the area, although there is not a consensus among researchers about SOE performance, effectiveness in comparison with POE under the same circumstances (market, product, regulatory framework, governance).

There are 11 SOEs in Latvian transport industry, according to Ministry of Transport information. As it is mentioned in OECD and other resources, SOE annual reports and strategy –objective-performance documents are very rarely publicly available, although in general they are owned by the citizens.

Most common SOE services are analyzed, according to the literature review; there is very limited research in this area: SOE service market analysis, especially construction, maintenance, security – efficiency, strategic development, possible internationalization in other markets etc.

Conclusions on SOE services and their evaluation could provide ground for further research in area of SOE sustainability and competitiveness issues in transport industry.

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Applying of Analytic Hierarchy Process for Fire Risk Insurance Premium Assessment

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Abstract

The most part of the existing actuarial methods of insurance premium calculation don't pay enough attention to problems of individual risk assessment of object insured and to problems of insurance premium extra charge assessment depending on individual risk. According to the international practice of insurance, assessment of insurance premium extra charge is rather a function of underwriters, than actuaries. There are no standard underwriting techniques, and each underwriter carries out assessment based on the personal experience, therefore the authors consider to apply multi-criteria analysis methods and analytic hierarchy process in order to adjust a net premium calculated by actuarial methods.

Keywords: individual risk, insurance premium, risk factors, underwriting.

Introduction

The structure of insurance premium (P) consists of two parts: net premium (Prisks+Papdr) and components of cost and profit (C+V) (see Eq. 1):

\[ P = P_{\text{risks}} + P_{\text{apdr}} + C + V \]  (1)

The task of net premium is to form insurance fund from which insurance indemnities are carried out. Components of cost and profit is used for a covering of variable and fixed expenses (C) and earning of profit (V) for insurance company. Net premium also consists of two components: the main net premium, or risk premium (Prisks) and risk extra charge (Papdr).

Net premium is calculated on the basis of unprofitability of the insured sum, or claims experience (i.e. average value which is equal to the relation of total sum of insurance payments to total sum insured sum of insurance objects). The second part of net premium is risk extra charge, which is used to consider adverse fluctuations of an indicator of unprofitability, that is a deviation from the average loss ratio depending on individual level of risk of each object insured. The risk of each object of insurance is reflected in its individual characteristics and properties (V. Jansons, J. Pushkina, V, Jurenoks, K. Didenko, 2014).

Differentiation of insurance premium rates is realized firstly, at the stage of risk premium rates calculation, and secondly, at the stage of risk extra charge calculation, namely:

1) at the stage of risk premium (Prisks) rates calculation - by formation of rates classes for objects of insurance, that is division of set of all objects of insurance into homogeneous groups, depending on loss experience

2) at the stage of risk extra charge (Papdr) – by increasing or reduction the main net rates depending on specific features of object of insurance.

Various known actuarial methods are applied for risk premium calculation. But there aren’t universal methods for risk extra charge calculation, and authors suggest to apply Analytic Hierarchy Process.

The aim of this paper is to highlight expediency of using of Analytic Hierarchy Process for priority of risk factors determination and insurance premium’s risk extra charge calculation in fire insurance. The object of this research is insurance premium, but the subject of the research is the study of probability of the use of Analytic Hierarchy Process for risk assessment and risk extra charge calculation depending on risk factors.

Methodology of Research

The following algorithm for risk extra charge calculation at fire risk’s insurance is offered by authors:

1st stage. Identification of main groups of the factors influencing of fire risk on object insured. In the previous researches authors allocated three main groups of factors – group A (existence of technical means of fire-prevention protection on object), group B (building characteristic) and group C (fire-prevention management on object) (J. Pushkina, V. Jansons, K. Didenko, 2014).
2nd stage. Identification of subfactors within each group. The authors considered factors' identification on the example of group A. Factors \( f_{A,i} \) which have significant influence (positive or negative) on fire risk level on object, were revealed by experts.

3rd stage. Calculation of group A factors priority vector \( PV_A \) and total priority vectors \( W_{A,i} \) using Saati method (Saaty, Thomas L., Luis G. Vargas, 2013).

4th stage. Calculation of risk extra charge \( P_{\text{adpr}} \) for adjustment the main risk premium \( P_{\text{risks}} \) depending on individual level of risk of object insured. If necessary, the calculated value \( P_{\text{adpr}} \) can be modified by insurance company underwriter who takes into account non-formalized risk factors (for example, reputation of the client, specific location of object etc) (see Eq. 2).

\[
P_{\text{adpr}} = P_{\text{risk}} (W_{A,1}\text{sign}(f_1) + ... + W_{A,n}\text{sign}(f_n))\sigma = P_{\text{risk}} (\sum_{i=1}^{n} W_{A,i}\text{sign}(f_i))\sigma
\]

where \( i \) – number of risk factors;
\( f_{A,i} \) – i risk factor of group A;
\( W_{A,i} \) - total priority vector of i risk factor of group A;
\( \text{sign}(…) \) – influence of a factor (positive or negative) on fire risk level on object;
\( \sigma \) - correcting coefficient which can be defined by the underwriter (in practice of insurance, this coefficient value usually is within \( 1 \leq \sigma \leq 2 \)).

Authors apply the method of calculation of risk extra charge on the example of concrete object of insurance. It is assumed that object of insurance is a stone building. As a result of audit of fire risks the risk factors characterizing existence of technical means of fire protection were defined (in our example it is factors of group A, \( i = 1,2,\ldots,14 \), factor codes A1-A14). Results of audit are generalized in the table 1 (short version).

### Table 1. Audit of existence of technical means of fire-prevention protection on object insured

<table>
<thead>
<tr>
<th>Factor code</th>
<th>Description of factor</th>
<th>Factor's existence</th>
<th>Factors priority vector ( PV_A )</th>
<th>Influence of a factor (sign)</th>
<th>Total priority vector ( W_{A,i} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>A1</td>
<td>The building is equipped with an automatic fire extinguishing system</td>
<td>No</td>
<td>0,151</td>
<td>+</td>
<td>0,0558</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>A14</td>
<td>The free entrance of the fire fighting equipment to hydrants is provided</td>
<td>Yes</td>
<td>0,006</td>
<td>-</td>
<td>-0,0021</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0,0491</td>
</tr>
</tbody>
</table>

### Conclusions

Calculation and application of differentiated risk extra charge to insurance premium is important in order:
- to stimulate insurer's economic interest in fire risk level decreasing on object insured; to increase competitiveness of fire insurance products; to create the unified system of fire risk assessment for building insurance; to develop a bonus-malus system for fire risk insurance; to make decision about the selection of optimal system of raising and usage insurance funds at the state, municipal or corporate level.

### References


Financial Management as a Tool for Achieving Stable Firm Growth

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Abstract

The purpose of this study is to show that drawbacks in firms’ financial management lead to the inability of firms to ensure sustainable growth of their value.

This problem is relevant for firms in all countries. The main objectives of this paper are: to analyze dynamics of value of the largest Latvian firms, to determine the drivers of these dynamics and, to establish the main problems slowing the growth of firm value, which are related to the drawbacks in financial management, and to provide suggestions for solving these problems.

This study analyzes financial management processes and identifies several key problems in financial management.

Keywords: financial management, firm value, method of discounted cash flow

Introduction

The essence of firm financial management is that it has to be aimed at increasing the market value of the firm and its shares. In other words all actions by the firm, analytical methods and management tools have to be directed towards a one single goal – to help the company increase its value, making the managerial decision-making process grounded in key considerations of firm value. Financial management of the firm is based on its economic relationships to the external business environment, market processes, counterparties, potential investors, as well as business owners. Innovative financial management of the firm, based on a systemic approach and comprehensive utilization of modern financial instruments and technologies, is the most potent tool capable of increasing firm value in the short-term as well as the long-term.

The purpose of this study is to show that drawbacks in firms’ financial management lead to the inability of firms to ensure sustainable growth of their value.

The aim of this study is to show that financial management of the firm, when viewed as a system, is actually an innovative approach to firm management. In practice firm management is almost never conducted with a systemic approach in mind, and drawbacks in financial management processes lead to the inability of the firms to ensure a sustainable increase in value, although turnover and asset size of the firm may be rising.

This problem is relevant for firms in all countries. The main objectives of this paper are:
- to analyze dynamics of value of the largest Latvian firms,
- to determine the drivers of these dynamics and, finally,
- to establish the main problems slowing the growth of firm value, which are related to the drawbacks in financial management, and to provide suggestions for solving these problems.

Methodology of Research

In order to discover problems in ensuring increase in firm value, in this research the authors study the changes in firm value of the largest Latvian firms 201 during the period from 1998 until 2014. This research uses the approach to firm valuation that is based upon current and future income. This approach provides for the use of the method of discounted cash flow (henceforth referred to as DCF). DCF method is widely used in practice and reviewed in scientific literature in the sphere of capital investment planning and firm market value assessment. This valuation method has the potential to be one of the most precise ones, as different rates can be used as a discount rate, including the weighted average cost of capital (hereinafter referred to as WACC). By choosing the discount rate equal to the price of firm equity, the analyst effectively assumes that the best alternative project is the ongoing economic activity of the firm. DCF analysis first has been conceptually offered by I. Fisher (Fisher, 1930) and John B. Williams (Williams, 2012). Further these methods were developed in the works by T. Copeland, T. Koller, J. Murrin, J. Hirshleifer and A. Damodaran. (Copeland et al, 2000, Hirshleifer, 1958, 1970, Damodaran, 2012). The DCF method and the analysis of results is done in stages (Gordon, 2013). The forecast of cash flow includes identification of its duration and type, as well as the assessment of factors determining the cash flow. Accounting of the potential risk
associated with this cash flow can be done using the following methods: risk-free equivalent method (Robichek & Mayers, 1966) or the method of risk-adjusted discount rate (Houng-Yhi Chen, 1967). Each of these methods has its own advantages and deficiencies; however, theoretically both methods should ensure obtaining similar results. Though the DCF method is only a measuring tool, it allows to evaluate and compare firm market value at different time periods. The resulting firm value forms the basis for making financial decisions. In applying this method, the analyst has to take into consideration interest payments, cost of equity, debt-to-equity ratio, WACC, earnings before interest, taxes, depreciation and amortization. The above indicators essentially describe the system that is managed by the process of financial management. They represent the objects of financial management. Therefore, the decrease in the aggregate index of firm value calculated with the DCF method reflects the problems of financial management of the firm, as in this case the main goal of financial management is not achieved. In determining firm value, the current WACC of the firms is calculated. In the analysis the authors consider the firm value as net present value of free cash flow, selected discount rate is equal to the firm’s WACC.

**Findings/Suggestions**

The authors believe that there are the following main deficiencies in the financial management:

- Budget of the firms is constructed without consideration of strategic goals;
- There are contradictions between functional approach of firm management and business logic, as organizational structure of the firm based upon functional approach is focused on subordination hierarchy and does not pay due attention to the hierarchy regulating responsibility for the end result;
- The accounting system does not meet the requirements of budgeting and cost value estimation; data for the analysis are received with a delay;
- Insufficient, limited use of methods and tools of financial management;
- Fragmentary nature of activities aimed at the reduction of financial risks;
- Insufficient interaction of individual methods and tools of financial management;
- Intuitive approach dominates in making financial and investment decisions, which to a large extent is based upon the experience of firm management and not on the systemic approach;
- In order to achieve this, this research suggests some innovations to firm managers and owners.

**References**


Financial Security in the Baltic States

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Abstract

The present paper apply recently developed consolidated indicator of the state financial security to the situation in Baltic States. The indicator summarise number of economic and financial parameters: Government debt to GDP ratio; Debt service costs to collected taxes ratio; Budget deficit to GDP ratio; Inflation rate; Long-term interest rate of the government bonds; External to total government debt ratio; Debt to population ratio; Money stock to GDP ratio. The resulting indicator demonstrates reasonable correlation with sovereign Fitch rating for Baltic States as a whole.

Keywords: financial security; government debt, sovereign rating.

Introduction

A problem of the state financial system instability becomes the issue of primary concern due to recent world financial crisis, demonstrating urgent need for the instruments to evaluate the state financial stability in the aspect of the government debt policy and management. Recent events posed some doubts on the ability of worldwide acknowledged international credit ratings to predict potential government debt crises.

Author has developed the consolidated indicator for the evaluation of the state financial security. This indicator was applied to the Latvian situation in 2000 – 2012 (Semjonova, 2014). Results demonstrated good correlation between developed indicator and evaluations made by the international credit rating agencies.

The question whether this correlation remains in force for other countries still persists. In the scope of the present paper, author considered Baltic countries as being similar in geographical, demographic, political and economical conditions.

Methodology of Research

Data on Lithuania, Latvia and Estonia over the period of 2000 – 2012 were extracted from the Eurostat database (Eurostat, 2013). The indicator of the financial security was evaluated using following criteria: 1) Government debt to GDP ratio; 2) Interest (government debt service costs) to Collected taxes ratio; 3) Government budget deficit to GDP ratio; 4) Inflation rate; 5) Long-term interest rate of the government bonds; 6) External government debt to Total government debt ratio; 7) Government debt to Population ratio; 8) Money stock (M2) to GDP ratio. Selected criteria was used to compose consolidated financial safety indicator in a form of

\[ X = \sum_{i=1}^{7} \frac{F_i}{R_i} \cdot \mu_i + \frac{R_k}{F_k} \cdot \mu_k \rightarrow \min, \]

where \( F_i \) – real indicator value, \( R_i \) – recommended indicator value, \( \mu_i \) – indicator weight, that is normalised by \( \sum \mu_i = 1 \) (Semjonova, 2014).

The X indicator was calculated using the weights, obtained from three different expert pools. The indicator values were compared to Fitch sovereign ratings (Fitch, 2012), assigned to during period under study. In order to perform the quantitative analysis, original Fitch rating was substituted by numerical equivalent in a manner that value 0 corresponds to the lowest rating, but value 9.67 – to the highest rating.

Findings/Results

Figure 1 demonstrates the comparison of calculated X-indicators of Baltic States and Sweden with the corresponding Fitch rating equivalent. There is moderate correlation between X indicator and Fitch rating for the all Baltic States together, although detailed analysis shows no correlation for Estonia.
Figure 1. Correlation between consolidated indicator and Fitch rating

In a time series, consolidated indicator increased during 2008 – 2009 recession for all Baltic States, but for Estonia it was the smallest because of low increment of the government debt during crisis.

Conclusions

1. In a context of three Baltic States, evaluations of the financial security of separate countries are well aligned with each other and correlates with Fitch sovereign rating
2. Further validation of the indicator required comparison with other rating agencies and broader selection of countries.

References


Economic integration as a market failure remedy: the issue of monopolisation

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Abstract

The research “Economic integration as a market failure remedy: the issue of monopolisation” gives wide description of monopolization process’s nature, foundation source, development procedure and actuality in the field of modern entrepreneurship, as well as evaluates its stimulated social losses and retrievable benefits. The main question of the aforementioned research is definition and quantitative analysis of monopolization process’s effects in the context of the Latvian industries as composing element of a small open economy, directly subject to the influence of the globalization process, while constructing an empirical model of the researched dilemma with the use of international historical experience of monopoly formations standings. The current research uses a vast variety of monopolization evaluation ratios and their econometrical updates on companies that are involved in the study procedure in order to detect and numerically measure their market monopolizing potential, based on the implemented price policies.

Keywords: monopolization process, econometrical modelling, monopolization level analysis, monopoly market power, market consolidation trends.

Introduction

The goal of the current research, taking into consideration modern day economic challenges and above described tendencies, is to, with the use of analytical, comparatively – economical, coherently – logical and economic index analysis methodologies, conduct a full – scale study on the nature of monopolization process, detect its appearance sources, define the caused effect in modern economic systems, as well as analyse and evaluate the main monopolization influence factors that shape conduction of the process according to various industries market conjecture specifics.

The hypothesis of the current research is as follows: modern day small open economies undergo a natural, consequentially – economic based and supported by internal competition, process of market consolidation, which leads to acceleration of individual monopoly power concentration in specified niches, especially seen in industries that are restricted from the effects of import due to their functioning specifics.

The current researches scientific study is defined as five structural industries of Latvian national economy, their market conjectures and specifics of competition conduction, as well as revealed monopolization trends and its development algorithm. A special focus of attention will be given to the mobile communication market as a system, naturally secured from macro – external competition such as import and international equity infiltration due to the regional specifics of providing telecommunication services.

The object of the current research is the Latvian Republic mobile communication market as well as four other industries of the Latvian national economy along with involved companies, their supplied services, pricing systems, management strategies, related additional products, empirical demand, supply and client loyalty in the specified market and the above given factor cluster influence on the process of monopolization within the framework of the evaluated industry.

The main goals of the current research are:
1. Defining the existence substantiations, causes and consequences of monopolization process;
2. Construct an empirical quantitative model that would allow to evaluate and conduct scientific study of monopolization process combining the main existing methodologies with innovative causally – coherent approach;
3. Conduct a study of the process of monopolization, its structured development and composition algorithm with the use of the developed model;
4. Conduct a complex quantitatively – qualitative analysis of Latvian national economy’s industries with the use of the developed model;
5. Conduct a verification test of the current research hypothesis with the use of the developed model, consequentially confirming of neglecting its rationality and applicability.
Methodology of Research

The following assessment methods had been used in order to conduct the current study: monographic analysis, secondary statistical data analysis, graphic analysis, econometrical modelling, mathematical criteria analysis, quantitative regression analysis, qualitative resulting interval range analysis and data grouping method.

Findings/Results

The developed complex model of monopolization process evaluation had proven itself as a precise, econometrical tool of market research conduction, able to leverage any statistical out scale data burst with the carefully selected weight system, leading to a multi – functional, economically sustainable and scientifically correct model of market data analysis. The level of monopolization in the mobile communication, multi – purpose retail trade markets and banking sector had quantitatively measured and, respectfully, qualitatively defined as medium – high and relatively – high, while the brewing industry and pharmacy market are, respectfully, medium – low and relative – low, indicating that the industries, open to import infiltration, have approximately two times lower combined monopolization evaluative coefficient then those markets that are localized and enclosed from influence of external competition and globalization.

Conclusions

Summarizing the conducted research layout, acquired quantitative analysis result and their profound qualitative evaluation, the following conclusions can be made:

1. The conducted research testifies and confirms the thesis on national economy structural crisis stimulation of monopolization process within those industries that are undergoing a recession;
2. The conducted research had proven the much higher level of analytical precision of methods that operate with market share data, rather the just the number of supplier, functioning in the defined market, evaluating industry monopolization process development;
3. Positive consequences of monopolization can be seen in the forms of technological innovation, completely new goods, introduced to the market or low cost producing organisation as the so called “mass production effect”;
4. The hypothesis of the current research has been positively confirmed and deemed correct: indeed, modern day small open economies undergo a natural, consequentially – economic based and supported by internal competition, market consolidation, which leads to acceleration of individual monopoly power concentration in specified niches, especially seen in industries that are restricted from the effects of import due to their functioning specifics, the mentioned paradigm most efficiently mitigated by full integration into the international trading system, hence, globalization had been proves to be an economically justified and natural remedy for internal monopolization of modern markets.
5. The conducted research has proven the industries with low levels of involvement in international trade and struggling trans-border economic integration generally host a higher internal monopolisation potential that those with sufficient external competitive involvement due to non – elastic total natural market capacity and inability of the demand amount to operatively relocate between the relevant solvent consumption clusters.

References

Assessment of Operational Risk Based on Copula Approach

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Abstract

Solvency II Directive requirements should establish common risk management principles for every insurance company in the European Union. Basically, the requirements of the Solvency II Directive are not just about capital of an insurance company but about risk assessment through the implementation and enhancement of risk measurement and risk management. The research is performed in order to assess the capital to cover possible losses due to the occurrence of the operational risk sub-risks. In order to evaluate the operational risk the authors interconnect risk management and risk measurement. Operational risk is one of the core risks of every insurance company under the Solvency II framework and can be defined as the financial losses occurred due to incorrectly defined systems or processes; failures in IT system, human mistakes or other external processes. In the performed research we propose to model operational risk by skew $t$-copula and estimated tail dependence in each situation for modelling distributions with heavier tail area.

Keywords: operational risk, risk management, risk measurement, skew $t$-copula.

Introduction

The requirements of the Solvency II Directive set many challenges to the Baltic insurance company since requires not only enormous financial and human resources but also a change in the management mind and decision-making process in a company. All in all, the Solvency II regime requires implementing, improving and putting the risk culture into the heart of insurance company’s business processes.

Moreover, the new requirements of the Solvency II Directive, which will come in force from 1st January 2016, set a lot of challenges to every insurance company in the European Union member states in relation to the establishment of more sensitive and sophisticated risk coverage in order to ensure solvency and the safety of policyholders. Based on the requirements of the Solvency II Directive, the insurance companies should hold the appropriate amount of reserves that could ensure safety of policyholders and beneficiaries. The target of this research is to study the improvement possibilities of the operational risk assessment under the Solvency II regime. The object of this paper is assessment of operational risk and the subject is operational risk. Operational risk is the a change in value caused by the fact that actual losses, incurred from inadequate or failed internal processes, people and systems, or from external events, including legal risk but excluding strategic and reputational risks.

During the research, the authors interconnect risk management and risk measurement principles in order to assess the operational risk considering core principles of the Solvency II framework.

Methodology of Research

The authors propose a new approach for the operational risk assessment to ensure proper capital in order to cover this particular risk in an insurance company. The proposed algorithm is based on risk measurement and risk management and is presented in Figure 1.

Due to the nature of operational risk that is less depended on macroeconomical cycles it can be modelled by skew $t$-copula and estimated tail dependence in each situation for modelling distributions with heavier tail area. The main idea of the proposed approach is to prove the possibility of identification of VaR (Value at Risk) for the operational risk portfolio using a simulation technique. Because of the correlation among different sub-risks of operational risk, their VaR (portfolio) has to be smaller than simply added corresponding VaR of each sub-risk. The fact is that VaR is a quintile of a distribution and used as a (non-coherent) risk measure [1]. The proposed approach is based on the historical data that is recorded data in relation to the sub-risks of operational risk from the annual loss database. In reality, the proposed model is possible to use for any number of risks.

In order to prove the practical usage of the algorithm, the case study has been performed. The case study on the assessment of the operational risk is based on a particular Baltic non-life insurance company.
The simulation model based on the presented above algorithm is based on [2] and [3]. The case study has shown that skew $t$-copula can be used to estimate VaR of portfolio of different operational risks and finally calculate estimates of tail dependence for risks.

**Findings/Results**

Furthermore, the performed case study has proved that because of the correlation among different sub-risks of operational risk, their VaR of portfolio is smaller than a simply added corresponding VaR of each sub-risk. Moreover, the suggested approach of the capital measurement to cover the operational risk will enable every insurance company to control and properly assess the capital required for the operational risk in line with the requirements of the Solvency II Directive and to establish a more sophisticated and sensitive risk assessment in future.

**Conclusions**

There are discovered several valuable advantages of skew $t$-copula usage in operational risk measurement: copula has a very simple and clear simulation rules; by choosing degrees of freedom is possible to find appropriate skewness of copula for simulation; another advantage of simulation is the possibility to calculate average measure of necessary characteristic; further tail dependence can be evaluated between risks. During the case study, it has been proved that because of the correlation among different sub-risks of the operational risk, their VaR (portfolio) is smaller than a simply added corresponding VaR of each sub-risk that allows keeping optimal volume of capital to cover the possible losses due to occurrence of the operational risk. Because VaR is not coherent risk measure the VaR for simulated portfolio will always be less than sum of VaR of different risks. Thus, the proposed method would not allow over-reserving and putting gap capital to other needs of an insurance company.

**References**

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Municipal Waste Reduction Opportunities in Getliņi ECO Landfill

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Abstract

The article reflects municipal waste reduction opportunities in municipal waste landfill site Getliņi EKO. The strategy of the European Union establishes reduction of waste disposal as mandatory rule for all Member States. In Latvia about 81% of municipal waste is produced in the region of Riga and Pieriga and buried in Getliņi EKO municipal waste disposal landfill. The landfill regularly collects data about quantity and composition of waste. These data used in calculations for assessing the possibility of reducing disposal waste amount. The best of the calculated alternative gives possibility to minimize the total quantity of waste till 47.6% by sorting as well as approximately 170038 tons of recycling raw materials per year.

Keywords: municipal waste, Getliņi EKO landfill, sorting, recycling

Introduction

Waste management in the European Community (EC) launched in 1989. EU waste management provides waste reduction, re-use, recycling, disposal and monitoring. Municipal waste may dispose only if they cannot be re-used, recycled or burned. EU directives in the field of waste management shall make arrangements for qualitative waste recycling and waste collection system. By 2015 the EU Member States must establish a system of waste collection including paper, metal, plastic and glass [1], while by 2020 must be initiated at least 50% of the household paper, metal, plastic and glass waste reuse and recycling. Several EU Member States, including Latvia, in 1995, more than 80% of municipal domestic waste dumps in landfills. 2016 the amount of biodegradable waste is planned to be reduced by 65% in comparing with 1995.

The largest amount of municipal waste in Latvia come to Getliņi EKO where planned to dispose 12000000 t or 81.2% of all waste. Consequently, the greatest attention should be paid to reduce the quantity of waste disposed in landfills. Recently in Latvia initiated and implemented a number of waste sorting projects. In October, 2015 will start municipal and commercial waste sorting station construction in Salaspils district Acone. Station capacity will be 100,000 t per year, including 33,000 t valid for processing materials and approximately 20,000 tons per year of waste fuel material [4].

Methodology of Research

In Getliņi EKO municipal waste is used for biogas and further for heat and electricity production. To schedule the energy production capacity, Getliņi EKO performs data collection of the waste amount entering the landfill. During the 2007-2013 average landfilled waste is 324499 t, disposed in Getliņi EKO. From 2009 to 2013 the amount of waste has not changed dramatically. It points to the tendency of not restricting the quantity of municipal waste and domestic waste sorting is definitely not sufficient.

Because at the 2016 amount of biodegradable waste is planned to be reduced by 65% compare to 1995, the Getliņi EKO must introduce waste sorting prior to waste disposal. For this purpose two alternatives are calculated on the basis of the Getliņi EKO data on waste quantities and composition. The first alternative is scheduled to remove the glass, plastic, metal, pet bottles, tetrapacks and construction waste. Be disposed of in a landfill just food waste, paper, cardboard, garden waste, textile, leather, hazardous waste, municipal waste and small fraction waste. The second alternative provides separate paper, cardboard, garden waste, textile, glass, plastic, metal, pet bottles, tetrapacks and construction waste. Be disposed of in a landfill just food waste, leather wastes, hazardous household wastes and small fraction waste.

Findings/Results

First alternative gives possibility to recycle 29.5% of total waste, while the quantity of waste for disposal is 70.5%, which is not a sufficient indicator of the EU requirements. Although on average end up in the recycling of waste sorted 95727 t per year. The second alternative looks at the possibility of municipal
waste sorting even more significant reducing of the Getliņi EKO waste disposal. In this case Getliņi EKO waste landfilled reduction through recycling waste sorting can be used on 52.4%, gaining an average 170038 tons of recycling raw materials per year.

**Conclusions**

In recent years, many municipal waste management regions created separate collection of waste, glass packaging deposit system and perform other activities, still experiencing lag of many EU Member States (Germany, Switzerland, Denmark) municipal waste management.

The first alternative Getliņi EKO waste landfilled reduction through recycling waste sorting can be used for 29.5%, a moderate 95727 t recycling raw materials per year. The second alternative Getliņi EKO waste landfilled reduction through recycling waste sorting can be used on 52.4%, gaining an average 170038 tons of recycling raw materials per year.

**References**


Getliņi EKO unpublished waste collection data 2007-2013
Project Risk Register Analysis Based on the Project Management Term „Risk“ Definition Theoretical Analysis

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Abstract

The aim of the current research is to examine real project risk registers to find correlations between the project management theory, especially project risk management, and practical results of real project risk management – the risk registers publicly available in the Internet.

In the research the author has analysed the compliance between the project risk management theory which is described in “Aid Delivery Methods. Volume I Project Cycle Management Guidelines” and “Caltrans Project Risk Management Handbook, Threats and Opportunities, Second Edition, Revision 0” and the project risk registers.

In the previous research’s the author concluded that after analysing just 30 risk registers significant differences could be found between the risk register described in the theory and risk registers of real projects. Term “risk” theoretical analysis give information for deep risk registers publicly available in the Internet analysis.

Keywords: project, risk, definition analysis, risk register.

Introduction

Project management is a new science characterized by dynamic development. The first editions of the most popular project management guidelines – A Guide to the Project Body of Knowledge or Tasmanian Government Project Management Guidelines were launched in 1996. The latest version of A Guide to the Project Body of Knowledge – the fifth one – was issued in 2013. The latest – 7th version of the Tasmanian Government Project Management Guidelines came out in 2011.

Although a new edition was issued in average every three years, the author considers that none of them contains references to research results; it can be assumed that the manuals represent theoretical reflection on the authors’ experience. However, the development of a science is impossible without research and research-based conclusions and recommendations.

Methodology of Research

The research comprised analysis of 30 risk registers. The selection of the registers was made in November, 2013 with the Google search engine by requesting “project risk register” and the first 10 web pages with the search results were examined. Taking into account that the aim of the research was not to find regularities in the risk registers, no assessment was made concerning the general set of risk registers and the kind of the selection. The author believes that 30 risk registers constitute a sufficient number for comparing the selected registers with the term “risk” defined in “Aid Delivery Methods. Volume I Project Cycle Management Guidelines” and “Caltrans Project Risk Management Handbook, Threats and Opportunities, Second Edition, Revision 0”.

The terms used in the term “risk” definition analysis was used for to create two theoretical risk register for comparison with 30 real risk registers. Qualitative research methods are used.

Findings/Results

All registers are designed as a table with columns about the project risks. In several registers at the beginning of the table or in a separate table there is additional information, for example, about the project, explanation about the register completion or about the column values. The supplementary information was not used in the research.

In the previous research the risk registers were described and it was concluded that by analysing just 30 risk registers significant differences can be found between the risk register described in A Guide to the Project Management Body of Knowledge and real risk registers. Same differences it was found between two theoretical risk register and 30 real risk registers.
Conclusions

The terms which have been used in two term “risk” definitions has different meanings depending of the branch of science. Therefore, it can not determine the truth of the theoretical risk registry.

The effectiveness of project risk management and the risk register as one of the components of effective risk management could be one of the criteria of the risk register accuracy. However, the theory of project management effectiveness has neither been fully designed. The research on risk registers could promote and facilitate the research on the effectiveness of project management.

References

Internet links for 30 risk registers.
SUBSECTION

“COMPETITIVENESS OF LATVIAN ENTERPRISES IN FOREIGN MARKETS (EKOSOC-LV 5.2.1)”
The Role of Different Sources of Information on Attitude towards GMO

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Abstract

GMO are used in many countries to prolong the period of use of different products, to add some qualities for food and feed. GMO in everyday use is accepted in different countries, but not in European Union. For Latvia exports of food it could be interesting as in many cases period of use of different products is limiting export opportunities. The current paper analyses the public survey in Latvia results on different information sources about GMO. The research results have shown that public in Latvia as most trustful sources of information on GMO in average have evaluated for scientific publications, but lowest average evaluations were given for relatives and friends. Average evaluations were rather high although all evaluation scale (1-10) was covered by respondents.

Keywords: attitude towards GMO, public opinion, competitiveness, public survey

Introduction

In many countries worldwide public attitude towards GMO is studied as the public opinion in many cases is very important for acceptance of policy directions towards production and consumption of GMO. Regular monitoring is conducted in the countries of the European Union; experts on GMO issues share opinions and results of scientific findings on GMO – on advantages and disadvantages of GMO use (Aleksejeva, 2014). There are going on discussions world-wide and by specialists in different fields on how much people and informed or disinfomed about GMO (Twardowski & Malyska, 2015), (Perez-Torrado, et al, 2015), on public attitude towards GMO (Blancke, et al, 2015), on influence on environment (Wickson, 2014), on GMO revolution in agriculture (Rotolo, et al, 2015) and many other aspects. The goal of this paper is to analyse role of different sources on information on attitude towards GMO in Latvia and compare with results in other countries.

Methodology of Research

For methodology of research it was made scientific publications analyses, survey of Latvia’s inhabitants from September 2014 until June 2015, data for sampling frame were obtained from Central Statistical Bureau of Republic of Latvia, to get representative survey results the database of respondents was purchased from telemarketing company, for selection of units going to be included in the sample it was applied systematic sampling - every twentieth inhabitant was approached by phone call and invited to answer on survey questionnaire questions, for those respondents who did not answer the questionnaire questions within two weeks a reminder was made (three reminders were applied for respondents who have not answered the survey questions). Response rate was 23%. For data analysis of survey results were used the descriptive statistical analysis – indicators of central tendency or location (arithmetic mean, mode, median) and indicators of variability (range, standard deviation, standard error of mean), cross – tabulations, non-parametric statistical tests (Kruskal-Wallis test, Mann-Whitney test, Kolmogorov-Smirnov test), correlation analysis.

Findings/Results

The public survey (with 1184 respondents in all regions in Latvia) results have indicated that public trust for sources of information on issues related to GMO in general were very different, but average evaluations for all analysed sources of information (friends and relatives, books, informative events and seminars, internet, newspapers and journals, radio, TV, scientific publications) were rather high and no one source of information related to GMO had average evaluations (neither arithmetic mean, neither mode, neither median) less than 5 in the 1-10 point scale as it is indicated in Table 1.
### Table 1. Evaluations of trust for sources of information about GMO

<table>
<thead>
<tr>
<th>Source</th>
<th>N</th>
<th>Valid</th>
<th>Missing</th>
<th>Mean</th>
<th>Std. Error of Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends and relatives</td>
<td>1184</td>
<td>874</td>
<td>310</td>
<td>5.17</td>
<td>0.080</td>
<td>5</td>
<td>5</td>
<td>2.370</td>
<td>5.619</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Books</td>
<td>1184</td>
<td>882</td>
<td>302</td>
<td>6.90</td>
<td>0.070</td>
<td>7</td>
<td>7</td>
<td>2.066</td>
<td>4.267</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Informative events and seminars</td>
<td>1184</td>
<td>868</td>
<td>316</td>
<td>6.78</td>
<td>0.070</td>
<td>6</td>
<td>7</td>
<td>2.072</td>
<td>4.294</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Internet</td>
<td>1184</td>
<td>936</td>
<td>248</td>
<td>5.94</td>
<td>0.062</td>
<td>6</td>
<td>6</td>
<td>1.892</td>
<td>3.581</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Newspapers and journals</td>
<td>1184</td>
<td>894</td>
<td>290</td>
<td>5.74</td>
<td>0.068</td>
<td>6</td>
<td>6</td>
<td>2.020</td>
<td>4.081</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Radio</td>
<td>1184</td>
<td>874</td>
<td>310</td>
<td>5.77</td>
<td>0.069</td>
<td>6</td>
<td>6</td>
<td>2.043</td>
<td>4.173</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>TV</td>
<td>1184</td>
<td>900</td>
<td>284</td>
<td>5.82</td>
<td>0.074</td>
<td>9</td>
<td>9</td>
<td>2.226</td>
<td>4.955</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Scientific publications</td>
<td>1184</td>
<td>926</td>
<td>258</td>
<td>8.22</td>
<td>0.059</td>
<td>9</td>
<td>9</td>
<td>1.785</td>
<td>3.187</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Author’s calculations based on Inese Aleksejeva conducted inhabitants of Latvia survey in 2014 and 2015 (n=1184), evaluation scale 1 – 10, where 1 – do not trust; 10 – fully trust.

The results of the Latvia’s inhabitants survey indicate that the most trustful source on information about GMO are scientific publications with average mean evaluation of 8.22 with mode 9 and median 9 although all evaluation scale was covered, the lowest evaluated source of information was friends and relatives with average mean evaluation of 5.17 with mode 5 and median 5 although all evaluation scale was covered, the biggest variability of evaluations was for source “friends and relatives”.

### Conclusions

Scientific discussions with different points of view are going on in different fields of research and results are very widely analysed in scientific publications world-wide.

Trust on information sources related to GMO issues were evaluated rather high with the highest evaluations for scientific publications and with the lowest evaluations for relatives and friends as source of information related to GMO.

### References


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Theoretical Justification of the Model of Evaluation of Renewable Energy Sources Integration on Fossil Fuel Energy Sources Operation Efficiency

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Abstract

This document provides the information about the opportunities of situation evaluation. There are two methods for situation evaluation: complex approach and analysis of situation. In details the complex approach is going to be studied. According to complex approach situation is evaluated using theoretical model. This document provides the main points about situation evaluation methods, explanation of evaluation methods choice and aspects about theoretical model creation.

Keywords: complex approach, situation analysis, systemdynamics, theoretical model

Introduction

Energy problems are common worldwide, but it has its own character in each country [1]. The current situation in Latvia can be described in such way [2]: competition increase between energy production companies; changeable situation in fuel and electricity market; new market regulation mechanisms; increase of energy efficiency demand and penetration of renewable energy sources (RES) in energy production process. So there is a big competition in energy sector in Latvia. So it is necessary correctly evaluate situation and its influence on the investigated object to stay competitive. According to evaluated results appropriate actions should be taken.

The situation can be evaluated using complex approach or situation analysis. The situation analysis means orientation to the certain problem, which concerns only investigated object. Using the complex approach the situation is evaluated in system and investigated object is a part of this system. Man creates system according to situation and desired results. Situation is modelled using the appropriate software.

Systemdynamics is approach, which deal with complex system. Systemdynamics investigate how some facts and variables influence investigated object using mathematical relationships [3, 4]. In this research authors use systemdynamics approach to create the theoretical model to evaluate the integration of RES on the investigated object.

As investigated object AS Latvenergo Riga CHP-1 and Riga CHP-2 plants were chosen. Both CHP plants are up to date power plants, which operate under competitive conditions. For example, before 2008 Latvenergo CHP plants were the main energy source, which produced thermal energy on the right bank of Riga district heating system. After 2008 the situation has changed, because new fossil fuel energy sources appeared. So competition for load distribution has increased [3]. Moreover, it is forecasted that in near future the level of competition will increase more due to increase of RES use. Authors want to evaluate the RES influence on AS Latvenergo Riga CHP-1 and CHP-2 power plants in large scale, so complex approach is chosen.

Methodology of Research

Firstly, the theoretical model should be created, which can be used to evaluate RES integration and its influence on fossil fuel energy sources operation efficiency. Secondly, the structure of theoretical model should be developed (Fig. 1). It means that structure’s elements (blocks, sub-blocks, variables, connections, causal relationships, etc.) should be identified. Thirdly, according to the theoretical model and its structure the systemdynamics model should be developed. Figure 2 shows the example of systemdynamics model. It is a systemdynamics sub-model of sub-block “Small CHP plants”.

To show difference between both methods – complex approach and situation analysis – it is planned to reflect the examples of second approach (situation analysis), too.
Figure 1. The structure of theoretical model

Figure 2. The example of systemdynamics sub-model

Findings

The model creation is the most challenging step in complex approach - all elements and connections of model structure should be observed. That is why cooperation of experts and academics from different scientific fields is necessary. Moreover modelled situation should be evaluated from different point of view: energy sector, economic sector, legislation, etc.

Conclusions

The choice of complex approach or situation analysis is depend on results, which are planned to obtain. Complex approach evaluates situation globally (in system). Situation analysis focuses on certain situation and object.

References


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Characterisation of competitiveness factors in healthcare industry in Latvia

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Abstract

The concept of competitiveness has originated in the theory of microeconomics but in last years it has come upfront for the comparison of national economies at macroeconomic level. Competitiveness of health system at macro level can be described according to OECD definition. The aim of the study is to find out factors that influence competitiveness of health systems in general and to elaborate a framework for further competitiveness analysis of health care system in Latvia. Literature sources related to different aspects of competitiveness in health care were reviewed. The study provides analysis of interlinked factors influencing the competitiveness of the health system at different levels and focuses on the competitiveness of health system in external markets. Internal factors influencing competitiveness of a national health system are: health care market size and strength, including resources and capital available, ease of market entry and exit, the range of medical services and the threat of substitute, information on prices and quality of services and providers, efficiency of government regulation and bureaucracy level of public administration.

Keywords: Health system, components of competitiveness, nature of market factors and government regulation in health care

Introduction

The concept of competitiveness has originated in the theory of microeconomics but in last years it has come upfront for the comparison of national economies at macroeconomic level. Recent high level political documents as Europe 2020 highlight the importance of national and regional competitiveness as a means for the development of the European economy.

Assuming that health care system is a part of national economy, competitiveness of health system at macro level can be described as (adapted from OECD definition of competitiveness): measure of health system’s advantage or disadvantage in providing it’s services in international markets [1]. In other words, health system is competitive if it produces the same quality health services, but at lower price in a setting attractive for international customers.

The World Economic Forum (WEF) defines competitiveness as the set of institutions, policies and factors that determine the level of productivity of the country [2]. Competitiveness of the health system is influenced by individual components, such as: nature of health services, market and provider size and power, behavior of economic agents, etc.

International competition has been assumed as a facilitator for defining policies and activities enhancing performance at national level.

Nevertheless that the application of the concept of competitiveness in health care is emerging there is not a common and undisguised methodology to deal with.

The aim of the study is to find out factors that influence competitiveness of health systems in general and to elaborate a framework for further competitiveness analysis of health care system in Latvia.

Methodology of Research

A literature review was performed. Literature sources related to different aspects of competitiveness in health care were reviewed. Various approaches and definitions of competitiveness and its dimensions in health care were analyzed. Different interlinked factors influencing competition in health system at macro and micro levels as well as the role of governmental and international regulation were examined.

Findings/Results

Over last decades European health systems have been built more on common values such as solidarity, universal access and equity and much less on efficiency or competitiveness. Growing needs and demand, population ageing, resource scarcity and economic pressures facilitate development of different approaches to facilitate efficiency gains and value for money approach in health systems. It is evident that the value of competition lies in the extent to which it allows to achieve health policy goals [3] and competition generally
should eliminate inefficiencies yielding to high production costs transferred to patients through high health service and delivery costs.

The study provides analysis of interlinked factors influencing the competitiveness of the health system at different levels and focuses on the competitiveness of health system in external markets.

Internal factors of the national health system contribute to define competitive advantages or weaknesses, Porter’s five forces framework can be applied for the competitiveness analysis of a firm and national health care industry level. Internal factors influencing competitiveness of a national health system are: health care market size and strength, including resources and capital available, ease of market entry and exit, the range of medical services and the threat of substitute, information on prices and quality of services and providers, efficiency of government regulation and bureaucracy level of public administration.

Regulatory framework and institutions, clear rules for market entry and exit, access to information and the overall capacity of governmental agencies in fulfilling their tasks are substantial to ensure efficiency in health care system.

On the other, health care industry is affected by the EU and international regulation of competition, evolving concept of patients’ rights, patient mobility, cross-border health care, ICT development and others. External factors may drive new forms of competition leading to new opportunities or threats.

Conclusions

The framework based on factor analysis of competitiveness reveals the complex issue of competitiveness of health system in Latvia. The study outlines that of particular interest among other factors should be prices and quality, which are subject of different types of regulation and interlinked with other important factors such as human resources, health technologies and service provision in the health system. External factors influencing national health system is a subject of less research and has an emerging role in the increasing international context of health systems and should be a part of the further analysis framework.

References


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TTIP in Healthcare Industries: Transformation of Internal into External Competitiveness

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Abstract

Healthcare sector in Latvia has been comparatively well protected from external market pressures. As the TTIP includes healthcare as one of main transformational sectors, external competition will increase selective pressure in yet shielded public sector. Institutional analysis of open procurement instead of guaranteed quota system, together with comparative sectorial and international studies, provides insight into possible trajectories of sectorial development. Free trade agreements are a powerful instrument for transformation of external competitiveness criteria into selective means in the national economy.

Keywords: Healthcare sector, external competitiveness.

Introduction

The Transatlantic Trade and Investment Partnership is the forthcoming largest development in the World trade. While the trade part is concerned with certification and standardisation, the investment activities are negotiated in a non-transparent process, there is very few disclosed information on the progress.

Healthcare industries are the largest discussion object regarding a massive opening of previous quasi-closed economy branches. Protectionism of healthcare is reality on both sides of Atlantic. While Europe is more focused on control of healthcare providers, in the USA the health insurance market has very specific properties. It must be noted that related domains research has never been, and according to the resolution of the European Parliament of July 8, 2015 the education is envisaged not to be a subject to TTIP.

Methodology of Research

Institutional analysis of the current market structure clearly identifies observational points arising from market opening. They are – open procurement instead of market share guarantees to public health care providers; higher comparability of professional qualifications and full cost calculations of them; increase of purchaser power in the market; investment valuation in the public sector; wage setting mechanism reflecting full costs: this will be a very challenging issue in Latvia with a high share of retired persons continuing to work and thus deviating from full cost model and distorting wage structure.

Comparative economic analysis uses facts from earlier market openings; however, there are very few examples of massive former public sector transformations. The “overall health service performance” comparisons according to the WHO methodology insufficiently take in account investment decisions by various actors. Earlier opening like in NAFTA services markets did not explicitly mention healthcare, but subordinated it to general services. [1]

Findings/Results

The EU countries are at very different stages on their path towards opening the healthcare markets. The cross-border healthcare provision directive 2011/24/EU introduces some elements of competition, in a very limited scope of coverage. The directive cannot fully unfold its power also because of striking income disparities in the EU, orders of magnitude higher than in the USA. Therefore it must be assumed that the internal market of the EU is very imperfect in the advent of TTIP.

In the poorer EU countries massive rationing of healthcare is taking place. In Latvia a system of quotas determines the supply of public services. While the general practitioners are determining the demand for services, and the patients are free to choose the provider, the real accomplishment of economic transaction occurs only in case if there is a quota allocated on the supply side. Needless to say, the system of quotas is very hardly compatible with any form of FTAs. The solution can be elimination of the system of quotas, however, this cannot be funded by the public sector, or alternatively, quota provision to any provider upon their request, which in fact promotes further fragmentation of the services pool and worsens investment sustainability.
Less discussed problem regards the labor in healthcare sector. In a sector highly protected by a qualification system, in country like Latvia there can be substantial upward pressure on wages. While TTIP does not affect free movement of labour, nevertheless, upward pressure on wages can develop under the conditions of limited worker supply. [2]

Conclusions

Important argument in favour of TTIP is the improvement and larger volume of services provided by Latvian origin providers to clients abroad. This will depend on critical measures to improve the external competitiveness of health care, of investment nature, and means to inform the prospective clients. This can be impetus of development of new provision networks amplifying the IT and mobile technology capabilities. Better digitalisation on the side of USA companies can be their substantial advantage. Exemption of healthcare from large-scale state investment aid schemes due to TTIP will be a very substantial challenge for Latvian companies active in the provision of services related to their investment sources and decisions.

References


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Introduction of work-based learning in Latvia has required changes in decision making of different stakeholders to make the best possible choice. Experience in many developed counties have shown that work-based learning (WBL) have several advantages and requires good cooperation among the policy makers, public administrators, employers, educators and social partners. Current paper analyses experience of scientific research in this field as well as uses 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 be able to 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 that for most important aspects of introduction and realisation of WBL views of employers and social partners are alike, but more deeper analysis have to be followed to prepare suggestions for the most efficient approach of WBL.

**Keywords:** vocational education and training, work-based learning, social partners

**Introduction**

A range of countries (Germany, Austria, Switzerland, the Netherlands, etc) have been successfully addressing the issue of qualified labour force development by implementing work-based learning (WBL) approaches or apprenticeship schemes in vocational education and training (VET). Social partners, especially employers, are indispensable actors and counterpart in this respect. In Latvia the introduction of WBL in minor scale started in 2013, with the aim of piloting various approaches to inform the policy decisions by the VET public administration at national level. As the recent amendments of 2015 to the VET Law stipulate WBL as a form in the implementation of a VET program, the public administrations are currently faced with a task to develop specific legal framework for implementing WBL at system level. As the employers are major stakeholders in the implementation of WBL, the conceptual approaches underlying the legal framework, among other issues, need to be informed by the opinions and interests of the employers. To this end, the authors carried out a survey (2014-2015) among employers to find out their opinions, i.a., on the relevance of certain centralised activities to promote the introduction of WBL in Latvia.

The present paper provides an in-depth analysis of this particular aspect, as the interest and motivation of employers as key stakeholders is a factor determining the overall success of the process. In the light of a recent research based information note to the Cabinet of Ministers prepared by the Ministry of Economy of Latvia on the potential fiscal impact of various approaches in the involvement of employers in WBL, the analysis presented in this paper contribute to improved strategic decisions by public administrations in Latvia. The research results show that the employers are attributing almost equally high relevance to all of the proposed support activities. As these measures are under the responsibility of different public administrations in Latvia (Ministry of Education and Science, Ministry of Economics, Ministry of Welfare, Ministry of Finance and other), this leads to conclude that education and training processes are undergoing a gradual shift of focus and the overall paradigm, including multiple public stakeholder responsibility. Especially since the employers have given the highest relevance (8,9 mean in a 1-10 point scale) to the proposed measure “Coordinated activities by public administration institutions in addressing training and employment issues”. As in Latvia the education and training issues traditionally have been solely under the supervision of the Ministry of Education and Science, a need becomes apparent for a new research informed strategic approach for multiple stakeholder involvement in the implementation of VET and WBL for the training of a qualified work-force.
Methodology of Research

Scientific publications analyses, survey of experts involved in vocational education organisation, for data analysis of survey results were used descriptive statistical analysis – indicators of central tendency or location (arithmetic mean, mode, median) and indicators of variability (range, standard deviation, standard error of mean), as well as multivariate statistical analysis: factor analysis.

Findings/Results

Theoretical background

New approaches in vocational education, like work based learning has made requirements for new training/teaching methods development (Leonard & Talbot, 2009). Needs for academic research in application of work – based learning has required for new research methods development (Costley, et al, 2010) and new adjustments of traditional research methods (Walsh, 2011) and new approaches for realisation (Workman, 2007) and challenges in future (Billett, 2001).

Empirical Research Results

Results of factor analysis on social partners evaluations on statement “What centralised activities do you consider as relevant for a successful introduction of WBL in Latvia?” indicates that as result of factor analysis were identified two complex factors F1 and F2, where complex factor F1 we named as state organisational and financial support and complex factor F2 we named as information and education provision factor.

Entrepreneurs and sectors expert’s evaluations on statement “What centralised activities do you consider as relevant for a successful introduction of WBL in Latvia?” for several evaluation statements have covered the full evaluation scale, but in general evaluations were very high: arithmetic means were between 7 and 9, but mode were 10 except for evaluation on “information campaigns in mass media”.

Results of factor analysis on entrepreneurs and sectors expert’s evaluations on statement “What centralised activities do you consider as relevant for a successful introduction of WBL in Latvia?” indicates that as result of factor analysis were identified two complex factors F1 and F2, where complex factor F1 we named as state organisational and financial support and complex factor F2 we named as information and education provision factor.

Conclusions

In the situation of fast technology development and increasing requirements for labour force there are new approaches in competitive labour force preparation where more and more significant influence has work based learning.

Social partners have significant influence for organisation of work-based learning for preparation of competitive labour force which is highly appreciated by employers and by sector experts.

Results of factor analysis on entrepreneurs and sectors expert’s evaluations on statement “What centralised activities do you consider as relevant for a successful introduction of WBL in Latvia?” indicates that as result of factor analysis were identified two complex factors: F1 - organisational and financial support and complex factor F2 - information and education provision factor.

References


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Identification of the Main Challenges of Rail Infrastructure Competitiveness

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Abstract

This paper presents the analysis of main challenges affecting competitiveness of the Latvian rail infrastructure - the lack of data about demand conditions; evaluation of externalities; non-compliance of the beneficiaries and founders of the rail infrastructure. The research is based on hypothetical-deductive procedures and the system object oriented analysis of highly cited relevant literature. It was concluded that competitiveness of the rail infrastructure, is hampered by its existing design. The evaluation of the rail infrastructure competitiveness shall be expanded to the evaluation of externalities’ effects and needs of consumers’ market.

Keywords: Public-use railway infrastructure, competitiveness.

Introduction

The following features of the rail infrastructure economy were stated in the previous studies (Hudenko & Počs, 2013; Hudenko & Počs, 2014, Hudenko & Počs, 2015; Hudenko, 2013):

1. There is a lack both of available statistics and of managerial data about factors that influence main cargo flows from CIS countries. The rail infrastructure manager has a natural monopoly position in logistic chain and there is a poor collaboration among the participants of logistic chains;
2. It is not possible to adapt the rail infrastructure capacity to short-run demand of transported product markets quickly due to rigidity of production factors of rail infrastructure. This does not match current changes in production and logistic strategies, which are switching to the ‘just in time’ method. The modernization of processes in the rail infrastructure asks for heavy and long-run capital investments;
3. Rail transport is forced to compete with other transport modes that are responsible for traffic congestion, extra fuel consumption, higher accident level and air pollution. Nevertheless, it is too complicated to connect beneficiaries of the rail transport externalities to a concrete government level (municipal, state or EU) in order to adjust competition using taxes or subsidies. This is one of the reasons why non-commercial externalities of rail transport are not covered by external funds.

This study is aimed at analysis of the impact of the stated features on rail service export competitiveness according to the objectives of the National Research Program 5.2. EKOSOC - LV.

Methodology of Research

The research is based on hypothetical-deductive procedures and the system object oriented analysis of highly cited relevant literature. During the research process, distinctive features of Baltic state railways were established and literature reviews on relevant cases of different countries were collected.

The conclusions were based both on the interpretation of the cumulative study results and on the assessment of the existing situation in Latvian railways.

Findings/Results

The majority of the rail shipment in Latvia is carried out from neighbouring countries to the Latvian sea ports. The consumer prices of goods transported are mostly quoted by stock exchange. The rigidity of charges and capacity of infrastructure decrease the elasticity of supply chain – when the price on stock exchange is high, the increased transportation volume is limited by infrastructure capacity, but when the price is low, the transportation is unfavourable due to conformable charge.

The existing rail network in Latvia was built in order to provide intensive transportation of raw materials from mining places in CIS countries and to provide transportation of habitance within the former USSR territory. Shifting of borders, urbanization and development of Northern seaports have changed the expected loading level. As a result, some of lines are non-uniformly overloaded, but some are underutilized.

A commercial undertaking of infrastructure management without state funding (with exception of EU funds) results in year-by-year maintenance and development decisions. It is specific for rail that unperformed maintenance or renewal works accumulate additional costs in future. This situation as well as forced
provision of externalities rise exploitation costs of rail, whereas the most cost effective way is to plan rail maintenance on life-cycle (20-30 years) basis. The historical lack of investments resulted in the highest average track access charges in Europe (IRG_Rail, 2014).

**Conclusions**

It was concluded that competitiveness of the rail infrastructure is hampered by its existing design. The evaluation of the rail infrastructure competitiveness shall be expanded to the evaluation of externalities’ effects and needs of final consumers’ market. These will give a certain probability to the drawn calculations. The obtained results should be considered in national transport development plans and state budget planning.

**References**


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Baltic States Airport branding: Content Analysis of Vision Statements

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Abstract

Aviation industry is very conservative due to existing safety regulations, available technology and stereotypes in societies. Because of that, advanced marketing within the industry is primarily targeting geographical locations or specific businesses within the premises, but not the airports themselves. If one is taking flight to Riga from Barcelona, then marketing specialists would promote the destination, the city of Riga, more than the airport itself. Airports are comprehended as service providers only. This pilot study is about testing the newly developing marketing niche – branding of airports. This becomes possible due to private entrepreneurship is overtaking the old fashioned government run airfield businesses and turn those into much more dynamic enterprises, where branding becomes added value generating mean. With the proper branding, an airport may turn losses into multimillion profits, like Schiphol Amsterdam Airport in the Netherlands did. On the other hand, Baltic States airports are stately run. The challenge is to create understanding that branding of the national airports would generate strong income and, in return, create a very positive image of the state.

Keywords: airport marketing; airport branding; Riga airport development; The Baltic States.

Introduction

The goal of this paper is to analyze and compare brands of three Baltic States airports – Riga, Vilnius and Tallinn. Hypothesis is that not only location, but branding may create additional competitive advantage. By some reason, increase in passengers’ turnover at Riga International Airport is less than the one at Vilnius airport for the previous two years. As well, Tallinn was nominated and won a prize for being the best European Airport in 2014. There is a question raised, by what reason the two described situations are taking place? The authors claim that lack of branding is pulling the Riga back at the given time. It is to note that actually none of three airports effectively branding itself. The better business increase numbers at Vilnius rather come from discount pricing policy. On contrary, better positioning and the service award at Tallinn are due to lack of passenger traffic – it is easier to provide better service to a few passengers. Riga turns the most of passengers and is running close to over its capacity. There is an urgent need to introduce branding to the airports, and doing so prepare strategic changes. One of the greatest examples of the airport’s branding-rebranding comes from Berlin Tempelhof.

Methodology of Research

There several methods were applied to investigate the matter. Primary methods were content and analysis of scientific publications. Subject is airports and an object is airport’s vision statements. To undertake the analysis of the vision statements of three Baltic States airports, there were official websites and Year Books reviewed. If the statements were not found, dedicated to attracting investors websites reviewed or administrations directly contacted. Although, the airports are different in size and are not equal in terms of geographical location (Riga has an advantage), those are commonly compared and openly contend one another. What is common among three – operating characteristics and governance model (Castro & Lohmann, 2014).

Findings/Results

Study findings spin around employed, but never named so branding strategies as reflected in vision and mission statements of the airports. However, accordingly to Tse (2009), the branding strategies must include the following elements: (1) selection of food and beverage providers; (2) selection of retail stores; (3) pricing strategies; (4) architectural design and layout; (5) airport artwork; (6) services, entertainment and amenities; (7) service staff; and (8) logos and slogans. It was found that none of the airports is actually using terms “branding” or “branding strategy.” Those rare elements, though, could be found in the visionary, missionary and strategic goals statements. For example, only Riga has a new architectural vision of form and
art style. None of the airports is using variety, but clearly defined pricing strategies, which would reflect in specific types of onsite retailers and eateries.

Conclusions

The main conclusion of the given pilot study is that there is no systematic branding strategy used by any of three airports in the Baltic States. There is relatedness between the airport having a stronger vision statement and its performance (passengers turned). Here the Riga comes with the strongest of three vision statements and more passengers turned. Though, growing international and global competition will not leave much room to apply old operational schemas and expect stronger results. Due to a lack of local passengers’ traffic for steady business development, the Baltic States airports are regionally and internationally compete with well established airdromes in the Nordics, Poland, Germany, or even Russia and Ukraine. The proper branding would not only better outline the development and positioning against the competitors, but make managing the enterprise task somewhat easier. Further research is needed to study visions from directly competing airports in the Baltics, as well the best examples from around the world.

References


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Client Relationships and Competitiveness of Advertising Agency. the Case of Latvian Advertising Agencies

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Abstract

The purpose of this research is to perform analysis of client relationships and competitiveness of advertising agencies. Understanding relationships may help to develop long-lasting relationships and competitiveness. The characteristics that describe relationships between advertising agencies and their clients in this research were chosen based on network levels theory. The analytic part of the paper explored if these constructs could apply to Latvian advertising agency-client relationships.

Keywords: advertising agencies, competitiveness, client relationships.

Introduction

Companies cannot choose not to have relationships. All kind relationships with clients are often interconnected with each other. Despite the big amount of material that has been published about relationships between companies, this topic still continues to be an area of interest for many researchers.

The focus of this research is the advertising agencies. The characterization of a business relationship is an important issue for both - advertising agencies and clients in their attempts to be competitive. In order to manage the relationships, advertising agencies and clients need to have an understanding of the current business relationships.

Methodology of Research

In order to map the main issues in the relationships between agencies and clients, the introductory interviews were conducted in October - December 2014.

Findings/Results

Results showed that agencies satisfaction level could be considered good, taking into consideration that there are always clients who are more cooperative than others. Clients level of satisfaction is more surprising, since clients have freedom to choose among several agencies in order to ensure themselves a satisfying and good relationship. The recommendation for clients would be therefore to review their relationship with agencies, focus on the areas that are problematic and develop a relationship that is satisfying to both partners.

Conclusions

The summary of results can be only viewed as opinions of some agencies and the implications made based on results should be taken as starting point for further discussion and research. The research gives an insight into the relationships and some guidelines on how to develop long-term agency-client relationship. Further analysis with a larger sample would help to validate the results obtained.

References


Competitiveness Evaluation Indicators in the Latvian Macroeconomic Model

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Abstract

This article deals with the evaluation of competitiveness by industries. As a result of the studies of literature and available data, a list of competitiveness indicators is determined and analysed with the perspective of macroeconomic modelling, including the export specialization, the export dependency, the ratio of value added per unit of output, per employee, per unit spent on labour, productivity and unit labour costs. In case of competitiveness studies by industries input-output econometric models are appropriate tools, if adequately specified. Analysis of competitiveness industries shows that high-tech industries are high-value added industries and thus worth focusing on more thoroughly. Medium-high-tech industries seem less developed than medium-low-tech industries in Latvia, thus further studies of factors influencing their development are needed.

Keywords: competitiveness, macroeconomic model, industries.

Introduction

Competitiveness is very important for any company, industry or country, especially in a small open country like Latvia. Therefore it is important to understand, how the competitiveness can be analysed and afterwards improved. The aim of the study is to distinguish, which competitiveness indicators can be incorporated in the Latvian Macroeconomic Model to evaluate competitiveness by industries.

Competitiveness can be analysed in different aspects and in different levels, which leads to vast diversity of competitiveness studies (Hirstu-Varsakelis et.al, 2011 and Bellak et.al, 2009 are just a couple of examples). In 2006, Sirikrai and Tang have summarized the thoughts of several authors and concluded that competitiveness has to be analysed from different aspects and using different theories because of its complexity. Several authors (like Chico et.al, 2014 and Esteban, 2000) have analysed the interrelations among competitiveness in different levels – how competitiveness of industries is related to the competitiveness of regions.

Some of the competitiveness indicators, which can be used to analyse competitiveness by industries, are presented in the research of Ito and Shimizu (2015), Auziņa-Emsiņa and Ozoliņa (2013), Ozcelik and Taymaz (2004) and others. These include gross labour productivity, ratio of the value added to compensation of employees, ratio of the value added to unit spent on labour, labour input coefficient, ratio of the value added to output, export dependency, the speed of the structural change towards the higher value added, unit labour costs, foreign direct investment, R&D expenditures, capital productivity and export specialization.

Evangelista et.al, (2015) also stresses the importance of inter-industry linkages, which can be captured within the appropriately specified macroeconomic model. Thus input-output econometric model like INFORUM type model is one of the best options for the analysis and forecasts of competitiveness in industry level.

Methodology of Research

The main source of the data for this study is the database of the Central Statistical Bureau (CSB) of the Republic of Latvia. In order to show the main trends in disaggregated data, the study focuses more on the high-technology industries (21 and 26), medium-high-technology industries (20 and 27 to 30), medium-low-technology industries (19, 22 to 25 and 33) and knowledge-intensive services (KIS) (50, 51, 58 to 66, 69 to 75, 78, 80 and 84 to 93), if the necessary data are available. The sample of the analysis is mainly 2008-2014, if all the data are available.

Considering the possibilities to include different competitiveness indicators in the macroeconomic model, as well as taking into account data availability, several indicators are calculated and analysed in this research. Export specialisation indicator shows the export structure and can hint on potential export leaders in the future. Export dependency ratio shows the fraction exports in output by industries and thus the dependency of a certain industry on the activities abroad. Ratio of the value added to output is used to distinguish, which industries are higher-value added industries. Real labour productivity is calculated as the
ratio of real output to the number of employees (in full-time equivalent). Similarly the value added to the number of employees (in full-time equivalent) is calculated to analyse the labour productivity trends. Ratio of the value added to the unit spent on labour is used to analyse the impact of a particular industry on the whole economy. Unit labour costs (per full-time equivalent employee) are used to analyse trends in one element of cost competitiveness – labour costs.

Results

Analysis shows that export is one of the main driving forces of the Latvian economy and thus it is important to develop it further. Export specialization indicator shows that trade and manufacturing are the main exporting industries in Latvia. Moreover, export goods and services are mostly related to the low-tech industries and less knowledge-intensive services. Latvian economy has become more export dependent during the crisis with trade (the value of the ratio is 80.1 in 2014) and manufacturing (48.7) as leaders in this aspect. Agriculture (9.1) and transportation and storage (5.9) industries are also comparatively export dependant. The values of the value added to output are higher than the average (0.43) in most of the service industries, but these values are relatively stable. Real labour productivity has increased in most industries from 2008 to 2010, but afterwards productivity has mostly stabilized. Value added per employee is considerably higher in high-tech industries compared with the medium-high- and medium-low-tech industries and knowledge-intensive services. It is interesting to note that the value added per employee is higher in medium-low-tech industries compared with the medium-high-tech industries. Similarly the value added per unit spent on labour is higher in high-tech industries, but here the difference is not as significant as in case of the value added per employee. This is related to the cost levels in industries – unit labour costs in high-tech industries are again significantly higher than in other analysed groups of industries.

Conclusions

There are many competitiveness indicators, some of which can be used also in industry level, but data availability issues do not allow to incorporate all of them in the model. Inter-industry linkages are important in competitiveness studies by industries, therefore input-output econometric models are appropriate instruments for competitiveness analysis.

High-tech industries are high-value added industries in Latvia, however also labour costs are higher in these industries. Medium-low-tech industries are more developed then the medium-high-tech industries indicating on the potential of development also in medium-high-tech industries. Thus requirements for such development have to be analysed in more detail.

References


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Global Competition: Vision for A2A Ticketing in Aviation Industry
Within Riga Airport Development Context

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Abstract

Before 1999, easyJet was a small privately owned airline company, where an owner hated Internet per se. However, that was the first air carrier to start selling tickets online. It has taken easyJet straight to the leading position in Europe (official web-site of easyJet). After 15 years, we rarely find a person still buying tickets through a booking office at the airport. Paradox of the given research is that airports have a chance to regain and profit from this function, and doing so reclaim negotiation power against airlines and other businesses expected to be included into a new business model. Vision for a new product in aviation industry – A2A ticketing – would reshape an existing model of providing services for passengers.

Keywords: A2A ticketing; 3 axes model; social responsibility; underserved passengers; passenger traffic planning.

Introduction

The goal of this paper is to partly test newly elaborating ticketing and passenger servicing model, where airports will sell, but passengers buy their tickets from an address to an address, not from an airport to an airport. It will become possible to introduce a new variable – time spent from an address to an address. Presently, no one counts it for a travelling passenger (Castro, Lohmann, 2014) (Pitchforth, Wu, Fookes, & Mengersen, 2015). Hypothesis of the research is that A2A ticketing will decrease total time spent by passengers for their complete travel.

Methodology of Research

There several methods were and will be applied to investigate the matter. Principal methods were content and analysis of scientific publications. Then, expert in-depth structured interview was used to give a study focused direction. Ranking made a process of evaluation of the interview results manageable, easy to interpret and useful for analysing the matter.

Findings/Results

Study findings are built around three axes - service, economic and social responsibility. Improving service of passengers – time spent by passengers for booking and travel between geographical locations (not airports), better scheduling and new services introduction – is the first axis. The second is economic benefits from that introduction – better planning and volume of passengers’ traffic, new services introduced, as well as increased employment and GDP indexes. The third axis reflects on social importance serving disabled, elderly and other underserved passengers. Improvements within the three-axes model will show the Baltics as modern, efficient and better societies, which is benefiting from the best available knowledge and technologies and creating new life opportunities for those in need and underserved.

Conclusions

The main conclusion of the given pilot study is that there is ground to conduct further research with a purpose of finding a statistically significant difference between times spent for present and A2A traveling. The hypothesis would claim a passenger on average spending less time to reach his/her destination with A2A ticketing. Another finding of the study has revealed a gap in servicing disabled, elderly, underage and remotely residing passengers. The new groups of passengers would generate additional income within the industry and beyond the one. Though, it is clear that business travellers would strongly and foremost profit from A2A ticketing. The extension of this research may target calculating estimated profits from reshaping the industry, while introducing A2A globally.
References


Official web-site of easyJet. easyJet congratulates BA on reaching a tiny fraction of its own online sales

The paper was supported by the National Research Program 5.2. EKOSOC-LV.
Latvia’s Transit Corridor Competitiveness Evaluation

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Abstract

The paper deals with cargo transit corridor evaluation through Latvia. The author investigated current problems of transit in the ports of Latvia as well as road transport development problems. The aim of the paper is to analyse current situation in the field of cargo transit through Latvia and work out particular recommendations how to improve transit corridor competitiveness. Statics information, investigation projects about transit, information from ministries of Latvia used to complete the paper. It is extremely important to develop infrastructure of the sea ports, use new technologies of cargo transport loading / unloading processes in the sea-ports of Latvia, as well as to improve quality of service there and reduce cargo and orders processing time. It is necessary to work out a lot elements of infrastructure to improve road transport transit corridor too.

Keywords: Transport, transit corridor, competitiveness improvement, sea ports, road transport.

Introduction

Cargo transportations through territory of Latvia (transit) connecting the North-South and West-East directions are very important for the economy of Latvia. On the one hand, it provides big cargo flows for Latvia, improving Latvia’s transit and logistics competitiveness into Baltic countries. On the other hand, it develops Latvia’s status and image in the EU countries, like important strategical partner country. Transit cargo service provides approximately one half of the Latvia’s service export. So, it is very significant to improve the competitiveness of the Latvia’s transit branch, develop cargo processing services as well as expand transit cargo additional value and provide new services in the field of logistics and transit.

Analyzing road transport cargo branch in Latvia, may conclude that it also connected with transit development (1.tab).

Table 1. Road transport cargo transportation volume 2012.-2014.g. (thousand tons)

<table>
<thead>
<tr>
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<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td>Together</td>
<td>52621</td>
<td>60609</td>
<td>62239</td>
</tr>
<tr>
<td>Domestic transportation</td>
<td>43057</td>
<td>50484</td>
<td>50565</td>
</tr>
<tr>
<td>International transportation</td>
<td>9564</td>
<td>10125</td>
<td>11674</td>
</tr>
<tr>
<td>..export transportation</td>
<td>4134</td>
<td>4166</td>
<td>4250</td>
</tr>
<tr>
<td>..import transportation</td>
<td>2235</td>
<td>2453</td>
<td>2710</td>
</tr>
<tr>
<td>..into other countries</td>
<td>3195</td>
<td>3506</td>
<td>4714</td>
</tr>
<tr>
<td>Own demand transportation</td>
<td>15820</td>
<td>17912</td>
<td>17894</td>
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<tr>
<td>Outsourcing transportation</td>
<td>36801</td>
<td>42697</td>
<td>44345</td>
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</tbody>
</table>

Road transport cargo volume is 62,2 million tons in 2014; growing per 11 million tons in comparison with 2013. Despite of the fact the economic situation is ton stable, it is possible to develop road transport cargo and transit development now.

The biggest volume of Latvia’s transit starts or finishes in the ports of Latvia. Riga and Ventspils ports provides more than 90% of the total cargo, processed into ports of the country. The main types of cargo of Latvia’s ports are: coal and container cargo (Riga port) and oil production (Ventspils port). Both sea ports rent their territories to provide companies, which are responsible for particular cargo processing operation in the total transit or logistics process. Often these companies may not renew infrastructure of the port in time, as a result losing quality of port operations’ service and increasing its duration.

Ports of Latvia have a lot of competitors, which serve transit cargo in Lithuania, Estonia, Finland and Russia.

In spite of the poor infrastructure and technologies in the port of Riga, the volume of cargo, processed in the port still increase (see Figure 1.).
Figure 1. Processed cargo volume in the sea port of Riga, 2004-2014, thousand tons

Actually, Riga sea port is universal port, which provides customers almost all types of port services today.

Methodology of Research

The author of paper used statistics analysis, mathematical methods, graphic visualisation methods, as well as investigated current situation in the field of transit, communicated with forwarders, stevedoring companies and other transit businesses representative persons to evaluate the competitiveness of Latvia’s transit corridor.

Findings/Results

Transit corridor infrastructure in Latvia is poor today. There are a lot of problems with element of transit corridor infrastructure like special places for rest (cargo vehicles drivers), cargo processing equipment in the sea ports, information exchange system and quality of roads.

Conclusions

It is necessary to improve the competitiveness of transit corridor in Latvia due to very keen and hard competition with neighbouring countries ports. Needed investments to improve cargo processing infrastructure in the sea ports and road transport.

Participants of the transit corridor of Latvia have to provide full assortment of the logistics service to foreign partners to improve the competitiveness of Latvia’s transit corridor.

Transit and logistics business companies have to improve quality of all types service to be competitive into the transit field of Baltic states.

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Role of Internet Marketing for Export Promotion (Results of Recent Latvia's Company Survey)

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Abstract

Recent technology development from one side and hard competition for markets from other side has requested new academic research on new marketing approaches including internet marketing application. For current paper were used recent theoretical findings on internet marketing applications and was used company survey conducted in November 2014 till May 2015 results*. The research results showed that there still is a place for new and innovative approaches of internet marketing application for increase of company competitiveness in foreign markets. 

Keywords: internet marketing, export promotion, company survey

Introduction

New technologies development rise applications of new methods and approaches in marketing and especially on internet marketing. Academic research results have pointed out on details for successful application of internet marketing in different branches of industry (Panau, et al, 2015) and evaluation of marketing channels (Watson IV, et al, 2015), researchers have published literature review on mobile marketing showing its value for consumers and retailers (Ström, et al, 2014). In 2014 in Latvia about 7% of the companies, with the number of employees 10 and more, selling online in 2014, average selling online in European Union countries was about 15% (Eurostat, 2015).

Methodology of Research

Scientific publications analyses, survey of companies in Latvia conducted in November, 2014 till May 2015, data for sampling frame were obtained by company data base LURSOFT, to get representative survey results the systematic sample was applied, every company was approached by phone call and invited to answer on questionnaire questions, for those companies who have not responded within two weeks it was made reminder (three reminders were applied), response rate was 12%, for data analysis of survey results were used descriptive statistical analysis – indicators of central tendency or location (arithmetic mean, mode, median) and indicators of variability (range, standard deviation, standard error of mean), cross – tabulations, non-parametric statistical tests (Kruskal-Wallis test, Mann-Whitney test, Kolmogorov-Smirnov test).

Findings/Results

The research results have shown that about 66.7% of exporting companies in Latvia consider that Internet marketing is an important tool. Internet marketing was a big influence on the brand/product/company popularisation and sales quantities increase; about 35.8% of companies managers believed that internet marketing significantly reduce marketing costs. At the same time the use of internet marketing possibilities companies evaluated as insufficient.

Conclusions

Internet marketing is becoming more and more important world-wide and lot of academic research has been devoted on better use of internet marketing and apply new approaches. Not all companies in Latvia use their potential on internet marketing on recent technology possibilities and 66.7% of exporting companies in Latvia consider that internet marketing is an important tool for company competitiveness and 35.8% of companies managers believed that internet marketing significantly reduce marketing costs.

Research confirmed that many companies still have big challenges for new innovative method application for company competitiveness in foreign markets and one of the applicable tools could be use of internet marketing.
References


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Crisis in Russian Outbound Tourism and its Impact on Tourism in Latvia

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Abstract

This paper analyses how the crisis in Russian outbound tourism has affected inbound travel to Latvia and how the tourism industry has reacted to the decreasing tourist numbers. The single case study approach is used in this study. Tourism statistics were used to analyse the changes in tourist numbers, tourist expenditure and hotel occupancy rates. Qualitative analyses were chosen in order to gain insights into main tourism stakeholders’ reaction to changes in demand. In-depth interviews were conducted with tourism stakeholder representatives from National Tourism Organization (NTO), Destination marketing/management organizations (DMO), professional associations and tourism companies.

The results of this study show that despite the decrease in Russian tourist numbers and expenditure in most of the tourist segments, destinations and the tourism industry overall are adapting and performing very well because of growth in other source markets, organized events at the national level and appropriate destination and company management.

Keywords: tourism, crisis, impact

Introduction

The Russian market has been one of the high priority tourist markets for Latvia for the last ten years, experiencing a growth in overnight traveller numbers and expenditure since 2009. In 2013 the number of Russian tourists reached 332.6 thousand and the market share in Latvian inbound tourism reached 21.7% in terms of overnight travellers and 25% in terms of expenditure in Latvia (CSB, 2014). The importance of the Russian market in Latvia was driven by growing tourist numbers, growing expenditure and attractiveness of the Russian tourist segment. Russian tourists have been described by tourism industry members as high spending, interested in heritage and culture, spa and wellness, shopping, and traveling all year round. Historical connections between the countries were a good base for MICE tourism development as big Russian TV events were organised in Jurmala and broadcasted all over the former Soviet Republics.

Due to geopolitical/ political and economic/ financial issues in Russia in 2014 Russian outbound tourist numbers decreased by 4% for holiday tourists, by 10% for business and by 15% for other tourist segments. In the first quarter of 2015 the drop in tourist numbers reached 40% for holidays, 17% for business tourists and 33% for other segments (Rossstat, 2015). The decreasing income of people, unattractive exchange rates of the RUB, subsidies and promotion for domestic travel, prohibition to travel abroad for particular groups and “new developed” domestic destinations as Sochi are the main factors that influenced Russian outbound tourism negatively. As the growth of international tourist numbers over decades had been high, periods with growth in tourist numbers of less than 2% were described as crisis for the industry (Papatheodorou et al, 2010; Hall 2010; UNWTO, 2006).

The first impact of Russian outbound crisis on incoming tourist numbers in Latvia was recognized in May 2014 with a 5.2 % decrease in numbers of Russian tourists staying in hotels and other similar establishments (CSB, 2015). In December 2014 the decrease was already 34.5 %.

Ritchie and Crouch (2003, 7p.) in their book “The Competitive Destination: A Sustainable Tourism Perspective” note “… the emerging socioeconomic climate forces destinations to consider redefining competitiveness as the ability to respond effectively to crisis situations”. To respond effectively to crisis it is important is to understand what happens in different industry sectors.

This paper attempts to analyse how the Russian crisis has affected inbound travel to Latvia and how the tourism industry reacted to decreasing numbers of tourists and revenues.

Literature review

Since 1980s there is a large volume of published studies describing crisis events in tourism, crisis impact on the tourism system, response to crisis and preparedness of the tourism industry, crisis management and recovery strategies. The majority of research in tourism on crises concentrate on economic and financial crises, e.g. Western Europe and North America in the early 1980s, Asia in the late 1990s and global crisis 2008 – 2010.
Crisis in tourism can be understood in various contexts: 1) difficulties that tourists face in travelling (Rittichainuwat et al, 2014) or 2) the problems faced by businesses (Martin –Consuegra et al, 2008; Ritchie, 2004; Pappas, 2014) or 3) crisis events’ impact on tourism destinations (Sausmarez, 2007; Boukas and Ziakas, 2014; Perles - Ribes et al, 2013) or 4) impact on a global scale (Smeral, 2009; Sheldon and Dwyer, 2010; Papatheodorou et al, 2010).

Crisis in international tourism are usually interrelated with other crisis events in economics and finance, politics and energy (Hall, 2010). Crises and disasters have transformational connotations with each event having potential positive as well as negative outcomes (Faulkner, 2001).

Because of the complexity of the tourism industry, the system oriented approach to examining the impact of crisis using industry and subindustry level across the affected area (destination) is needed to view the impact and effects of the various parts across the system (Ritchie, 2013).

Methodology of Research

A single case study approach was used in this study. Case study is based on secondary and primary data. Tourism statistics of Latvian Central Statistical Bureau and Federal State Statistic Service of Russian Federation (Rosstat) were used to analyse the changes in tourist numbers, tourist expenditure and hotel occupancy rates. Qualitative analyses were chosen in order to gain insights into main tourism stakeholders’ reaction to changes in demand of the Russian tourist segment. In-depth interviews were conducted with 13 tourism stakeholder representatives from National Tourism Organization, DMOs of Riga and Jurmala, professional associations of hotel and tour-operator sector and tourism companies. Different semi-structured interviews were used for destination and industry sector/company representatives.

Findings/Results

The first impact of Russian outbound crisis on incoming tourist numbers in Latvia were recognized in May 2014 with a 5.2 % decrease in numbers of Russian tourists staying in hotels and other similar establishments (CSB, 2015). In December 2014 the decrease was already 34.5%. Fig.1 shows the percentage change in numbers of Russian tourists in hotels and other similar establishments in 2014 and 2015 compared to the same months of the previous year.

Figure 1. Change (%) in numbers of Russian tourists in hotels and HSE compared to same month of previous year (Source: CSB data on special request, 2015)

The changes in numbers of Russian overnight travelers, tourist expenditures and market share have been analyzed in the study. The full paper of this study provides an in-depth analysis of the results.

A system oriented approach at the industry and sub industry level was used to analyse the data in the study in order to understand the impact of the crisis and response needed. The results of interviews show that in all cases (destinations, industry sectors, tourist companies) the crisis in Russian tourist market has a negative impact on particular destinations, tourist industry sectors and tourism companies. As one representative of Jurmala Municipality’s Tourism Department commented: “For Jurmala and the tourism industry this crisis means the end of “very easy” times in this target market”.

The most negative impact was identified in the MICE segment which was one of the most important segments for most tourism companies working with the Russian market.
Companies reduced the negative impact of decreasing tourist numbers and revenues by trading – down the offer, cutting costs for the Russian market, searching for new target markets and by being active in other target markets. The most common response of destinations to falling demand were the cancelation of marketing activities in the Russian market, more active marketing in other high priority markets such as Nordic Countries, Germany, Netherlands and other neighbouring countries and adaptation to the changing tourist behaviour from Russia. A common view amongst interviewees was that the crisis has an impact on Russian tourist travel behavior. More individual travel, self-organized trips, price sensitive trips, choice of cheaper tourism products are changes experienced by destinations and the tourism industry. The NTO representative responsible for the Russian market said: “Russian tourists are and will be an attractive market for Latvia. In the future we will need to work on more specialised product offers and there will be long –term changes in tourist behavior”.

Conclusions

This study analyses the impact and response to Russian outbound tourism changes during the crisis. Instability in Russia triggered by economic and political factors is still present and therefore there will be more challenges for tourism in Latvia in the future.

Despite decreasing Russian tourist numbers and expenditure in most of the tourist segments, destinations and the tourism industry overall are adapting and performing very well because of growth in other source markets, organized events at the national level and appropriate destination and company management.

In the future there will be long- term changes in Russian tourist behaviour triggered by this crisis. More individual travel, self- organized trips, price sensitivity and demand for cheaper tourism products are changes the tourism industry will experience and it means new product offers and marketing communication channels have to be developed for the Russian market.

Further research should be undertaken to investigate the Russian visit friends and relatives segment and its development in times of crisis.

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SUBSECTION

“INNOVATION AND QUALITY TECHNOLOGIES”
Development of Innovation Driven Culture at Higher Education Institution: ISPEHE Project Results

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Abstract

The aim of the paper is to present results of needs assessment analysis that is carried out as the first outcome of Innovative Strategic Partnership for European Higher Education (ISPEHE) project. ISPEHE is a project funded by the European Commission under the Programme Erasmus+ Key Action 2: Cooperation for innovation and exchange of good practices. It aims at providing a foundation for spurring innovative and sustainable learning practices at Higher Education Institutions (HEIs) and long-term collaboration between HEI’s and enterprises.

The one of the innovative components of ISPEHE project is Strategic Integration of Learning Models (SILM). The main purpose of the SILM, as first innovative project component, is to establish joint contemporary educational practices and produce a long-term strategic learning model based on the existing curricula adopted and successfully implemented in each partnering institution.

Keywords: ISPEHE project, SILM analysis, innovation driven culture, higher education.

Introduction

Innovative Strategic Partnership for European Higher Education (ISPEHE) is a project funded by the European Commission under the Programme Erasmus+ Key Action 2: Cooperation for innovation and exchange of good practices. The one of the innovative components of ISPEHE project is Strategic Integration of Learning Models (SILM).

The main purpose of the SILM, as first innovative project component, is to establish joint contemporary educational practices and produce a long-term strategic learning model based on the existing curricula adopted and successfully implemented in each partnering institution.

The Needs assessment analysis is the first element in preparing SILM. The objectives of analysis are aligned with the specific objectives of SILM, and support their accomplishment:

- Identify the actual situation in each of the partnering HEIs;
- Provide assistance for making decisions related to establishing optimal learning models and best practices;
- Obtaining a participatory approach from relevant stakeholders in constructing SILM.

Methodology of Research

Two types of questionnaires (for students and teachers) were prepared by the teams from all partnering institutions in order to establish a joint contemporary educational practice and produce a long-term strategic learning model based on the existing curricula in each partnering institution. The questionnaire for SILM Needs Assessment Analysis was conducted on first, second and third year undergraduate students and teaching staff in the field of business and management. The purpose of the survey was to collect information about: a) The teaching-learning practices applied in partnering institutions; b) Which common teaching and assessment methods are used and which one are specific, unique and more creative in all 5 partnering institutions; and c) What is the opinion of both, students and teaching staff, about such methods?

For determining the sample size, the Finite Population Correction (FPC) factor for systematic random samples when the standard deviation is not known was used for both populations. In total 376 students and 59 teachers were surveyed. The data obtained from the Survey was processed using descriptive statistical analysis and was presented graphically.

Findings/Results

Most important teaching methods to achieve specific knowledge and skills within the course are case studies and special practically oriented exercises. The view of teachers differs about Problem based learning (PBL), which is also deemed important for knowledge acquiring. While students agree that seminars are an
effective way to study the subject area. Both students and teachers concur that distance learning is the least important teaching method to build knowledge and skills.

Types of teaching methods used in the classroom like student presentations, rounds and buzz groups stated by both students, as well as teachers. The most unused teaching technique according to students is role-play, while teachers state that this method is snowballing. The most used teaching methods outside the lecture room stated by students and teachers are team work, group discussion and independent projects. The least used method is field trip according to students and writing media articles according to teachers.

The learning process met almost every student expectations (90%). This is confirmed by the answers provided, where the most used teaching methods and techniques are also deemed the most important by the students and motivate them to study the subject. Areas that can be improved to get higher interest of students are: implementation of techniques to acquire human resource management skills, visits to successful companies and greater number of case studies.

Areas for improvement in order to get optimal use of teaching methods in the course from student and teacher perspective are the ability to apply knowledge in practice and work in a team. This is in conjunction with the statements, where working in small groups are used on a weekly basis, and the theoretical knowledge is complimented with the practical skills of the business community. Both students and teachers agree that the curriculum shouldn’t focus on improving the ability to communicate with non-experts.

Students believe that ability to apply knowledge in practical situations, talking in front of class, defending the arguments and searching for new solutions would improve their competence. Teachers believe that more case studies, PBL, use of teaching assistants, double diamond method, inquiry based learning, and creative techniques (e.g. role-play) would improve the quality of study and knowledge of students.

Conclusions

According to the results of the SILM Needs Assessment Analysis, the first recommendation is to involve students in practical analysis of business cases or problems/scenario based business simulations. In conjunction with the recommendation of students and teachers, round tables and debates can be further included, besides of working in groups/teams. Study process can be further enhanced with the greater number of company visits and visiting lectures from representatives/experts of the business community.

Team building is another aspect that is relevant to develop social and communication skills. This can be achieved through organizing field trips, at least once in the semester for each study year. Teachers and students should be involved in the entire process, including planning activities that will be carried out during field trip and assignments to be done pre- and post- field trip. Students developing certain HR management skills while working in groups and this can be enhanced by the introduction of older students in the lecturing process (mentoring/consulting).

One of the main problems stated by students is difficulty of completing tasks in the outlined time frame. The capacity of students for time management can be further increased by organizing workshops in this area.

The main idea regards students’ evaluation is to involve the students in the assessment process. Student involvement in forming the grade can be implemented on the basis of 360 degree method.

Acknowledgment

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References


Company Expectations about the Results from the Intellectual Capital Investments: Case of Latvia

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Abstract

Many scientific researches describe different results from the intellectual capital investments. Most of them disclose positive effects on enterprise performance. But most of them analyse company’s financial performance and the intellectual capital investments’ influence on it.

The author describes expected results from the intellectual capital investments as financial and non-financial performance highlights thirteen possible results. The questionnaire was used as a tool for survey. The respondents were 203 companies from Latvia, which were random selected from four professional associations. Survey results were processed using factor analysis in the SPSS environment.

The survey show, that most expected results are financial: profit and market share enlargement. But some non-financial results are expected as well, such as clients’ satisfaction, increase of employee qualification and loyalty.

Keywords: intellectual capital investments, results, financial and non-financial performance.

Introduction

The amount of intellectual capital investments in Latvia is not high. It depends on different factors, such as availability of funds and financial support from state, understanding of the concept of intellectual capital and intellectual capital investments, rate of return from the investments, investments’ influence on company’s performance (Lentjushenkova&Lapina, 2015). Making decision about investments companies take into account, many aspects and one of the most important aspects is a possible return from the investments, or expected results from the investments. Most companies invest, if they see clear determined results and most expected results are related to the financial side of company activities, for example, increase of profit. But the intellectual capital investments’ influence on company’s performance is very different. Conducted scientific researches’ in different countries show contradictory results. For example, some researchers conducted in Russia (Garanina, 2008) and Australia (Clarke et al., 2011) show that intellectual capital investments’ influence on company’s financial performance is neutral or negative and investments in physical capital are more effective for the company. At the same time similar researches in Asia disclose positive effects from the investments (Wang&Chang, 2005; Chan et al., 2005; Bontis et al., 2000). Most of researchers study intellectual capital investments on financial performance. The author distinguishes two results from the intellectual capital investments: financial (profit, market share enlargement, productivity, cost reduction in the future, company’s value) and non-financial (image and reputation improvement, cooperation development, employee’s loyalty and qualification, customer loyalty and satisfaction).

The aim of the paper is to determine the company’s expected results from intellectual capital investments in Latvia. For aim achieving the following tasks are determined:
1) To develop research tool and test it;
2) To select respondents and send the questionnaire;
3) To determine most important results;
4) To group expected results from the investments.

The research was made at company level and as a result the author determines and groups expected results from the company’s intellectual capital investments.

Methodology of Research

The following qualitative and quantitative research methods were used: literature review, logical and comparative analysis, deductive method to interpret general information, the statistical method to group information and to analyze different regularities (factor analysis), the empirical method to obtain information by conducting a survey, and induction method to interpret and generalize the survey results. The questionnaire results were analyzed, using software SPSS for factor analysis.

The questionnaire was used as a tool for a survey. To evaluate each statement about factors influencing investments in intellectual capital, respondents were offered to use 4-point Lykert type scale. The
opportunities for evaluation were: 1 – very important, 2 – average importance, 3 – relatively important, 4 - not important. The respondents were random selected from four associations: Business Efficiency Association, Latvian Society for Quality, Employers’ Confederation of Latvia (LDDK) Vidzeme branch. The necessary number of respondents is calculated according to general practice. The representative number of respondents is 196, but total number of respondents is 203.

Findings/Results

The survey results show that most expected results from the intellectual capital investments are the increase of profit, customer satisfaction and market share enlargement, but least expected are cooperation development and improvement. The author compares the importance of these results by region, where the company operates: Riga and non-Riga. There are no significant differences in expected results for companies in Riga and non-Riga. Only two results are different: reputation improvement and costs reduction in the future. Reputation improvement is most important for companies from Riga, but cost reduction is most important for companies from non-Riga.

Using factor analysis, the author groups all results in four groups, two of them are related to company financial performance and two are related to company’s non-financial performance.

Conclusions

Companies expect different results from the investments: financial and non-financial. However, most of the respondents’ expectations are financial results, such as profit, market share enlargement, increase of productivity and profitability, increase of company value. The factor analysis results show that some non-financial results or benefits are strongly connected with financial benefits. For example, customer satisfaction is incorporated in one group with such expected results as increase of profit and market share enlargement. It can be concluded, that companies understand mutual relationship between different benefits and their influence on each other. Survey results partially approve author’s assumption about financial and non-financial results’ interconnection too.

References


Web-Based Idea Management Systems: Potential Application Field and the Situation in Latvia

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Abstract

Purpose: on the basis of the available offer in the market of web-based idea management systems (IMS), their application tendencies and strategic development document analysis, make conclusions and suggestions on web-based IMS application and web-based IMS perspective in Latvia.

The main research methods: the data analysis of 40 web-based IMS and 40 application cases, overview of two main Latvian web-based IMS producers, the interviews with experts and the survey of 1111 respondents. The results of the research show that the use of web-based IMS allows an organization to solve wide variety of professional challenges and develop variety of idea management networks, which creates opportunities not only to get ideas, but also gives other benefits. Web-based IMS are not widely used in Latvia. According research, there is a perspective to apply web-based IMS in many fields and sectors, but the most appropriate for government and local authorities, organizations and enterprises.

Keywords: Idea management, Idea management systems, Web-based idea management systems, Innovation, Innovation management

Introduction

Web-based IMS is innovative solution development tool that comprises systematic process- idea generation, idea evaluation, idea development in virtual environment, which helps to turn the best ideas into real innovations. In Latvia, in comparison with other countries, the internet technologies and the opportunities they provide are not used to a full extend which is shown by Global innovation index. Although in grand total Latvia takes the 33th place, in figure related to the application of internet technology opportunities to create innovation, Latvia occupies only the 76th place, but in figure connected with the integration of internet technologies in company’s activities (creating, for example, virtual orders) - the 70th (INSEAD, 2014). So it is important not only to overview the web-based IMS and their application tendencies, but also to make recommendations on potential application.

Research aim: on the basis of the available offer in the market of web-based IMS, their application tendencies and strategic development document analysis, make conclusions and suggestions on web-based IMS application and web-based IMS perspective in Latvia. Research tasks: (1) theoretical material and literature review about idea management and related concepts, (2) strategic development document of Latvia analysis, (3) the data analysis of 40 web-based IMS, (4) 40 web-based IMS application case study analysis, (5) development of web-based IMS potential application field depiction, (6) overview of two main Latvian web-based IMS producers, (7) the interviews with experts, (8) the survey of 1111 respondents, (9) an overview of web-based IMS application and it’s influencing factors and potentialities in Latvia.

There are many researches (for example, Deichmann, 2012; Zejnilovic, Oliveria and Veloso, 2012; Bothos, Apostolou and Mentzas, 2012; Aagaard, 2012, 2013; Baez & Convertino, 2012; Poveda, Westerski and Iglesias, 2012; Bassiti & Ajhoun, 2013; Perez, Larringa and Curry, 2013; Westerski, 2013; Miecznik, 2013; Bergendahl &Magnusson, 2014; Sadrie & Patrachenko, 2014, Narvaez & Gardoni, 2015 ) about idea management systems and their efficiency which are developed in different countries and different spheres and the results obtained give the possibility to use them while researching use and potentialities of web-based IMS. But it should be highlighted that comprehensive researches about commercial available web-based IMS are far fewer - authors own researches (Mikesone & Liela, 2014, 2015) and research by Summa (2004) in which data about 26 commercially available web-based IMS was collected, but the results of this research is out of the date, because IT tools in the last decade have changed rapidly and the situation required new researches. In previous researches authors have developed different researches about web-based IMS, for example, exploring web-based IMS market by Porter 5 force model, developing web-based IMS basic application model, revealing potential web-based IMS application enhancement opportunities in Latvia. In Latvia these researches are the first and at the moment only about this subject and their results were used to create this research as well to create deeper research about web-based IMS application possibilities and situation in Latvia, additionally researching strategic development documents of Latvia and their statements connected with web-based IMS.
Methodology of Research

Authors in the research used two logical methods: (1) analysis of theoretical materials, scientific literature and strategic development documents on web-based IMS and connected terms; (2) web-based IMS application situation analysis in Latvia analysing data from two leading web-based IMS developers in Latvia- Ltd. Ludere and Ltd. Staheholde.rs. So determine companies’ characteristics and application areas where web-based IMS is applied more often. In the research used 4 empirical methods: (1) survey of 1111 people (chosen randomly) at working age (age 15 - 62) with work or internship experience in Latvia, the aim of the survey was to reveal the main idea management habits in organizations and public opinion about potential application of web-based IMS; (2) 3 semi-structured expert interviews; (3) analysis of 40 application cases - 20 in Latvia and 20 abroad, (4) comparison of 40 web-based IMS by 28 factors. Research period: web-based IMS application situation in Latvia, research period-January 2011 -May 2014. Research period of interviews - May- August 2014. Research period of survey- April- June 2014. Research period of case studies – 2010- 2014.

Findings

Based on assessment of 40 web-based IMS, 40 web-based IMS application cases study analysis, web-based IMS application situation analysis in Latvia analysing data from two leading web-based IMS developers in Latvia- Ltd. Ludere and Ltd. Staheholde.rs and theoretical, including analysis of strategical development documents, aspects authors conclude that web-based IMS supply is extensive and varied, that provides organizations with opportunity to find appropriate web-based IMS for their requirements. Research results reveals that successful web-based IMS applications are in every sector which proves its universal nature. Research also proves that web-based IMS application coincides with aspects of strategic development document of Latvia - participation, open innovation, user promoted innovation promotion and wide culture of creativity. The created web-based IMS application field depiction show that the use of web-based IMS allows an organization to solve a wide variety of professional challenges and develop a variety of idea management networks, which create opportunities not only to get ideas, but also offers other benefits.

To determine the situation in idea management sphere and web-based IMS opportunities in Latvia, survey of 1111 participants and interviews of experts have been undertaken. Research results reflect that there is potential for web-based IMS application in Latvia, since both entrepreneurs and society are willing to use them. According to research, there is a perspective to apply web-based IMS in many fields and all sectors, but the most appropriate organizations to involve society in idea management with web-based IMS in Latvia are government and local authorities, organizations and enterprises.

Authors have created description of 3 possible web-based IMS application variants or ways how to manage this tool: (1) individual web-based IMS application, when one organization uses web-based IMS, (2) simple cooperation web-based IMS application, when cooperated organizations form one sector or the same type organizations, which activities are connected, for example, different organizations and institutions cooperating and realize collective idea management; (3) complex cooperation web-based IMS application, where one web-based IMS use different sector representatives, conducted synergy between sectors.

Authors conclude that, there are impedimental and conducive factors in individual, organization, Latvia, global levels. Authors in the research have developed suggestions how to use conducive factors and how to avoid impedimental factors. With these detailed suggestions and all influencing factors could get acquainted contacting authors individually.

Conclusions

The results of the research show that the use of web-based IMS allows an organization to solve wide variety of professional challenges and develop variety of idea management networks, which creates opportunities not only to get ideas, but also gives other benefits. Web-based IMS are not widely used in Latvia. According to research, there is a perspective to apply web-based IMS in many fields and sectors, but the most appropriate organizations to involve society in idea management with web-based IMS in Latvia are government and local authorities, organizations and enterprises. The most appropriate ways to use web-based IMS is individual and in cooperation. Web-based IMS application coincides with aspects of strategic development documents of Latvia - participation, user promoted innovation, open innovation practice and wide culture of creativity.
References


Valsts pārvaldības formu ietekme uz kvalitātes nodrošināšanas infrastruktūru

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Atslēgas vārdi: akreditācija, atbilstības novērtēšana, metroloģija, standartizācija

Ievads

Nacionālās valdības izmanto tehniskos noteikumus, metroloģiju, standartus, atbilstības novērtēšanas procedūras un akreditāciju, lai uzlabotu ražošanu, veselības aizsardzību, apkārtējo vidi, drošību un kvalitāti, kā arī riska vadību un tirgus pilnveidi, kas rezultātā dod iespēju ilgstošu konkrētas valsts ekonomikas attīstībai, kā arī cēlu tās iedzīvotāju labklājību un sekmē tirdzniecību. Standartizācijas, akreditācijas, metroloģijas un atbilstības novērtēšanas institūciju kopumu dēvē par Kvalitātes nodrošināšanas infrastruktūru, turpmāk tekstā – KNI (skat. 1.att.).

1.att. Kvalitātes nodrošināšanas infrastruktūra

Pētījuma objekts

Pēc autoru novērojumiem kreisi orientētas valdības un labēji orientētas valdības atšķirīgi cenšas ietekmēt nacionālo kvalitātes nodrošināšanas infrastruktūru.

Labējo partiju valdības sadarbojas KNI institūcijām uz savstarpēji saistošu līguma pamata, savukārt kreiso partiju valdības cenšas ietekmēt KNI sev izdevīgā virzienā ar likumdošanas aktu, pavēru un rīkojumu starpniecību ierobežojot to neatkarību (skat. 2.att.).

2.att. Kreiso un labējo vadību saistība ar KNI un sabiedrības vai biznesa interesēm
Kādas partijas pieskaitīt pie labējām partijām, kādas pie kreisajām? Tā kā nepastāv stingri noteikti kritēriji, autors piedāvā, kā kritēriju pieņemt tirgus regulācijas pakāpi katrā atsevišķā valstī. Autors cenšas tirgus regulācijas pakāpi saistīt ar valsts pārvaldības formām (dikatatūru, demokrātiju un anarhiju) un ekonomikas formu katrā valstī, nosakot ka diktatūrai ir raksturīga komandu ekonomika, demokrātijai – brīvā tirgus ekonomika, anarhijai – kartēļu ekonomika (autora ieteikts termins).

Galvenie rezultāti

Lai precīzāk definētu valdību kreiso vai labējo orientāciju tiek piedāvāts nosacīti pieņemts modelis, kurā ar mehānikas likumu palīdz inženierzinībā tiek skaidrota tirgus regulācijas pakāpe komandu ekonomikas, brīvā tirgus ekonomikas un kartēļu ekonomikas apstākļos

Secinājumi

Viens no būtiskiem tirgus regulācijas instrumentiem ir kvalitātes nodrošināšanas infrastruktūra. Atkarībā no valdību attieksmes pret tirgus regulācijas pakāpi dažādu valdību attieksme pret valsts nacionālo kvalitātes infrastruktūru ir atšķirīga. Valdības kas atrodas tuvāk tirgus regulācijas centram var efektīvāk virzīt sabiedrību uz progresu, nekā galēji labās vai kreisās partijas.

Atsauces

The Conformity Assessment Toolbox “Building trust” ISO, UNIDO, 2010
SUBSECTION

“INTERNATIONAL BUSINESS, LOGISTICS, CUSTOMS AND TAXES“
Economic Factors Influencing Attractiveness of Maritime Education in Latvia

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Abstract

This paper presents results of research investigating attractiveness of maritime education and economic factors influencing it. Due to regulated nature of seafaring profession, maritime education is regulated by international standards and plays important role of seafarers supply process both at national and international levels. Shortage of seafarers threatens maritime industry already for years, therefore important aspect of sustainable maritime industry is stable flow of new seafarers from maritime education institutions. To predict changes of available labour resource as production factor it is important to understand how economic development of country influences attractiveness of maritime education and motivates persons to choose it.

Keywords: maritime education, seafarers supply, shortage of seafarers.

Introduction

Labour is one of the production factors, therefore maritime industry cannot get along without seafarers while unmanned ships still are only on horizon. Overall number of seafarers are considered to be about 1,371 million of seafarers holding STCW certificates. (BIMCO, 2015) To ensure sustainable pool of seafarers’ important aspect is maritime education system and its capacity to ensure sufficient number of new graduates as specific education is one of the requirement to obtain seafarers and especially officers qualification.

Latvia can be perceived as seafarers’ supply country due to lack of ships owned by Latvian companies. Approximately 95% of Latvian seafarers are working on ships under foreign flag. International employment of seafarers constitutes to economy of Latvia through earned money on board they bring home. This amount is assumed to be approximately 300 mill. Eur each year. Therefore aim of the article is to improve the evidence base for academic discussions related to attractiveness of maritime education and economic factors influencing it.

The human dimension of shipping receives little academic attention although it continues to confound the industry. As the world fleet expands, recruitment and retention of seafarers has become a global problem, compounded by the negative public image and the attraction of land based careers. (McLaughlin, 2015)

Waals in his research recognizes importance of maritime education system to provide stable number of graduates to ensure stable size of available seafarers’ pool for country. (Waals, 2002) Attention from European Policy side is aimed on attraction of youngsters to seafaring career. As one of the problems can be perceived lack of officers, which can negatively influence growth possibilities of EU maritime industry. (European Commision, 2007) Also IMO works in this direction aiming to attract youngsters to seafaring profession and promoting importance of seafarers’ knowledge and experience for sustainable development of maritime industry. (IMO, 2015). Policy activities underline the seafarers’ role as important production factor for whole shipping industry. Glen suggests that there are links between economic development and seafarer supply (Glen, 2008), where economic development influences the opportunity cost of seafaring career, therefore relative lack of attractiveness of the seafaring career in the wealthier economies implies a reduction in seafarer supply and also reduction of maritime education. Gekara in his article “Understanding attrition in UK maritime education and training” discusses both internal and external retention factors (Gekara, 2009). It can be seen that demand is globally driven as companies have option to employ seafarers from various countries in the same time.

Methodology of Research

While most of the researches and analysis are based on discussions about causes and consequences of decrease of number of seafarers only few of them are based on quantitative analysis. Therefore the research was structured in following way:

1) Defining attractiveness of maritime education;
2) Analysing results of existing researches, which are focused on attractiveness of maritime education;
3) Regression analysis of admitted students in maritime education programmes;
4) Conclusions regarding influence of economic factors in Latvia influencing attractiveness of maritime education.

Data analysis involved use of following statistical methods:
1) Construction of confidence intervals to determine significance of differences between factors mentioned in reports;
2) Comparing analysed sample parameters by using Fishers exact test, Chi square test;
3) Determination of correlation between quantitative indicators;
4) One factor analysis.

Findings

Maritime education can be regarded as vocational or professional education as graduates from such programmes can pretend to seafaring qualifications. Maritime education is one of the educations, which is internationally regulated as STCW convention sets international standards which should be taken into account in settling up maritime education programme. Seafarers’ qualifications are internationally regulated and STCW convention sets up international requirements for certification. Term “Attractiveness of maritime education” therefore can be defined as “capacity of maritime education to encourage individuals to deliberately choose maritime education, to offer quality qualification that open up career prospects, and to persuade employers to recruit graduated from maritime education programmes”. Investigating results of various researches, it can be concluded that attractiveness of maritime education is determined by integrated set of factors, which can be linked both with demand and supply factors. While results based on questionnaires shows that economic factors influences decision to become a seafarers, there is lack of knowledge how significant is influence of economic factors to person’s decision.

Conclusions

Attractiveness of maritime education in Latvia can be related to the economic factors such as unemployment level and growth of GDP. Determining the profile of Latvian seafarers, it can be concluded that they are attracted by careers opportunities onboard and “prestige of profession”, which is broad term therefore additional research is required to annalysed factors determining “prestige of profession” as different persons can understand this factor differently and economic factors ashore such as unemployment, salary level, Latvian supply of seafarers is influenced both demand and supply drivers for person’s motivation, therefore further economic development will decrease supply of Latvian seafarers, if promoting activities of maritime education will remain at the same level and supply drivers of maritime education will not be influenced. Due to fact, that person’s motivation is determined by integrated set of factors rather by single attraction factor therefore measures to attract more youngsters to choose maritime education should be related to integrated set of activities.

References

Social Insurance Problematic Aspects for Self-Employed persons in Latvia

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Abstract

The paper describes the problematic aspects putting self-employed persons in an unequal position regarding their social insurance compared to the social insurance available to employees. It analyses the factors making a self-employed person unequal to an employee employed according to an employment contract. There are some reasons for low activity of self-employed persons in social insurance sought, along with some possibilities for improvement of the procedure of calculation and payment of social insurance contributions of self-employed persons in order to facilitate to the desire and interest of the population to get involved in the provision of their social guarantees.

Keywords: self-employed, social contributions, social insurance.

Introduction

Self-employment is one of several forms of economic activities ensuring physical persons with possibility to perform economic activities legally. More than 10th part of the total employed persons in Latvia has been registered at the State Revenue Service as performers of economic activities. The data by State Revenue Service show that just the smallest part, i.e. incomplete 10%, of the registered performers of economic activities are actually paying their social contributions; furthermore 85-90% of them are calculating the payment from the minimum amount allowed. This means that self-employed persons in fact do not care about their future social security and by reaching the pension able age or facing non-ability to work under any other circumstance would not be able to receive their pension or state social insurance allowances.

To improve the situation in social insurance contributions of self-employed persons, it is important to acknowledge the reasons why they avoid or are not able to pay their social insurance contributions.

The aim of this research is to study what changes to the state social insurance of self-employed persons are needed in order to facilitate to the interest of these persons in making social insurance contributions.

Methodology of Research

The study uses the monographic method, descriptive statistical method and survey method.

Findings/Results

The study analyses the legislative framework of social insurance for self-employed persons in Latvia. The basic principles of social insurance of self-employed persons in other European Union member states are described, and the scope of social guarantees available to self-employed persons is analysed.

The statistical data analysis is used to establish the dynamics of self-employed persons in their entirety and within some individual groups of self-employed persons, including the specific weight of such persons of the total number in Latvia and the EU member states. The data on actual social insurance contributions made by self-employed persons and the activity of the registered performers of economic activity in the provision of their social guarantees were analysed.

Conclusions

The legislative framework governing the economic activity of natural persons is complicated and hard to understand to a person with no prior training, but the terminology used is not uniform and does not correspond with the public understanding and international practice. The social insurance system of self-employed persons existing in Latvia is not available to persons with low income, but the social guarantees of self-employed persons provided by law are not equal to those provided to the employees employed according to employment contracts. It makes the social insurance system less attractive and does not encourage making social insurance contributions. The survey results permit to draw a conclusion that the self-employed persons...
people want to be socially insured, but the social insurance contributions to be made should be proportionate to the person’s income. They must not reduce a person’s financial possibilities substantially.

The main recommendations arise from conclusions: the social insurance system of self-employed persons should be improved in order to make it available to all self-employed persons regardless of their income. It is necessary to conduct a comprehensive study to establish the reasons preventing self-employed persons from joining the insurance system and the factors to facilitate to making social insurance contributions.

References


Tax Impact on Household Incomes

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Abstract
The household income is an important economic indicator because it determines the scale of the household sector consumption and its delay in future in terms of saving and investing. Many factors influence the magnitude of household income and one of these factors is taxation. Given the significance of tax payments not only for household incomes, and through them – for the national economy, the object of this report is the household income and in particular the impact of the taxation framework on it. The aim of the report is to examine the monetary income of households in Bulgaria, tax expenses, as well as to outline the possibilities for tax impact on household incomes.

Keywords: Key words: taxes, tax relief, incomes, households.

Introduction
The significance of households for national economy is determinated from:
- The households take a part of goods and services output;
- The households are consumers of goods and services;
- The households are also the biggest net savers for national economy.

In this point of view each household as socio-economic category or the sector of households contributes economic growth in, at least, three aspects: via high labour productivity, extensive consumption and high investment activity. So the amount of households’ income has important significance because it determines demand of goods and services and ability of saving and investing. All of that defines the object of this report to be household income and in particular the impact of the taxation framework on it. The aim of the report is to examine the monetary income of households in Bulgaria, tax expenses, as well as to outline the possibilities for tax impact on household incomes.

Methodology of Research
The methodology of research is based on dynamic, factor and structure analysis.

Findings/Results
Summarised data about monetary income and tax expenditures of Bulgarian households, extracted from National statistical institute of Bulgaria database discloses interesting principles and tendencies reported in main manuscript.

Conclusions
Lots of resources form households’ monetary income and in compliance with the law it must be declared and fiscal liability – paid off. Given the significance of existing opportunities for legal tax reduction in Bulgaria, to know the possibilities for tax impact on household incomes is prerequisite to effective household finance management.

References
Legislation, personal taxes, Bulgaria.
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>> “
The Analytic Hierarchy Process as a Tool to Promote Youth Employment and Sustainability in Latvia

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Abstract

In foreign studies Latvia is positioned as a "depressive" region in the year 2030, which will have an insufficient population of young people. Thus, Latvia as a country with a business-friendly environment will not be able to be competitive in relation to other European countries and the flow of investment will be at risk, as well as passed on other, more competitive and better developed regions in demographic terms. Therefore, it is pertinent to analyze the trends in youth employment in Latvia and to work on Latvia’s economic development. There is necessity to promote human involvement in the labour market and to reduce their departure to foreign countries. It is important to draw attention to these challenges and to find answers to the questions: Which of the youth employment-promoting scenarios can be realized in Latvia’s regions in the near future? Which of the scenarios is the most appropriate for the development of Latvia’s regions? Which of the scenarios are more focused on the interests of all parties involved? Which scenario will ensure the country's economic development? Four possible scenarios for promoting youth employment in the regions of Latvia were evaluated by experts.

Keywords: youth unemployment, sustainability, the Analytic Hierarchy Process (AHP).

Introduction

In order to identify the most appropriate development scenario to involve young people into the labour market in the regions of Latvia, the Analytic Hierarchy Process (AHP) method established by American scientist’s Thomas L. Saaty was used.

The aim of the research is to identify the causes of youth unemployment and to establish the best scenario to reduce youth unemployment and to promote the sustainability of the regions of Latvia.

To achieve the aim, there are set the following tasks:
1. To evaluate the theoretical aspects from different authors to identify the main viewpoints and the practical approach to the methodology of the Analytic Hierarchy process (AHP);
2. To make interviews with the experts from different sectors and young people to find out the best scenario for reducing youth unemployment in the regions of Latvia.

The following materials and methods are used to achieve the aim and fulfil the tasks:
1. Theoretical framework of the research: the monographic and descriptive methods are used; the research is also based on scientific discussion regarding different author conclusions on the Analytic Hierarchy Process (AHP);
2. Research methodology: the methods of expert interviews, discussion of the results and findings are used to achieve the aim.

The authors made the expert interviews to gather information on their opinion of the best scenario for youth unemployment reduction opportunities. There were made interviews with an employer, young people, a business analyst, an expert from the Investment and Development Agency of Latvia and a representative from a municipality.

References

Sustainable Innovations in the Promotion of Home Produced Products in the Market

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Abstract

This paper aims to describe and analyse the innovations in the promotion of home-produced products in the market in Latvia. To do this, the authors have carried out a survey of 50 home producers that makes up a 4.5% of home producers and reviewed research studies about marketing strategies of small farmers and home producers.

The obtained results reveal that the most important factor in the marketing of home-produced products is the quality and taste of the products. It can be noticed that the market requires not a combination of traditional and often cultural heritage technologies in the development of the product itself, but an open mind and innovative approaches in the marketing and promotion of products in the market. The authors also conclude mainly the products are sold directly to the end user and therefore the communication with the client and mutual cooperation are highly significant.

Keywords: home produced, home producer, product promotion in the market.

Introduction

Home production is one of the forms of micro entrepreneurship and lately this and other forms of small and locally oriented entrepreneurship are acknowledged for promoting self-employment and business involvement of local communities. There are 1104 home producers registered in Latvia and in the period from 2010 to 2014 the number of registered home producers has grown more than 1.5 times. A home producer is defined as a person who has registered as a food manufacturer in home and small scale manufacturing, processing or manufacturing products using locally sourced raw materials. As home producers have to do several stages of product production and promotion themselves, there is a vast room for innovation in product design, production technologies, marketing and branding of products, product presentation and communicating with consumers. Home producers also use several market channels for selling their production. Traditionally most of the production is sold in local markets and via direct sales to customers, but there are several innovative examples of cooperating with local sales groups, producer cooperatives, eco-stores etc. Recent years, home producers have successfully competed with large producers in the food market by choosing a number of sales channels such as farmers’ markets, collective purchase and direct purchase groups, community supporting agriculture initiatives, farm visits, local food supplies to grocery stores etc. (Merrigan, 2012, Local and Regional.., s.a., Little et al., 2009).

In Latvia, home producers are registered with the Food and Veterinary Service (FVS); in the period 2010-2014 their number rose by 57%. There were 1104 registered home producers in 2014. In home production in Latvia, the most popular activity is the processing of plant products, as the number of entities registered for this activity increases every year, and at the end of 2014 there were 513 such home producers, accounting for more than 40% of all the mentioned activities.

Materials and methods

The present research designed a questionnaire and found out the opinions of home producers regarding presenting and promoting their products in the market. Authors have carried out a survey of 50 home producers that makes a 4.5% of the target group of home producers. The respondents represented all the regions of Latvia; 70% of them did their home production activities in rural areas, while 30% in urban areas.

Results and discussion

The obtained results suggest that mostly home producers sell their products via direct sales and, the authors suppose a great role is played by the ways of presenting the products and informing about them and by communication with consumers. To identify the ways of sales by home producers, the respondents gave
replies to the question “Where do you sell your home-produced products?” The highest proportion of replies – 72% – related to sales at local government-held fairs and delivery to customers on request. Specialty stores and market places were outlets for 36% and 46% home producers, respectively. Of the surveyed home producers, 48% sold their products on their farm or at their production place. Other ways of sales – the Kalnciema street market in Riga, direct sales groups, via post, via the Internet, at small fairs and stores – were used within various social events.

More than half (64%) of the surveyed home producers sold their homemade food products themselves, and almost half or 24 of them retailed their products 1-2 days a week. The authors assume it was done on weekends. Of the surveyed home producers, 16% sold their products 3-4 days a week, while only 8% of them did that all week long. The authors wish to emphasise that a third of them sold their products even less frequently, which might be explained by the fact large fairs or social events, in which home producers wanted to participate, did not take place every week. The reason was also the fact that part of their products was seasonal, for example, gingerbread and pickled vegetables, as such products were mainly purchased in winter. According to the surveyed home producers, the most important factor in marketing home-produced products was their quality and taste; it was stressed by 90% of the respondents. To ensure it, home producers have to have good recipes and technologies, so that the quality and taste of their products do not change. This factor is supplemented with an opportunity to taste the product, and consumers may be attracted in this way – they taste the product and decide whether to buy the product. However, only 26% admitted that in marketing products, it was important to indicate the place of production. The following unimportant factors in marketing products were mentioned by the respondents: the price tag and it’s placement; sales at different locations.

Conclusions and proposals

1. Home production is one of the ways of starting up one’s own business if an individual wants to produce and sell food products, initially, in small quantities. However, at present in Latvia, there is no single definition regarding what is home production, although already 1104 home producers had been registered at the end of 2014, and their number grows from year to year, while the proportion of unregistered home producers is still high.

2. Promoting products in the market is an important key element in marketing home-produced products, and a great role is played by communication with consumers. Home producers have to be able to arouse interest and desire in consumers for their products. For this reason, studying and assessing the steps of consumer behaviour is important to be able to offer products and information about them in the way consumers wish it.

3. Of the surveyed home producers, 72% marketed their products in their local community and delivered them to customers upon request. The products were also marketed in specialty shops and sold directly on the farm or production facility. Of the respondents, 68% had noted that it was necessary to promote product awareness and provide sufficient information to the customers through the Internet and social networks, thus acknowledging the necessity of innovation in communication with the customers.

Acknowledgements

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Theoretical Old-Age Pension Benefits and Replacement Rates in the Baltic States: a Retrospective Simulation

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Abstract

The author has performed a comparative analysis of old-age pensions and replacement rates in Estonia, Latvia and Lithuania using a method of retrospective simulation run on a self-developed model combining normative pension legislation (that was in force in December 2014) and historical statistical data. The model base case is a person retiring after 40 years of service with average salary. Other model cases include low-earners and high-earners, as well as voluntary participants of II pillar, and simulations for modified notional capital valorisation formulae. The results for the three study countries are very dissimilar that is caused by differences in the design of their pension systems.

The paper was supported by the National Research Program 5.2.6 EKOSOC-LV.

Keywords: public pensions, Baltic States, comparative analysis.

Introduction

As noted by Ebbinghaus and Neugschwender (2011), systematic cross-national analyses of pension income inequality often face the problem of long time-lag between accumulating pension rights over an entire working life and withdrawing pensions after retirement. There are two possible strategies to cope with this time-lag between policy changes and its likely effect. The first is a prospective simulation - by applying a detailed model of today’s rules to possible life-course trajectories in estimating future incomes, the result is depending on multiple assumptions about future employment careers, demographic changes, future returns on capital, and stability of pension rules. The second way is to link outcomes at a point in time with a retrospective analysis of the preceding development, which is the common method adopted in most national and comparative studies.

The author has chosen to apply a combination of both methods and to run a retrospective simulation: to calculate theoretical benefits for a number of model cases for a certain point in the past. The aim was to compare pensions a “typical” person retiring in December 2014 in Estonia, Latvia and Lithuania could have been granted.

Methodology of Research

A generic case for simulation is a person a) with 40 uninterrupted years of service; b) retiring in the end of 2014 at official pensionable age; c) having no dependents at the last year of employment; d) not eligible for any extras for children or other bonuses and supplements; e) not participating in II pillar; f) throughout whole career had average nationwide insured wage - baseline case (or, alternatively, was earning 50% / 75% / 125% / 200% / 250% of average insured wage).

Computation steps:
1. Calculation of gross pension benefit in accordance with the rules as were in force in December 2014 - based on the normative pension legislation and statistical data.
2. Calculation of net pension benefit in accordance with the rules as were in force in December 2014 – in accordance with the applicable taxation rules (Skačkauskienė & Tuncikiene 2014).
3. For more correct comparison amounts in euro are translated into purchasing power standards.
4. Computation of the replacement rate (net pension to net last salary, in per cents)
5. For Latvia only: computation of theoretical pension benefit of a II pillar participant depending on a chosen pension plan (active, balanced, conservative) – based on historical average annual yields.
6. For Latvia only: computation of theoretical pension benefit should the notional pension capital valorisation rules be modified as per newly amended law or as per Swedish / Polish / Italian NDC rules (Axelsson et. al. 2013, OECD 2013).
Findings/Results

The obtained figures are illustrated by the Figure 1 that clearly demonstrates very different patterns of pension sizes in dependence to person’s wage during working life. Small coloured rhombi are marking the levels of net average salaries in 2014, expressed in PPS. Despite of significantly lower salaries in Latvia, an average wage earner would get practically the same pension in Latvia and Lithuania.

Figure 1. Theoretical pensions and replacement rates

Latvian case is an example of almost linear proportionality: twofold earnings would bring twofold pension, the only shadow of progressivity is obtained through tax exempt. The difference in replacement rate for low- and high-earner is less than 10 percentage points. On the opposite side is Estonia with a strongly pronounced redistribution from rich to poor. Lithuania demonstrates an intermediate example of distribution, being however much closer to Estonian pattern than to Latvian one. The difference in replacement rates for low- and high-earners reaches 43 percentage points.

Conclusions

Pension systems in Estonia and Lithuania demonstrate more signs of a fair distribution of benefits and risks. The design of Latvian pension system is de facto inducing the reverse redistribution: from poor to rich. In countries where median salary is quite close to subsistence minimum, pension system should treat low income groups with positive discrimination instead of negative one. The variations between the Baltic States can be substantially explained by differences in pension system design elements.

Patterns generated by pension systems of the Baltic States differ from the results valid for OECD countries (Aggarwal & Goodell 2013): lower average pensions and lower mutual social trust negatively correlate with high pension progressivity.

References

Uzņēmējspējas attīstība latvijā eiropas savienības mērķu kontekstā

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Kopsavilkums


Atsūtīgas vārdi: Uzņēmējdarbības izglītība; uzņēmējspējas; praktikā.

Ievads

Rezultati – uzņēmējspējas jeb uzņēmējdarbības kompetences jēdziena izpratne un ieteikumu izpēte tās apguvei

EP secinājumos par uzņēmējdarbības izglītību terminus "uzņēmējspēja" (angl. – *entrepreneurship*) tiek lietots 2006. gada 18.decembra Eiropas Parlamenta un Padomes ieteikumu par pamatprasmēm mūžizglītībā nozīmē (turpmāk – Ieteikums par pamatprasmēm mūžizglītībā), taču šajā dokumā dokumentā angļu valodas vārdos "entrepreneurship" latviešu valodā tulkots kā "pašinicietāja" un attiecas uz individuālā pārvērš idejas darbībā. Tā ietver radāju pieceju, inovāciju un riska uzņemšanos, kā arī spēju plānot un vadīt projekstu, lai sasniegtu mērķus. Tā atbilst individuālām ne tikai ikdienas dzīvē mājās un sabiedrībā, bet arī darbavietā, palīdzot apzināties darbā nozīmi un izmantot izdevības, un ir īpašu zināšanu un prasmju pamats, kas nepieciešamas tiem, kas veicina vai nodarbojas ar sociālo darbību vai komercdarbību. Tam būtu jāietver ētisko vērtību apzināšanās un jāveicina laba pārvaldība.

Savukārt, Eiropas Savienības terminu vārdnīcā termins uzņēmējdarbība skaidrots kā nodarbošanās, darbs, profesija vai komerciāla darbība, lai gūtu pelēju vai nopelnītu ižiku. Darbība vai uzņēmums, kura mērķis ir pelējas labuma, priekšrocības vai iztikas līdzekļu gūšana. Termiņa definīcijas neatpack nepieciešamo zināšanu, prasmju, spēju un atteikmes raksturojumu, t.i. uzņēmējdarbībai nepieciešamās personas spējas un kompetencē.

Līdz ar to publikācijas autora skatījumā Ieteikumā par pamatprasmēm mūžizglītībā ir ietverts personas spēju un kompetences raksturojums, kas nepieciešams uzņēmējdarbības īstenošanai, tādejādi lietvārda – uzņēmējdarbība lietošana Ieteikuma par pamatprasmēm mūžizglītībā oficiālajā tulkojumā latviešu valodā ir nepieciešama uzņēmējspēja (Oganisjana, 2010). gan no ES dokumentu konteksta, gan pētījumu atzinām izriet, ka uzņēmējspējas (uzņēmējdarbības kompetence) attīstās zināšanu, prasmju un pieredzes apguves procesā. Savukārt Izglītības likums 1.pantā noteiks, ka izglītība ir sistematizētu zināšanu un prasmju apguves un atteikmes veidošanas process un tā rezultāts. Izglītības rezultāts ir personas zināšanu, prasmju un atteikmes kopums (Izglītības likums, 1999.) un uzņēmējspējas attīstāmas visos izglītības līmeņos no pirmsskolas izglītības, pamatizglītības līdz augstākai izglītībai.

Saišā ar uzņēmējdarbības veicināšanu, par uzņēmējspējas apguves iespējām izglītības procesā ir pieejami gan vairāku pētījumu atzinām izriet, ka uzņēmējspējas (uzņēmējdarbības kompetence) attīstās zināšanu, prasmju un pieredzes apguves procesā. Savukārt Izglītības likuma 1.pantā noteiks, ka izglītība ir sistematizētu zināšanu un prasmju apguves un atteikmes veidošanas procesā un tā rezultāts. Izglītības rezultāts ir personas zināšanu, prasmju un atteikmes kopums (Izglītības likums, 1999.) un uzņēmējspējas attīstāmas visos izglītības līmeņos no pirmsskolas izglītības, pamatizglītības, vidējās izglītības līdz augstākai izglītībai.

Rezultati – uzņēmējspējas jeb uzņēmējdarbības kompetences jēdziena izpratne un ieteikumu izpēte tās apguvei
2014.gada 10.marta Eiropas Padomes rekomendācija par mācību darba vietā kvalitātes nodrošināšanu izteikts secinājums, ka Prakse darba vietā ir būtiskākais aspekts iekšējai darba tirgū, ka arī vērsta uzmanība uz to, ka vairums aptauju un pētījumu atklāj prakses darba vieta kvalitātes problēmas, īpaši, ja izglītības iestāde tieši nav atbildīga par prakses saturu un īstenošanas nosacījumiem. Līdzīgus secinājumus var gūt no Nozaru ekspertu padomju aptaujas 12 tautsaimniecības nozarē.

EP ieteikumi uznēmējdarbības izglītības īstenošanai sagatavoti, ņemot vērā dalībvalstu praksi un institūciju autonomiju, gan par izglītības sistēmu atbildīgajām institūcijām (ministrijām u.c.), gan formālās, gan neformālās izglītības īstenojām, t.sk., izglītības un apmācības iestādēm, augstskolām, satur gan norādes uzņēmējdarbības izglītības veicināšanai, gan ierosinājumu par vienoto ES instrumentu izmantošanu izglītības sniedzēju pašvērtējumam par sasniegto uzņēmējdarbības izglītībā, gan ieteikumus iesaistīties vienotajos ES sadarbības tīklos un programmās gan institūciju, gan pedagogu līmeni.

References


Innovative Methods of Teaching and Learning for Promoting Entrepreneurial Competences

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Abstract

The article deals with the problem of promoting entrepreneurial competences. Different educational methods associated with successful development of entrepreneurial competences are mentioned, but an evident advantage of a practical application of a case-study method in teaching and learning for promoting entrepreneurial competences is revealed.

Keywords: entrepreneurs, entrepreneurial competences, case-study method.

Introduction

By innovative educational methods for promoting entrepreneurial competences we understand a combination of technologies and tools oriented on teaching and developing entrepreneurial competences. These educational methods must optimize teaching process. It means to meet educational objectives with minimum strength of teachers and students but with high quality of education and training and less time.

Innovative educational methods provide wide use of active and interactive forms of classes for developing key and entrepreneurial competences of future entrepreneurs. They are discussions, computer simulations, business and role games, psychological trainings, projects, teleconferences, analysis of business situations or case-method, etc. Among all of them a case-method is very popular with teachers.

The essence of this method is presenting the main aspects of economic problem. After studying analytical and statistic materials students get involved in the process of searching different decision-making strategies of the suggested economic problem. All the actions done by students are driven by the desire to participate in the activity and to improve their entrepreneurial competences.

Case-method gives opportunities to apply all theoretical knowledge of economic subjects, allows students to get experience in solving real problems in the sphere of entrepreneurship, and improves entrepreneurial competences. The activity of students in professional spheres is realized through case-method in different forms: presentation, public speaking, business talk, discussion, interview, phone talk, negotiations, meeting, business game, seminar, conference, and symposium. In real communication all these forms are interconnected.

Vital competences of entrepreneurs to run business successfully

Entrepreneurial competences range from personality traits and individual motivations to specific professional knowledge and skills. There are a number of traits that create a strong basis for the developing strong entrepreneurial competences and predict success in future business. They are passion, proactivity, tenacity, new resources skill. Motivation usually stimulates entrepreneurs to develop their knowledge, skills and abilities necessary to be involved in risk activities and to take responsibility for outcomes. To be qualified as an entrepreneur a graduate must be competent to solve the following professional tasks: to direct businesses and create new innovative projects, providing for sustainable development and success of the company in long-term perspectives; to study and employ up-to-date methods of business management and development; to work out and implement effective strategies for growth of company competitiveness; to employ principles and methods of outsourcing and empowerment; to manage company personnel; to analyze, control and regulate financial and economic situations in the company; to use modern information technologies for realization of management function; to carry out marketing research and employ its results for planning and organizing of production and service; to estimate quality and effectiveness of projects and organize their implementation; to prepare management documents; to hold business meetings; to formulate operative tasks of management and control their performance; to organize work based on science; to be able for lifelong learning; to understand social significance of entrepreneurs’ activity.

Advantages of case-study method

There are a lot of educational opportunities of case-study method: acquisition of new knowledge and development of general ideas; development of students’ self-critical and strategic thinking; the ability to listen to and consider the alternative views, express their point of view; development of skills which are necessary for the analysis of complex and unstructured problems; development of common sense,
responsibility for the decision-making process, the ability to communicate; skills development activities and their implementation; the ability to work in a team; the ability to find the most efficient solution to the problem.

**Methodology of Research**

To reveal the successful application of case-study method and to diagnose the level of formed competences of entrepreneurs we have employed methodic experiment, based on a definite scheme. Firstly, students are involved in an actual business situation presenting the information about company’s product, its place on the market, its competitors, financial situation, sales volumes, management, employees and other factors affecting the company’s success. Secondly, students are expected to scrutinize and analyze the case study and prepare to discuss strategies and tactics that the company should employ in the future. And finally, demonstrate their professional competences. Testing and examination are just the tools for control and estimation of developed entrepreneurial competences.

**Results**

In Figures 1 and 2 you can see the results of the analysis of entrepreneurial competences of students after using and not using the above recommendations. 20 students were tested, 10 students followed the concept mentioned above and 10 students didn’t follow it. In figure 1 the results of the first group of students are reflected, the data in figure 2 illustrate the results of the second group of students.

![Figure 1](image1.png)

**Figure 1.** The results of the first group of students before (light column) and after (dark column) the application of the author’s recommendations

![Figure 2](image2.png)

**Figure 2.** The results of the second group of students before (light column) and at the end (dark column) of the process of traditional education
Conclusions

Experiment and analysis of the research work described in the article prove the reliability of case-study method in the process of developing vital competences of entrepreneurs, necessary for successful business.

Case-study provides a systematic way of looking at events, collecting data, analyzing information and reporting the results. And finally, students develop their abilities to analyze complex situations, generate a variety of possible strategies, to select the best ones and to present their opinions in front of the audience. Thus, students, future entrepreneurs, develop their vital competences successfully to turn the company into profitable and competitive one when in business education a case-study method is employed actively.

References

SUBSECTION

“SAFETY OF TECHNOGENIC ENVIRONMENT“
Minimising Radiofrequency Radiation Exposure of Smart Phones and Tablets - Using an Off-Line Reader Instead of Wireless Browsing for Mobile Learning

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Abstract

Recently, problems of mobile learning have emerged because of possible radiofrequency (RF) radiation related health risks and interruptions due to constant connectivity. This research compares two situations: using a reader in off-line mode versus browsing content wirelessly with a 3G data connection. The same content is read in off-line and in online mode with a smart phone. Thereafter RF radiation exposure is calculated as SAR (Specific Absorption Rate) and cumulative exposure as µWh/m² by special software. It will be shown that by using off-line mode, cumulative RF radiation power density levels dropped to 1/32nd -part and the RF radiation exposure time almost zero. The benefits of asynchronous (off-line) versus synchronous (on-line) communication in mobile learning are discussed.

Keywords: mobile learning, risk management, radiofrequency radiation, health, reading

Introduction

Mobile learning encompasses both learning supported by mobile technology and also learning in an era characterized by constant mobility of people and knowledge (Sharples et al., 2011). Mobility provides certain benefits, but side effects should be discussed and possible risks should be mitigated. WHO IARC (2011) classified radiofrequency (RF) radiation ‘possibly carcinogenic’. Recently 200 electromagnetic fields (EMF) researchers contacted the United Nations, indicating the inadequacy of current guidelines and calling for protecting risk groups i.e. children and pregnant women from excess exposure to the EMFs (EMF Scientist Appeal, 2015). The appeal also highlighted the importance of investigating methods of reducing exposure to RF EMFs (EMF Scientist Appeal, 2015). When learners utilise mobile devices like laptops, tablets and smart phones for data access wirelessly, strongest RF exposure is in hands, stomach and genitals of learners (Guterman et al., 2009).

Not only radiation-related risks are mentioned in the context of mobile learning, Spitzer (2013) warns about the risk of addiction in online use and dependency on online connectivity. Czerwinski, Cutrell, and Horvitz (2000) show how interruptions from online connectivity disturb concentration requiring tasks like reading. Sheppard (2011) found distracting elements in the iPad E-book reading experiment, where there was a constant online connectivity available for learners. So, being without wireless internet connection might be beneficial for some learning tasks. Mobile learning related risk-management includes redesigning pedagogical practices, usage patterns and even information systems (Ahonen & Koppel, 2012).

In the on-line mode, the mobile phones and tablets have the mobile data services and Wi-Fi turned on to connect to the internet to download constantly content. The RF radiation exposure consists of downloading content packages, but also consists of other applications’ connections to the internet.

In the off-line mode, the smart phone has mobile data and Wi-Fi turned off. Content is synchronised beforehand and stored in the mobile phone’s memory card. Browsing of content usually utilises a special off-line capable reading application (app). To compare these two usage models, a test-set up was created.

Methodology of Research

A reader program (app) was installed from the Google Play Internet repository to an Android smart phone (Samsung Galaxy S3). One specific off-line reader program, GReader (http://noininion.com/greader/) was selected, because it allows full off-line functionality. The content was utilised in a form of blog posts. In this research paper we report only two different use cases with one Android smart phone: 1) reading content in off-line mode with an off-line reader 2) reading content in 3G good connectivity online mode.

Totally 5 news items were read on screen both in off-line and on-line mode. A protocol was followed that simulated reading, so a page turn to the next new item took place after 2 minutes. Total session time for both exposure scenarios was therefore 10 minutes. During this reading and downloading activities a special programme, a Quanta Monitor app (http://www.cellraid.com) recorded cumulative RF power density and
SAR (Specific Absorption Rate). Quanta Monitor directly monitors the phone’s RF emissions which are stored on the phone’s internal memory.

Findings/Results

Log-files from the memory card of the mobile phone were analysed on a personal computer utilising Microsoft Excel and average values were calculated. The cumulative RF radiation exposure, measured in µWh/m², was 32 times higher for on-line users (table 1). The SAR (Specific Absorption Rate) indicates near-field exposure in close range (<10 cm) especially to hands of users. Highest SAR levels were recorded when there was a wireless connection switched on and the device was simultaneously kept in hands. Generally, during the off-line use, the user is not exposed to RF radiation at all and SAR-value is zero, if content synchronising and downloading is done beforehand for example in a docking station.

Table 1. a 10 minute cumulative exposure from reading 5 pages of an electronic document on a smartphone: off-line compared to on-line mode

<table>
<thead>
<tr>
<th>Cumulative exposure (µWh/m²)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-line mode (transmitters turned off while reading)</td>
<td>76</td>
</tr>
<tr>
<td>On-line mode (transmitters active all the time)</td>
<td>2481</td>
</tr>
</tbody>
</table>

Conclusions

By using asynchronous learning practices, RF radiation related exposure and possible health risks can be minimised. Interruptions and distractions from online connectivity can also be avoided. However, reading is not the only task and more research is needed on asynchronous communication of mobile learning and its risk-minimising effects. More user scenarios (Wi-Fi, poor cellular network coverage, tablet use, various mobile devices) would be needed to investigate. The results of these studies will provide the basis for RF EMF risk-management, while simultaneously new pedagogical designs will be needed.

References


Ergonomics in Business – Approach for Organisation Efficiency Improvement

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Abstract
The investigation focuses on literature analysis on ergonomics implementation in business environment in order to find out contemporary approaches how to reach wellbeing and efficiency in organisations. Wellbeing at work promotes employee’s feeling of belonging and trust to the enterprise and contemporary effectiveness of the organisation is closely related to a human as performer of the work duties, and his or her skills and health affect business results of organization. The aim of the research is to establish a strategic approach on ergonomics implementation in business organisations based on the theoretical background of the ergonomics to improve the management.

Keywords: ergonomics, business, efficiency, improvement

Introduction
Nowadays human factors or ergonomics are important in entrepreneurship that characterizes not only wellbeing of the employees but also process efficiency and profitability of the enterprise. Wellbeing at work promotes employee’s feeling of belonging and trust to the enterprise (Roja Z., 2008) and various studies in the world prove that effectiveness of the organisation is closely related to a human as performer of the work duties, and his or her skills and health affect business results of organization (Sperry L., 2002). The aim of the research is to establish a strategic approach on ergonomics implementation in business organisations based on the theoretical background of the ergonomics to improve the management.

Methodology of Research
The monographic research method and comparison method were used to analyze theoretical application of the ergonomics in the business management.

Findings/Results
As macro-ergonomics approach states the ergonomics intervention in organisations improves efficacy of organisation’s functions and ensures wellbeing at work, which promotes achievement of positive process result and client’s satisfaction (Hendrick H.W., 1994; Hendrick H.W., Kleiner B.M., 2002). It should be noted that ergonomics intervention in organisation management simultaneously with advantages can cause also negative side-effects as well, which need to be coordinated and monitored. Such side-effects basically can be related to manufacturing enterprises (for example in assembly line), introduced into production, or automatic system, but with careful and proper planning and management techniques the problems can be solved.

On the basis of the idea of operations value chain usually the SIPOC (supplier - input - process - output - customer) principle is used (Lussier R.N., 2014). Hence the management should be effective, productive, controllable and adaptable and at the same time adjust to certain conditions, determined by organisation strategy, restrictions or rules. Such approach has become an effective management approach for ensuring sustainable activity and development of big and small organisations and is known as LEAN methodology (Mann D., 2014). One of the main principles in today’s business is involvement of the employees in the change and continuous improvement process (Heizer J., Render B., 2001). It requires additional knowledge of the work to be done, incl. processes. Knowledge is related with continuous education on possible management risks and their reasons (Kalkis V., 2008). Therefore it is important to prepare employees for the upcoming changes so that the common performance of the organisation system would be continuously adjusted and improved, and long-term efficacy of the organisation ensured (Kalkis, H., 2014).
For the practical implementation of the ergonomics solutions in the organisation managers should ensure regular training of employees on ergonomics principles in process improvement and increase in productivity, in programmes of acquisition of new positions and work types to improve skills and competences in order to successfully implement the necessary changes in process management.

Conclusions

Nowadays changes in business management have caused necessity to evaluate the management approach, increasingly paying attention to a human factors at work. The guidelines for strategic approach on ergonomics implementation in business organisations have been worked out, taking into the consideration the micro- and macro-ergonomics management methods considering the latest literature on combining ergonomics and management strategies.

References

Microwave Reflection Properties of Building Materials in the Working Environment

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Abstract

The relevance of the microwave electromagnetic field risk management may include 1) protecting sensitive electronic equipment from the electromagnetic interference, 2) counter-espionage including neutralizing electronic surveillance and 3) the protection of the personnel wherever strong microwaves are encountered. Also, it has been suggested that certain people in risk groups, may be more vulnerable to the microwaves than others. This preliminary study investigates 2.4GHz microwave electromagnetic field reflective properties in contact with various construction materials in the working environment. The reflection amplitude of the materials was measured by a setup involving a microwave source and a radiofrequency electromagnetic field peak detector. All the tested materials exhibited some reflective properties. The strongest reflections were recorded from gypsum board on wooden plank wall; the least reflections were recorded from the gypsum board on a silicate brick wall. The results suggest, that in assessing the microwave reflective properties of the building, the complete structure of the element must be taken into account – while the first layer material may allow the microwave to pass through, the following layers may present reflection. The data obtained by these measurements helps designing buildings where the microwave mitigation is a necessity.

Keywords: microwave, radiofrequency, radiation, electromagnetic field, reflection, shielding, materials, building.

Introduction

The emergence of new wireless information and communication technologies (ICT) has increased the level of microwave transmissions in the modern working environment. Construction materials used indoor and outdoor of buildings are the main determinants of the radiofrequency (RF) electromagnetic fields (EMFs) propagation in the working environment. Some materials act as a propitious medium for the travelling microwave, whereas some act as absorbents and inhibit the wave. Mostly the propagation of the microwaves is welcomed, since several voice and data transmission protocols rely on the wireless penetration of the signal. In some instances the necessity to mitigate the microwaves propagation may however also be well-justified. Firstly, there might be a need to protect sensitive electronic equipment from the electronic interference caused by the microwaves (Roh et.al. 2008; Aniołczyk & Koprowska 2004). Secondly, the methods of counter-espionage may prescribe the use of RF absorbing materials – electronic surveillance is often done by means of microwave transmissions. Thirdly, in face of strong RF EMFs, a need to protect the personnel in the working premises may require the utilization of RF mitigation design and materials. Recently, more focus has been paid on the safety of the RF EMF exposure (IARC 2013). Strong RF EMF exposure may be titled to workers nearby plastic sealers and glue dyers, but also to radio/TV transmission equipment workers and radar operators/technicians (Mild et.al. 2009). Also, it has been recently suggested that certain people in risk groups, may need additional protection from the RF EMFs (European Parliament 2009; Council of Europe 2011).

Methodology of Research

This preliminary study investigates the microwave (2.4GHz) reflective properties in the working environment, both indoor and outdoor.

A measurement setup was constructed, involving 1) a 2.4GHz 0.1W microwave source, 2) a RF EMF peak detector (GigaHertz Solutions HF59B) and 3) a rig to facilitate the irradiating and the receiving antenna. The irradiating antenna was inside a waveguide facing the material under testing (distance 0.93m from the material). The receiving antenna was in line with the irradiating antenna and the wall (distance 0.10-0.13m from the material). The rig allowed adjusting the position of the receiving antenna, in order to determine the minimum and the maximum amplitude of the standing wave. The standing wave was a product of the reflective properties of the material under the test and the waveguide. The stronger the reflective properties of the material, the larger difference in between the minimum and maximum points of the standing wave.
wave. The standing wave amplitude was measured in about one wavelength from the material under the test. The reflection coefficient \( (\Gamma) \) was calculated based on the electric field strength of the reflected wave \( (E^-) \) ratio to the incident wave \( (E^+) \) (Eq. 1). The \( E^+ \) and \( E^- \) were calculated based on the electric field strength at the minimum and the maximum amplitude of the standing wave. Initially, to calculate the insertion loss, reference measurements were performed without any building material. In calculating the real reflection coefficient, the reference measurement was subtracted from all the material measurements.

\[
\Gamma = \frac{E^-}{E^+}
\]  

(1)

The measurements were conducted in the working environments. Measurements were taken from the construction materials both indoor and outdoor of the building. Due to physical properties of the RF EMFs, i.e. the wave propagation, the surrounding environment (reflecting surfaces), the environment around the irradiator would exhibit minimum and maximum points. Unlike in a RF test chamber, where the reflections are eliminated, the actual working environment would allow the RF field to create spurious signals from secondary reflections. In order to minimize the effect of secondary reflections, the same material was measured at different locations and the results averaged. The aim of this study was to record the reflective properties of building materials in actual environments, therefore the bias from the surrounding reflections should be taken into account when evaluating the results.

**Findings/Results**

The results show various reflecting properties across different construction materials. For instance, when the superficial material exhibited RF pass-through properties, the substructure may have reflected the RF field and created secondary reflections. Therefore, while assessing RF EMF reflections in the working environment, all the materials in different layers of the building elements, i.e. walls, must be taken into account. Table 1 presents the reflection measurement results as classified into three categories, corresponding to light, moderate and strong RF reflection properties of the construction materials.

<table>
<thead>
<tr>
<th>Construction element</th>
<th>Reflection coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>gypsum board on an iron mesh on a wooden plank wall</td>
<td>0,82</td>
</tr>
<tr>
<td>roughcasted silicate brick wall</td>
<td>0,71</td>
</tr>
<tr>
<td>roughcasted limestone wall</td>
<td>0,56</td>
</tr>
<tr>
<td>red clay brick wall</td>
<td>0,54</td>
</tr>
<tr>
<td>roughcasted aerated block wall</td>
<td>0,48</td>
</tr>
<tr>
<td>roughcasted timber wall</td>
<td>0,48</td>
</tr>
<tr>
<td>gypsum board on a timber wall</td>
<td>0,38</td>
</tr>
<tr>
<td>window glass, 1 layer</td>
<td>0,37</td>
</tr>
<tr>
<td>roughcasted polystyrene plate on a silicate brick wall</td>
<td>0,34</td>
</tr>
<tr>
<td>gypsum board on a silicate brick wall</td>
<td>0,28</td>
</tr>
<tr>
<td>open window towards the trees (control)</td>
<td>6,52x10^{-17}</td>
</tr>
</tbody>
</table>

**Conclusions**

Generally, all the tested materials exhibited some reflective properties. The strongest reflections were recorded from gypsum board on wooden plank in which the reflections were mainly created probably by an iron mesh inside the roughcast. The least reflections were recorded from the gypsum board on a silicate brick wall. Whereas the gypsum board indicated pass-through properties when encountering the microwave, the next material beneath the gypsum board determined the overall reflection property of the wall.

**References**


Shielding Inbound Microwave Electromagnetic Radiation

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Abstract

The necessity to shield the premises from microwave radiation could generally be prescribed by three areas of risk management. Protecting sensitive electronic equipment from inbound electromagnetic interference may be relevant to ensure the operability of such devices. Counter-espionage measures may also require shielding the room in order to prevent electronic eavesdropping and to ensure the secure electronic data and voice transmissions within the facility. Strong nearby electromagnetic field sources may also call for shielding in order to protect the people from excess exposure. This extended abstract of a study describes the shielding of room by covering the window with 1) an iron mesh (10x25mm) and 2) a metal containing shielding curtain. The microwave source was placed outside the room, in front of a window. Measurements done before and after the shielding interventions show that both screening materials decreased the microwave levels inside the room many folds. However in case of the metallic curtain, which was closely connected to the wall, there were less gaps from which the microwaves could slip into the room, providing somewhat better shielding outcome.

Keywords: electromagnetic field, microwave, radiofrequency, mitigation, shielding, reduction, risk management.

Introduction

Shielding the room from microwave radiation could represent different areas of risk management. Shielding may be relevant due to sensitive electronic equipment as electromagnetic interference (EMI) may affect the operability of these devices. EMI issues may rise from the use of electronic devices in communications, broadcasting, automations, computations, biomedicine and other applications (Roh et al 2008; Aniolczyk & Koprowska 2004).

Shielding the rooms from microwaves is also unavoidable, if emphasis is put on the data security risk management. Counter-espionage measures such as shielding the rooms to prevent electronic eavesdropping would ensure the users that electronic data and voice transmissions across the facility could not be detected or transmitted to outside of the premises.

Shielding of the room or the entire building also becomes relevant if there are strong electromagnetic fields’ (EMF) sources nearby and assertion to guarantee the safety and well-being of people in the observed premises is required. Relatively high levels of radiofrequency (RF) electromagnetic fields may be found in many industrial processes: radiofrequency welding, industrial microwave ovens, mobile communication towers, radar towers, high power transmitters and their antenna arrays, welding, induction heating and other. Workers nearby plastic sealers, glue dryers, radio&TV towers and radars are also likely to encounter high-levels of RF EMFs (Mild et al 2009).

If risk groups are involved, even more protection from the electromagnetic fields may be required. In recent years, more emphasis has been paid on the risk management of the RF EMFs (European Parliament 2009; Council of Europe 2011; IARC 2013).

Methodology of Research

This study tested the shielding efficiency of RF screening materials in case of inbound microwaves. The measurement context involved a room, a window and a microwave source placed to outside of the room, in front of a window. In this study, only a window was shielded, as this is the main pathway for the microwaves to enter the room. The microwave source was operating at a frequency of 2.4 GHz providing a 0.5W power output to a parabolic antenna which directed most of the radiation towards the window. As an intervention measure, the window was covered with a screening material that would screen out the microwaves but at the same time would allow the light to pass through. Shielding solutions that would obstruct the light entering the room would understandably be unpractical.

The tested screening materials were 1) an iron mesh (10x25mm) and a 2) metal containing shielding curtain. The iron mesh was placed on the window to outside of the room and connected with nails to the
wooden frame of the window. The shielding curtain was placed to cover the window from inside of the room, distanced at ~0.15m from the window.

The screening efficiency was determined by taking the following measurement rounds in the room: 1) two layers of windows in place; 2) two layers of windows in place covered with a screening curtain; 3) two layers of windows in place covered with an iron mesh. The windows were wooden framed.

For each intervention scenario the measurements were conducted in the room: 1) vertically covering 25 points across the window at 0.3m from the window and 2) horizontally across the room, covering also 25 points at the height of 1m. At each measurement point the meter was circled around the point, in order to capture the highest exposure reading in the given quadrat. These 25 points were arithmetically averaged to provide a general figure representing the microwave level inside the room before and after screening intervention. Power attenuation factor in decibels (dB) was calculated as a ratio of the shielding intervention to the initial conditions (2 layers of windows). Prior to the measurement, the ambient radiofrequency field was measured to ensure that there were no other significant RF sources nearby that could affect the test results.

For measurements a handheld radiofrequency spectral analyzer ANRITSU MS2711 (Kanagawa, Japan) together with an electric field broadband omnidirectional antenna Omnilog 90200 from Aaronia AG (Rickscheid, Germany) was used.

Findings/Results

In this study one room was tested based on the protocol described in the previous chapter. Both screening materials turned out to provide significant reduction in the microwave levels inside the room. Even the window glass removed about a half of the inbound radiation. Table 1 presents the shielding effectiveness results for each measurement scenario.

<table>
<thead>
<tr>
<th>Exposure scenario/tested material</th>
<th>Average attenuation level (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>vertical plane</td>
</tr>
<tr>
<td>2 layers of windows</td>
<td>0</td>
</tr>
<tr>
<td>2 layers of windows and a metallic curtain</td>
<td>-8.8</td>
</tr>
<tr>
<td>2 layers of windows and a metallic curtain, edges tightly connected to walls</td>
<td>-12.6</td>
</tr>
<tr>
<td>2 layers of windows and an iron mesh</td>
<td>-5.3</td>
</tr>
</tbody>
</table>

Conclusions

In general, the outcome of the shielding intervention doesn’t only depend on the dampening effectiveness of the material itself, but also on how masterfully tightly the material is applied. The RF field has a nature to slip in from even minor cracks, slits and other pathways. Each room is unique in its shape and by the position/size of the windows. Also the building construction materials differ, which have an impact on the dampening effectiveness when shielding only the windows. To plan effective shielding, the position and the angle of a microwave source should also be accounted for. Besides the microwave source, also the surrounding building, vegetation and other objects in the neighborhood have their effect on the propagation of the electromagnetic field.

In the given setup, the shielding curtain proved to be more effective than iron mesh. This is evident when analyzing vertical plane measurement results, which were obtained close to the shielding screen 0.3m from the window. In applying the shielding curtain, two measurement rounds were conducted. In the first measurement the metallic curtain was applied as a normal curtain with open at sides. This provided a waveguide in between the window and the curtain, so the microwave infiltrated into the room from around the curtain’s edges. Therefore, for an effective shielding application, the material must be closely connected to the window and to the wall, as done in the second measurement with the curtain. In general, applying any shielding material, attention should be paid in limiting microwaves on the edges of the material.
References


Increasing Natural Daylight Levels in Atrium Type Building

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Abstract

The scientific body of research has become clearer on the importance of natural daylight on human health. This has called for new technical solutions to improve the situations in workplaces deficient of adequate natural illuminance. The current study focuses on atrium type buildings where office workrooms facing the atrium suffer from low levels of daylight. A model based on the reflectors is proposed to increase the natural daylighting in these workrooms. The model consists of 1) a sunlight collector that is placed on the roof, above the atrium, which guides daylight into the atrium shaft, 2) inside walls of the atrium, covered with reflective and light diffusing material which will redirect the light into the workrooms. A downsized model representing a classic atrium type building was built to test the effectiveness of the proposed intervention. After installing the reflectors the lighting levels of the model workroom showed drastic increase of about 34 fold. The study concluded that even if additional real life factors are taken into account that attenuate the effectiveness of the reflector array, the surplus of illuminance achieved by the system is sufficient to cover both the attenuation and to provide the workrooms with sufficient amounts of daylight.

Keywords: lighting, daylight, illuminance, atrium, office, reflector.

Introduction

Utilizing daylight in lighting the workplaces does not only have architectural dimension but may also be viewed from an economical point of view. Work areas lit by natural daylight require less artificial lighting which in turn over a year may reduce overheads in significant amounts. Daylight is also the best source for perfect colour rendering and providing people with visual comfort (Alrubaih et al., 2013). Still, many modern building types rather follow the limitations of the construction lot or other prescribed conditions than the considerations for maximizing the availability of natural daylight to accommodate the human needs. Such buildings are often those with an inner courtyard or so-called atrium type buildings. Office workers who work in rooms with the windows facing the atrium are receiving orders of magnitude less daylight than their colleagues on the other side of the hallway.

The presence or lack of natural daylight has been connected to the well-being of human being from multiple aspects. Human need for natural daylight is not so hard to understand when one considers the process of Homo sapiens’ evolution, of which the daylight has been a vital part of. The science of photobiology has contributed the daylight with several important roles in human health such as regulating the organism’s circadian rhythms and driving the immune system, to mention only some.

Light itself consists of several parameters that are used to describe the ergonomic quality of lightings systems (Koppel, 2012a). Illuminance level (measured in Lux), spectrum, colour temperature (measured in Kelvins), flicker (measured in Hertz) and dynamism of the light can all describe whether the light is suitable for human needs or not. Natural daylight is considered as an etalon for a quality lighting system. However artificial lighting systems do try, but are hardly to achieve the same characteristics as present in natural daylight. In occupational safety, mainly illuminance level is considered as the indicator of the indoor lighting quality. Other previously mentioned characteristics are not well understood and therefore often omitted from the assessment of the lighting quality. Therefore, natural light is seldom considered as a vital factor in designing new buildings. This has put many office workers into positions where accessibility to natural daylight is limited or absent at all in worse cases.

Sunlight is a full spectrum light – a property mostly absent in contemporary office lighting systems which consist usually of fluorescent light tubes or compact fluorescent light bulbs (CFLs). The spectrum of the sunlight is a continuous one covering all the wavelengths of the visible light - from red to blue and even beyond. The spectrum of the fluorescent light is with large gaps and few spikes that added together leave the human eye with an illusion of white light, so-called pseudo white (Koppel, 2012b).

Sunlight is also flicker free, whereas especially the older fluorescent light bulbs used to suffer from flicker. Some humans are found to be able to detect 50Hz flicker, but research has concluded that flicker at frequencies 15-18Hz (Hughes, 2008) and 3Hz (Harding et al., 2005) is to be considered most dangerous for
the risk groups (people prone to epileptic seizures). Flicker has also been associated with the eye strain (Wilkins & Wilkinson, 1991) and migraines (Shepherd, 2000).

Methodology of Research

A cardboard model was built to represent a typical atrium type building. The foundation of a model building was based on a square with an area of 0.624 m, whereas the atrium area inside the building (also a square) covered the area of a 0.078 m. The model had four floors. The outside walls of the model building were closed, so not to allow any light to enter the imaginary office area. Only light entering the atrium opening could enter the imaginary workroom. There was no wall (nor the windows) on the side of the workroom facing the atrium – so that all the available light from the atrium could enter the workroom and therefore the maximum improvement effect could be measured. In real life scenarios this may resemble all-glass walls.

On each of the area of interest, grid measurement was performed to draw a light distribution map. Measurements were taken in Lux (Lumens per square meter) with detector placed on the horizontal plane. The photometer used was Macam L203, which has high sensitivity scale for low light levels. The Macam photopic filter CIE2 is colour balanced which gives a response that closely matches the CIE Vλ human eye response. The range of the detector was 0 to 199 999 Lux.

A reflector with an area of 0.185m² (0.43x0.43m) was placed on top of the atrium opening which azimuth was then directed towards the Sun and elevation angle set accordingly to gain maximum sunlight intensity into the atrium. The reflector on top of the atrium directed the light into the atrium shaft. Next, the walls of the atrium, covered with a reflective material, became also lit and reflected the sunlight into the workrooms facing the atrium.

Results and Conclusions

To increase the natural daylight levels, high-tech and expensive technologies are not necessary. The model proposed by this study and the measurements conducted by the authors have shown that natural daylight levels can be drastically increased by using two or more reflectors. One could argue, that constructing a reflector in real life size, is a large scale enterprise itself. In authors opinion, in order to gain the desired efficiency there is no other better alternative than using one sizeable reflector or a number of smaller reflectors that sum up the same area. Gained illuminance levels in offices below are directly dependent on the reflector area on the roof.

This study had its focus on office workplaces deficient of natural daylight, identified as workrooms facing the atrium. Although workrooms that face the south may seem to have plenty of daylight, problems may also be encountered there. Direct sunlight is the cause for the glare. These conditions need also attention, since glare - a form of visual discomfort - can also impair human workability. Several solutions to control the glare can be found from the literature, where often vertical shading elements are used.

References


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Abstract

The electromagnetic fields are classified as “emerging health risks”. The emergence of new radiofrequency technologies has introduced some of the labor force to new types of electromagnetic fields’ exposure. In 2013 a new European directive (2013/35/EU) was released to provide European Union workers with a comprehensive set of protective principles against the electromagnetic fields. The European Union member states should harmonize their national legislation to the new directive by 2016. The current paper analyses the differences in the Estonian existing occupational electromagnetic fields reference values compared to the ones’ in the new directive. The two sets of reference values differ from each other in most of the given frequency spans. In some frequencies the national regulation is more restrictive, whereas in other frequencies the directive is more restrictive - up to ten times difference. Based on the principles laid down in the directive, the new national regulation should follow the reference values from each frequency span whichever is more favorable towards the workers.

Keywords: electromagnetic fields, occupational exposure, workplaces, legislation, European Union, directive.

Introduction

The electromagnetic fields are a relevant working environment risk factor also emphasized by the European Union by classifying it amongst “emerging health risks” (EC 2008).

On the 26.06.2013 the European Parliament issued a new directive 2013/35/EU called “The minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) “(EP&EC 2013). The directive provides several sets of requirements to limit exposure to the electromagnetic fields in the working environment. A three year adaption period was given to allow the European Union (EU) member states to harmonize their national legislation to match the requirements of the new directive. The directive presents minimum requirements and safety limits, meaning that member states can retain or establish stricter rules for occupational electromagnetic fields (EMFs) exposure, if so desired. However, the national law cannot allow any less protection than set by the directive.

The occupational EMFs directive 2013/35/EU states, that the implementation of the directive could not serve to justify any regression in relation to the situation already prevailing in member states (EP&EC 2013). Therefore, if already stricter rules are in place, than those set by the directive, the member state should retain the requirements that are more favorable to the worker.

The electromagnetic field consists of electric and magnetic field. The EMF is produced by all electrical devices which is different in strength at different frequencies. Therefore two sets of safety limits have been produced – to include both electric and magnetic fields. For microwaves, there are presented a third set of safety limits, since the health effects are different for that region. Health effects are conditioned on both the frequency and the amplitude of the field, this is why safety limits are also frequency dependent.

Methodology of Research

This paper provides comparative assessment of the occupational electromagnetic fields directive (EP&EC 2013) and the existing Estonian national regulation on occupational exposure to the electromagnetic fields (Government of the Republic of Estonia 2002). The assessment is done by comparing values of the safety limits.

Findings/Results

Given the long process of the directive’s development, the directive could be viewed as a compromise amongst many stakeholders, resulting in an 18-page document. The Estonian national occupational regulation from the year 2002 in turn is a shorter 7-page document.
In this paper we looked at the reference values, since these are the main safety limits that are going to be applied in the risk management. Table 1 provides an overview of the differences in the compared sets of reference values.

Table 1. Reference values comparison of 2002 Estonian national occupational EMFs regulation (EE) in relation to the directive 2013/35/EU’s reference values

<table>
<thead>
<tr>
<th>Field type</th>
<th>Electric field strength</th>
<th>Magnetic flux density</th>
<th>Power density</th>
</tr>
</thead>
<tbody>
<tr>
<td>100kHz-1MHz the same</td>
<td>100kHz-30MHz EE 10x higher¹</td>
<td>2-6GHz EE 73% lower¹</td>
<td></td>
</tr>
<tr>
<td>1.34-10MHz EE 35% higher</td>
<td>100MHz-6GHz EE 54% lower¹</td>
<td>10-300GHz EE 2x higher¹</td>
<td></td>
</tr>
<tr>
<td>22MHz-6GHz EE 55% lower¹</td>
<td>10-300GHz EE 44% higher¹</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ the largest difference in the selected frequency span is presented

In addition to reference values being stricter in certain frequency bands, the new directive also introduces/specifies the obligations of the employer. Table 2 provides an overview of the obligations of the employer in both regulative acts.

Table 2. The main obligations of the employer: Estonian 2002 national regulation compared to the directive 2013/35/EU

<table>
<thead>
<tr>
<th>Estonian 2002 national regulation</th>
<th>directive 2013/35/EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>§18.sect.1. Ensure (map) the levels of electromagnetic fields in the protected zone and areas with increased health hazards.</td>
<td>Art.4.p.1. Assess all risks for workers arising from electromagnetic fields at the workplace and, if necessary, measure or calculate the levels of electromagnetic fields to which workers are exposed. No obligation to make the assessment public.</td>
</tr>
<tr>
<td>§18.sect.3. Request information from the supplier of the devices of radiofrequency about the generated radiation field and the possibilities of reducing its effect.</td>
<td>Art.4.p.2. In the assessment take into account the directive’s guide, and other relevant standards or guidelines, including exposure databases. Take into account the emission levels and other data from the equipment manufacturer or distributor.</td>
</tr>
<tr>
<td>§18.sect.3. Organize measurement of the parameters of the electromagnetic field of the device if information from the supplier is not available or it is not reliable.</td>
<td>Art.4.p.3. If compliance with the exposure limit values cannot be reliably determined on the basis of readily accessible information, the assessment of the exposure shall be carried out on the basis of measurements or calculations.</td>
</tr>
<tr>
<td>§18.sect.4. Inspect the level of the radiation field of radiofrequency devices at least once in 3 years. Carry out additional measurement of the parameters of the electromagnetic field if the construction, screening or manner of use has been changed.</td>
<td>Art.4.p.4. The assessment, measurement and calculations shall be carried out at suitable intervals.</td>
</tr>
<tr>
<td>§18.sect.5. Take measures to reduce the electromagnetic radiation of the workstation to the lowest possible level.</td>
<td>Art.5.p.1. The employer shall take the necessary actions to ensure that risks arising from electromagnetic fields at the workplace are eliminated or reduced to a minimum.</td>
</tr>
<tr>
<td>§18.sect.6. Indicate the areas of hazardous radiofrequency radiation fields with relevant safety signs.</td>
<td>Art.5.p.5. Workplaces where workers are likely to be exposed to electromagnetic fields that exceed the action levels shall be indicated by appropriate signs. The areas in question shall be identified and access to them limited, as appropriate.</td>
</tr>
<tr>
<td>§18.sect.7. Provide workers with relevant personal protective equipment if it is not possible to reduce the level of the radiation field to the maximum permitted level with collective technical protective equipment.</td>
<td>Art.5.p.6. Where action levels are exceeded, specific protection measures shall be taken, such as the training of workers and the use of technical means and personal protection.</td>
</tr>
<tr>
<td>§18.sect.8. Assess and inspect the efficiency of the measures taken to reduce the exposure of the workers.</td>
<td>Art.5.p.1. The reduction of risks arising from exposure to electromagnetic fields shall be based on the general principles of prevention set out in Article 6(2) of Directive 89/391/EEC.</td>
</tr>
</tbody>
</table>

No mention of risk groups. Art.4.p.5. (d) In doing risk assessment the employer
shall give particular attention to any effects on the health and safety of workers at particular risk, in particular workers who wear active or passive implanted medical devices, such as cardiac pacemakers, workers with medical devices worn on the body.

Art.5.p.4. The employer will assess the workers at particular risk and, where applicable, by individual risks assessments.

No mention of indirect effects.

Art.4.p.5. (e) In doing risk assessment the employer shall give particular attention to any indirect effects.

No regulation if exposure above the limits occurs.

Art.5.p.8. If the exposure limit values are exceeded, the employer shall take immediate action to reduce exposure below these exposure limit values. The employer shall identify and record the reasons why the limits have been exceeded, and shall amend the protection and prevention measures to prevent them being exceeded again.

No mentioning of transient symptoms.

Art.5.p.9. When Action levels or sensory effects exposure limit values are exceeded, and the worker reports transient symptoms, the employer shall, if necessary, update the risk assessment and the prevention measures.

Conclusions

Two sets of reference values (national and the Directive) showed significant dissimilarities – up to ten times difference in some frequencies. The national regulation was more restrictive in some frequency spans whereas in other frequencies the directive was more restrictive. However, the 2002 Estonian national regulation covered only frequencies starting from 3 kHz, leaving the extremely low frequencies unregulated.

Based on the principles laid down in the directive the new national legislation should combine the two sets of reference values in a way that the future regulation includes whichever frequency span limit is more favorable towards the workers.

The directive is much more detailed in providing instructions how to manage safety and to check if an employer has fulfilled their obligations. The Estonian national legislation remains general in its wording, leaving much room for interpretation of the requirements. The directive also provides procedures for how to determine the compliance with the appropriate set of safety limits and for cases where limits have been indeed exceeded.

The Estonian 2002 regulation provides better protection of workers by §18.sect.5 requiring employers to reduce the electromagnetic fields to the lowest level possible. The directive (Art.5.p.1.) however requires minimizing the health risks from the electromagnetic fields.

References


Ugunsdrošības stiprināšanas preventīvo pasākumu īstenošana

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Kopsavilkums


Atslēgvārdi: ugunsgrēki, bīstamības faktori, cietušie, apdrošināšana, preventīvie pasākumi.

Ievads

Katra cilvēka pašsaprotams pienākums ir rūpēties par savu, savu tuvinieku un līdzcilvēku drošību, tai skaitā par ugunsdrošību darba vietā, sabiedriskās vietās un protams savā mājoklī. Preventīvie pasākumi ugunsdrošībā ir vērst i uz Ugunsdrošības noteikumu pārkāpumu izdarīšanas priekšnoteikumu ierobežošanu, kas paredz personas apzinātu un labprātīgu izvairīšanos no nevēlamiem ar ugunsnelaimi saistītiem notikumiem. Preventīvo pasākumu īstenojums ir veicināts un iespējams individuāli izpratni par ugunsgrēkos noteikumos noteiktajām prasībām un tie ir vērtīgi noteikt prasību izpildi.

Augsts risks var izraisīt tehnogēnas katastrofas, kuru rezultātā var izcelties lieli ugunsgrēki, kuru postošā ietekme ir neprognozējama, tiek bojātas milzīgas materiālās vērtības un pats galvenais – iet bojā cilvēki. Jebkurām riskam ir objektīvi un subjektīvi cēloņi, kuriem var būt dabiska izcelsme (piemēram, zibens) vai tehnogēna izcelsme, kas saistīta ar dažādus tehnoloģiskajiem procesiem (piemēram, bīstamo vielu uzglabāšanu vai transportēšanu). Dažādu avāriju riskiem ir raksturīgs lokāls briesmu avots (piemēram, toksisko vielu noplūde vai ugunsgrēks). Analizējot notikušo ugunsgrēku iespējamās cēloņus, var secināt, ka izpētes perioda vidū samazinājies gadījumu skaits, kas iespējams tikt izjaudušu ar uguni un tie ir vērsti uz noteiktajiem apdrošināšanas prasībām. VUGD statistika par ugunsgrēku izcelšanās periodā ir redzama 1.tabulā:

<table>
<thead>
<tr>
<th>Tabula 1. Iespējamie ugunsgrēku izcelšanāšanas iemesli 2010. – 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuzmanīga rīcība ar uguni</td>
</tr>
<tr>
<td>Bojātas elektroierīces/elektroiekārtas</td>
</tr>
<tr>
<td>Apkure</td>
</tr>
<tr>
<td>Tiša dedzināšana</td>
</tr>
<tr>
<td>Bērnu rotaļas ar uguni</td>
</tr>
<tr>
<td>Citi iemesli</td>
</tr>
<tr>
<td>Kopā par gadu</td>
</tr>
</tbody>
</table>

Ņemot vērā, ka vismaz trešdaļa ugunsgrēkos bojā gājušo Latvijā dzīvību zaudē ugunsgrēkos, ko visdrīzāk izraisījis nenodzēsts izsmēķis, paredzams, ka Latvijā varētu samazināties ugunsgrēku skaits, kurus izraisa grodušošas cigaretes. ASV jau vairākos štatos spēkā par pašdziestošajām cigaretēm ir spēkā no 2012.gada, Kanādā no 2005.gada, Austrālijā un Somijā no 2010. gada. Izpētes periodā visvairāk ugunsgrēku dzīvojama jā bojā kļūstīs arī dzīvojamajā sektorā, kas ir noteiktumus likumā pie mājokļiem, kas izpratni par ugunsgrēku izcelšanāšanas iemesliem izpētes periodā ir redzama 1.tabulā:
savukārt privātmāju īpašnieki kurina krāsnis, plītis, kamīnus. Lai mazinātu un sargātu sevi, autori ir definējis četrus galvenus ugunsdrošības priekšnosacījumus: jānopļauj zāle ap māju, jāizīstīra skurstenis, jāierīko dūmu detektors, jāpārbauda apkures ierīcēm.

Ugunsgrēka skaita un bojāgājušo skaita prognozēšana


Apdrošināšanas sabiedrību ietekme uz ugunsdrošību

Apdrošināšanas sabiedrības privātpersonām piedāvā dažādus pakalpojumus, tai skaitā īpašuma apdrošināšanu un civiltiesiskās atbildības apdrošināšanu. Nebūtams īpašuma apdrošināšana pret zaudējumiem un bojājumiem ir kļuvusi par vienu no populārākajiem apdrošināšanas veidiem, tai skaitā pret ugunsgrēku radītajiem zaudējumiem un bojājumiem. Pieprasījums veido piedāvājumu un visas populārākās apdrošināšanas kompānijas piedāvā pārāk mājokļa apdrošināšanu. Apdrošināšanas sabiedrības ir iestādējas laikā tām retāk vajadzētu izmaksāt apdrošināšanas atbildību un lai būtu pēc iespējas vairāk noslēgtu apdrošināšanas līgumu.

Atsauces


Ugunsdrošības un ugunsdzēšības likums, http://www.likumi.lv/

Voluntary Safety Management System in Manufacturing Industry – to what extent does OHSAS 18001 Certification help?

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Abstract

Occupational risk prevention can be managed in several ways. Voluntary safety management standard OHSAS 18001 is a tool which is considered to give contribution in effective risk management in manufacturing industry. The current paper examines the benefits of OHSAS 18001 based on the statistical analysis. MISHA method is used for safety audit in 16 Estonian enterprises. The results provide the objectives why companies implement or wish to implement OHSAS 18001, bring out differences in safety activities for three types of companies and determine correlations between different safety activity areas. This information is valuable for enterprises who wish to improve their safety activities via voluntary safety management system.

Keywords: health and safety audit, occupational health and safety management system, OHSAS 18001 certification, the MISHA method.

Introduction

The aim of the safety management systems is to manage the planning and implementation of a company’s safety policy. A safety management system usually includes the setting and prioritizing of safety goals and development of safety programmes. Different management tools can be used to fulfil legislation needs and company’s demands in order to mitigate workplace risks effectively. The literature on OHSMSs (Occupational Health and Safety Management System) often distinguishes mandatory OHSMSs from voluntary systems (Frick et al., 2000; Gallagher et al., 2012; Robson et al., 2007).

Mandatory OHSMS emerges from legislative requirements and sets core principles for the management of OHS (Occupational Health and Safety) to be implemented by employers. The most well-known European mandatory OHSMS is the Framework Directive 89/391/EEC which defines employers’ responsibilities in the management of OHS and requires insurance of safety and health of workers in every aspect related to their work. This directive sets general obligations: to conduct risk assessment at workplaces, to implement safety measures and to train and inform employees in OHS hazards.

Voluntary OHSMSs are not state-regulated. These systems were first encouraged by commercial organisations, corporations and associations (e.g. industry associations). Voluntary OHSMSs tend to be more complex than regulatory systems, and more formalised in terms of specifications. According to Frick and Wren (2000), the detailed specification of these systems helps to ensure the good integration of OHS policy into the management processes of enterprises. Voluntary OHSMSs are generally in the form of standards or guidelines, providing requirements for certification or giving simple guidance on good management practice for OHS.

Methodology of Research

On the basis of critical overview of the existing auditing methods, MISHA method (Method for Industrial Safety and Health Activity Assessment) as the most innovative was chosen for the current study. Technical Research Centre of Finland (VTT) developed this audit tool in 2000 (Kuusisto, 2000). MISHA method is primarily designed to be used in middle and large-sized industrial companies in manufacturing and process industry. The MISHA method considers the following area of industrial activities: A. organization and administration (safety policy and safety activities in practice, personnel management); B. participation, communication, and training; C. work environment (physical work environment, psychological working conditions, hazard analysis procedures); D. follow-up (occupational accidents and illnesses, work ability of the employees, psychological work ability). Benefits of using the MISHA method include the relatively small amount of resources and time needed and inclusion of occupational health aspects relating to ability to work. The audit process with MISHA should have a leader who can be either internal or external to the organisation subject to audit. Auditors should have prior experience in health and safety activities and carefully examine the application of the method prior to audit (Kuusisto).
Results and Conclusions

The globalization and constant competition in world-wide market has encouraged companies to implement various standards to demonstrate engagement for quality, environment and OHS. The OHSAS 18001 standard (2007) has gained the most acceptance managing OHS in manufacturing industry. In our study the investigated OHSAS companies perceived benefits from OHSAS 18001 certification as follows: (1) improved documentation management, (2) improved company’s image and (3) better conformity of legal obligations. The same results were obtained by Fernandez-Muniz et al (2012) in Spanish owned SME’s: that OHSAS 18001 helps companies to comply with their legal obligations, improve their organization and documentation system as well as enhance their corporate image.

The current study supports different positive hypotheses about OHSAS 18001 benefits: it favors accidents, illnesses and near misses registration; it supports regular monitoring of social work environment; contributes to more effective safety training etc. However, two of the postulated hypotheses were not confirmed: no difference in psychosocial climate between OHSAS and NOHSASL companies and also higher appreciation on physical workability was not observed. Hohnen and Hasle (2011) noticed the same shortcomings in their study, especially lack of concern with psychosocial work environment in an OHSAS company.

In our study, looking at the results of audits, we can conclude that in OHSAS companies OHS management functioned both in paper and in practice. However, in one or two cases there was a doubt of window dressing and maintaining the system without practical value. Similar problem was encountered in a Danish study (Granerud & Rocha, 2011). Our study also explored the differences between company types: OHSAS, NOHSASL and NOHSASC. The results showed that companies which belong to a larger corporation were able to operate as efficiently as OHSAS companies. Since their OHS management system is strongly supported by corporate policy, standards, guidelines etc.

Study conducted in Finland (Koivupalo et al., 2015) to examine OHSMS in a global steel company revealed that local OHS practices and tools varied significantly between sites and there was not any common practice or tool in use. In addition there was variation on how deeply the corporate OHS standards were adopted within subunits: some of them were exceeding the demands but some were below the standards. Corporate OHS management was based on OHS standards, vision and principles plan and targets. Management support of OHS effort was seen as the most important asset.

References


Autokāpņu un autopacēlāju izmantošana Valsts ugunsdzēšības un glābšanas dienesta noteikto uzdevumu izpildē, problēmas un risinājumi

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Kopsavilāms

Rakstā ir veikts pētījums par Valsts Ugunsdzēšības un glābšanas dienesta (turpmāk VUGD) tehniskajiem resursiem glābšanas darbu nodrošināšanai augstumā, tā tehniskajām iespējām un problēmām veikt noteiktus uzdevumus. Lielākā daļa VUGD eksploatacijā esošās ugnsdzēšības autokāpnes un autopacēlāji ir novecojuši gan fiziski, gan morāli, kā arī mainoties pilsētas infrastruktūras specifikai, ir radušās dažādas problēmas glābšanas darbu nodrošināšanai, tāpēc nepieciešams atjaunot VUGD autoparkus ar mūsdienu un dzēšanas un glābšanas darbos efektīvāku tehniku. Pētījuma uzdevums ir aplūkot VUGD autopacēlāju un autokāpņu dažādību, atspoguļot VUGD autopacēlāju un autokāpņu ekspluatācijas problēmas un piedāvāt VUGD autopacēlāju un autokāpņu ekspluatācijas un citu esošo problēmu iespējamos risinājumus.

Atslēgvārdi: ugunsgrēki, ugunsdzēšības autokāpnes un autopacēlāji, VUGD, glābšanas darbi augstumā.

Ievads

Viena no Valsts ugunsdzēšības un glābšanas dienesta funkcijām ir ugunsgrēku dzēšanas un glābšanas darbu veikšana, kas tieši saistīta ar darbu augstumā. Tāpēc Latvijas operatīvajiem dienestiem nepārtraukti ir jābūt gataviem sniegt ralīdzību cietušajiem, tā īstenošanai ir nepieciešams atbilstošs tehniskais nodrošinājums, īpaši darbiem augstumā.

Daudzi iecienītākie Latvijas ugunsdzēšības dienests bija spiests strādāt tikai ar Padomju Savienībā ražotu tehniku, atskaitot par daudziem izņēmumiem. Autokārnes un autopacēlāji bija ražoti uz ZIL, KAMAZ šasiju bāzēm. Tās tika projektētas 20. gadsimta vidū, šobrīd to tehniskie resursi ir izsmelti un pielietošanas īstenošana ir novecojuša, nepieciešams to atjaunot, lai VUGD glābēji var ātri reagēt un veikt normatīvajos aktos noteiktu funkciju izpildi.

Pārjeglādāno Padomju Savienības ugunsdzēšības sistēmas uz brīvvalsts iekārtu, Latvijas ugunsdzēšības dienestam 90 - tajos gados, atvīrtošu saules tirgum, tai skaitā ugunsdzēšības jomā, parādījās liela ugunsdzēšības tehnikas izvēle ar dažādām taktiskām iespējām, kuras ir iespējams vienā tehnikas vienībā, ņemot vērā mērķus un uzdevumus, kuros nepieciešams veikt konkrētajā struktūrvienībā.

Vecs ugunsdzēšības transporta reģistrs, kas iegādājās no Padomju Savienības sistēmas, var minēt, ka daudzās VUGD struktūrvienībās ir mazs vai neaptiekams amatpersonu skaita dežūrā, tāpēc Latvijas ugunsdzēšības dienesta 90-tajos gados, atvērtošu saules tirgum, tai skaitā ugunsdzēšības jomā, parādījās liela ugunsdzēšības tehnikas izvēle ar dažādām taktiskām iespējām, kuras ir iespējams vienā tehnikas vienībā, ņemot vērā mērķus un uzdevumus, kuros nepieciešams veikt konkrētajā struktūrvienībā.

Ekspluatācijā esošās autokāpņu un autopacēlāju apskats


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valstī ir 44 daļas, tātad ir nepieciešamas vismaz 44 autokāpnes/autopacēlāji, kā arī Ugunsdrošības un civilās aizsardzības koledžā un Rīgas reģiona pārvaldē kopā nepieciešamas 46 autokāpnes/autopacēlāji.

Pašlaik VUGD ir 39 autokāpnes un autopacēlāji, no šim tehnikas vienībām 20 autokāpnes ir ražotas Krievijā uz ZIL bāzes, skaitīt 1. attēlu.

1. attēls. Krievijā ražoto autokāpņu sadalījums pēc izlaiduma gadiem

Izgatavotājā rūpnīcās noteiktai autokāpņu AK – 30 (131) ekspluatācijas termiņš ir 10 gadi. Krievijā ražotās, autokāpnes ir fiziski un morāli novecojušas un tehniski taktiskie rādītāji neatbilst mūsdienu prasībām un tehnoloģijām gan no drošības viedokļa, gan no darbu veikšanas iespējām. Pašlaik nav tādas garantijas, ka jebkura no šīm autokāpnēm izturēs ikgadējā slodzes rārba un, līdz ar to tiek norietni apraudēta operatīvā dienesta situācija valstī un VUGD reaģēšanas iespējas uz dažāda veida glābšanas darbiem. Vecākās autokāpnes tiek lietotas jau 31 gadu, kas ir trīs reizes ilgāks termiņš, nekā to noteicis ražotājs.

Priekšlikumi

VUGD nepietiekamā cilvēkresursu problēmas risināšanai, kā arī ugunsgrēku dzēšanas un glābšanas darbu augstumā nodrošināšanai nepieciešama tehnika, kas ir pielāgota esošajai situācijai. Šādas prasības var nodrošināt tehnika, kura sevī ietver vairāk nekā vienu vai divas funkcijas, piedāvātais risinājums ir „Multistar” tipa automobilis, kurš sevī ietver glābšanas darbu veikšanas iespējas augstumā līdz ~31 m, pazeminājumos līdz ~12, patstāvīgi veikt dzēšanas darbus (ir ~2000 litri ugunsdzēšanai paredzēto vielu) un ir aprīkojums, lai veiktu citus glābšanas darbus (CSN, kēmiatī nozīmēju).

Atsauces


Ugunsdrošības un ugunsdzēšības likums, http://www.likumi.lv/

Development of Building Construction’s Deformation Control System

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Abstract

In the fast-growing market economy conditions an important factor is the public building safety. Modern city building requires searching for new architectural and constructive solutions, which becomes visually easier, but the load-bearing elements should take bigger loads. The trend of the use of new materials in the industry increases the speed of resource life cycle, which can increase the handling of technogenic environmental risks.

The problem of study is the fact that the inspection of building constructions is resource intensive process and it requires specific knowledge and measuring equipment. Professional building monitoring systems are specially installed measuring equipment set according to the temporary needs, which significantly limits the inspection speed.

The objective of the paper is to develop solution of widely usable system for preventive control of building construction deformations, which is able to detect exceeding of the set levels of limited values. Such system can indicate some of the building’s elements which would have required an immediate visual inspection and installation of professional monitoring equipment. The aim of implementation of mentioned solution is to improve the safety of technogenic environment in construction field, to simplify the management of the building and to provide a positive impact to the economic performance in the long run.

To solve the mentioned problem in the paper the research of recent technical achievements in the field of Electronics was carried out, theoretical solution of the problem were modelled, the experimental data were recorded, results were summarized and technical tasks was prepared.

As conclusion the technical target have been achieved by development the prototype of combined unit with the vibrating sensor, tilt sensor and accelerometer sensor included which is able to identify the set of critical geometrical changes with minimum step 1.84 mm within 4.36 minutes. To fix the linear changes of the vertical deformations, the pair of tilt sensors is able to record angular deformations placed on opposite parts of construction.

Keywords: Technogenic Environment, Building, Electronics, Economics.

References


Normative Act Regulation of Training for Personnel Connected with Operation of Dangerous Machinery and its Improvement

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Abstract

Currently, laws and regulations neither define the training program’s content of dangerous machinery to attending personnel, nor the form and the periodicity of proficiency examination. In the event of an accident of dangerous machinery or the use of equipment which is not in running order or the use of such machinery by untrained and unqualified personnel, the potential consequences are both loss of life, considerable environmental pollution and significant property damage. This article aims to examine the role of qualified personnel working with dangerous machinery and the implementation possibilities of training carried out by attending personnel of dangerous machinery, as well as to identify the problem issues related to laws and regulations controlling the existing operation of dangerous machinery. This article analyzes the basic requirements of qualification and training of the attending personnel working with dangerous machinery, the training organization opportunities and the national supervisory policy related to support and training in the Latvian context and analyzing the current practice existing in the United Kingdom and the Russian Federation, which, in addition is based on detailed assessment of empirical research reflects the advantages of various systems and shows concrete solutions for its adaptation in Latvia, allows identifying the qualification, as well as the training program’s implementation and development of existing problem issues both locally and at European and global level.

Keywords: dangerous machinery, personnel training, labor protection

Introduction

16 hazardous types of dangerous machinery that are subject to compulsory technical supervision are identified in Latvia. The number of dangerous machinery registered in the Latvian Register of dangerous Machinery is about 29 000. Recent massive amendments entered into force in 2004 related to the procedure of training of the attending personnel working with dangerous machinery. However, eleven years is a reasonable period of time to assess the existing training policy gaps. Also, the cases might be highlighted in practice, which point to the need for regulation in connection with proficiency examination of the attending personnel working with dangerous machinery: lack of professional standards of the dangerous machinery operators, lack of methodological materials and guidelines, laws and regulations do not provide the preventive and timely proficiency examination of the attending personnel working with dangerous machinery, statistics is not summarized of the attending personnel working with dangerous machinery, quality control of these training programs at the national level are not carried out. Currently, the employer can decide whether an employee will be trained in one of the accredited training centres according to the training programs developed by them or within the company in accordance with a training program developed by an employer in the framework of a non-formal learning.

Methodology of Research

A number of research methods are used in the study in order to carry out the analysis of the training program’s content of the attending personnel working with dangerous machinery and assess the compliance of the program’s content:

1. Historical, where regulatory law changes regulating the operation of dangerous machinery over time and understanding of them within the occupational health and safety context were examined by applying it.
2. Analytical, which analyzed the legal framework of the training implementation of the attending personnel working with dangerous machinery for both in Latvia and abroad by applying it.
3. Systematic, where interact between the possessors of dangerous machinery and supervising state institutions on safe working environment for working with dangerous machinery was evaluated by applying it.
4. Descriptive, where the weaknesses of the training provision for the attending personnel working with dangerous machinery were revealed by using it.

5. Quantitative and qualitative research methods, where a study was conducted on the attending personnel working with dangerous machinery (the achieved selection: 200 respondents), which, taking into account the potential differentiation of respondents (Latvian residents, the attending personnel working with dangerous machinery - operators and responsible professionals aged from 18 to 70 years) reflecting the level of education in connection with those training process criteria to be pointed out by the surveyed operators of dangerous machinery and responsible experts as the most important in learning of safe working methods by applying them.

Findings/Results

Comparing the results of the implemented monitoring and inspections carried out in 2013 and 2014, the author concludes that number of non-compliant equipment indicators is consistently high regardless of the type of dangerous machinery. Both administrative violation acts drawn up by the Consumer Rights Protection Centre and jurisprudence testifies on violation of inspection authorities and rulers carrying out their duties carelessly and formally. This situation indicates a high degree of risk, thereby creating a risk to the life and health of personnel.

Only one professional standard is developed for the operators of dangerous machinery - factory/boiler stokers (occupational code - 8162 03). Training of the attending personnel working with dangerous machinery is implemented as a non-formal learning. The educational implementer of the program is responsible for non-formal education program in the amount up to 159 academic hours, implementation of the program and the quality of methodological materials. The training courses are from 6 to 25 h long provided for the attending personnel working with dangerous machinery in accordance with the analyzed training education of for the attending personnel working with dangerous machinery, duration of training courses is not proportionate to the requirements brought forward by the professional standard to carry out the basic tasks of professional activity in order to acquire the required knowledge.

It should be noted that Latvian legislation does not stipulate that the existence of dangerous machinery in the company shall be taken into account during the establishment of occupational health and safety system. If the company has no more than 10 employees, the responsibilities of a work safety specialist might be carried out by the employer himself, unless he has acquired a basic level of the program related to work safety and specialized knowledge. However, the learning of the mentioned program does not provide the employer with sufficiently high level of knowledge on the dangerous machinery as the executor of the responsibilities of the work safety specialist, as the training on issues related to the work equipment, including dangerous machinery takes only 3 hours, which understandable is not sufficient to consider such a specialist sufficiently competent and able to independently carry out the training of his employees, as well as to be able to independently develop training programs to train his staff in accordance with guidelines defined by the National Centre for Education.

The attending personnel working with dangerous machinery agree with the signs of aging of labour force characteristic for the entire European Union, as indicated by the relatively low level of proportion of the young attending personnel (18-24 years) working with dangerous machinery (7% of the respondents) and the relatively high proportion of respondents (28%) in the age group of 55 to 64 years.

Conclusion

The employer is responsible for the content and quality of the training, however, the quality control of the training control is not implemented at the national level. Professional standards do not contain requirements for educational content and duration and do not describe the knowledge examination procedures. The national level organizations should approve the requirements of educational results:

- The problems to combine requirements of education standards and professional standards for each individual educational program or course.
- The problems with programs or courses of non-formal learning, for which neither education nor profession standards are developed that can be used by the education users to select the appropriate education provider

Therefore, it is necessary to establish unified requirements for the training procedure of the attending personnel working with dangerous machinery regardless of the training organizer, regulating the training programs and examination content, as such clear conceptual approach would ensure that it will be relatively
simple to implement and control the training process at the national level. Accordingly, it is necessary to clarify in the Regulations of the Cabinet of Ministers the required proficiency level of the responsible specialist for carrying out his duties, which determines the need to appoint appropriately qualified specialist with a written order, who is responsible for a technical condition of the particular dangerous machinery, it safe use and maintenance.

Skill obsolescence is a major problem that threatens Latvia, if compulsory system of proficiency examination of the attending personnel working with dangerous machinery will not be updated.

It is necessary to perform additional research among countries, where legislation institute related to the operation of dangerous machinery is working more significantly and efficiently than in Latvia in order to deeper analyze and probably take over a foreign good practice of the training system organization provided for the attending personnel working with dangerous machinery.

References


Statistical data from Latvian dangerous machinery Register./ Consumer Rights Protection Centre unpublished materials.

Development of Guidelines for Operators Working with Dangerous Machinery
Proficiency Assessment of Eligibility for the Job

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Abstract

Taking into account the fact that Latvia currently lacks of methodological guidelines to develop the program of training of operators working with dangerous machinery and evaluate the level of knowledge and skills to enable an adequate assessment of employee proficiency with the work to be performed, there are still legislative requirements that one of the working environment risk factors to be evaluated is the injury risk factor as “insufficient professional training of an employee” while assessing the working environment risk, there is a need for methods that allow the optimized assessing of this occupational risk factor.

The author’s research subject is insufficient proficiency assessment of eligibility for the job as the working environment risk factor. This article reflects the full development cycle to assess the employee’s professional training of the method development by the author: scientific literature sources were initially identified, which include the theoretical and practical models of a calculation of the employee’s professional training level, as well as empirical research, their strengths and weaknesses and restrictions of the potential application in the context of the existing Latvian laws and regulations are analyzed, the required criteria are developed for the method and assessment method of the employee’s professional training is developed as follows. Also, the practical application of the method to assess professional training of the bridge crane operator is reflected. Recommendations and guidelines for the use of the method are developed and provided for efficiency measures of the employee’s professional training level.

Introduction

In practice, a lot of different techniques are found to assess the risks caused by individual equipment, as well as the working environment impact; however, there are few of individual methods that describe the role of the employee influence, because “although a number of methods have been developed in the world allowing to identify of possible hazard caused by a man as a part of the human-technical interaction system, however, it shall be taken into consideration that most of these methods (known as HRA - Human Reliability Analysis Methods) should be viewed critically, since the methods look at the human reaction and possible scenarios working with equipment only in exceptional cases and in non-standard conditions” (Mitropoulos, P., Cupido, G).

It should be taken into account that professional training of an employee and knowledge level on the labour safety issues serves as a preventive measure to ensure a safe working environment, both because it reduces the possibility of an accident and the possible development of occupational diseases.

Methodology of Research

The author relies on the assumption that the professional training is overall assessment of professional competence, capacity for labour and labour safety system impact on the employee.

Consequently, a combined method developed by the author for assessment the professional training of the attending personnel working with dangerous machinery includes three components:

1. Professional competence assessment, which includes a number of elements and which can be calculated using the formula developed by the author:

\[ \text{Assessment of professional competence} = \frac{t_{BI}}{t_{pārskata}} + k_{dolisis} + \frac{Z_{fakt}}{Z_{ter}}, \]  

where 
\( t_{BI} \) - time worked in hours as the dangerous machinery operator during the reporting period;
\( t_{pārskata} \) - the total number of hours worked during the reporting period;
\( k_{dolisis} \) - the coefficient resulting from length of service, which divides employees into “safe” and “unsafe” group:
The dangerous machinery operator's actual knowledge in score points, it is determined by assessing answers to the questions included in the author's developed checklist.

\[ Z_{\text{akt}} \text{- total possible number of points for the questions included in the checklist.} \]

2. A modified work ability index is used for the assessment of work abilities, component of "work ability" (Work Ability Index, WAI).

3. Evaluation of the impact of the labour safety system organization on the employee.

The author developed a checklist with 30 questions to assess employees' opinion and knowledge of labour safety organization in the company. It should be taken into account that this checklist has been developed to assess the understanding of labour safety organization by the dangerous machinery operators.

The OSR index considers assessing all the factors by the criterion of "match" or "do not match", all compliances are classified in 3 levels.

- Points with the index "O" – refer to the minimum safety requirements, if ignored can directly cause the accident;
- Points with the index "S" – refer to the most important safety requirements, indicating a lack of sufficient compliance of safety requirements in the company and indirectly could lead to accidents or encumber first aid in the company;
- Points with the index "R" – refer to the requirement of advisory nature, the so-called “good practice” running in the company.

Each index "O", "S" and "R" is evaluated respectively with 3, 2 or 1 point, the OSR index is determined by the certain formula (2) [82]:

\[
\text{The OSR index} = \frac{\text{Matching } \text{"O"} \times 3 + \text{"S"} \times 2 + \text{"R"}}{\text{All } \text{"O"} + \text{"S"} + \text{"R"}} \times 100 \%.
\]

\[(2)\]

Results

The method for evaluation of the professional training of an employee developed by the author estimates the professional training of three components: professional competence, work ability and the impact of labour safety system on the employee. It assesses each individual component separately; both the individual employee characteristics and work organization impact on employee, as well as the physical and mental compliance of the employee for the work are taken into account. Interpretation of the results makes it easy to identify what improvements are needed, because it reveals “weak stages”, allow you setting priorities for action, revealing what measures needed to be planed first so that the work environment is more safe and healthy, because the main aim of the labour safety system is to provide a safe working environment to employees, protecting them from injuries, diseases and accidents. It should be taken into account that poor health related to professional activity, including diseases caused or aggravated by unfavourable working conditions is a heavy burden on workers, companies and social security systems.

The method is easy to use; the necessary output data are easily accessible, the method application does not require additional financial investment, which is essential for Latvian conditions.

The method is suitable for both the initial risk assessment and risk re-evaluation in order to assess both the improvements made in the labour safety system, as well as changes of indicators of the employee's professional competence and the individual changes in ability to work.

Conclusion

The significance of a risk factor evaluating of insufficient professional training of an employee in the overall risk assessment structure is a question of conceptual nature, taking into account that the requirement to evaluate this risk factor exists in practice, but the methods set out in general would allow adequately assessing this risk factor are not applicable in Latvia for the attending personnel working with dangerous machinery due to lack of the necessary input and output data associated with the absence of statistical data, as well as deficiencies in the laws and regulations of eligible system.

Additional studies must be carried out, evaluating content, criterion and construct validate of each individual component of the method that by obtaining the appropriate validate evidences of the method would improve the method developed by the author for assessment of the insufficient professional training of an employee as a risk factor and the method can be applied not only to one specific group of employees – the dangerous machinery operators, but generally used to determine professional training of each employee.
References


SECTION

“SCIENTIFIC PROBLEMS OF ENGINEERING ECONOMICS OF CONSTRUCTION, REAL ESTATE MANAGEMENT, REGIONS AND TERRITORIES DEVELOPMENT”

SUBSECTION

“PECULIARITIES OF ENGINEERING ECONOMICS IN CONSTRUCTION, REAL ESTATE AND LAND MANAGEMENT“
European Studies on Land Value Capture of “Unearned Increments”

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Abstract

As a consequence of land use intensification often appear effects that cause remarkable challenges and issues in land management practice. Increase in real property value usually is expected from both public and private investments into improvements of infrastructure as well as following the influence of overall socio-economic development. Land value capture indicates to the way – a method or strategy, how to absorb this increase in value by using it for specific purposes. The study focuses on exploration of recent studies in various European countries regarding the experiences to provide equity resource allocation in the territory by distributing the increase in land value among local stakeholders – real property owners and public authorities. The historical and comparative analysis methods as well as logical-constructive and graphical methods have been applied in the study. Various sources of the increase in land value and the development phases of the real property have been analysed and the correlation results demonstrated in the study. The findings of the study may contribute significantly for improving the land policy, local development programmes and plans, and appropriate institutions at the municipal land management level.

Keywords: land value capture, real property, infrastructure developments, unearned increments

Introduction

Sustainable land use management focuses towards balanced both the consumption and conservation of land-related resources. Therefore, much attention is paid to land administration in both urban and rural areas by applying specific tools and assessing various effects from its interaction. Land use planning may be seen as an integrated part of the land management process. Land use plans most commonly are implemented through developing of necessary infrastructure and buildings in accordance with a functional zoning, permitted land use and set land use restrictions. Thus, “land development” is promoted by carrying forward the new development initiatives, creating the engineering infrastructure and buildings appropriate to the either urban or rural environment, and implementing the reasonable changes into existing land use according to set regulations. Accordingly, the land development activities cause to the changes in land use intensity and land value. Land value capture (LVC) points to the techniques in order to capture value increase to use it for specific purposes, while ‘unearned increments’ (UI), often named either ‘cost recovery’ or ‘betterment’, refer to an increase in the value of property through no work or expenditure by the property owner. Several recent studies of European scope give an overview of the methods that are applied for land value capture of ‘unearned increments’. The research results could develop basis for an extended study to obtain an overview of value capture also in Latvia by using the same structure and models.

Methodology of Research

The aim of the research is to explore different approaches and techniques that are used in various European countries for resource allocation in the territory by distributing the UI of land value among local stakeholders to be used for specific purposes and public benefits. To achieve the research aim, the following major tasks are defined: (1) to discuss the relevant concepts and models as well as its interpretations to be applied for a case study and comparative analysis of the study scope; (2) to identify and analyse the common sources of the increase in land value and the development phases of the real property to be used in case studies and comparative analysis; (3) by examining the spatial development planning systems and assessing the existing planning practices, to explain the results of land use planning-implementation processes and identify both private and public involvements at each development phase of real property; (4) to analyse the models that are used for LVC; (5) based on the research results and their interpretation, to draw meaningful conclusions and make proposals for designing the value steps of real property development and representing the case of Latvia. The historical and comparative analysis methods, logical-constructive and graphical methods have been mainly used in the study.
Findings/Results

The terminology regarding to the value capture is much argued, debated, and interpreted in scientific literature, however the LVC can be seen as a method or strategy to capture the increase in land value to be used for specific purposes for public benefits. Direct and indirect models should be used for the capture of the surplus value of developed land. Five common sources and three development phases of real property are to be identified and analysed at each specific country in order to design the value steps and represent a comparable case study. Various dissimilarities are identified if comparing the spatial development planning systems and related significant processes among Germany, France and Sweden. The spatial planning system of Latvia most closely corresponds to the Swedish system. However, there are meaningful disparities if comparing the private and public involvements, the regulatory framework, the mandatory and contract-based developments, and the cost covering options among the explored cases of the countries.

Conclusions

Although the results of entertaining research show the varied approaches and applied procedures in LVC if comparing the examined cases of the countries, it may be concluded that the methodology used for comparative research on value capture have to make background for an extended studies to design the value steps of real property development, represent a comparable outcome, and thus to obtain an overview of value capture across the Europe.

References

Management of Environmental Costs in the Project: the Experience of Russia and Mongolia

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Abstract

The questions of assessment and management of environmental costs of production in the project activities. We study the conditions of preparation and implementation of investment projects to eliminate accumulated environmental damage in the context of "green" economy. For example, a mining enterprise "Erdenet" in Mongolia, whose shareholders are Russia and Mongolia, the issues of sustainable development of the company for the future, taking into account the depletion and exhaustion of its resource base and mine closure. Analyzes trends in the cost of production, environmental protection, compensation for the negative effects of economic activity on public health and others in connection with the change of ecological and economic conditions of production and the depletion of the resource base. In order to optimize production costs - copper-molybdenum concentrate in a reduction of the useful component in the ore mined justified directions for the use of man-made deposits, that is, the resources of previously accumulated waste products (off-balance ore, shlamonahranilischa waste), which were formed as a result of the company in the past, for the production of road construction materials and others. The article explains the necessity of building the fund liquidation (a fund for future generations) in a depletion of resources base of the enterprise for sustainable development of the territory after the end of the life of the company through payments to the fund of the funds from company profits, income from the use of waste as secondary raw materials and others.

The proposed mechanism for the management of environmental costs in project activities can be used at the enterprises of Russia and Mongolia, as well as in other countries in the implementation of investment projects to eliminate accumulated environmental damage and the development of the principles of "green" Economics in the mineral resources. For example, the Mongolian-Russian mining company "Erdenet" in Mongolia shows the direction to reduce costs and production costs through the implementation of measures for resource and energy efficiency, involving in economic circulation of off-balance ores and tailings.

Keywords: environmental management, environmental economics, mining enterprise, Russia, Mongolia.
The Development of Housing Sector and Residential Real Property Market after Economic Recession in Latvia

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Abstract

The study is concerned with an examination of resource distribution in order to promote a sustainable development of housing sector in the context of evolving residential real property market after economic recession period in Latvia. The statistical and comparative analysis methods mainly have been applied in the study and the recommendations on the implementation of conceptual solutions for promoting an efficient management of housing sector according to the public needs have been provided. The findings of the study may contribute significantly when improving the housing policy and appropriate institutional environment in Latvia.

Keywords: housing sector, sustainable development, real property, residential market

Introduction

Residential housing comprises one of the major real property market segments. The research on its current development is related to transactions with real properties of the housing stock – individual residential houses and high-rise multi-family residential buildings. The development of housing sector indicates the household formation. The research results of the current development are necessary to evaluate the state and potential of the sector, market situation in the relevant time period and development trends. The housing sector is aging if it is not renewed to the extent required. The real estate market can offer real estate taking into account not only the need for provision of housing functions, but also the potential to create a solvent demand by offering high-quality dwellings in new and modern development projects. For this purpose conceptual solutions can be found to increase efficiency measures and to promote the housing sector management in accordance with the public interest.

Methodology of Research

The aims of the study are to explore the current state of the housing sector, to analyze the real property market development trends in the residential segment and to assess the potential and opportunities in Latvia as a whole and in its separate regions, where the population concentration is higher and the market is more active. To achieve the research aims, the following major tasks are defined: (1) to explore the residential area and the dynamics of market transactions of related land units as well as development trends over the last five years; (2) to evaluate the housing sector characteristics in certain research areas; (3) by assessing the structure of housing sector and real estate transaction intensity in the residential market segment, to explain the factors that affect housing sector aging and the stagnant nature of real estate market over the last five years; (4) based on the research results and their interpretation, to draw meaningful conclusions and make proposals for promoting the development projects within housing sector. The statistical and comparative data analysis methods have been mainly used in the study.

Findings/Results

Since 2011, the Latvian economic situation has become balanced and continues to develop gradually. Thus: (1) real estate market players have become active; (2) credit institutions have resumed mortgage lending, but with much more stringent regulations; (3) the government decisions regarding the temporary residence permits have attracted foreigners’ interest and increased the number of transactions in residential real property market segments; (4) household solvency has also improved gradually. The research results showed that taking into account the real estate market development trends in the residential segment, the existing housing sector structure and development rate of new residential construction projects in case of the existing institutional environment in housing policy issues, there are limited opportunities to create a solvent demand, providing high-quality dwellings, especially in multi-family buildings. However, the results of the
performed analysis at the same time point to the necessity and potential to find socially acceptable conceptual solutions and to increase the efficiency of housing sector management.

Conclusions

Although since 2011 the real estate market has become balanced in terms of average market value and transactions have resumed with apartments in serial type multi-family residential buildings and with apartments in newly erected residential buildings, the construction rate of newly erected residential buildings is not as dynamic, despite the Latvian housing sector development and aging. Thus, the future development scenario of housing market depends on the national policy addressing the housing issues, which should envisage drawing up strategic planning documents of housing market development directions and evaluating its effectiveness taking into account socio-economic and legal-political factors so that a decision-making process in real estate and construction sectors is systemized and effective.

References


Energy Conservation Programs in Russia

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Abstract

This article is devoted to the problem of state management in the sphere of energy-conservation in building sector. The existent management approaches and a role of program-target method of management in Russia have been analyzed. Some new measures of energy-saving innovations implementation are presented. The disadvantages of current energy-saving Program have been revealed and the concept of its improvement has been suggested.

Keywords: energy conservation program, system approach, process approach, complex approach.

Introduction

Since the end of XX century in Russia was chosen the path of innovative development of the economy. Among the new and more advanced technologies always had a special place energy-saving innovations. A program-target method of management was elected to improve the energy efficiency of the domestic economy. So far, however, these measures do not give the desired effect – energy efficient building construction did not become mass, innovation activity remains to be rare investments in construction materials industry.

Management approaches

In order to identify the causes of the ineffectiveness of the program-target method of management of energy-saving in Russia, it is necessary to examine the main approaches to management. During the informational evolution of the world, there was developed a system approach, the main idea of which is that any action is not undertaken in isolation from the others. This approach provides the possibility of studying a large number of alternatives, the analysis of the constraints and consequences of decisions. At the same time, we should take into account the fact that the object of study is always multi-faceted and requires a comprehensive, complex approach; therefore, the study should include specialists in various fields. A process approach plays a special role in the modern theory of management. Process approach considers management as a continuous series of interrelated managerial functions: planning, organization, motivation, control, and linking processes - communication and decision making. These approaches are not mutually exclusive and work together to identify the most effective management methods.

Energy-saving programs

Today there is a complex of legal document in the energy-saving sphere. The main purpose of them is to reduce energy intensity of GRP (gross regional product). Russian energy-saving programs are aimed at the same target, but there are still a number of unresolved social problems, it spite of the fact, that planning and formulation of national tasks in particular is not new for Russia and was used extensively in the Soviet period.

All Russian programs are regularly corrected. So, there are new measures, which coordinate all urban sector programs in terms of creation of objects of capital construction, accumulate the results, identify priorities for urban development in the future:

1. “development of economic mechanisms for the implementation of urban policy and stimulate investment activity in the field of urban planning” provides state planning and programming, preliminary risk assessment the implementation of large urban development projects, regulation of investment activity that can be done through public investment, subsidies, incentives (including tax), lending and stimulate the innovative process of reforming of the enterprises of a building complex for the purpose of increase of their investment attractiveness (process approach to management);

2. “scientific, technical and methodological developments in the field of application of new organizational, economic and managerial solutions, materials, technologies and equipment” includes

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the analysis, systematization and implementation of scientific and methodological developments in order to ensure and implementation of innovative development of the construction complex (the complex approach as a comprehensive scientific study of the problem);

3. “implementation of advanced energy efficiency and other innovative technologies in construction” suggests a system approach to the problem of energy-saving by combination of measures: methods of analysis and estimation of innovative technologies efficiency; measures to stimulate the introduction of innovative technologies; economic-feasibility study on the introduction of innovative developments at specific objects.

Motivating methods

Special attention in the formation of programs on reduction of energy consumption in most countries of the world is given to motivation of energy-saving innovations. Well-known, the existing method of motivation for energy saving of an investor (a developer) are the so-called "green standards". There is a similar System of voluntary certification of real estate in Russia – "Green standards". In this system there is a special section, dedicated to the energy conservation design of buildings and completed projects. These ratios are not binding and may affect the energy intensity of the industry only in terms of the overall focus on the energy efficiency of a building complex in general and all its participants. For example, tax holidays for a period of 5-7 years are used for the activities of the innovation center in Skolkovo, or substituting from the budget of a part of interest on commercial loans, taken for the development of innovations.

Results

The successful functioning of these incentives will have an impact on the participants of the investment process from two sides, creating both the Demand and supply. In this case, there is no need of financing motivation "intermediate links", such as manufacturers of energy efficient construction materials, or passive house designer - the impact on the supply and Demand will create favorable conditions for business development in an energy efficient way without budgetary support. This incentive system eliminates the inefficient expenditure of budgetary funds at encouraging the production of goods for which there is no demand, or the design of buildings, construction of which has not been funded.

Conclusions

There is a need to restructure the use of government programming in the solution of strategic tasks of economics of Russia. The research institutions and executive specialists of state power already participate in this work, successfully applying process, a complex and system approaches to target programming, considering foreign experience in this sphere. All this give us a reason to believe that soon the program-target method in Russia will begin to function more effectively, and rightly become the main tool for solving economic and social problems of the country.

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The Correlation between Corrosion and the Market Value in the Evaluation Process of Special Constructions Assets – Pipeline Transportation Systems

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Abstract

Evaluation of special construction assets like pipelines is a complicated process that does not use traditional approaches to evaluation, but rather a mixture of evaluation methods because each pipeline is unique in its own way, but also because its value is influenced by many factors. Depending on the chosen evaluation method involved estimating a pipeline several factors. These factors, acting together, represent the influences the value of a pipeline from several points of view: the physical - chemical, technological and economical. Among these factors a special importance must be given to corrosion.

Keywords: value, pipelines, physical impairment, corrosion.

Introduction

The corrosion process is a complex mechanism that occurs during operation of all equipment and technological equipment in the refineries or pipelines systems or found in petrochemical installations and is done at oscillating temperature and pressure (high/low), in the presence of some work environments (type: crude oil, compressed gases, petroleum and petrochemical products, etc.). Corrosion is defined as the destruction, in a certain span of time, of metals and metal alloys as a result of chemical and/or electrochemical actions of the technological environments and surrounding or due to physical dissolutions.

From the standpoint of the assessor-engineer whose aim is to determine the assessment of pipeline transportation for oil products one is able to highlight the influence of corrosion within its depreciation. Some authors define depreciation as a loss of value, after the special construction is set-up, due to several factors: a wrong design, a wrong dimensioning of the elements of the construction, the use of outdated material or the layout on the basis of outdated rules and technologies, the action of external factors on the special construction. In the specialized literature three types of comparison are identified, namely: the physical impairment, the functional impairment and the external impairment.

Physical impairment is defined as a loss of value due to physical factors such as elements of the pipe not repaired in due time, changes in the structure of materials, the difference between the life span of the materials which the special construction is made from. This type of impairment, considered by some authors as wear and tear can be recoverable and non-recoverable. Recoverable physical impairment picks up the cost of new pipeline and determines the repair cost by deducting it from the remaining value. Non-recoverable physical depreciation deducts the recoverable physical impairment from the cost of pipeline reconstruction, and analyzes the physical depreciation and wear and tear on the basis of non-recoverable long life and short-life items.

Research

In terms of evaluation process the impairment d is expressed quantitatively as the ratio of the effective age of the installation and the lifespan as to the cost of the new installation.

\[ d = \frac{\text{Effective Age}}{\text{Lifetime}} \times \text{The Cost of New} \]

Applying and influence of corrosion on the evaluation can calculate depreciation according to the formula:

\[ d = \frac{\text{Effective Age}}{\text{Lifetime}} \times \text{The Cost of New} \times \phi \]

\[ \phi \] – the influence factor of depreciation due to corrosion
\[ \varphi = \frac{M_n}{M_i} \]

\( M_n \) – the pipeline at the time \( n \) when calculating depreciation; \( M_i \) - the initial mass of the pipeline at the initial time.

The influence factor of depreciation due to corrosion \( \varphi \) is always of subunit size and represents the ratio of the material mass at the time of estimation of the pipeline market value and the initial mass of material that the pipeline is made of.

**Results**

The relation between impairment (depreciation) and the influence factor of depreciation due to corrosion is the quantitative expression of the correlation between depreciation and corrosion and is a very useful tool for assessors in predicting of the market value for pipeline transportation systems.

The influence factor analysis of depreciation due to corrosion and \( \varphi \) are found to directly influence the impairment due to corrosion, and the relationship shows the direct interdependence between impairment and corrosion. The value of this factor directly influences corrosion. The smaller this factor is, the higher the amount of depreciation. Although the influence factor of depreciation due to corrosion is a subunit size, given that this factor is closer to unity, which would be the ideal situation, there is a decrease in depreciation due to corrosion, and along with its decrease, stepping away from the unitary value, the amount of depreciation due to corrosion increases. As the value of depreciation directly affects the market value, it can be said that the factor of influence of depreciation due to corrosion \( \varphi \) directly influences the market value of the installation, namely the pipeline.

**Conclusions**

The quantitative implementation of corrosion for the estimation of market value of technological pipelines is an ongoing concern of evaluators as engineers have been determining the existence of corrosion for a long time now, yet this could not be found in a mathematical relation that was to show the interdependence between corrosion, depreciation and the market value. The relation between impairment and corrosion by means of this factor is very useful for assessors in predicting depreciation. The emphasizing of corrosion within the estimation of market value through the influence of the factor of depreciation due to corrosion is a first step in a broader process of research which is meant to mathematically highlight the dependence of impairment due to corrosion on the characteristics of the material which the pipe is made of. My next research field is to measure the level of corrosion of pipelines by traditional methods and development of correlation charts between corrosion and impairment.

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The Impact of Special Economic Zones on the Economic Situation of the Wider Region

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Abstract

The aim of the research is to examine the economic impact a special economic zone has on the region hosting it. The reason for the present research is the emergence of new data and studies with examples from around the world regarding SEZs and their effectiveness. The investigation will help to evaluate the results Latvia has had up until now. It should be noted that special economic zones remain a very powerful tool of development and, when properly used, can provide the state with serious benefits.

Keywords: special economic zones, economy, management, strategic planning

Introduction

Development comes from investment, which requires financial and intellectual resources that a state might not have available. A commonly used solution involves enticing foreign investors to come and start-up businesses by offering them appropriate incentives to do so. The topicality of the research is determined by the fact that Latvia has set up two SEZs with tax incentives and 2 free ports, but there is very little data about the actual impact the zones have on the wider national economy. Learning from the issues mentioned above would be of significant importance if Latvia is going to improve the gains from special economic zones. Inefficient management and planning methods hamper the development of the territory, the region and entire country.

Methodology of Research

The research is primarily based on quantitative method: data, comparison and theoretical analysis. Data mainly is gained from existing sources, comparisons, practices. The theory is based on the most successful international case studies.

Findings/Results

The following has been found as a result of the research: the sizes of the SEZs in question are still relatively small and thus they do not contribute to the overall economy as much as they could, although the situation has been improved compared to the past. The following proposals can be put forward for the improvement of the situation: the state should undertake a more active role in the popularization of the SEZ; any future attempts to create a new SEZ should involve better and more comprehensive strategic planning and development of the territory beforehand; there should be more active communication with all the potential business partners willing to work in the SEZ.

Conclusions

The results of the research show that creation and management of the SEZ is a difficult process. SEZs are instruments of long term development and should be approached as such. The key to having a well-developed SEZ is choosing a fitting location, offering the correct tax incentives, creating the necessary infrastructure and communication with different areas of the business. Only then these powerful tools will work to their full potential.

References


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Land Use Analysis in Latvia in a Context of the Sustainable Development

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Abstract

The research focus is the examination of the key aspects of the land use for the detection of the urgent problems in the context of sustainable development. The comparison, data analysis and logical access methods have been used in the study and the recommendations on the improvement of the situation in the longer term have been developed. Land use management, legal side of regulation and the efficiency of land use are essential guidelines for the sustainable development of the territory in the country.

Keywords: land use, sustainability, real estate market, management

Introduction

Land use issues are becoming more relevant in Europe and in the whole world. The relevance of the study is determined by the fact that the efficiency of the land use, management and regulation basis affect also the country's socio-economic development. The relevance of the study is defined by the fact that the land use, management, legal base of the regulation, as well as the land use efficiency involves several phases and is not possible without a complex approach to this issue. All above mentioned issues are of significant importance in the whole Europe and around the world. Non-efficient land use and management hampers the development of the territory and the country. The country's socio-economic development affects the efficiency of the land use, hence these parameters are interrelated.

Methodology of Research

The objective of the study is the examination of the key aspects of the land use for the detection of the urgent problems in the context of sustainable development and 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 land use 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 undertake an active role in this process in order to achieve a sustainable land use management, in particular because there is an expressed inequality of the development between the Latvian regions and the capital; there should be communication with the direct land owners in the course of the improvement of the efficiency of the land use and the development of the regulation base in order to strive for the best and most efficient land use throughout the country.

Conclusions

The results of the study show that the land use analysis is a multi-step process, which requires a comprehensive approach and close attention to a number of the existing problems in the country. All the above mentioned aspects have a direct impact on the territory and the development of the country. Land use management, legal side of the regulation and the efficiency of the land use also on the part of the population are essential guidelines for the sustainable development of the territory of the country.

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The Analysis of Real Estate Market and Economic Fluctuations in Latvia and its Influence on Real Estate Entrepreneurship

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Abstract

In the process of planning of real estate investments and in construction planning extremely important is a current real estate market phase. The focus of the research is to analyze real estate market and economic fluctuations in Latvia and particular attention will be paid to how market participants can use this information. In the research statistical data analysis, logical, historical approach and analysis methods have been used. The results of the research can be applied by entrepreneurs and for market regulation. 

Keywords: construction, real estate, fluctuations, management

Introduction

The relevance of the research is being determined by the factor, that of investments in real estate operations and real estate development in many cases have long period of implementation, during which significant changes in real estate market and national economy can be observed. The focus of the research is to analyze real estate market and economic fluctuations in Latvia and particular attention will be paid to how market participants can use this information.

Methodology of Research

Investments in construction projects and real estate operations often has a high level of risk, that is one of the reasons why it is strongly recommended to analyze real estate market trends, structure, influences and existing interconnections within market. In the research statistical data analysis, logical, historical approach and analysis methods have been used. The research object is real estate entrepreneurship in Latvia. The research subject is real estate market and economic fluctuations in Latvia.

Findings/Results

The research investigates real estate market and economic fluctuation analysis and its influences on real estate entrepreneurship in Latvia. Macroeconomic development of country affects real estate market in variety of aspects. Real estate entrepreneurship strongly depends from real estate market and economic fluctuations.

Conclusions

In business management practice there are variety of external factors that influence entrepreneurship. Business success often depends on application of different knowlege in risk minimization and searching of a new business opportunities. It is difficult to avoid all of existing industry risks, but as fluctuations of indicators of real estate market and national economy are one of significant industry risks that should be avoided.

References

Problems of Implementation of Information Technology in the Housing Sector in Russia

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Abstract

Construction of housing is within the scope of local issues and directly affects the quality of life of the inhabitants of municipalities. In terms of annual growth rates in Russia housing sector is a source of constant social tension.

One of the problems is that when conducting housing reforms, the Executive authorities are compelled to use the information contained in disparate information resources. In this case, for the aforementioned information resources there are no unified rules of formation of information and a single infrastructure for data collection in electronic form; similar information in different databases can have substantial differences. This affects the effectiveness of existing laws, policy programmes.

Significant improvements in the efficiency of the public sector, the formation of a just equilibrium value of housing services and a significant increase in their quality can be achieved while ensuring the required level of penetration of innovative technologies, both in governments and in the organization of the housing complex.

Keywords: information technologies, housing and utilities sector modernization, housing and utilities amenities uniform information resource, innovative technologies

Introduction

In accordance with the Russian program "Information Society (2011-2020)." Transition to a modern information society is linked to the creation of information technologies, the development of networks to access information, the formation of digital content, the development of convenient services for citizens. Among the main objectives of the Programme highlighted the problem of creation and development electronic services in the field of public utilities. Fields marked development of the industry at the disposal of the Government of the Russian Federation of 02.02.2010 №102-p "On Approval of the Concept of the federal target program" Complex program of modernization and reform of housing and communal services for 2010-2020. " Among the basic requirements of the program are the presence of a single database of municipal information resources. Creating a single data center in the housing sector is a prerequisite for the exchange of data between governments, providing convenience services for citizens.

Modern information technologies allow organizing the monitoring of utility projects, keep track of energy consumption, ensure adequate communication between their suppliers and customers. Operational control of the situation, based on information technologies, it is necessary for the formation of investment projects, taking into account current payments, planning and control of work, the development of the industry regulatory framework. Citizens - end consumers of public services, the widespread introduction of information technologies will allow monitoring the consumption of resources and optimizing their spending.

Methodology of Research

A significant problem in ensuring a transparent and clear system of settlements between enterprises of utility providers and owners of apartment buildings is the lack of maintenance of communal resources consumption metering devices, the lack of systems to collect and analyze this information, and the lack of a single database of citizens live. To solve this problem you need to implement stringent regulatory requirements for the presence of metering and create a unified municipal base of information resources, including automated information gathering, service consumers on the principle of "single window", the control of unauthorized consumption of resources, exchange of data with industry state automated system and other measures.

Information technology management, used in the utilities sector include:

- Automated dispatch control system - a set of hardware and software designed to automate real-time control of geographically distributed processes and livelihoods of communal and housing;
- Automated accrual accounting and processing of payments for housing and communal services;
• Automated accounting system of water consumption;
• Support for personal accounts up to date on the composition of living and the number of services provided in the context of service providers;
• To reflect the volume and range of services provided and the calculation of their value;
• Payment of services on the basis of meter readings;
• Consideration of privileged categories of citizens in accordance with legislation to reduce the fees for public utilities;
• Alerting homeowners about current accruals and debt liabilities to service providers;
• Acceptance of payments for housing and communal services receipts, registration receiving money through fiscal registrar and others.

In Russia currently creates state information system, which should ensure the completeness, accuracy and relevance of the information about the state of affairs in the communal area. This information system will provide a service for the collection, processing and storage in a database of information on the provision of public services and the management of apartment buildings, major repairs and measures of social support of citizens. The implementation of such an information system in the form of an Internet portal will be a centralized resource to date and consistent with which homeowners, organizations working in the housing sector and the authorities will be able to obtain detailed information on the state of housing in the regions and the country as a whole. For the convenience of users, the system will be integrated with e-government.

Efficient conversion relationships housing sector involves applying the lessons of its reform in countries with different levels of socio-economic development. As the analysis of the experience of reform in Europe, the first stage through which the sphere of public services in the reform process, is to build cooperation between market participants, in bringing order to calculate and control the quality of services provided.

The introduction of innovative technologies will allow for a significant reduction in the rate of increase in the cost of utilities. However, if only to introduce management information systems in the sphere of municipal authorities, without the introduction of innovative technologies in business, it is our opinion, the situation can be characterized by strict government control the formation of the cost of utilities. Controlling the growth of the cost of services can be reduced to a rate of return regulation of municipal utilities. Such a one-sided regulation is already leading to significant distortions of data received to the calculation of the regional regulatory authorities at the next tariff increase.

Findings/Results

Under current conditions, according to experts, there are two possibilities of automatic information system of measurement, reporting and accounting for the consumption of resources in municipal buildings. First option. The transfer operator of commercial accounting data from individual and house appliances in settlement centers management companies, where the calculations are carried out according to the regulations and preparation of payment documents. The second option. Full payment of the applicable regulations and preparation of payment documents, including the annual adjustment accounts for all types of resources by the operator of commercial accounting, which distributes management companies payment documents in both electronic and hard copy.

Expansion of system functions through the installation of devices regulating heat, water and electricity in order to reduce resource use and create enhanced capabilities for monitoring of municipal engineering systems and automatic control of the consumption of resources.

Today, such systems are widely used in the European Union, North America and Southeast Asia. In Russia, such a system for every apartment of water and heat began to establish concern "Techem" under the name "Data" (REGISTERED in the State Register of measuring №41943-09) and common name Techem Smart System (Data TSS).

Return on regulated activities to install automatic heat substations in residential buildings with the installation of devices and automatic control devices and systems for measuring and recording water, heat, gas and electricity is 2-3 years. They will bring 20-30% reduction of energy using for final consumers, ensure fair payment for the resources consumers, each consumer motivation to reduce energy consumption. Energy savings for the end user results in a decrease in fuel consumption of 2-3 in the production and transportation of energy.

Experts estimate the technical potential to increase the efficiency of final energy use in Russia is 154 million toe (tons of oil equivalent) in buildings - 68 million toe. The industry potential is 41 million toe, which exceeds the annual energy consumption in countries such as Poland, the Netherlands and Turkey.
Therefore, the most essential element in ensuring the reduction of energy consumption should be working to reduce energy consumption by end users in homes using information technology.

**Conclusions**

With many years of international experience demonstrates the tremendous efficiency of the use of information and communication technologies in the operation of public utilities livelihood.

Russia was created in the state information system will allow residents to self-assess the value of the services pay for them, will make it possible to address the problems, send an application for the execution of works, complaints about the poor quality of services. With this information the system can obtain information about the suppliers of public services, individual testimony and house meters and more. Creating a national information system, in our view, will create a single source of information utilities, for the efficient organization in the municipalities of Russian electricity, heat, gas and water supply and sanitation.

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Implementation of Energy-Saving Innovations as the Main Direction of Development of the Building Materials Industry

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Abstract

The value of the construction industry for green growth of the Russian economy is identified. The structure of the building materials industry, indicators of production volumes, the share of exports and imports of construction materials are analysed. The main factors of high energy consumption in the construction industry are identified. Main activities to modernize the building materials industry and "green" growth of the Russian economy as a whole are proposed. The urgency of formation of the mechanism of energy-saving innovations application in the construction industry is justified. The methodology of management of the building materials industry development through the introduction of energy-saving innovations is proposed.

Keywords: energy-saving innovations, building materials industry, "green" economy, energy consumption

Introduction

Currently forming a new model of the Russian economy is based on the principles of green growth to reduce energy consumption and improve national competitiveness. The modernization basis of the economy based on technological innovations and the principles of energy efficiency is founded in the Strategy of innovative development of the Russian Federation for the period till 2020" (approved 2011), "Energy strategy of Russia for the period up to 2030" (approved 2009) and "the Basic directions of activity of the Russian Federation Government for the period until 2018" (approved 2013) in terms of improving environmental and energy efficiency of the economy through the introduction of energy-saving innovation, ensuring green growth, adaptation of the economy to climate change.

Not to mention the role of the construction industry as an important part of establishing a new model of the Russian economy development, solving social problems due to the mass construction of high-quality and affordable housing, objects of engineering and transport infrastructure, reconstruction of the housing stock. In these conditions, the building materials industry, on the one hand, must ensure compliance of production volumes and product mix of enterprises demand for domestic and foreign markets for the planned pace of construction, on the other hand, to improve the quality, efficiency and sustainability of building materials to enhance national competitiveness in the global market.

General regulations

"The strategy of development of the building materials industry and industrial construction for the period till 2020", approved by order of Ministry of regional development of the Russian Federation dated 30 may 2011, No. 262, is aimed at creating conditions for innovative development of the construction industry, including modernization of the building materials industry, and sustainable growth of the Russian economy as a whole.

Production of building materials, products and structures for the current period meets the needs of the construction industry and has a certain potential of production growth. However, production has a low energy efficiency and degree of production automation and, consequently, high production costs.

There are objective reasons for high energy consumption in the construction industry, including building materials industry, on the one hand, the imperfection of the existing legal, financial and price mechanism, weakly stimulating producers and consumers of energy to reduce fuel costs and energy, but, on the other hand, it should be noted a low volume of new energy efficient technologies, equipment and materials, as well as the weakness of the information base market infrastructure in this area. The main factor influencing the overuse of energy resources is the high depreciation of capital equipment, which increases production costs and makes it less competitive in comparison with foreign analogs.

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Modernization of building materials industry should be directed to solving systemic problems of a structural nature:
- technological backwardness of the building materials industry from a similar production in the leading countries of the world;
- physical deterioration of the basic production assets of enterprises in the construction industry;
- low competitiveness of construction products, produced using energy intensive technologies on obsolete equipment;
- insufficient innovation activity of commercial structures.

Findings

In these conditions, the formation mechanism of application of energy-saving innovations contributes to improving production efficiency, quality and competitiveness of products, reducing the number of unprofitable enterprises, the production of innovative and energy-efficient materials and designs, improved construction quality, resource savings and lower costs for construction, reconstruction, maintenance and repair of buildings and structures.

In addition, an important reserve for the development of building materials industry is the involvement of technogenic deposits, comprehensive utilization of production wastes to create products of construction industry, which generally has a positive impact on the environment improvement, the elimination of accumulated environmental damage.

Conclusions

Methodology of ecological and economic management of energy-efficient innovation in building materials industry will contribute to the modernization and technological development of the production base of industrial housing, creating long-term conditions for sustainable development of enterprises and enhance their competitiveness, green growth of the construction industry and the Russian economy in general.

The use of energy and environmental innovation in construction is a multiplier of growth in related areas and activities (transport, housing and utilities) that will allow to solve a number of public, social challenges of the country's development in the future.

References

Improving the Assessment of the Environmental Indicators of Investment Projects Based on the Public-Private Partnership

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Abstract

Implementation of environmentally significant activities often associated with the need to attract significant investment from different sources both public and private. However, investors should be interested in the profitability of their investments and receiving definite guarantees. For this purpose, the article describes the methodology of the estimate procedure environmental performance of investment attractiveness, that take account the high risks and uncertainty projects reviewed. In particular, the authors suggest the use of an objective function, which they have developed for the assessment of investment attractiveness of environmental projects.

Keywords: Public-private partnership, investment, risks, greening.

Introduction

Problem formulation. Ecologization of modern economics passes in difficult conditions of economic crisis increase and worsening of ecological situation. The presence of regional component in this process can help to resolve the contradictions because exactly at the regional level the information about ecological and economical situation in this region is concentrated, it allows to make the most effective decisions in the field of economic and ecologic governance.

The necessity of research conduction. The modern approach to the ecologic governance of industrial activities should be based on combination of administrative and market mechanisms. The authors of this article consider that the use of Public Private Partnership instruments should have a positive impact on the region economics development and on the state of the environment.

This approach requires the creation and elaboration of legislative-legal and economic field, characterized by its own peculiarities. There are some problems in choosing priority directions of the economics ecologization, as well as in the economic justification of investment projects.

Thus, for example, in the process of investment project formation it is necessary to choose a criteria for its assessment that will most accurately reflect the ecological and economic essence of the proposed project and provide a clear understanding of the results of its implementation. When choosing the criteria the main problem is the comparability of the different variants, risk management and the environmental component.

In international practice for assessment and comparison of different investment projects such criteria are used as NPV, IRR, PI and others. However, for more effective analysis of the represented variants, a systematic index, that will reflect the influence of the environmental component on the economic effect, is necessary. It is the use of this index that will enable to highlight and select among the represented projects those that have a direct environmental focus.

Methodology of Research

For a comparative analysis the methods of generalization and critical review of the scientific experience were used. This experience was accumulated at the modern stage in the economic and environmental fields of science. Methods of economic analysis and synthesis in combination with a synergistic approach also were used.

The first method of calculating the effectiveness of the investment project is based on Methodical recommendations for the individual enterprises assessment, the second method is developed by the authors on the basis of changes in tax and environmental legislation, in particular the Federal Law of January 10, 2002 No. 7-ФЗ "On Environmental Protection" with the latest changes.

As a systematic index the objective function П was taken, the calculation of this function takes into account the differences between modern and ecological oriented development directions.
The objective function $\Pi$ can be represented in a generalized form as:

$$\Pi = \Pi^* - Z = \Pi^* - (H + 3m + 3d + \mathcal{E}r + \mathcal{K}vl) \rightarrow \text{MAX} \quad (1)$$

Accounting for the impact of the environmental component in the calculation of the objective function (1) value allows you to present it in the following way:

$$\Pi = \Pi^* - Z = (\Pi^* + \Pi\mathcal{E}) - (H - \mathcal{H}c\mathcal{E} + 3m + 3d + \mathcal{E}r\mathcal{K} + \mathcal{K}vl - \mathcal{K}vl\mathcal{K}) \rightarrow \text{MAX} \quad (2)$$

Thus, the application of various methods in the evaluation of two investment project variants allows to obtain different values of the objective function.

The values of the objective function $\Pi$ calculated by these methods are respectively 150,174.74 and 15120.45 rubles.

The various values of the objective function elements, as well as taking into consideration the risks (with their distribution between the members of Public Private Partnership for the second variant of the investment project) allows to obtain the following values of indexes for the represented project variants effectiveness assessment:

The values of NPV and PI for the first variant (the calculation horizon is 5 years) will be 4370.35 rubles and 4.6 units, for the second variant their values will be respectively 8596.55 rubles and 8.2 units.

**Conclusions**

As you can see from the above calculations, taking ecological factor into consideration in the construction of the financial strategy of the enterprise development and assessment of investments effectiveness not only will not lead to the deterioration of the company economic condition, but will provide a better result. Thus, it makes sense to use proposed by authors methodology for assessing the effectiveness of investment projects aimed to ecological rehabilitation of the economics production sector.

**References**


Development of Divided Ownership Rights in Latvia

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Abstract

As the real estate tax, land cadastral value and rent charge of land increase, the contradictions in situations of divided real estates have intensified due to mistakes made while reforms of land and privatization took place years ago.

In Latvia divided ownership rights are regulated by law “About reform of land in the cities of the Republic of Latvia”, and law “About reform of land in the countryside of the Republic of Latvia”, and regulations of the Cabinet of Ministers No.735 “Terms about national and municipal land rent”. Although in the field of real estate valuation discussions constantly take place and new solutions are being researched regarding the cases of valuation of divided ownership rights, however opinions of various experts still differ and the viewpoint of the Association of Real Estate Valuation in Latvia is disunited. In cases of divided ownership rights in Latvia lack unified real estate valuation system, so the real estate evaluators in Latvia in their work depend on their own experience and subjective point of view.

Keywords: real estate, valuation, divided ownership, municipal land rent, real estate tax, cadastral value

Introduction

In any situation, including separate ownership rights, a calculation of market value is made by one of the three generally accepted methods – comparative precedent method, income method or expenses replacement method. There have been only few researches made concerning the matters of separate ownership rights of land and buildings. And this matter has become current only in latest years by the increase of the real estate tax, land cadastral value and rent charge of land. As well as the contradictions in situations of separate real estate have intensified due to mistakes made while reforms of land and privatization took place years ago. In Latvia separate ownership rights are regulated by law “Law On Land Reform in the Cities of the Republic of Latvia” and “Law On Land Reform in the Rural Areas of the Republic of Latvia”. There are constant discussions in the field of real estate valuation and new solutions are being researched regarding the cases of valuation of separate ownership rights, however opinions of various experts still differ and the viewpoint of the Association of Real Estate Valuation in Latvia is disunited.

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

Lack of ownership rights of the land under the building is considered a major encumbrance and such objects are not marketable, therefore a number of transactions of such objects are limited. To apply identical coefficient of the lack of land’s ownership rights in a calculation of flat’s market value would be inaccurate, because in the same housing estate the rent charge of land for the flats with a similar dwelling space may differ despite the lack of land’s ownership rights. In calculation of the market value of dwelling houses the lack of land’s ownership rights is included in evaluation with externals or economical depreciation that is made by the real estate evaluator and based on his own subjective opinion, because there has not been developed up a unified system regarding the evaluation of such objects. The problems arise in nonstandard situations, when the real estate evaluator has to resolve individually on the particular object and make a decision about the land’s actual market value’s assessment or regarding it as equal to a standard market model.
Conclusions

In situations of divided ownership rights in Latvia lack unified real estate valuation system, so real estate evaluators in Latvia in their work depend on their own experience and subjective point of view. In Latvia separate ownership rights are regulated by law “Law On Land Reform in the Cities of the Republic of Latvia” and “Law On Land Reform in the Rural Areas of the Republic of Latvia”.

References

Employment Problems and Prospects in the Russian "Green" Building Sector

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Abstract

The paper defines the problems and prospects of development of "green" employment in "green" building in Russia. It is proved the socio-economic effectiveness of development of "green" building in Russia. The task of identifying ways of formation of the sector "green" building in Russia and the creation of new jobs is set. The training programs for specialists in the field of environmentally friendly building are offered. The author develops measures to encourage businesses to create jobs in the "green" construction.

Keywords: "green" jobs, "green" building, labour market, employment.

Introduction

The main goal of "green" building is to reduce the consumption of resources and improve the quality of construction and comfort of the internal environment. According to the International Labour Organization traditional building consumes 25% to 40% of the world's energy and produces 30% to 40% of total greenhouse gas emissions. "Green" building can reduce by 70% the amount of construction waste and by 40% use of water compared to traditional construction. According to the US Green Building Council report in the field of "green" construction there were 8 million jobs in the world in 2013, which is almost 4 times more than in 2000. Development of the sector of "green" construction and creation of high-performance "green" jobs is highly important for Russia. It will help to decide the problem of unemployment in the labour market and the issue of environmental pollution. However, at present this area is just beginning to evolve and requires new proposals and ideas for development.

Methodology of Research

With a view to a comprehensive objective study of the improving employment in the field of "green" building author uses the following methods: economic, statistical, comparative analysis, classification, analogy, expert and calculated analysis.

Findings/Results

The scientific result of this study is to develop measures to implement activities contributing to the creation of "green" jobs in "green" construction. The task of determining the level of development of "green" building in Russia is set by author. It is important to identify the social and economic efficiency of development of the sphere of "green" construction and implementation in this sector "green" jobs. It is necessary to define what modern skills and knowledge professionals need in the field of "green" construction, and offer appropriate training programs. It is valuable to give suggestions for the renewal and modernization of the equipment in the construction industry, as well as improving the processing and recycling of construction waste.

Conclusions

The development of "green" building through the creation of "green" jobs solves the problems of sustainable development. Among them it is worth noting: reducing unemployment, upgrading working conditions, increasing productivity and improving the environment.

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References


Residential Building Management System Features and Underlying Factors

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Abstract

In recent years, Latvian property administration industry has made significant changes that have brought interest to legislators. As a result, five years ago, Law on Administration of Residential Houses was developed and related Cabinet of Ministries regulations. In addition, a new Law on Residential Properties is in force, as well as significant changes are in the construction, including the real estate recovery and rebuilding industry-related legislation.

In turn, for the implementation of real estate management, in accordance with the legislative framework of good practice and quality management, a system is required, that helps the processes to be arranged according to their fundamental values, criteria and functions.

The study sets residential property management elements and factors influencing them. The significance of the topic is set by the developing industry and the requirement for quality and sustainable management model that includes all interested parties - owners, lessees, tenants, users on the one side, housing managers from the other and the state, local government and non-governmental organizations from the third side. The development of this sector as a whole is depended of the quality of residential housing management process.

Keywords: Residential buildings, management, system

Introduction

Management of real estate has the ownership responsibility imposed on real estate long-term existence, ensuring maintenance of the property, administering and documenting the processes related to real estate management. Residential building management is an issue for both Latvian and European countries where a large percentage of real estate constitutes the housing fund.

The study determines the importance of a factor that the management system is functioning a certain micro and macro environments, which have their own indicators that directly and indirectly affect the management system and development.

Residential property management system is a set of interrelated processes that form on a single objective-driven single entity. The organization of the housing manager influences the prosperity of every resident, and it requires a competent manager to have success.

Residential house management process is a complex and multi-faceted. The problem in this sector is the fact that there is no united system for property managers to follow; as a result, there are rare discussions about effective management model that would be prone to a high-class service and the sustainable development of the property.

Methodology of Research

The study aims to explore the residential housing management elements of the system, focusing on the factors that significantly affect the process quality and sustainable implementation. The main objectives of the study are: the theoretical and scientific aspects of the research, management system development and operation, process influencing factors, including macroeconomic factors, data analysis, study the compilation of results, conclusions and recommendations. Statistical data analysis, quantitative research methods compilation and analysis of data gathered have all been used in this study.

Findings/Results

Several proposals have been given to improve the situation: to qualify residential building management systems core values, to find out factors of the operating system, any problems hampering effective management process with particular attention to the availability of funding and the reduced tax rates by industry.
Conclusions

The research results show that residential property management process as a whole has achieved its goal and objectives, specific to the residential property management sector. An important segment of the real estate market is the housing market. It is also one of the most complex real estate segments, simply because without quantifiable economic factors that lead to changes in the market, a major role is also to the psychological factor. A number of factors, such as the ability to pay, access to finance, structured legal environment, information feedback all make a direct impact on the development of an effective management system.

References


Territorial Location Impact on Buildings Recovery Value

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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 – property insurance. The main sense in property insurance is building recovery value or reinstatement costs. In every country territorial location impact on buildings recovery value. It depends of many factors: the national and regional economy of the country, municipal fees and legislation, technical projects of buildings, relief model, engineering technologies, labor costs, building materials and products, building machines, costs of transportation. The research focus sets recovery value (reinstatement costs) elements and factors influencing them. The significance of the topic is set by the economy and industry in Latvia sustainable risk management model in constructing, property management and insurance industries in accordance with territorial location impact on building recovery value. 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: Recovery value, reproduction value, reinstatement costs, restoration cost, real estate market, property insurance.

Introduction

Recovery value (reinstatement costs) is the major importance in the management of real estate in the focus of property insurance. 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. Real estate management is an issue for Latvia where a large percentage of real estate constitutes the housing fund. The problem is in calculating of the recovery value (reinstatement costs) of the buildings for property insurance and territorial location impact to the reinstatement costs. In Latvia is no united system or legislation guidelines of calculating recovery value for buildings.

The relevance of the study is determined by the fact that the solving the problem of territorial location impact on buildings recovery value, developing united system for real estate management, construction industry, insurance and regulation basis affect also the country's socio-economic development.

Methodology of Research

The objective of the study is the territorial location impact on buildings of recovery value (reinstatement costs) 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, including economic factors, data analysis, conclusions and recommendations. The comparison, statistical data analysis, data analysis and logical access methods have been used in the 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 of territorial location impact on buildings recovery value, developing united system (buildings recovery value) for real estate management, construction industry and insurance; and developing of system of obligate property insurance in Latvia.

Conclusions

The results of the study show that territorial location impact on buildings recovery value (reinstatement costs) 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.

**References**


Challenges and Optimization strategy for Feed-in tariffs of Renewable Energy in CIS countries

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Abstract

Modern life is convincing us that renewable energy technology, policies, strategies should be disseminated all around the world to provide sustainable development. As an instrument, feed-in tariffs of renewable energy should be designed considering public finance opportunities, buying power of consumers in order to tackle administrative barriers as an optimization strategy. The paper provides evidence from leading countries in the industry, explores ongoing challenges in the application of feed-in tariff policies, analyses the optimal methodologies to give recommendations to stakeholders.

Keywords: feed-in tariff, renewable energy, developing countries, investment incentives

Introduction

Over the past decade, feed-in tariffs (FITs) have been a major instrument to promote the generation of electricity by means of renewable energy sources. However, feed-in tariffs have been criticized for being costly, inefficient, distortive of competitive pricing and, hence, in the long run not compatible with the creation of a single, liberalized electricity market in which renewable energy sources account for a major share in total power production (Sijm, 2002). Accordingly, FITs have driven 64% of global wind and 87% of global photovoltaic capacity. However, the majority of these installations have been installed in developed countries (UNEP, 2012). The concept of “feed-in tariff” refers to the regulatory, minimum guaranteed price per kWh that an electricity utility has to pay to a private, independent producer of renewable power fed into the grid (Huber et al., 2001).

Current FIT methodology in emerging economies

When designing feed-in tariffs, it is important for policy makers to consider the interaction between the FIT and the existing market structure (UNEP, 2012). Developing countries represent a broad range of different electricity market structures, including state-owned monopoly utilities (e.g. in much of the Caribbean), single buyers that purchase power from IPPs (e.g. eastern European countries), and countries where wholesale power markets have been introduced (e.g. Argentine and Chile) (Besant-Jones, 2006). All actions oriented to renewable energy development end up with creation of FIT environment. Even cash premium of FIT can be reduced to zero – by technology improvements or the usage of other public financing mechanisms – the implementation of a strong enabling regulatory environment will remain a critical success factor. In this case, countries will target providing financial incentives to make the renewable energy business models economically viable, rather than capital mobilization of huge investments.

FIT Optimization strategies in CIS countries

Ultimately, a low carbon development growth in the developing world depends on the availability of resources to finance the solutions that exhibit incremental costs while assuring FIT policy interacts and harmonizes with other regulatory mechanisms (World Bank, 2011). When the application of FITs in CIS countries analyzed, it becomes clear that some market infrastructures are heritage from Soviet Union. However, modern world does not allow mismanaging natural resources from the viewpoint of corporate social responsibility. The following SWOT analysis identifies ups and downs of the introduction of FITs in economic conditions of CIS countries. In the case of Central Asia, introduction of FITs can encourage renewable energy generation from bio masses where the territory is focused on agricultural economy. Hence, totally modernized agricultural process can generate alternative energy supply to enrich the quality of electricity delivery process:
Table 1. SWOT analysis (prepared by author)

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of employment opportunities on renewable energy sector</td>
<td>Possibility of affecting the quality of soil, water and biodiversity</td>
</tr>
<tr>
<td>Diversification of energy supply mechanism</td>
<td>Economic viability dependent of regulated tariffs associated with high investment costs</td>
</tr>
<tr>
<td>Increasing public, business awareness for efficient usage from renewable energy sources</td>
<td>Insufficient social knowledge and awareness regarding the opportunities to use renewable energy and the resulting benefits</td>
</tr>
<tr>
<td>Storage potential and possibility of generation prediction</td>
<td>Lack of R&amp;D for decision making on regional renewable energy opportunities of geographic areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic decentralization of energy trading</td>
<td>Barriers of monopolistic market structure against entrepreneurship on the industry</td>
</tr>
<tr>
<td>Energy and climate change priority are supported on state level</td>
<td>Technology transfer problems</td>
</tr>
<tr>
<td>Active participation of small and medium enterprises in energy supply</td>
<td>Lack of government fiscal policies to support renewable energy programs</td>
</tr>
<tr>
<td>Private sector enrolment in energy delivery process</td>
<td>Inadequate level of legislation to guide entrepreneurs and investors;</td>
</tr>
</tbody>
</table>

After identifying four dimensions of the energy market, optimization strategy can be formulated towards promoting renewable energy technologies with the support of feed-in tariffs. Global evidence suggests, albeit tentatively, selling the controlling package of shares to experienced foreign firms on the sphere is more effective that keeping under the State control which leads to diversification of business portfolios of energy companies. As a result, energy efficiency, decreasing technical and non-technical losses, promoting renewable energy technologies are listed on the top of business priorities.

Conclusions

Current legislation systems, fiscal constraints, rich renewable opportunities of geographic regions need scientific-practical improvements at the level of developed countries. Transition from an economy based on fossil fuels to one based on renewable energy with the support of feed-in tariffs in Central Asian countries is quite new concept which requires long-term strategy and serious commitment towards its dissemination.

References


Signs of Degradation of the Housing Fund in Latvia

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Abstract

The aim of the research was to identify the distribution of Latvian housing fund by the year of the construction of dwelling houses and by households' satisfaction with the existing housing, as well as to evaluate the causes of degradation of dwelling houses and possibilities of their prevention. The study is based on the data of Central Statistical Bureau characterizing the housing fund and on local municipalities’ information about buildings unsuitable for living, as well as on solutions for their putting in order. The author considers that the state housing policy needs a common approach to identification, putting in order and further use of buildings unsuitable for living. The author concludes that there is lack of legal regulation on identification criteria of dwelling houses that are unsuitable for living. Each municipality, in case it is considered necessary, draws up its own binding rules for identification of buildings unsuitable for living and tries to find solutions how to put them in order. The results of identification of buildings that are unsuitable for living and their putting in order are influenced by the interest or lack of interest of the owner and their co-operation with the local government, as well as by resources available and the possibilities for further development of the building.

Keywords: degradation of the housing fund, buildings unsuitable for living, identification criteria.

Introduction

In the second half of the previous century, one of the most vital problems in Latvia was lack of housing fund and its inadequate management. As a result of migration there was witnessed a strong demographic growth and the shortage of housing was addressed by setting restrictions on living space per person as well as by intensive construction of new urban neighbourhoods and villages. By contrast, the resources for maintenance of historic, already existing dwelling houses were inadequate or were not provided at all, and the dwelling houses were left without repair for decades. Only then when the dwelling house was in critical condition, funds were distributed for its overhaul. Also ill-fated human activities (fires, acts of terrorism, acts of war, etc.) as well as damage caused by natural disasters (storms, earthquakes, volcanic eruptions, floods, etc.) leave unfavourable effect on the condition of the housing fund. As a result the volume, availability and quality of housing fund changes, the number of morally and physically worn-out dwelling houses - buildings unsuitable for living, grows. Putting in order or demolition of buildings unsuitable for living – slums, has become one of major problems of their owners and of municipalities in the territory of which these buildings are.

Methodology of Research

To identify and analyse the current situation, in the study of signs of degradation of the housing fund in Latvia, there have been used the statistical data of the Central Statistical Bureau and the information obtained in the census of 2011. Methods of descriptive statistical analysis (graphs, tables, figures), and time series analysis have been used for data processing and analysis. To find out the identification problems of the buildings unsuitable for living, the author examined the information gathered by local municipalities about the unsuitable for living and dangerous buildings existing on their territory, as well as the solutions found to combat the problem. The method of the empirical research was applied for evaluation of facts and determination of the overall relationships, as well as for making conclusions, the methods of logical design and interpretation were used for describing findings and drawing conclusions.

Findings/Results

The structure of Latvian housing fund is characterized by a considerable number of dwelling houses which were built thirty or more years ago. Only 5% of the total number of dwelling houses in Latvia were built after the year 2000, but 10% of dwelling houses have been built a hundred or more years ago (CSP, 2013). The largest proportion of buildings built a hundred or more years ago are in such countries as Luxembourg (21.8%), Denmark (19.7%) and France (Sideļska, 2011).
Latvia, like almost all EU member states suffered during the Second World War, and in some cities the housing fund was completely destroyed, therefore in the post-war period an active construction of the housing fund took place, when in the period of time from 1946 to 1990, 67% of the total number of dwelling houses were built.

The total area of the housing fund is made up by all dwelling area, including the degraded housing fund - uninhabited buildings and even buildings unsuitable for living or slums. Abandoned and uninhabited dwelling houses have become a common sight in the landscape not only in Latvian suburbs and small towns, but also in Riga and other major cities. In 2011, Riga City Council Property Department recognized 452 buildings in Riga administrative territory as complete or partial slums, in the second largest Latvian city - Daugavpils, in 2011 there were listed 58 degraded buildings, but in Jurmala - 146 buildings did not comply with the requirements of municipal binding regulations (Ozols, 2013).

Comparing information given by different local municipalities, the first criterion for recognition of buildings as slums is the discrepancy with municipal binding regulations. As the municipal binding regulations are being developed in each municipality in accordance with its specific objectives, it is impossible to clearly define what criteria were used to identify the degraded buildings. The author considers that it is necessary to establish uniform basic criteria for the identification of degraded buildings in the existing laws and regulations and to leave only the municipality-specific regulations in municipal binding regulations.

The absence of common criteria is also a reason for lack of uniform accounting of degraded buildings nationwide. Cadastre information system that registers real estate and its constituent parts - real estate objects, as well as their characterizing data, currently does not have signs for degradation of the building. Such information is not available also in any other of the existing real estate accounting systems. Information about the criteria to determine the degraded buildings, and the number of buildings identified is available in each municipality, but there is no overall survey.

Handling buildings unsuitable for living is further complicated by the fact that some of them have been recognized as cultural historical monuments, or some were built by famous architects, giving them extra significance.

One of the reasons hindering the process of putting in order the buildings unsuitable for living, is the disordered property rights of these buildings that are associated with long-term legal proceedings and prohibit the owner to freely dispose of the property, for example, to sell, to demolish buildings, or to attract additional resources. The local government is entitled to take action and put in order its immovable property, but it does not have legal authority to demolish the privately owned properties.

The degraded housing fund comprises not only old, worn-out dwelling houses, but also in a long term unfinished, dangerous buildings. Unfinished newly constructed buildings make up 9% of all buildings unsuitable for living, and in some cases they may be even more dangerous than the well-aged buildings. Also in this case a regulatory framework is required that would allow municipalities to influence the process and make the owner of the building complete the unfinished construction.

In some cases, the local government may have an interest to obtain degraded dwelling house in its possession and restore or rebuild it so that afterwards it can be used to ensure the municipality functions. To achieve this, the local government would need the rights to expropriate the degraded property.

Conclusions

In order to identify the number of rundown buildings in Latvia and to work out solutions for putting in order of such buildings, it is necessary to develop common criteria for identification of degraded buildings. Laws and regulations should provide local governments with the right to identify the degraded buildings existing in the territory of the respective municipality and give them the status of a degraded building.

State Land Service should examine the possibilities of complementing the Cadastre information system with an appropriate sign of degraded buildings. This would make it possible to obtain detailed information on such buildings that would serve as basis for the development of further action plans and their implementation, as well as for planning of the necessary resources.

Existence of a national program on reducing degraded housing fund would improve and put in order the environment as well as it would reduce the number of dangerous objects.
References


Civil Building Management Problems and Solutions for Ensuring the Sustainable Development of Latvia

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Abstract

This document contains the main idea of the doctor thesis, a necessity to make such a research, as well as the used methodology of research, the content analysis matrix and the design of the doctor thesis from the point of view of research methodology in social sciences. The references for the used literature are also provided in terms of this abstract, so that it could be used for presentation in terms of the “56th International Riga Technical University Conference “Scientific Conference on Economics and Entrepreneurship (SCEE’2015).

Keywords: management, system, building, optimisation.

Introduction

Due to the fact that Latvia regained its independence just in 1991 and a long period of people’s transition from planned economy to the open market, the majority of multi-storey dwelling houses are being managed by state or municipal companies, which do not give the flat owners a real opportunity to influence the building management processes. The main problems of the building management in Latvia are to be defined in terms of the thesis in the analytical part of it and the hypothesis should be stated as a result of this research.

After that the research and analysis of the innovative civil building management models will be made. The models, which are used in Lithuania and Estonia will be researched and analysed, as these countries represent the same region and both had the similar transitions from planned economy to open market. In terms of first quantitative data collection phase the following is to be analysed: information about building management companies, registered violations against regulations and legal processes, financial and non-financial losses, as well as statistical data about state budgets of Latvia, Lithuania and Estonia in the last 5 years.

The next step is to make a survey, in which the attitude to building management companies and main problems are to be defined. Taking the previous parts into consideration, the authors of the thesis are to develop a building development system and to implement it in one of the small private building management companies. The creation of the optimisation program and its implementation should be done in 2 month term and the controlling stage is to take 4 more months. Then the company documents, financial reports and statistical data are to be analysed for the period of last 6 months. In addition, the second survey is to be made in order to monitor the effect of the optimisation model implementation and its contribution to the sustainable development of Latvia. The conclusion part will be made, basing on the results of optimisation model implementation.

Methodology of Research

The qualitative data analysis is to be made in analysing the building management documentation and the corresponding laws and regulations in Latvia and European Union. The analysis of literature sources and documents should be made using the inductive content analysis in order to spot the latest trends in building management development in Latvia. The third theoretical research will include the analysis of building management innovative models in the neighbour countries. After the statement of hypothesis the first empirical research is to be done – the analysis of statistical data using SPSS software. The second empirical research is the first survey, which is to detect the main building management problems from people’s point of view and the third and final empirical research is the second survey, which will evaluate the impact of the implemented optimization model.
Findings/Results

Qualitative and quantitative theoretical research cannot give precise numbers and figures, but may help to spot the trends, which will help in further thesis development. The results of statistical data analysis using SPSS software and empirical survey will give more precise results and it will be the main basis for the optimization model development. The main results will be gained in the last stage of the thesis, as the concrete work of building management optimization model will be analysed.

Conclusions

At this final stage the authors are to interpret the overall results, to prove the hypothesis and the innovative system suitability for using in Latvian cities, as well as to prove that the civil building management problems have a significant impact of the country development.

References

**Sustainable Construction Investment in the Construction Sector: Model of Latvia**

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**Abstract**

On a global scale and the Europe in the construction industry is undergoing important change, the changing comprehension and understanding of the construction industry and are set new requirements relating to energy efficiency, environmental protection, conservation of cultural heritage and the adaptation of modern society. If the traditional construction will be shifted to a sustainable in the long term construction will take place in different resource savings that will reduce costs in the future, while without renouncing the traditional comforts and high quality standards.

The research aims to examine and analyse the state of sustainable construction in Latvia currently determining the potential development strategy in the future on the basis of world economies experience and practice.

**Keywords**: construction sector; construction management; sustainable construction.

**Introduction**

The global economic crisis, which hit most severely Latvia, forced the construction sector to purify, to educate and improve, think about survival and future. Therefore, as elsewhere in Europe, in the Latvian construction sector appeared terms such as: sustainable construction, low energy buildings, green construction, passive houses, lean construction (ascetic, economic construction) etc.

Consequently, it is concluded that sustainable development meets the needs of current generations without compromising the needs of future generations. Sustainability is based on the environmental, economic and social adjustment, ensuring balanced development. Sustainable construction is a complex approach to construction project planning, design, construction, installation and maintenance, which aim at reducing the negative impact on the environment and improving people's well-being. [1] It is a way to live environmentally friendly, without renouncing the modern comforts and traditional quality standards. Thus, creating a high-quality, environmentally friendly and healthy living space, promotes environmental, economic and social sustainability in the future, with resulting benefits to any country, including the Latvian environment, society and the national economy. [2]

The world's sustainable construction has received much attention, it is dedicated to a large number of scientific researches, as evidenced by the large number of foreign scientist's publications.

**Findings/Results**

Today Latvian private houses yearly average consume 100-150 kWh/m² per year of thermal energy, but low energy houses decreases to 20-25 kWh/m². In existing buildings and new buildings in Latvia there is inadequate high energy consumption, which is the cause of several problems, such as high cost of energy, the country's dependence on fossil fuels, in addition to greenhouse gas (GHG) emissions into the air. These problems possible to deal through the development of low energy buildings. Since energy is constantly increasing tariffs and conventional fuels resources dwindle inevitably remain more expensive, sustainably built home is thought out investment in the future. It pays off, despite the relatively higher construction costs due to the significantly improved housing life cycle indicators. [3] The term "sustainable construction" refers to a much broader approach to building design and construction, than just the provision of energy efficiency. Nowadays, there are a lot of different buildings and structures sustainability assessment systems which differ from each other. Due to practical nature of this rating system they complement each other, improve, a bit differ in their priorities, but they have one aim - to create a sustainable, comfortable, efficient, environmentally and people friendly living space. Rating system for evaluation of differences is very difficult because it is based on each country, regional and even continental climate, national, legal, etc. characteristics, traditions and standards of living, such as different rating systems in Europe and Australia.
Conclusions

Based on the research, the research authors concluded that as the main risk factors maybe indicated a high level of unemployment, poor demographic situation wave of emigration has persisted, household purchasing power falls. The following risk factors do not contribute to the revival of the real estate market in Latvia.

Can’t require a green lifestyle, healthy, organic food where people live in hunger and are forced to choose not the healthiest, but the cheapest available food. Can’t wait for the high added value of the in everyday suppressed society by unsafe, inaccessible, and inconvenient, unsightly physical environment and social problems.

Choosing building materials, evaluate their impact on the environment throughout the life cycle (obtain building product, manufacturing, packaging, installation, use and processing utilization). It is desirable to give preference to locally sourced, natural, renewable and / or recyclable materials - wood and other biomass products, clay etc.

Starting to think about the construction of new buildings, to assess how it will best fit into the landscape, the overall environment and transport infrastructure. The site chosen should not threaten biological diversity and reinforce the need for transport. It is recommended to give preference to already populated than intact green area. Attention should also be the subject of emissions and waste (waste water, soil and air emissions, noise and odours) utilization and mitigation options in chosen location.[4]

During the construction of the building in accordance with any in Latvia still new, but the world tried and tested concepts: to raise the entire industry, professionals and business expertise, level of education, competitiveness; support for local businesses, research and innovation; is reduced dependence on expensive imported energy resources; reduce CO₂ emissions into the atmosphere, as well as improve the living space and living quality in the long term.

In the world practice there are different systems by which to assess whether the building has been designed and built in a sustainable manner, such as ABGR, AccuRate, BASIX, BEPAC, BREEAM, CASBEE, DGNB, GREEN STAR, LEED, etc. In Latvia according to the latest data, no building has not obtained an international rating assessment to be certified buildings in the world according to accepted practice.

References


KPI in Construction Industry

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Abstract

The research focus is the examination of the aspects of the The Construction Key Performance Indicators for the detection of the urgent problems in companies development. Data analysing and observation have been used in the study and the recommendations on the improvement of the situation have been advanced.

Companies who successfully improve their performance against industry KPIs are firms that will win more business and build profitable long term relationships with repeat clients, sub-contractors and consultants.

Keywords: Construction performance measures, management, construction industry.

Introduction

The intent of this research about The Construction Key Performance Indicators at today’s multipolar world are becoming more relevant, which characterized by multiple centers of economic power and activity, has shaken up Non-efficient old business models and approaches, posing numerous challenges for construction companies. But the new macroeconomic environment also offers a wealth of opportunities for those companies that can favourably position themselves in the changing landscape. Global and medium companies will need to be exceptionally agile, efficient, client, consultants and Sub-contractors focused to compete successfully with increasingly powerful emerging-market players and to achieve high performance in the construction markets for that collectively the industry continues to raise its works and provides the benchmark against which firms and their clients will judge their performance over the coming years.

Methodology of Research

The aim of research is the examination of the Key Performance indicators aspects in construction companies for the detection of the urgent problems and finding solutions for KPI driving reliability growth while guiding companies choices for improving construction effectiveness and efficiency. A useful construction industry KPI lets you identify the issues causing companies works effects and helps to select the right strategy to either support or correct the actions producing the result. It is very important that when we select a range of KPI detection structure you pick those important directions that let to improve results depend on a market position and company’s target in future. The main tasks of the study are analysing theoretical aspects and international research group’s dates, summarization of the results of the research and provide with further suggestions on top priorities that need to be improved in individual case within the context of the companies that have participated in the development of the performance measurement system, the joint analysis of these preliminary results has already developed a new area for collaboration and interactive learning. The comparison, data analysis and logical access methods have been used in the research.

Findings/Results

The complex of managing an organization today requires that managers and members on board be able to view performances in several areas. No single measure can provide a clear performance target or focus attention on the critical areas of business growth which depend on today’s corporate mission. A set of measures that balances financial and operational measures should be the basis of any performance measurement system. The study revealed that the top ranked KPIs were distributed among three perspectives links: financial, customer and internal structure of the company. These results indicated that the construction organizations realized that the traditional financial measures are not an inclusive measure of organization performance anymore. Insufficiency of traditional financial measures led to increased interest of non-financial measures, such as external customer satisfaction, safety, quality, cost, productivity, time, staff turnover and effectiveness of planning. The KPIs, produced to address these seven areas, present the
industry’s performance by 10 headline measures. Seven of the measures relate to project performance and three are measures of company performance namely, quality of service and work, external customer satisfaction, and market share.

**Conclusions**

Construction Key Performance (KPI) is the measure of an activity that is critical to the success of any organisation. Performance measurement is one of the important aspects of company management. The major objective of this study was to explore the most important indicators for measuring company performance as perceived by large contractor or client working in Baltic States and explore importance of KPIs and benchmarking in building construction industry. The 10 indicators consistently perceived as being highly important can be used as a basis to build a model for evaluating the performance of construction companies and also can be considered as the first step for developing a competitive benchmarking approach and companies structure modification.

**Aтауасқа**


Mājokļu pieejamības un mājsaimniecību kredītpējas funkcionāla saistība

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Kopsavilkums

Pētījuma aktualitāte cieši saistīta ar atšķirīgo mājokļu pieejamību dažādām sociālām grupām, no vienas puses, un to kredītpēju, no otras puses. Mājokļu pieejamība un kredītpēja zinātniskajā aprindā tiek uzskatīti par nozīmīgākajiem valsts ilgstelpējas attīstības sociālā rakstura elementiem, kas ir vieni no nozīmīgākajiem dimensijām. Tēmas aktualitāti pastiprina mājokļa iekļaušanās katra sabiedrības individu pamatvajadzību grupā. Regulētas tirdzniecības ietvaros nepieciešams radīt tādu priekšnoti, lai mājokļu pieejamība būtu ilgstoša un cilvēku skaits pretējā valstī un viņam pieminamā laikā. Pretējā gadājamā valstī jauzņemmas rūpes par to cilvēku dzīves apstākļu uzlabošanu, kuriem mājokļu pieejamība ir klusvi par nesasnedzamu mērķi vidējā un ilgākā laika periodā. Daudzos gadājumos politiku centieni mazināt un pieaugošanu, kā arī politikā attachēšanai tam ir jābūt nepieciešamam un attīstītajiem sociālām politikām.

Atslēgas vārdi: mājokļa pieejamība; kredītpēja; tautsaimniecība; mājsaimniecību ienākums; ilgtspējīga attīstība un tās sociālas dimensijas.

Ievads

Pētījuma aktualitāte un nozīmīgums tiek saistīts ar ilgstelpējas attīstības jautājuma aktualizācijas un sociālās attīstības jautājuma izmantojāšanas iespējām valstīs, lai šajā valstīs saprātīgi radītu nepieciešamo sociālo attīstības struktūru, kas ir nepieciešama attīstības progresam. Pētījums mērķis tiek saistīts ar mājokļu pieejamību un kredītpējas attīstības sociālajiem aspektiem un sociālā attīstības jautājumiem. Pētījums mērķis tiek saistīts ar mājokļu pieejamību un kredītpējas sociālajiem aspektiem un sociālā attīstības jautājumiem.

Pētījuma rezultāti

Pētījumā iegūti rezultāti tiek iekļauti vairākā grupās – ekonomiskie, sociālie un pārvaldības jeb institucionālie rezultāti. No ekonomiskā viedokļa nozīmīgākie rezultāti tiek saistīti ar mājsaimniecību ienākumiem, to izmaiņu raksturu un tendenci. Pētījumā lielākā uzmanība tiek veltīta mājsaimniecībām ar augstāku nepieciešamību uzlabot dzīves apstākļus saistībā ar mājokli, kā arī šo mājsaimniecību ienākumiem un kredītpējai. Ņemot vērā mājokļa pieejamības un kredītpējas cēloņu ietekmi, pētījuma rezultāti par mājsaimniecību rūpētā esošajiem ienākumiem, šo ienākumu atbilstošībā un atšķirību no vidējiem ienākumiem vai valstī, tiek attiecīgi uz minēto rādītāju izmaiņām. Pētījumā tiek iegūti interesanti rezultāti par mājokļu pieejamības un mājsaimniecību kredītpējas izmaiņām citās valstīs, kā arī šo rādītāju absolūto un relatiīvo ienākumu salīdzinājumā. Pētījuma rezultātu iezīmējotām tālākiem pētījumiem par mājokļu pieejamību un mājsaimniecību kredītpēju, Ņemot vērā valsts iekšējā un ārējā ienākumu un kredītspējai, to minēto rādītāju izmaiņas saistībā ar tajā domējošajiem atbilstībām un iespējamām. Pētījuma rezultātu izvērtējot valsts sociāli ekonomiskās politikas plānošanai un konkrētu pasākumu izstrādei mājokļu pieejamības un kredītpējas paaugstināšanai iedzīvotājiem ar zemākiem ienākumiem.
Terminētās uzturēšanās atļauju ietekme uz nekustamo preču tirgu un tautsaimniecību: izvērtēšanas metodikas konceptuāls ietvars

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Kopsavilkums

Terminētās uzturēšanās atļaujas pēdējos gados ir kļuvušas par vienu no aktuālākajiem sociāli ekonomiskajiem un politiskajiem jautājumiem. Pēc ekonomikās krīzes daudzās ES valstīs vērojams salīdzinoši zems ekonomikās izaugums temps, kura galvenais cēlonis ir tiek pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu patērētāja groza palīcināšanā. Pēdējos gados pieprasījumā aktivizušajai valsts nozarēm izmantojot terminētās uzturēšanās atļaujas. Tādēļ galvenais cēlonis ir pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība. Tādējādi ārvalstu investoru piesaistīšanā ekonomiskās konkūrētspējas papildinās tiek izmantojās terminētās uzturēšanās atļaujas. Tādēļ galvenais cēlonis ir pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība. Tādējādi ārvalstu investoru piesaistīšanā ekonomiskās konkūrētspējas papildinās tiek izmantojās terminētās uzturēšanās atļaujas. Tādēļ galvenais cēlonis ir pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība. Tādējādi ārvalstu investoru piesaistīšanā ekonomiskās konkūrētspējas papildinās tiek izmantojās terminētās uzturēšanās atļaujas. Tādēļ galvenais cēlonis ir pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie piesardzība un pasīvātie preču un pakalpojumu atkarība, kas vērstas uz uzturēšanai pieprasījumā veidojošā tautsaimniecībās dalībnieku pārmerķētie pie
ietvaros tiek iegūta papildus informācija par citu ES un ārpus ES esošo valstu pievedzi investoru pēsiaistes ekonomikos aspektu papildināt ar politiskajiem aspektiem.

Pētījuma rezultāti

Pētījumu rezultāti attālīj izsniegto TUA kompleksko ietekmi ne tikai uz NPT un tautsaimniecību, bet arī uz visu valsts sociāli ekonomisko un politisko sistēmu. Šī ietekme veidojas sarezgītu sociāli ekonomisko un ietnocienīgo procesu mijiedarbības rezultātā vienas sistēmas ietvaros. Piemērotās metodikas ietvaros tiek noteikti šajā sistemā esošo elementu kvantitatīvie un kvalitatīvie aspekti, kā arī to attīstības raksturs un tendence. Pētījuma autori labi apzinās, ka TUA ienāk atvērtā sociāli ekonomiskā sistēmā un ietkmē šis sistēmas elementus – to veikstspēju, kā arī darbības pozitīvos un negatīvos efektus. Pētījuma rezultātā tiek identificētas tautsaimniecības nozares un tautsaimniecības dažādnieki, kuri ielākā mērā ir saistīti ar TUA-ām, to izsniegušanas rezultātā radītājiem pozitīvajiem un negatīvajiem efektiem, kā arī blakusefektiem. Pētījumā piemērotās metodikas ietvaros tiek noteiktas turpmākā pētījuma nozīmīgākās dimensijas un apzināta nepieciešamība vispārīgi izvērtēt pozitīvos un negatīvos efektus, kā arī blakusefekti, kas rodas katrā no dimensijām jeb sistēmas apskāstāmās un to mijiedarbības rezultātā.

Secinājumi

Zinātniskais jautājums par TUA izsniegušanas ietekmi uz NPT un tautsaimniecību ir pietiekoši sarežģīts, lai tiktu izstrādāts tā izpētēj piemērots metodikas konceptuāls ietvars un pati metodika. Koncepcijas ietvaros tiek detalizēti apzināt pētījuma objekts un priekšmets, noteiktas to nozīmīgākās kvantitatīvās un kvalitatīvās dimensijas, kurās turpmāko pētījumu laikā tiek analītiski izvērtētas, kā arī iespēju robežas un atbilstošu nepieciešamībai noteikt to izmaiņu raksturs un tendence.

Neapšaubāma ir TUA ietekme uz NPT un tautsaimniecību kā sociāli ekonomisku, politisku un ekoloģisku sistēmu, bet atklāts palīdz jaunām par šīs ietekmes pozitīvajiem un negatīvajiem ietekmēm un blakusefektiem. Atbilde uz šo zinātniski un prakstiki politisko jautājumu ir cieši saistīta ar izstrādātas metodikas prasmīgu un efektīvu piemērošanu. Izstrādātā metodika atzīst, ka TUA koncepciju iespējams pilnveidot, ņemot vērā ārējā vidē dominējošos PESTE draudus un iespējas, tāpēc ārvalstu investoru pēsiaistēšanai jāizmanto jauni, inovatīva rakstura pārvalde, kuros potenciālie ekonomiskie labumi investoram tiek papildināti ar politiska rakstura ieguvumiem.

Atsauces


Real Estate Due Diligence Process in International Real Estate Transactions in Latvia

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Abstract

International real estate transactions, especially in countries with different legal systems, are characterised by the fact that each transaction is unique in its complexity, confidentiality, different risk factors, and the limited availability of information regarding the real estate. The Due Diligence (DD) process is an instrument that can help avoid risks and assist in making important decisions regarding real estate transactions. The term “Due Diligence” has a number of different meanings. The aim of this paper is to determine the etymology of this term and to identify its most common contemporary meaning. Each DD process is to be recognized as a project requiring management because of the potential number of individuals that could be involved, i.e. experts from various fields, including: real estate agents, lawyers, attorneys, licensed conveyancers, notaries (in the countries of the Civil Law system), tax consultants, economists, facility managers, asset managers, property managers, land surveyors, appraisers of immovable property, architects, builders, etc. The professional organisation of the DD process is the key factor in making an informed decision regarding whether or not to engage in an international real estate transaction.

Keywords: Due Diligence, Vendor Due Diligence, Due Diligence framework, Real estate investigation, International real estate transactions

Introduction

Real estate transactions consist of many stages. Of utmost importance for informed decision-making is the investigation of the real estate and the transaction process. Especially in international real estate transactions, the process of “reasonable investigation” or DD helps investors to get the required information for making a well-informed decision.

Methodology of Research

The main subject of this research is the DD process in real estate transactions in Latvia. The study consisted of researching the etymology of the term “Due Diligence” and how the term is used today. The authors of the research identified the experts who are traditionally most often involved in real estate transactions and made a determination of who among them would be competent enough to manage the real estate DD process in Latvia. A group of 18 professional real estate agents from the Latvia Real Estate Agents Association “LANĪDA” were surveyed for the purpose of receiving their professional feedback and opinion about DD process. A number of various research methods were employed for the research, including the historical and comparative analysis of DD process, as well as expert assessments. The current legislation of Latvia was analysed and appropriate literature reviewed during the research.

Findings and Results

The research resulted in being able to determine the historical origin of the term “Due Diligence” and how it is applied presently. The term is used in many areas: company mergers and acquisitions, in human rights research, civil and criminal law, real estate transactions, etc. The definition of DD is not generally governed by any law. Each area and country applies the term according to its traditions and the specific attributes of the object to be investigated. “Reasonable investigation” is the most common synonym for the term “Due Diligence”. In real estate transactions it is necessary to carry out the DD process as an interdisciplinary management project in which the most important aspect is the coordination of experts from the various branches. These expert professions may or may not be regulated by law. For example, the real estate agent profession is not a regulated profession in Latvia.
Conclusions

The research brought to light an effective DD framework, identified the individuals and professionals involved in the process and indicated the DD process as a management project. The self-evaluation of real estate agents themselves and the European standard (LVS EN 15733:2010) “Services of real estate agents – Requirements for the provision of services of real estate agents” illustrates that real estate agents could be the experts qualified enough to manage the DD process in Latvia. In order to elevate the status of real estate agents and to define the real estate agent as a regulated profession in Latvia, it is proposed to make amendments to the following legislation: „On the Regulated Professions and the Recognition of Professional Qualifications” , „The Comercial law” and others legislative acts for the purpose to define a real estate agent as regulated profession.

References


SUBSECTION

“URBAN AND REGIONAL DEVELOPMENT“
Introduction of Action Research into Public Sector Human Resource Policy Planning and Implementation in Latvia

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Abstract

The aim of this paper is to survey significant literature on qualitative research method – action research (AR) and to find what advantages and shortcomings AR provide in policy learning process. Based on literature review author illustrates if introduction of this method in development of public administration policy can be seen as a solution for implementation of unified HR policy and practice in both administrative levels (national and self government).

Keywords: Action research, public administration, human resource policy.

Introduction

Participation in the PhD course „Methods in participatory and interactive research” forced us to think about the process of human resources policy planning and implementation in Latvian public sector. Lack of cooperation and collaboration between central government and municipalities is observed in the process of policy development and implementation. Reform process in public administration and civil service shows that initiatives aimed to introduce unified relationships for all employees in both public administration levels (central government and municipalities) has failed since 1994. Public Administration civil service reform shows that inclusion of municipal employees in the civil service system has been a problem ever since the beginnings of reform of public administration. Already in 1994 the Law "On State Civil Service" intended to introduce civil service in municipalities considering that the municipality carries out substantial public administrative functions. However, this idea was not implemented due to the strong local lobby. Last time when the State Chancellery - main responsible body in Latvia for governance of public employees - failed to introduce unified employment relationship for both public administration levels was in 2013. Reform initiative with the objective to introduce unified state and local government service faced very huge resistance from the side of local government officials and was not confirmed by the government. Existing situation shows that the conflict between the state and local government exists already for more than 20 years. Nowadays, when integration of the economic and social processes of the states, globalisation, labour force mobility and diversity, IT development, ageing of society cause several challenges for public administrations it is vitally important to ensure effective governance. This objective is hard to achieve if there continues to exist different and fragmented groups of administration and employees, which hinder uniformed and transparent human resource management system and creates a false impression of the number of employees in public administration.

Karlsen and Larrea (2014b, p.150) argues that it is not easy to generate process in which new concepts and frameworks can be co-generated given that there are conflicting positions that must not be avoided and overcoming traditionally dichotomised positions in terms of class or political parties that make actors reluctant to participate. Analysis of empirical studies on HRM and public service performance outlines role of political leaders and elected members as one of the challenges in development of effective HRM strategies and systems in public administration. Julian Gould-Williams (2010) point out that the extent to which HR is introduced in organisations and work units is likely to depend on the role and influence of political leaders and elected members.

Literature shows that AR as a method and part of policy learning process tries to overcome this challenge. Therefore purpose of this paper is to find what advantages and shortcomings AR provide in policy learning process and if introduction of this method in development of public administration policy can be seen as a solution for implementation of unified HR policy and practice in both administrative levels (national and self government) by generation of new knowledge and collective knowing by involvement of different stakeholders in HR policy development and implementation process.
Methodology of Research

The article has been prepared based on theoretical literature review on qualitative, participatory methods and its advantages and challenges in policy learning process.

Findings/Results

Anticipated outcome of PAR is an action in which mobilization tends “to change, generate, or evaluate practices and policies” (Young, 2006, p.500). According to authors point of view this method can be considered as one of the horizontal policy coordination instruments where researchers participate in the development process and helps all stakeholders develop collective knowing. This can be pursued through dialogue between different actors and can only develop over time between actors that regularly meet and interact with each other (Karlsen and Larrea, 2015). This requires that the main responsible body for development of public administration reforms and HRM strategy – the State Chancellery - performs following tasks:

1) Find followers. This can be done by developing partnership network where representatives (both politicians and practitioners) of those local governments which are interested in development of collective knowing and development and well – being of the people working in their organisation are presented. This requires construction of an environment abundant in intangible assets: coalitions, networks and other “soft” structures which enrich day-to-day access to knowledge, experience and dialogue for a wide range of stakeholders.

2) Develop and agree on the core vision - a long-term perspective in managing people and consideration of people as potential assets rather than merely variable costs.

3) Change participation of researchers from passive to active role. Existing practice when researchers and experts participate in the policy development process passively by producing reports and recommendations should be changed by active involvement of researchers and experts into policy development process. Hoverer it should be taken into account that researchers cannot design the learning process of policy makers on their own. Researcher brings his or her ideological background to the process (Karlsen and Larrea, 2014c, p.150).

4) Create AGORA where dialogue and collective knowing can be developed and ensure regular meetings where interaction between different stakeholders can happen.

Conclusions

AR offers a radical alternative to knowledge development as a collective, self-reflective inquiry for the purpose of improving a situation in a community or in a marginalized group of individuals (Koch, Selim, & Kralik, 2002; Maguire, 1987).

We can define the role of the AR for policy makers and researchers as generation of conditions for practice. McTaggart, 1997 argue that AR fosters collaboration among participants and researchers. Thus, AR is empowering, as it promotes capacity development and capacity building in all who participate (MacDonald 2012, p.46). According to Karlsen and Larrea (2014b) dialogical approach between policy makers and researchers requires complex compound of: shared vision, trust, honest dialogue, readiness to mutually influence and be influenced.

To conclude we can say that AR is a method for creation of collective knowing where following elements are of the most importance: different stakeholders with different background, meeting place or agora, dialogue, data recording and time. AR is time consuming method, because generation of change takes time. Timing and dialogue between different actors are points which should be critically assessed by policy makers. Example of HRM policy development process of Latvia shows that role of the dialogue in decision making process is underestimated. Therefore we can conclude that AR could be considered as horizontal policy coordination instrument into policy development process and can be a seen as a solution for implementation of unified HR policy and practice in both administrative levels (national and self government) of Latvia.
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Model of the Factors Influencing Competitiveness of the Latvian Fisheries Sector’s Cluster

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Abstract

The aim of the research is elaboration of the model of the factors influencing competitiveness of the Latvian fisheries sector’s cluster. Based on the studied scientific literature the research provides an improved definition of the sector’s competitiveness and defines the factors influencing the competitiveness of the sector. As a result of the analysis the author discovered that there are several internal and external social, economic, political and environmental factors which influence the competitiveness of the Latvian fisheries sector cluster. It is advisable to the institutions involved in fisheries policy-making to take into account the identified factors, influencing the competitiveness, and their changes when making and improving the general policy of the sector.

Keywords: Competitiveness, factors, fisheries.
Influence of the EU Structural Instruments on the regional development: Case of Bulgaria

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Abstract

The paper presents results of study of influence of the EU Structural Instruments on the regional development in Bulgaria by analysis of data set of actually paid amounts for the period 2007–2015 (August). The findings are concerning of three types of regions in Bulgaria: statistical zones; statistical regions and districts. The results show unequal distribution of the financial resources; not significant dependence between paid amounts from the EU Structural Instruments per capita and GDP per capita on local level and positive moderate correlation between paid amounts from the EU Structural Instruments per capita and average rate of development of employees. The list of policies and actions include trainings in project management; financing of innovative projects; finance projects that create new jobs in less developed regions and etc.

Keywords: EU, structural instruments, regional development, Bulgaria.

Introduction

The regional policy of the European Union (EU) aims economic growth and improving quality of life in regions and cities. The EU structural instruments help local authorities, business and non government organisations to supplement the lack of financial resources for: research and innovation; development of information and communication technologies; more competitive small and medium-sized business and a low-carbon economy. The aim of study is to investigate influence of the EU Structural Instruments on the regional development in Bulgaria. The regions, classified as level NUTS 3 according to EU legislation, are object of the study. The tasks are analysis of the implementation of projects funded by the EU Structural Instruments and evaluation of influence of projects over the regional economy. The data set are obtained from the Unified Management Information System for the EU Structural instruments in Bulgaria and they are for the period January 2007 – August 2015. Also are used data from the National Statistical Institute of Bulgaria.

Methodology of Research

The influence of the EU Structural Instruments on the regional development is assessed by using statistical methods such as: analysis of structure; regression and correlation analysis; averages and dispersion. The analysis of the implementation of projects funded by the EU Structural Instruments is based on the share of actually paid amounts from contracted amounts. The evaluation of influence of projects over the regional economy is made by using such indicators as dependence between paid amounts from the EU Structural Instruments per capita and GDP per capita and by correlation between paid amounts from the EU Structural Instruments per capita and average rate of development of employees under labour contract.

Findings/Results

The analyses of results on national level show that the actually paid amounts on middle of August vary between 78.5% for Operational Programme (OP) Transport and 92.8% OP Human Resources Development. OP Regional Development is one of the problems. The actually paid amounts for this programme are 83.1% and it is below the total paid amounts for all programmes (85.3%).

On regional level, the data shows unequal distribution of the financial resources. The range of paid amounts per person is 720.28 BGN (approx. 368.27 EUR). The minimum is in Sliven (117.23 BGN or approx. 59.94 EUR) and maximum is in Sofia (capital) (837.51 BGN or 428.21 EUR). The standard deviation is 142.51.

It is found that there is not significant correlation between paid amounts from the EU Structural Instruments per capita and GDP per capita (Figure 1).

The positive moderate correlation between paid amounts from the EU Structural Instruments per capita and average rate of development of employees under labour contract is observed ($r^2=0.436$).
Figure 1. Correlation between actually paid amounts from the EU Structural Instruments per capita and GDP per capita

Legend: BGS – Burgas; BLG – Blagoevgrad; DOB – Dobrich; GAB – Gabrovo; HKV – Haskovo; JAM – Yambol; KNL – Kyustendil; KRZ – Kardzhali; LOV – Lovech; MON – Montana; PAZ – Pazardzhik; PDV – Plovdiv; PER – Pernik; PVN – Pleven; RAZ – Razgrad; RSE – Ruse; SFO – Sofia; SHU – Shumen; SLS – Silistra; SLV – Sliven; SML – Smoly; SOF – Sofia (capital); SZR – Stara Zagora; TGV – Targovishte; VAR – Varna; VID – Vidin; VRC – Vratsa; VTR – Veliko Tarnovo

Conclusions

The some of policies and actions through that influence of the EU Structural Instruments on the regional development will be increased include trainings in project management; financing of innovative projects; finance projects that create new jobs in less developed regions and etc.

References


Rīgas apkaimju nozīme pilsētas ilgtspējīgā attīstībā

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Anotācija

Viena no šobrīd aktuālākajām problēmām ir pilsētu dzīvojamo rajonu (apkaimju) attīstība un to ilgtspēja, a kuru saskaras teju visu Eiropu. Problemas nozīmēm gūst apliecināt veikto pētījumu apjomus gan valsts, gan starptautiskā mēroga. Ilgtspējas attīstības jēdziens ir balsīts uz šada veida sistēmātisku domāšanu. Tā pārāk izprast pašiem sevi un savu pasauli. Saskaroties ar sarežģītām un nopietnām problēmām, tās nevar risināt tādā par daudzām, bet tās risināt gan varam. Viens no ilgtspējas attīstības pamatprincipiem ir, lai nākamām paaudzēm tiktu nodrošināta ne tikai dzīvē, taču arī ilgtspējīgas attīstības. Tāpēc mēs mēs teju visu Eiropu.

Ilgtspējīgas attīstības jēdziens ir balstīts uz šāda veida sistemātisku domāšanu. Tā palīdz izprast pašiem sevi un savu pasauli. Saskaroties ar sarežģītām un nopietnām problēmām, tās nevar risināt tādā pat veidā, kā tās radījām mēs paši, bet tās risināt gan varam. Viens no ilgtspējas attīstības pamatprincipiem ir, lai nākamām paaudzēm tiktu nodrošināta ne tikai dzīvē, taču arī ilgtspējīgas attīstības. Tāpēc mēs mēs teju visu Eiropu.

Ievads

Rīgas pilsētas viens no raksturīgākajiem mājokļu tipiem ir dzīvokļi un pētāmās apkaimes ir „guļamrajoni”, apkaimes, kur dominē daudzdzīvokļu ēkas. Tādas pašas apkaimes (rajoni) atrodas arī Rietumeiropā un Austrumeiropā, bet dzīves vide gan manām atšķirīga.

Attīstībā un ilgtspējīgā pilsētas plānošanas mērķim jābūt - veidot savas pilsētas to telpisko formu un infrastruktūru, kas viņiem iedzīvotājiem nodrošina piemērotu un ērtu mājokli, labklājību, tai skaitā darba iespējas savā vai tuvākajā apkaime, vilņīgākās apkaimes, vispusējo aprūpi, iespējas vienlīdzīgi attīstīties gan kultūras, gan sporta jomā, kā arī praktiski nav iespējams atrast darbu savā apkaimē.


Kopumā pilšetas apbūves tendences un pilšetas struktūras rada tādu kā haosu, jo nav vienotas plānošanas sistēmas, bet tikai tāda kā blokkeida, izmētāta. Visu problēmu pamatā ir īpašumu tiesību ierobežojojums, kas radās ar 20. gadsimta beigām, lai veidotu zemās grīdas tramvaju sliedes, tai skaitā vēl ir plānotas attīstīt jaunu tramvaju līniju līdz Dreliņiem, iekļaujot Pļavniekus un Purviem, bet minētās aktivitātes vēl nav pat uzsāktas ne publiskās apspriedēs, ne dzīvē, tiek iekļauti plašāki palīdzības, kas varētu ietekmēt attīstību, kas nevar tikt iekļauta strukturālām investīcijām. Šie projekti būtu jāveic līdz 2020. gadam. 

Pēc Centrālās statistikas pārvaldes datiem pētījumā ir 75% dzīvošanas vietas, kāpās kā privātēs, bet 25% kā publiskās. Šis konstatējums jāpētē, lai izvērtētu tādā situācijā cilvēku aktīvitu un to, kā to var nodrošināt. 

Pētnieču metodes

Pētniecības metodes

Pētniecības metodes

Pētnieči tiek izmantotas vispārpieņemtas zinātniskās metodes - logiski-konstruktīvā metode - izsakot spriedumu un analizētās rezultātus, monogrāfiskā jeb aprakstoša metode, kā arī aktīva metode. Pētnieki tiek izmantoti kā priekšmeti, lai izprastu un izstrādātu atbilstošu modeli. 

Atklātie trūkumi un rezultāti

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Atklātie trūkumi un rezultāti
Secinājumi

Pētāmās apkaimes ir nozīmīga pilsētas sastāvdaļa, un par to tiecina veiktie pētījumi un analīzes gan vietējā, gan starptautiskā mērogā. Kā arī Rīgas pilsētas ilgstošas attīstības balsts ir rīdzinieks, līdz ar to iedzīvotāju līdzdalība pilsētas plānošanas un attīstības dokumentu izstrādē ir svarīga un nepieciešama, bet tā turpina būt nepieciešama, kas apdraud Rīgas pilsētas ilgstošu attīstību, jo pilsētas attīstības un plānojuma dokumenti var ierobežot personas tiesības uz labvēlīgu vidi, tāpēc ir ļoti svarīga sabiedrības līdzdalība, izstrādājot pilsētas plānošanas dokumentus. Lai sekmētu sadarbību starp pilsētas administrāciju un iedzīvotāju, tad nepieciešama sistešas pilnveidošana un aktīvāka sabiedrības iesaistīšana savasapkaimes attīstībā.

Izmantotie informācijas avoti


Networks in Region Technology Transfer System Development

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Abstract

This document presents the main features of modern Quintuple Helix model of innovation process. The practical implementation of this model in terms of Ukraine on the example of a regional network of technology transfer is proposed.

Keywords: technology transfer, region, innovations, networks.

Introduction

In the early 1990s economists and practitioners focus shifted from integration to networking. Whereas, in order that the company be innovative, its necessary not only to combine various units on innovation process (project), but also create and strengthen stable network interactions with customers, suppliers and other institutions and audiences believe that research towards creating the organizational and economic mechanisms of innovation cooperation should continue.

Open innovation networks - a set of interacting business entities, academic institutions and other organizations with similar strategic objectives focused on innovation and making activities under a single business process, and to achieve these benefits:

- Technology transfer, exchange of ideas in the field of high-tech industries;
- Obtaining access to results of intellectual activity and innovation achievements of other organizations;
- Reducing the financial risks and costs of financial resources;
- Reducing the time for research and development and emergence of possibilities “technological jump”;
- Reducing the cost of a full cycle of its own innovation and research and development;
- Access to new markets;
- Achieving synergies in manufacturing, sales, research and development.

The importance of this factor before others realized in Finland and Sweden, where in the beginning 1990s were established regional innovative system based on network interactions. In subsequent years, the Scandinavian ideas spread widely across all OECD countries, which adapted it to their own national and regional specifics. Today in many economies of the world (USA, Canada, UK, South Korea, China, Australia et al.) formed the eco regional innovation system (regional innovation ecosystems), for achieving the effects of global innovation level.

Methodology of Research

The aim of the article is to analyze the theoretical foundations of the internationalization of cluster structures. To achieve the aim of article it is necessary to analyze the experience of foreign countries in clusters development, opportunities for international cooperation on the example of the space industry and space instrumentation.

These problems earlier have been solved in the framework of the intersectoral scientific and technical complexes both forms of the compound of science and industry, which have been designed to provide fast and efficient management in cycle "science - production" in priority areas of scientific and technical progress, accelerate the development of new ideas and effective using them in practice. Formation of each Intersectoral complex due to socio-economic conditions was a result of cooperation and integration of enterprises, organizations, institutions and industries. The effectiveness of cross-sectoral coordination of interactions were determined by the degree of production and economic development and innovation at meso- and micro level on the base of socio-economic development. However sectoral aspect was main in formation of complexes, which is partially passed and the clustering concept, dominated. Today in the context of purpose of the article we suggest to use of analysis of the internationalization of clusters on the base of technological convergence (mutual influence and interpenetration and technologies) and the innovation ecosystem approach (set of conditions for the successful creation and development of innovation and technology transfer).
Findings/Results

To solving the basic problem (promotion technological cooperation between organizations of scientific and educational sphere, companies and enterprises), we propose to concrete measures to implement the regional policy of innovative development, create opportunities for replication areas with high innovation potential of the rest of the region, develop human resources the potential of innovation infrastructure in the region.

We also propose to consider the effects of main types of technology transfer, which are important for regional innovation policy:
1. Transfer of unique technology in region;
2. Technology of special transfer in region;
3. Complementary (complementary) technology transfer;
4. Universal Technology Transfer;
5. Regional technology transfer;
6. Corporate technology transfer within business entities;
7. Interregional technology transfer;
8. Transfer of high technology (makro technology) in region;
9. Interstate and transnational technology transfer.

Conclusions

In context of practical implementation of Quintuple Helix model we propose to consider the project to creation a regional technology transfer network. The project is proposed to create a network of technology transfer methodology based on innovation "hub" that is designed to provide communication and coordination of sub regional economy and the environment in order to achieve strategic goals. The network will carry a broad technological themes that will be formed according to the priorities of regional development and the participation of the authorities.

Methodology of directed formation of regional networks is based on:
• determination of areas of economic activity, which are the most specific for particular region that underlie the regional network structures;
• formation of industrial and technical structure of networks based on the completed production of the groups to obtain a specific product;
• formation network channels based on industrial and technological structure;
• including tonetwork those structures which always cooperate its production.

References

Poverty Mitigation Options in Cities

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Abstract

The research paper “Poverty mitigation options in cities” is actual because that in twenty-first century poverty in many of its manifestations is still a global problem. The gap between the world’s rich and poor is the largest in the last hundred years. Each country is current poverty reduction problem. Poverty, inequality and social exclusion are closely linked to unemployment as it contributes to people's material deprivation. The study aims to assess poverty, influencing factors and proposals for its reduction. Depth problem is analysed in Liepaja employment.

Keywords: poverty, city, poverty factors, unemployment, urban development.

Introduction

The world has a lot of global problems such as poverty, war, global warming, pollution, racism, terrorism, hunger and various diseases. The most serious of these is the pollution, famine, war, terrorism, and the large number of homeless people. Twenty-first century of poverty in many of its manifestations is still a global problem - almost one sixth of the world's population are poor. The world has many countries with poor people who are forced to live on the streets because they have no home, no job, no means of subsistence. Poverty is one of the most important socio-economic problems. Each country is current poverty reduction problem. Although for many years there was a Latvian economic development, many welfare of the society still remains unsatisfactory. Another powerful poorest affected by the current economic situation, and this can lead to socio-economic instability. One should not forget that people's well-being is an important factor in the country able to develop long-term, as well as to be competitive in the international market. Showing the need to understand the relationship between the level of poverty and economic development, to find out how close they are. The article examining and analysing the theory, the opinion of experts, the EU countries' experiences, as well as through questionnaires, developed the main directions of employment promotion, poverty reduction in urban areas.

Methodology of Research

Theoretical analyze of scientific literature and Internet sources research, monographic method, survey.

Findings/Results

By studying and analysing theory, the opinion of experts, the EU countries' experiences, as well as through questionnaires, developed in four main directions of employment promotion, which also reduce poverty: (1) Country and the city's economic growth; (2) Reduction of shadow economy and illegal employment; (3) Unemployed training and consultation; (4) Education and training systems development

Conclusions

Work is one of the main means of reducing poverty. When planning reforms and measures for poverty reduction in urban employment context - one in the city, the region and even the country to address the socio-economic problems such as poverty and employment cannot be separated from the EU common guidelines on these matters and the experience of other countries.

References

Policy for the "Green" Economy Development in Russia: Main Trends

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Abstract

The authors define a green economy as one of the most serious trends in socio-economic development in modern Russia and the important factor in political decision-making. The main trends of the «green» economy development and the "green growth barriers" has been analysed. A general conclusion is made concerning the state's significant role in the transition to a «green» economy.

Keywords: «green» economy, «green» growth, sustainable development

Introduction

The concept of "green" growth plays an important role in the formation of a new global model of socio-economic development. It is one of the main trends of the global economy upgrowth. Attention to this process in Russia is determined by the necessity to follow the promising trends of world economic development and global competitiveness.

Policy making of "green" economy development, including the necessary structural reforms and instruments to stimulate them, becomes even more urgent for Russia in the face of deteriorating global economic conditions, the fall in oil prices, a corresponding reduction in foreign exchange earnings and export revenues, and the threat of a new wave of global financial crisis.

Methodology of Research

The basic theoretical framework of the study was given with the concept of sustainable development as well as ideas and principles articulated in the concept of governance. The tasks required to use the neo-institutional approach, which enabled to identify and study not only the public, but also the latent practices of the"green" economy policy. Such empirical methods as analysis of texts of different origins, case study, secondary analysis of sociological data and monitoring of Internet resources were used by the authors.

Findings/Results

Policy for the "green" economy development in modern Russia is characterized by weak degree of institutionalization, which, however, increases in recent years.

Currently, the most directions, that clearly established in Russian policy for the "green" economy development, are the following: creation and improvement the background of regulatory and institutional green growth policy; public investment in "green" industries and creating "green" public procurement; stimulating private investments in areas that promote innovation in the"green" technologies field, creating the necessary infrastructure for the successful implementation of certain green innovation and contribute to the emergence of the "green" industry; the development of renewable energy; development of ecological certification and standardization system ; strengthen capacity for international cooperation in the "green" technologies sphere and transition to the green growth.

These goals are accomplished with varying degrees of severity and effectiveness, rather fragmented and do not have a systemic effect. The main actor of the development of "green" economy in Russia is the state, which is objectively related to the availability of the necessary resources and could be correlated with international practice. However, policies for green growth in Russia cannot leave the context of environmental policy making, it is not obvious all the possible benefits for other stakeholders, who see it not as a "policy opportunities for growth," but rather as "policy limits"

These goals are accomplished with varying degrees of severity and effectiveness, rather fragmented and do not have a systemic effect. The main actor of the development of "green" economy in Russia is the government, which is objectively related to the availability of the necessary resources and could be correlated with international practice. However, policies for green growth in Russia cannot leave the framework for environmental policy. This leads to the fact that all the possible benefits of «green» economy

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policies are not obvious to other stakeholders, who see it not as a "policy opportunities for growth," but rather as "policy limits".

Nowadays, the prospects of further policy for the "green" economy development promotion in Russia is quite controversial. On the one hand, in 2014 the radical reform of environmental legislation, basing on the principles of "green" economy was started. On the other hand, the current adverse economic trends are expressed, such as the unfavorable situation of energy prices on world markets, economic sanctions, and foreign policy tensions. In addition there are also a number of specific political and administrative barriers to the development of a green economy.

Among the main political and administrative barriers to 'green' growth in the Russian Federation we can allocate a high degree of bureaucratisation of decision making and implementation, lobbying interests of large corporations, oriented to maintain the existing situation and are not interested in the transition to "green" growth, the pressure of the existing resource model development, inconsistency in making strategically important decisions for the development of "green" economy, regulatory "gaps" in the legislation, poor evaluation mechanisms of natural capital, as well as a deficit of tools to assess the negative impact on the environment, the lack of expert and analytical data to make informed decisions in the field of long-term transition to a "green" development and the dominance in the modern Russian society the culture of environmental optimism.

Conclusions

There has been a significant progress in the implementation of the principles of "green economy" in the process of economic decision-making in modern Russia. However, there is a number of obstacles slowing down the transition to a "green" economy. Despite the fact that most of the barriers examined in the study are given de facto, they can be changed by political means. As a major actor in the policy of "green" growth, the state should concentrate efforts on the demolition of the existing traditional raw materials export model of development and on development of civil society, which will lead to the creation of new institutional contours of the economy based on the principles of "green" growth.

References


