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ECONOMIC AND BUSINESS
DEVELOPMENT 2017**

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OF REPORTS**



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Challenges of global economy in the digital era

Loan Policies and Economic Development in a Globalized Environment

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Key words: *economic crisis, loans policy, macroeconomic balances*
JEL code: *M2; M21; M38*

During the global economic crisis, Romania was determined by the context to sign some loan agreements with the World Bank. As it can be assumed, it is difficult to separate the effects and impacts that the World Bank's loans have had on the economy of Romania, because the Romanian government acts in collaboration with other international financial institutions like the International Monetary Fund, European Bank for Reconstruction and Development, the European Investment Bank. The purpose of the present research is to determine the impact of the World Bank loans to Romania during the global financial and economic crisis. As part of the research, have been identified the main factors that influenced the Romanian policy of foreign loans and its impact. Also, the paper contains the main effects of these loans to the economic and social development of Romania during 2008-2014 period. The paper also contains a series of recommendations for improving cooperation between Romania and the World Bank in order to strengthen economic and social growth recorded by Romania in recent years. Data analysis was done by multiple linear regression method. The main results show that Romania's partnership with the World Bank had a positive impact on the economic development of the country. The main areas in which the effects were noticeable are: fiscal management; public administration, energy, health and education. The model developed by Romania can be of interest for the other countries of Central and Eastern Europe too. The work is of interest to researchers and government structures responsible for ensuring macroeconomic balances necessary to consolidate the economic growth recorded by Romania in recent years.

ERASMUS+ Project Evaluation in Five European Union Member States

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Key words: *education, Erasmus+, evaluation, EU funds*

JEL code: *I20, I21, I28, O21, O22, O52*

Significant amount of the European Union (EU) budget has been allocated to different training programmes. In-order to plan future investments, current interventions financed by EU into national educational policies should be assessed. This research aims to perform a mid-term evaluation of the three-year (2015-2018) Erasmus+ project related to high school students' Information and Communication Technology (ICT) skill development in the selected schools of Latvia, Sweden, the United Kingdom, Italy and Spain. The research method included a review of evaluation methods applied by other researchers and the European Commission, as well as quantitative and qualitative data collection methods. Quantitative data research comprised a review of the project reports and a survey in the national languages completed by the students participating in the project and collected by their teachers. The Qualitative data research consisted of semi-structured interviews with the students, teachers, project managers and different project stakeholders.

The research results demonstrated that the project activities had a high value for the project stakeholders. ICT skills development is relevant to all students, as they will help them in the future studies and work, including if a person will be employed by the ICT industry, as many countries have placed ICT as a national or regional priority. The project was evaluated as very effective, as it contributed to the improvement of different skill sets of the students, such as ICT competences, communications, English, teaching, presentation, cross-cultural understanding and others. The project is coherent with other ICT skills development activities in the project countries mentioned above and in some cases, with national initiatives to assess the inclusion of ICT skills training in school programs. EU value added was achieved by exchanging information about the different teaching methods in five countries and contributing to cross-cultural understanding.

The evaluation results could be used for planning future Erasmus+ projects, coordinating and consolidating various stakeholders' activities to promote in the further ICT skills training for a wider group of students and to achieve even better coherence between different activities.

The Evolution of Telecommunications and Information Technology Sectors in Latvia

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Key words: *blue ocean strategy, information technology, telecommunications*

JEL code: *F41, F43, F63*

Telecommunications and IT sector is one of the fastest growing in the world. In Latvia operates several successful companies with the same development as similar large enterprises. Thanks to the globalization of markets, the industry can prove his ability to compete at international level. This global competition creates new opportunities and threats to development of the sector.

Related companies provide traditional solutions to everyday telecommunications and IT services. However, given the Latvian market micro size comparing to the world's great powers, companies make financial resources available to assess the competitiveness of cultivation using the Blue Ocean Strategy - mastering new markets and niche solutions.

Sector companies invest large financial resources to exploration activities, thus contributing to the Latvian scientific progress and brings a lot of new innovative solutions by introducing both - local and international market.

The two parts of the industry will be viewed together, because the conditions of competition have become inseparable and together contribute to the development of the digital economy in Latvia.

The Influence of Quality Management Systems on Data Integrity in Pharmaceutical Industry

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Key words: *data integrity, pharmaceutical industry, quality management system*

JEL code: *L15*

In today's business environment the information technology management, especially security and integrity of data is becoming increasingly important for corporate success of pharmaceutical companies. The health authorities worldwide have been set more and more focus on data integrity in recent years. Global stakeholders such as patients, clients and government agencies require the highest good manufacturing practices and information technology quality standards. There should be no concern about the authenticity and reliability of the data generated in a company. Data integrity is the responsibility of each individual employee and this should be ensured by a suitable concept. A functioning data integrity concept is indispensable to prove the safety, effectiveness and quality of the products. The concept must ensure that the completeness, accuracy, content and meaning of data is retained throughout the data lifecycle.

Quality is next to costs and availability of products and services one of the main success factors. To ensure this, companies transform their organizations evermore globally. Also, a large number of mergers and acquisitions in the pharmaceutical industry are a sign of increased globalization. Core issues are site and transnational systems, production strategies, availability including backup plans, costs and productivity. The quality assurance departments should have adequate knowledge and system access across the whole pharmaceutical production chain to continuously review relevant audit trails, raw data and metadata to ensure on-going compliance. The local company organizations should fulfill all these requirements, hence to rise competitive advantages. A reliable quality management system concerning information technology is essential to be competitive on the international market. Also, the reputation of a company is one of the most important assets of a globally successful business organization and often a huge effort is needed to restore that reputation.

Contribution of Private Fund Managers to the Accumulation of Pension Capital of the Second Tier of Latvian Pension System in 2012-2016

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Key words: mandatory state funded pension scheme, performance of private fund managers

JEL code: G230

Fourteen years passed since the resources of the second tier- Mandatory State Funded Pension Scheme- were transferred from Latvian State Treasury to private fund managers. Rates of return of private fund managers in 2003-2016 were very different. The previous research of the authors showed, that in 2003-2013 an average performance of the second tier was lower, than the rates of inflation and average growth of salary. As far as crisis years were included in previous study, the aim of this paper is to assess the contribution of private fund managers to the accumulation of pension capital in post-crisis period.

The amount of money accumulated at the second-tier account depends on the amount of shares and their value. The last factor is the most considerable and it depends on the performance of investments made by private fund manager. Profitability is one of the main indices for assessing the gain derived from the participation in the Mandatory State Funded Pension Scheme.

For the analysis of profitability 20 pension plans were divided into different groups. Then the authors analyzed the following indicators: performance of 20 pension plans in 2012-2016 and during the whole existence period; profitability depending on the declared risk of pension plan, its assets value and operation duration; deviation of profitability for all plans and for different groups of plans with similar declared risks, assets value and operation duration.

The conclusions about the distinctions between the profitability of plans with different risks, assets and existence duration were drawn. On the basis of conclusions, the authors estimated the contribution of the private fund managers to the accumulation of pension capital of the second tier of Latvian pension system. In the concluding remarks of the paper the authors made proposals for increasing the contribution of private fund managers to the accumulation of capital in the Mandatory State Funded Pension Scheme. One of the main proposals is to continue the digitalization of the system. As far as Latvian system is a model for many other countries all over the world, the authors' proposals may be actual also in other countries.

Information Technology Innovation Application in National Tourism Destination Management Systems

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Key words: *comparative studies, IT innovation, tourism destination management systems*
JEL code: *O30, Z30, O57*

Tourism, undoubtedly, is among the sectors most influenced by IT innovations, nevertheless tourism destination management (TDM) development largely depends on the economic benefits of tourism thus stimulating the divergence at several levels (national, regional, local). Consequently, while at the local (e.g. hotel and resort) level TDM systems tend to uniformly use the most advanced IT solutions, at the national level discrepancies may be observed between the countries based on the role tourism plays in the national economy of each particular state.

The present research aims to establish the use of IT innovations in the national TDM systems. To reach the aim, the comparative analysis of the TDM systems of 195 internationally recognized sovereign states was carried out, using the *monograph method* for literature review to establish the conceptual framework, *quantitative and qualitative content analyses* to approximate the IT solutions used, as well as *comparative analysis* to establish overall country rankings, as well as to approximate the correlations between the IT innovation use and the role of tourism in the national economy of each particular country.

The findings include general conclusions on the scope of use of IT innovation, as well as particular conclusions regarding the correlations between the use of the IT innovations and the tourism development and benefits. The most important research limitations relate to its scope - only TDM systems of internationally recognized sovereign states and maintained at the state level were analysed, leaving the regional and local TDM systems for further studies.

Considerations Relating the Italian E-Commerce Development in a Global Economy

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Key words: *e-commerce development, e-commerce in Italy, globalization, new economy, market risks*

JEL code: *L81, M21, O57*

The electronic commerce or e-commerce is an important instrument of the New Economy because, thanks to the use of the electronic network, revolutionizes the traditional patterns of trade by allowing companies to improve the efficiency and quality of its services with a considerable reduction in costs. In the '90s with the creation of Business-to-Business (B2B) electronic commerce designed for companies and Business to Consumer (B2C) electronic commerce between companies and consumers is recording, in recent years, a growing interest of entrepreneurs in the new mechanism and technologies, of the New Economy for their companies in the new market. Italy, backward in terms of IT infrastructure, is proving to want transposing the boost that the e-economy is giving to the world economy by starting at various levels, the e-commerce machine.

In the paper, we analyze the evolution and the incidence of the new model of commerce in the developed countries and in developing countries. The research methodology uses data from the market research carried out by public institutions, companies and Italian and international research organizations highlighting economic and social quantifying. Key findings highlight how the big companies have gained huge market shares compared to medium and small businesses exploiting their size in an international competition determined by insufficient regulation of the global economy as evidenced by a growing number of economists.

The International Trading System Development of the Digital Economy

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Key words: *digital economy, international trade, system*

JEL code: *J12*

The aim is to analyse the global economic impact of digitalization on the international trading system development.

Development of international trade on the one hand depends on the world economy; on the other hand, international trade development provides global economy.

At present, the international trading system development is determined by a number of tendencies. First, the United States and several other countries trade policy milestone in bilateral trade agreements. Secondly, the rapid digitalisation of the world economy, creating new forms of trading, and creates new opportunities for the classic commercial transactions.

If a shift to bilateral trade agreements and protectionist ideas revival objectively brake on the development of trade, the world economy digitalization promotes development of international trade, creating the requests of the international trading system improvement.

The Contemporary Career Success Factors – Dynamics and Classification

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Key words: *careers, compensation, personnel management, workers*
JEL code: *M5, J3*

The global economy and technology progress with following financial crises impact the labour market and employment relationship. Today staying employed and being demanded in the labour market has more significance than getting promoted. It changes the way people define the success. And it triggers the traditional career management – before it was part of the benefit package offered by employer, now organizations find themselves to be the tools in the hands of talented career capitalism oriented people.

The goal of the paper is to develop the contemporary career success model and define the hypothesis for the further career success research in Latvia.

The literature review uncovered the dynamics of career success factors moving from the results to the behaviours leading to the career success. Authors propose the career success model consisting of: job related factors (job satisfaction, job motivation, occupational commitment etc.), organisation related factors (organizational commitment, social support at work etc.), network related factors (role, social integration at work etc.) , individual skills and attitudes related (political knowledge and behaviour, ability to use skills etc.) career rewards related factors (met income expectations, work-life balance etc.), and career related factors (career engagement, satisfaction with career etc.).

The research provides insight to the contemporary career success definition, establishing the factors affecting one's career success. The findings are interesting both for scientific research and practitioners.

Personal Information-Driven Markets: Regulation or Policy?

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Key words: *digital markets, online business models, personal information, privacy, public policy*

JEL code: *O38, K24*

Personal information forms the basis for the business models of many of the most successful companies of the Internet economy. Indeed, it can be arguably stated that personal information-driven online markets are the most innovative and potentially profitable on the globe. Therefore, policies on the protection of personal information have become a key factor in the development and progress of the digital economy.

Regulating digital markets is not an easy question because many of them tend to be dominated by one or a few companies in spite of apparently low entry barriers, and importantly because market situation moves fast. Regulation is frequently lagging behind in its ability to know what is going on in markets. This is the case for personal data. As a modern extension of the (fundamental) right to privacy, the protection of personal information is currently regulated by imperative law. The consideration of personal data as an intangible asset for companies is largely absent from the analysis. In practice, this orientation is nowadays rather ineffective as shows the fact that personal data is frequently collected and used without knowledge of the data owners, and what it is worst without consumers being able to use existing legislation to keep control of their own data. The change in societal conventions about privacy does not but reinforce the need for a new model.

Within this framework, this paper traces the evolution of regulations on protection of personal information and describes their present status. Then, a comprehensive construct on the economics of personal information and what this entails for society is developed. This is done through reviewing existing literature on the contemporary role of personal information. Such a holistic approach towards personal information rooted in a multi-actor setting is missing today. Later, it advances proposals for a reform intended to assist citizens in keeping control of their privacy through policy actions understood in the broad sense of the term and not just strict regulations as of today.

This contribution is particularly pertinent as this is a crucial moment to reflect on narratives about personal information's role for innovation and welfare as well as to implore how to appraise the tenets of the transformation European economy and society is facing.

The Advantage of Digital Decision Making for Strategic Decisions – Proofed by an Supply Chain Case

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Key words: *decision making, digitalization*

JEL code: *D22*

This paper will discuss the advantage of decision making supported by a digital system and will give an overview of an empiric study regarding this topic. Decision making in organizations is a significant system implied task of managers and therefore a broad area in scientific research, not only in the disciplines management or business studies – from technical to humanistic disciplines. Nowadays the trend of digitalization captures all areas of live especially in business, as well as the typical management task of decision making. Triggered by the digitalization trend business will move toward an autonomous decision making of machines or cyber systems. The important step toward autonomous decisions or decision support (cyber systems will prepare a decision, but finally executed by a human) will be the next development step for decision making. Designed algorithmic models for these decisions will use the content of classical decision models to reach maximum utility. Hence a view on classical decision making will illuminate the basis for these models, from researchers like von Neumann/Morgenstern or Bernoulli. Furthermore digitalization changes the process of decision making, especially focussing on the behavioural part of decisions, discussed from Simon, Selten or Tversky/Kahneman, because today the human aspect of decision making is relevant in organizations. . The quality of the strategic decision has to be taken into context to the origin of the decision. An improvement an indicator for a higher quality of a strategic decision and this context has to be analysed in the light of digitalization. The main hypothesis of this paper will analyse the dependency of the efficiency of strategic decisions and the digital set up for decision making in organizations. The research method for the theoretical part of the paper was done by main literature of decision making and digitalization. The research method for the empiric part is a survey of a relevant population. The opinion of the population will be evaluated by the tool of a questionnaire. This online questionnaire will be answered by professionals and scholar. As a typical example for a strategic decision, the author explains a business case in the supply chain function of organizations. A section of the well-known SCOR model will be tested on digitalization characteristics. The research findings of the questionnaire will illustrate that the digitalization of supply chain processes is in scope of managers and consultants, to reach higher profitability by increased turnover and higher efficiency. The result of this paper verifies an improved decision process by usage of a digital toolbox, but the capability of the entire digital toolbox is not fully achieved today.

Developments of Financial Literacy Research in the Baltic States: A Systematic Review

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Key words: *Baltic states, financial education, financial literacy, systemic literature review*

JEL code: *A20, D14, I20*

This paper is dedicated to the assessment and analysis of a dynamically developing body of research about financial literacy in the Baltic states (Estonia, Latvia, Lithuania). Almost three decades since entrepreneurial opportunities were formally re-established by the soon-to-fail soviet regime, the concept of financial literacy has been developing with agreeable ambition, especially following the global and financial crisis and during the European debt crisis. Although only relatively recently included in education curricula, financial literacy has been consistently gaining an increased exposure in the fields of financial, management and education policy analysis based on the impact of behaviour on economic and financial decisions and therefore economic activity. These recent developments in turn have prompted an increased research output on financial literacy, which sets the stage for the main theoretical and practical implications of this paper. The main defining types of sources for this paper are primary and secondary sources, as well as conceptual and theoretical research concerned with description or analysis of the topic of financial literacy. The approach involves dividing the literature into themes and categories, presenting the literature chronologically and exploring and examining the theoretical and methodological literature. For such a vigorously and enthusiastically developing body of research, the conclusions elucidate the demand for a broader analysis of the impact of financial literacy and financial education on economic decision-making in the Baltic states. The last section offers insights on what is still needed to be cultured if researchers are to apprise the theoretical and empirical research, as well as public policy and private initiatives.

Indicators of the Information and Communication Technology Sector Activity in Latvia and the EU

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Key words: *digital economy, information and communication technology*
JEL code: *M15, M21,014*

IT businesses currently occupy the first five places of the world's top 10 most valuable companies. Digitalization is developing rapidly and convincingly all over the world. Information exchange and electronic products have become an essential part of our lives. The aggressive entry of the digital economy into the fields of engineering industry, finance, consumption, services, and others has facilitated a more efficient evolution of services and products. The digital economy has a substantial effect on our lifestyle: the costs of information dissemination, communication, and various other processes have vanished entirely, increasing the pressure on deflation. The digital technologies play a decisive role in the growth of the European economy. One of the goals of the European Union is to create a common digital market.

Whereas at the beginning of 2000s it was considered that the digital economy consists mainly in e-business infrastructure (hardware, software, telecommunications, networks, human capital, etc.), e-business (form of entrepreneurship), and e-commerce (Mesenbourg, 2001), now their borders are blurred and the concept itself has acquired a more complex meaning (Imlah, 2013).

The digital economy comprises all goods and services which include digital technologies as an essential component, which is in turn ensured by the information and communication technology (ICT) sector of economy.

The study aims to analyze the main business activity indicators of ICT businesses in Latvia in comparison to other EU countries and in the EU for the period of 2008 to 2015. The study uses methods of statistical analysis, the data sources being the data bases of the Central Statistics Bureau of the Republic of Latvia, and Eurostat.

The faster development of the ICT sector both in Latvia and the EU has been observed since 2011, as indicated by the growing numbers of those employed in the field against the general employment, and the rise in the added value proportion in the total of the GDP. In Latvia as well as the EU, most of those employed in ICT businesses are male (75% in Latvia, 84% in the EU on average). Most of the employed have a tertiary education level (65% in Latvia, 60.5% in the EU on average); the age distribution of those employed in the field varies by country, between those younger than 34 and 35 and older (36% in the EU on average, 52% in Latvia). In 2015, 6.2 thousand ICT businesses in Latvia employed 19.4 thousand people, which makes up 2.2% of all employed (3.5% in the EU on average). The added value proportion of the ICT sector in Latvia's GDP formed 3.8% in 2005 (Percentage of the ICT sector on GDP, value added at factor cost). The greatest turnover in Latvia's ICT sector is represented by wholesale trade, followed by services and production. The external trade balance of Latvia's ICT products is negative throughout the period in question, but it demonstrates a trend to decrease in absolute numbers.

Is Citizen-Centric Digital Governance the Most Adequate Approach to Implement Service Delivery?

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Key words: *citizen-centric, digital governance, service delivery*

JEL code: *G18, H11, I28*

Relying on recent research on how governments and individuals activate in a digital setting, leaving electronic traces that bring about immense volumes of data about themselves and any interplays they have, we first analyze the broader theoretical arguments that prove that information and knowledge create capacity for cutting edge, performance, and the sharpness to adjust to a swiftly altering environment. Nearly all governments are dependent on a significant digital manifestation and an intricate arrangement of wide-ranging information systems for regulatory processes and policy-making that influence the entire framework within which strategy and service distribution options are constituted, either furthering novelty or limiting policy choices. Governments strive to equal an ever more technologically sagacious community, familiar with collaboration through social networks and electronic forums which have immediately acquired more confidence online than the stereotypical proposals of government bureaucracies. Based on this evidence, we exemplify arguments that governments are unsuccessful in taking advantage of the affordances of big data, whereas individuals are powerless to connect with government digitally as they do with companies or social undertakings. We advance primary empirical research for the main case study that clarifies that there are cultural obstacles to employing social media and adopting the digital timestream, and advancing the data science abilities required to obtain public usefulness from big data. We use meta-analysis to inspect the evidence that Internet and mobile-based digital technologies favour co-production and co-creation: at the separate level, most individuals handle their matters with government as they do with their bank; at the shared level, co-production may entail a type of crowdsourcing, where individuals inform governments of non-necessity issues in proximities, while at the strategy level, co-production advances so as to achieve co-creation, individuals employing the government as stage notion to co-create both strategy and services. The essential position is that the internet brought into government an organizational culture that functions in opposition to the steadiness of operations and interferes with the proposal that procedures may be digitally embedded.

Does Reputation Really Regulate the Socio-Economic Interactions in Digital Labour Markets?

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Key words: *reputational capital, digital labour market*

JEL codes: *G18; H11; I28*

Following Gandini (2016), this paper strives to prove that knowledge work has altered with the incorporation of digital technologies into operations of production and organization. The circumstances of continuation of current knowledge work have been impacted by the notion of resourcefulness, being entirely assimilated into a regulatory and organizational coherence of knowledge production originated in imaginativeness. They generated various procedures that have altered present occupations and kinds of professional activity in diverse settings of the knowledge economy. We aim to address these increasing features by elaborating on the fact that knowledge work has altered as a consequence of the visionary assessment of inventiveness as a slogan for cutting edge and professional development. Influenced by the boost of electronic and social media, a digital and independent knowledge economy focused on a collective, dispersed cultural idea of reputation as usefulness resulted. Imagining reputation as a type of value is the predominant elucidatory pattern of knowledge work in the digital epoch. We aimed to determine that reputation becomes a particular type of particularized social capital for knowledge employees. It may be a commodity negotiated by them in a labour market where they perform as autonomous experts managing their own standing as an economic endowment: reputation is an investment in social connections with prospects of economic earnings and is critical for job obtainment. The function played by an individual's reputation in the knowledge economy may be a recent driver for career advance. We used meta-analysis to assess evidence proving that because the social buttons managing social undertakings on digital media platforms deal with and preserve an individual's full online activity, determining it with statistics, the reputation of a distinct employee is publicly observable, concrete, obtainable, and possibly quantifiable. We inspected the Web of Science and identified 240 papers covering the impact of reputation on the socio-economic interactions in digital labour markets. We analyzed them carefully and presented our conclusions, highlighting that reputation adjusts the professional market of the knowledge economy by functioning as a particular kind of capital or positive feature for people in a setting constituted of networked and recently mediatized social interplay. Participants aim for economic results by improving their social connections, which are accessed and activated by employing an individual's reputational capital.

The Comparison of Exporting and Non-Exporting Enterprises in Latvia

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Key words: *attracting funding, exporters, innovations, non-exporters, productivity, tax evasion*
JEL code: *F14, O31, L26*

Most of the economic literature agree that exporting and non-exporting enterprises differ in the various measures of performance, e.g. exporting enterprises display in average higher productivity, employ more employees and pay higher taxes than non-exporters. This research is aimed at exploring the differences between exporting and non-exporting enterprises in Latvia from several aspects, i.e., export opportunities; productivity; attracting additional funding; innovations; attitude to taxes, tax evasion and bribery of the leaders of enterprises. The research is based on SKDS survey data of random sample consisting of 800 Latvian enterprises in 2015. Out of them, 249 firms or 31 percent are either direct exporters (22 percent), indirect exporters (7 percent) or both (2 percent). Out of 551 non-exporting enterprises, 78 percent have never exported and are not targeting to export, 6 percent exported in the past and 16 percent have never exported but would like to export.

With regard to the export opportunities, the research analyses the barriers to export considered by the leaders of enterprises, the reasons for stopping or reluctance to export of non-exporting firms. The importance of different factors in the preparatory process, long-term strategy and planning and other processes of exporting are investigated.

With regard to productivity, the leaders of enterprises were interviewed about the factors that are expected to improve the productivity of enterprises. The study showed that level of productivity is expected to increase if the bureaucracy in dealing with public authorities would be simplified. Other important factors that were mentioned are improving the healthcare system, fair tax payment, reform of the education system.

According to the survey data, exporting enterprises tend to be more innovative: almost half of surveyed exporting enterprises and every third non-exporting enterprise have introduced new or significantly improved goods or services that were novelties in the local market. In general, enterprises that have introduced the innovations experienced the subsequent profit growth. There is an evidence of a greater number of exporting enterprises than non-exporting enterprises which are attracting funds to develop their business in the last 3 years. More than 60 percent of these enterprises gained the additional funds from the banking services.

Every third leader of exporting and non-exporting enterprise believes that tax evasion is an acceptable practice. Every fourth recognizes that bribery as an acceptable practice.

The most interesting and informative results of the data mining investigation are reported.

Is the Digital Sharing Economy a Disruptive Innovation that may Revolutionize Market Economies and Advance Sustainable Consumption Routines?

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Key words: *capitalism, digital sharing economy, sustainable consumption*

JEL code: *G18; H11; I28*

Following Sundararajan (2016), this paper aims to prove that the sharing economy is the present stage of a constant progress of the economy and society that is influenced to some extent by digital technologies. The latter take individuals back to recognizable sharing conducts, self-employment, and types of community-based network that survived before now: an enhanced type of something recognizable should gain boundless acceptance swiftly and have superior economic consequence than the creation of completely novel consumption practices or patterns of hiring. We attempt to address these increasing aspects by elaborating on the aspect that the variety of conducts and organizations that constitutes the sharing economy is a preceding illustration of a time to come in which peer-to-peer network becomes progressively predominant, and the crowd substitutes the company at the heart of capitalism. The adjustability and smoothness of contracting via digital platforms instead of working a day-job may be challenging (performing on demand for various platforms may be likable), but obtaining a predetermined periodic income assists in organizing a future, something pretty demanding when an individual's earnings vary contingent on the caprices of delivery and request on a series of apps. Because other platforms concentrate on service labour increasingly, there is a rising threat of greater future social disparity. We develop primary empirical research for the principal case study that determines that the proficiencies of crowd-based capitalism make possible an economy that depends gradually on peer-to-peer platforms to regulate economic operations. We use meta-analysis to inspect evidence proving that rising blockchain technologies might reshape crowd-based capitalism, repositioning the crowd from being the origin of delivery to being the go-between that organizes and jointly dominates the market, but they may drive a novel phase of peer-to-peer markets and digital disorder. Developing this case, we consequently reflect on the aspect that there is a conflict between the profit-stimulated and goal-oriented directions of the sharing economy, between individuals who perceive it as a market economy and people who conceive it as a gift economy.

Evaluation of the Latvia – China Trade Potential

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Key words: *China, export, international trade, Latvia, market*

JEL code: *F13, F14, F41*

International trade always has been a source of wealth for countries engaged in the process. Lately, European Union (EU) and Latvia is facing new challenges in for of trade restrictions and protectionism with the trade partners. One of the latest cases of Russian asymmetric sanctions in the form of food trade embargo left EU with difficult task of trade redirection and more intense local market competition. With the UK leaving EU case on the horizon all EU countries are facing the same problem – where to find new markets with high demand potential. The largest EU economies, like Germany, France, Italy, Spain and Netherlands already expanding their trade all over the world to diversify the risk of being too much dependant on several trade partners. This is also the case for Latvia – there is necessity to find new potential markets.

The aim of the research is to evaluate Latvia - China trade potential in terms of Latvia's export opportunities. Methods used in the research: Study of the literature on the export market evaluation and trade data analysis. Research involves usage of potential export market evaluation with Decision Support Model and Papadopoulos trade-off Model. Research is very topical in context of Latvia's necessity of market diversification since Russia has food trade embargo (since August 7, 2014) and it is unclear future about trade regulations with the UK with the process of UK leaving European Union (BREXIT).

Transatlantic Trade and Investment Partnership and Its Potential Economic Impact on Latvia

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Key words: *agreement, industry, Latvia, trade, TTIP*

JEL code: *F13, F14, F43*

The Transatlantic Trade and Investment Partnership (TTIP) is a proposed trade agreement between the European Union and the United States, with the aim of promoting trade and multilateral economic growth. TTIP is considered a companion agreement to the Trans-Pacific Partnership (TPP). The agreement is under ongoing negotiations. Its main three broad areas are market access, specific regulation, and broader rules and principles and modes of co-operation. The negotiations were planned to be finalized by the end of 2014, but will not be finished until 2019 or 2020.

Since there are still a lot of political issues with the agreement, several economic evaluations are made, pointing out potential impact on the EU and US economies. Since methodology is different – there are different results – positive and not so positive.

The aim of the research is to evaluate the applied methodology on the TTIP impact and make evaluation of the economic impact on Latvia.

Results will include overall assessment and evaluation of different industries of Latvia that would be important for policy makers.

Uncovering the Support and Trust in Employment Seeking Process Using Social Network Sites

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Key words: *employment seeking, human resources management, social capital, social network site*

JEL code: *D85, O15, C52*

Recent technology development and social network development inspires and makes it possible to apply social network sites (SNSs) for many activities including employment seeking. This aspect of human resource management is developing rapidly during last years and many researchers have devoted their research on applications of SNSs for employment seeking process.

The aim of the paper is to analyse a suitable model for the dimensions *Support* and *Trust* of social capital theory for SNSs.

Research methods applied: scientific publications and previous research results by other researchers analysis; paper – based survey with 440 respondents; for survey results analysis there are used indicators of central tendency or location, indicators of variability, statistical hypothesis testing, correlation analysis and partial least square (PLS) structural equation model.

This study explores the potential considering the use of SNS in employment seeking process. It is tested for both private SNSs e.g. *Facebook* and business SNSs e.g. *LinkedIn*. Results show that both types of networks have similarities in nature but are found differently while implemented in employment seeking process. The assumptions for business network sites for employment seeking are prone to be more common than the private network sites.

The results confirm the hypotheses and assumptions: “If potential candidates trust the content of SNSs under consideration of their employment seeking process than potential candidates are more intensive using SNSs” and “People who received support from SNSs for the employment seeking process are deeper involved in SNSs”.

Research results have confirmed that the value of R^2 for private SNSs is smaller than for business SNSs. This is an indicator that the use of private network sites is not so good explained and predictable as the use of business network sites for the employment seeking process.

Changes of Economic Security Level in Latvia in Context of Globalization

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Key words: *economic security, European Union, globalization, human well-being*

JEL code: *D63, I31*

Economic security is a complex, inter-disciplinary issue which becomes more important due to the growing income inequality and political situation in the world. Individuals are affected by economic security while planning their household budget. The aim of this paper is to analyse changes of economic security in Latvia in the context of globalization. Authors have done a review of literature on economic security, comparing and analysing different definitions of economic security both at individual and state level.

Authors have also calculated the level of economic security in Latvia by various methods based on the literature review. Economic security index for Latvia is calculated using the *Osberg and Sharp* method and the *United Nations indicators* method. It is concluded that globalization has differentiated impact on economic security in Latvia. After joining the European Union, the level of economic security in Latvia has increased both at individual and state level, but during the global financial crisis it deteriorated. During the financial crises, the factors impacting economic security negatively were stronger than the ones impacting it positively, but in the years after the crises the situation has slightly improved.

This paper contributes to theoretical and practical research of economic security as there have been very few research papers about this topic in Latvia in comparison with other countries. This paper provides first steps to create an Economic security index which would be suitable for Latvia, as the research concludes that the existing methods are not comprehensive.

Managers View on Information Risk Managements' Damage Prevention and Control Factors Mid-Level-Managers Tendency to Overcompensations in Decision-Making-Situations

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Key words: *decision making, enterprise risk management, information risk management, management theory*

JEL code: *C01, D81, O33*

Purpose – Computer mediated communication (CMC) and the high volume of computed and stored information is getting a business on its own. Information is collected, aggregated, analyzed and used - but also ab-used - to create real business advantage and value but also risks within companies and also outside on the markets in a high volume. On the other hand, single individuals still need to deal and interpret this sheer mass of increasing information continuously in professional and private life as a base for decision making.

Findings – The field of Information Risk Management as a sub-discipline of Enterprise-Risk-Management theories is in a constant change. This change is triggered by the dramatic ongoing changes in the computerized information management capabilities. This article examines the different perception of experienced Midlevel Managers in comparison to Information Risk Professionals in particular in the area of damage-control and damage-prevention. It was figured out, that Mid-Level-Managers put too much focus and resource into damage-control and damage-prevention – as a defensive view – where as other IRM-factors are perceived with to lower focus – mostly those with a more strategic and opportunistic gender.

Implications – In Management Theory as well as in Organizational Theories the Information-Risk-Management discipline needs to be considered through the whole value chain as a separate value adding process and function. Esp. managers in middle management are exposed to this area risks, but might get into a conflict of interest between performing the required Information Risk Management actions against showing a high cost-benefit.

Design / Methodology – In a lab-in-the-field experiment on the one hand 10 Information-Risk-Management-Experts were interviewed on their perception to what extend IRM-Damage-Prevention and -Control influences Strategic Decision Making (structured interviews). On the other hand, those results are compared with 131 Professional Business Managers perception (structured questionnaire) based on an introductory training on Information Risk Management.

Further Research – The potentially different perception of people working in a highly regulated (legally, legislative) environment compared to other fields like e.g. marketing, artwork, design was not considered. Also, Personal-Types (in accordance to e.g. MBTI) with different perception of risks at all were considered and are subject of further investigations.

Practical implications – Information Risk Management as a discipline and as part of the organizational structure needs to be actively mandated and well implemented according business field and business needs by senior executive's top-down. An own organizational setup – similar to a Quality Assurance department – is required to ensure proper information quality-processes but esp. that those processes are followed. If this is only randomly assigned in mid-management or on shop-floor level it exposes the enterprise to an increasing high economic risk.

Assessing Organizational Efficiency in the Austrian Supermarket Sector, a Principal-Agent Setting

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Key words: *Austrian supermarket sector, data envelopment analysis, organizational efficiency, principal-agent theory*

JEL code: *L81*

This study will discuss on economic challenges in the digital era. Situated within organizational theory, the paper will reflect on three different approaches, the resource-based approach, the internal process approach and the goal approach. Finally, the goal approach will be linked with performance measurement and efficiency of the organizational structure. Performance measurement being an economic challenge in our era as organizations are large, diverse and fragmented. Management determine indicators to measure effectiveness of their organizations. However, their organizations perform many activities, generate various outputs and follow multiple goals. The area of research is the Austrian supermarket sector with the organizational structure framework based on Mintzberg.

Subsequently the organizational structure of Austrian supermarkets is put to context to the principal-agent theory. Agency theory belongs to the school of thought of new institutionalism. The principal agent setting can briefly be described as follows. The principal (regional manager) concludes a contract with an (shop manager and his employees) agent who is providing him/her with certain services. In the Austrian supermarket setting the principal has several agents. The study will discuss on the most relevant issues involved in the principal-agent setting. Including the “hidden-action” and “hidden-information” problem.

The main finding of the paper is that within the context of organizational theory the Austrian supermarket structure is confirmed to host a principal agent setting. In this setting the management is the principle and the core is the agent. Another assumption must be addressed with the outcomes, the principal cannot check whether the agent has used his or her information in the way that best serves the principal’s interest. With this uncovered, further research on the effects to organizational efficiency and the measurement can be conducted. Leading to Data Envelopment Analysis (DEA) as an instrument to uncover inefficient agents and hidden-information problem. Finally allowing knowledge of the individual productive possibilities of production units.

Productivity and Its Impact on the Competitiveness of Latvia

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Key words: *added value, labour cost, productivity, structural transformation*
JEL code: *E61, O11, O47*

Productivity is the main key factor for Latvia to increased prosperity, ensuring efficient use of resources. Due to limited availability of resources and the increasing competition in the global markets, it is important for Latvia to support its economic growth through increased productivity.

Since 2010 the productivity of Latvia's economy has been at the level of 40-45% of the EU average. Although in recent years productivity growth rate was faster than the EU average, but labour costs grew almost twice the rate and this can adversely affect competitiveness of Latvia. A further increase in labour costs is inevitable in the open labour market conditions, therefore, strengthening the competitiveness of Latvian is largely determined by the ability to reduce the productivity gap with the advanced economies.

One of the main challenges for Latvia is the creation of new competitive advantages that are associated with investments in the latest technologies, innovation, research, human capital, efficient allocation of resources and redistribution that comes with the behavioural changes of economic subjects. Increasing entrepreneurs' motivation is a major structural change in policy making. Economic structural transformation process is largely dependent on the quality of the institutional framework (legislation, state aid and economic and political institutions), which provides goods and resources market efficiency, minimizing the redistribution process costs and risks, thereby strengthening the country's competitive benefits.

The aim of the research is to assess the potential for productivity growth to improve competitiveness of Latvia to identify the main obstacles that limit the attraction of resources and redistribution of higher value-added products and prepare recommendations for policies on the micro, sectoral and macro level.

Research methods to be used in the research: Literature review on the productivity, empirical analysis of data.

Research has high practical value which is related to OECD recommendation to monitor productivity in Latvia.

Mergers & Acquisitions in the Growth of Digital Economy

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Key words: *business cycles, digital economy, growth, mergers & acquisitions*
JEL code: *F44, G34, O47*

The problem of defining the influence of digital economy to the economic growth and of mergers & acquisitions in recent decades as a remedy of restructuring economy in the environment of ICT development outburst reached the utmost scientific and practical importance. This has defined the aim of the paper – to determine the ways of influence and the level of correlation between mergers & acquisitions to cyclical economic growth. Research methods used were quantitative and qualitative analysis of factors and means of interrelation between the economic growth and mergers & acquisitions. Statistical methods - Pearson and Spearman rank correlation analysis were used. Main results and findings of the study have demonstrated that information and communication services sector's contribution with 4.6 % workforce in the EU producing only 8.3 % of value added of the total non-financial business economy create other main contributions of digital economy to the economic growth which cannot be measured quantitatively: the creation of increasingly expanding capabilities of distant management of companies. This creates the basis of extensive usage of mergers & acquisitions as the means for restructuring economies and increasing their efficiency in producing higher value added products and services. Important theoretical finding is that the volume of mergers & acquisitions does not increase steadily, has cyclical nature. This feature is determined by the combination of factors – more suitable digital environment and fluctuating market conditions and prices of companies. Practical implications of the findings are the possibility to increase accuracy of the forecasting of mergers & acquisitions intensity and the influence of this process to the economic growth. Conclusions of the research are confirmed by the empirical analysis of data from Baltic and Nordic countries.

Public-Private Sector Wage Gap in Latvia with Double Sample Selection

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Key words: *double sample selection, Oaxaca-Ransom decomposition, public-private sector wage gap, wage gaps*

JEL code: *J31, J45.*

Adequacy of public sector wages in Latvia has been highly discussed topic since the economic crisis as governments had to implement fiscal austerity measures including public sector wage cuts to tackle the issues imposed by economic slowdown. Since then various attempts to increase public sector wages were made based on argument that public employers are unable to compete with private sector for qualified employees due to uncompetitive wages. However rarely these proposals have been based in empirical grounding. This paper seeks to answer whether public and private sector wages differ and whether the difference (if significant) can be explained by differences in characteristics.

Oaxaca-Ransom methodology is used to decompose the observed wage gap in (1) part attributable to differences in characteristics such as education and (2) part that is unexplained which in turn can relate to differences in unobservable factors, discrimination or different market returns for certain characteristics. Furthermore, double sample selection is taken into account as the decision to join paid employment and the choice of sector could be non-random, and characteristics that influence these decisions could also be significant determinants of wage.

Results reveal that the observed wage gap in favour of public sector employees ranges from 2% to 3%. It is significant not only in Riga (including its' suburbs), but also in other regions of Latvia. Decomposition results show that observed wage gap is mostly caused by differences in characteristics in particular by higher education attainment in public sector. When differences in observed characteristics are accounted for, unexplained wage gap outside of capital city is insignificant, whereas in Riga it is negative which indicates a private sector wage premium. Selection effects do not alter the results in Riga, however in other regions of Latvia those employed in private sector are "positively selected", therefore rendering the unexplained part of wage gap (in favour of public sector) somewhat larger. Overall findings suggest that different solutions for public sector wage adjustment may be necessary for capital city and other regions.

Dynamics of Ethnic Composition in the Baltics

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Key words: *depopulation, ethnic composition, ethnic minority, language usage, titular ethnicity*
JEL code: *J15, Z13*

The aim of the current paper is to present demographic changes in the three Baltic States and to analyse the developments of titular ethnicities (ethnic Estonians, Latvians and Lithuanians) and ethnic minorities. In all censuses carried out in the Baltics since the end of the 19th century, including the 2000-2001 and 2011 censuses, respondents were asked to name their ethnic identity and/or their mother tongue. This gave a basic information for study of ethnic breakdown and its dynamics, and characteristics of numerically largest ethnic groups.

Our empirical analysis is based on data of Population censuses and current registration in the Baltic States, Eurostat database and information on government views and policies from the UN World Population Policies database. Statistical analysis is performed using descriptive statistics, time series indicators, ethnic diversity indexes and graphical methods. The ethnic structure for the Baltics on the whole is calculated and analysed.

Ethnicity together with citizenship, place of birth and language use are among variables used in socio-demographic statistics in multi-ethnic countries Estonia and Latvia. After regained political independence the number of population of titular ethnicities has decreased, but at a slower rate than average and their proportion has increased. Even now ethnic minorities constitute one-fourth of the total in the Baltic population.

The Baltic States have one of the highest population loss rates in the world. The excess of deaths over births and emigration is prevailing in international migration processes, particularly in Lithuania and Latvia. Very low fertility rate and emigration of younger people advanced population ageing of Slavs and other minorities groups. The age structure of ethnic minorities in each state is older than structure of titular ethnicities.

During the period of independence, the knowledge of the titular languages has increased, however, weak use of state language by large part of Russian-speaking population in Latvian and partly Estonian cities promotes conflicting attitudes between titular groups and the Russian-speaking communities.

The scenarios of depopulation prevail in population projections in the Baltic States. The share of ethnic Estonians, Latvians and Lithuanians in all the three states most likely will increase, particularly in Latvia and Estonia, because of their relatively higher fertility and vitality (life expectancy), and higher part of returning home nationals.



**NEW CHALLENGES OF
ECONOMIC AND BUSINESS
DEVELOPMENT 2017**

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Contemporary management and business innovations

Organizational Innovations and Knowledge Management: In Search for a Theoretical Framework

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Key words: *innovations, knowledge management, theoretical framework*
JEL code: *O15, D83*

Organizational innovations are an important prerequisite for an enterprise to become or stay competitive. For innovations to take place, it is necessary to understand what it takes to innovate. One of the components, which is necessary, is knowledge. However, it is not enough to just have the knowledge, the right approach has to be found for the knowledge to be useful, thus in this paper authors are examining the theoretical framework of knowledge management and organizational innovations.

Knowledge management is a systematic management of an organization's knowledge assets for the purpose of creating value, meeting tactical & strategic requirements and fostering innovations in an organization. However, most of the enterprises do not pay enough attention to using the available knowledge to gain the greatest effect. Right now, scholars have different approaches which explain knowledge management and its processes. Also, there are many key questions to be answered to understand the real necessity of knowledge management, for example, how to promote a culture conducive to learning, sharing, and knowledge creation, how to make the right knowledge available to the right people at the right time etc. The purpose of this paper is to propose literature review for understanding the theoretical framework of organizational innovations and knowledge management by examining the current researches done by scholars to create new theoretical framework for further empiric analysis. The research implications may serve as an incentive to companies to develop their organizational knowledge management to foster further innovations.

The Impact of Ownership Structure on Intellectual Capital Efficiency: Evidence from the Polish Emerging Market

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Key words: *agency problem, firm performance, intellectual capital, ownership structure, Poland*
JEL code: *G34, L25, O34.*

The creation and efficiency of intellectual capital (IC) are of utmost importance both for individual companies and entire economies. IC-oriented companies and countries will be the winners in terms of future value and shareholder wealth creation. Hence, intellectual capital has been the subject of many studies examining the relationship between its value, efficiency, risks linked to it and firm performance, value creation, export performance, innovation capability, business models, job rotation, organizational culture and climate and board structure.

While research into intellectual capital has demonstrated the importance of intellectual capital for modern companies and their shareholders, the current understanding of the nature and role of IC role has many gaps. Our paper fills some of them and contributes to the existing literature in the following ways. First, there is a growing body of literature on the impact of ownership structure on firm performance as determined by accounting and market measures. By showing the relationship between ownership structure and intellectual capital efficiency, we provide direct evidence for the substantive role of intellectual capital for various stakeholders. Second, prior studies on the subject of the relationship between ownership structure and intellectual capital or its efficiency were mostly conducted in Asian emerging markets, under institutional conditions differing from those in the presented work. While the present paper examines this relationship in a CEE country, Asian countries have not followed the kind of transition and privatization found in Central and Eastern Europe. In view of this, our study ventures to fill these gaps and its purpose is to investigate the relationship between ownership structure and intellectual capital efficiency (measured by the value added intellectual coefficient) in Polish listed companies.

Improved Permeability to Support the Implementation of Sector Qualifications' Frameworks

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Key words: *national qualifications' frameworks, permeability, vocational education and training*

JEL code: *J24; J44; M53*

Recent studies suggest that vocational education and training is increasingly being recognised by various target groups as a high-level priority in European educational policy. The relationship between the vocational education providers and entrepreneurs has been in the focus of research in order to ensure better compliance of vocational education and training with the labour market demand. At the same time the co-operation and permeability between vocational education and higher education in this respect is still an under-addressed issue. This determines the need for such studies, as vocational education and training is increasingly dealing with high-level competence issues. As links between the levels of education tend to become blurred, closer co-operation between vocational education and higher education could be reciprocally enriching ensuring better compliance of education and training to the needs of the national economy.

The aim of the study was to identify the opinions of public administrators on the one hand, and the employers and sector experts on the other hand – in relation to the question studied. The paper is based on the results of a broader study performed by the authors in 2015 among public administrators and employers/sector experts, inter alia concerning also the inherent potential for closer links between the vocational education and training and the higher education. The focus in the present paper thus is on the need to implement such innovative approaches in the Latvian VET system and to provide advice to education policy makers.

Methods applied in the current paper: analysis of scientific publications, survey of entrepreneurs/sectors experts and public administrators. For the analysis of the surveys data - descriptive statistical analysis, cross tabulations, Mann-Whitney U test, as well as multivariate statistical analysis method – factor analysis have been applied. In the survey questionnaire for most of the questions the evaluation the scale 1 – 10 was applied to evaluate the attitude of the respondents, where 1 – not significant, 10 – very significant.

The research shows that both, the public administrators and sector experts are comparatively well-disposed towards strengthening the links between the various levels of education. This has an implication for sector qualifications' frameworks and for ensuring optimal education and training conditions in the training of competitive labour force for the national economy.

The Impact of Remote Work Intensity on Perceived Work-Related Outcomes in ICT Sector in Latvia

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Key words: *job satisfaction, organizational commitment, productivity, remote work, telework*
JEL code: *M15, L25*

There is an increasing demand for skilled professionals in the information and communication technology (ICT) sector in both Latvia and globally, therefore it is necessary to seek and introduce new methods of work organization that could help retain or attract potential employees. Remote work as one of the forms of flexible work is a modern way to adjust to ever changing needs of both employees and organizations, yet the impact of remote work intensity on work-related outcomes has not been sufficiently studied. Based on the analysis of scientific research literature, statistical data and the data collected from Latvian ICT sector employee online survey, the aim of the paper was to study the impact of remote work intensity on employee perceived productivity, job satisfaction and organizational commitment to suggest best practices for adapting and adjusting remote work policies.

Employees working regularly remotely at least once a week from 48 Latvian ICT sector organizations participated in the survey. Data was analysed using linear and hierarchical regressions and the results of the survey revealed that remote work intensity is positively related to the productivity of individual workers. However, no significant relationship was found between remote work intensity and either job satisfaction or organizational commitment as well as autonomy, employee-manager and employee-co-worker relationship quality. Negative association was found between remote work intensity and work-life balance, while lower work-life balance was found to negatively affect job satisfaction and organizational commitment. In addition, significant positive relationships were found to exist between autonomy and quality of the employee-co-worker relationship predicting productivity, job satisfaction and organizational commitment. Employee-manager relationship quality was found to be associated with higher levels of organizational commitment and job satisfaction. The findings will contribute to the remote work literature and help to implement and manage remote work practices.

The Role of Behavioural Pricing as a Key Component of Business Strategy in German Hospitality Industry

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Key words: *behavioural pricing, Germany, hospitality industry, pricing strategy, pricing-effects*

JEL code: *M31, L80, L83*

In a more and more dynamic, clearer, copy-happier and more global competitive sphere, a well organised and aim oriented pricing management represents a success strategy which can decide on continuity and or even survival. Pricing as one of the main four aspects in the marketing mix must be redefined and exploited more professional, even in service related industries. A more global and intensive competition leads to an interchangeability of products and services. In this environment, pricing and especially behavioural pricing is moving in the focus of market orientated corporate management policies. Due to the habituation to the internet, the convenient use of search engines and the communication between customers via rating platforms, a more price-related orientation is forced rapidly and represents a decisive success-factor.

In general, the term “pricing actions” is used as a collective name for a huge variety of various measurements with differently distinctive price-political provisions and effects. In daily operational and tactical business, pricing actions mainly concentrate on limited sales promotions and diminished retail prices. Beside the description of such push-marketing measurements, this investigation rather concentrates on neuro-pricing strategies or better behavioural pricing strategies to produce added values for both, customers and sellers.

This research discusses the importance of behavioural pricing as a key component of business strategy in general and analyses to which extend behavioural pricing strategies can be identified in German hospitality. Initially, the paper delivers a literature overview, reviews a thematic processing and introduces the main theories. Secondly, several determinants, tools and key instruments of behavioural pricing are introduced. Thirdly and with a focused view on the research objects, a conceptual demarcation and classification of behavioural pricing methods and effects is performed. This investigation results in a model and a basic set up for a successful implementation of a behavioural pricing strategy.

New Challenges of Innovative Leadership in a Digital Technologies Era

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Key words: *innovative management, information technologies, leadership*
JEL code: O31

It is widely believed that the use of creative and innovative thinking helps leadership to support the management process in a modern business oriented organization. Today, the management of organizations is mainly based on the widespread use of modern information technologies. In these circumstances organizations, broader and broader are using the digital methods and approaches in their management systems. Therefore, a leadership style is gradually changing to the innovative thinking management which crucially distinguished with traditional management skills. Previous research shows that there is a clear link between an interactive, charismatic, transformational leadership and innovation. Such kind of leadership focuses on the big picture and allows one to introduce new ideas and challenging energy to the organization. The purpose of leadership exists and its enormous value will become evident in the next few years when new information technologies take effect on business globally. That sets the topicality of the chosen research direction. The present article accounts for the research conducted to investigate new challenges of innovative leadership relating to management system development on the basis of information technologies. The methodological approach of research was based on the literature review, the interviews of 182 respondents (mainly top managers of companies) and statistics (statistic data analysis, mathematic statistics). The main finding was that there is a close correlation between innovative management and IT based management systems in organizations, and that this affects management performance of companies. Finally, the authors emphasize the potential for further research on this topic.

Evaluation of the Effectiveness of Projects Implemented on the Basis of the Principles of Public-Private Partnerships

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Keywords: *effectiveness, evaluation, foreign experience, methodologies, public-private partnership (PPP)*

JEL code: *H41, H42, H43, H54, L32, L33, G38*

The implementation of public-private partnership (PPP) projects implies control by the management bodies over efficient use of financial, human, and natural resources, which makes the assessment of the overall economic effectiveness of PPP projects urgent. The actual methodological problem of implementing PPP projects is the lack of a unified methodology for assessing their effectiveness. As practice shows, the evaluation is carried out according to economic indicators, which are used both for investment projects and for PPP projects.

The authors propose and set forward the objective of the research: compare the national methodology for assessing the effectiveness of PPP projects with foreign methods, as well as to formulate provisions for improving the current methodology for assessing the effectiveness of PPP projects in the Republic of Belarus. In order to achieve the target the following tasks shall be carried out: to analyze the methods for assessing the effectiveness of projects implemented on the basis of the principles of PPP; to disclose the stages of assessing the effectiveness of PPP projects and their implementation in the context of the development of the regulatory framework in the field of PPPs in the Republic of Belarus; explore the specifics of assessing the effectiveness of PPP projects abroad.

In the research, there are applied the methods of general scientific research in economics: of economic analysis and synthesis, logically – constructive, qualitative methods including the methods of the analysis of normative acts.

In the Republic of Belarus, the effectiveness of PPP projects is assessed in terms of the financial performance of the project, including key indicators of the investment attractiveness of NPV, WACC, DPP, IRR, PI and financial stability indicators EBIT, EBITDA, DSCR_t; on the socio-economic efficiency of the project, which is determined taking into account the specifics and scope of PPP application. An analytical review of foreign methods for assessing the effectiveness of PPP projects showed that the following indicators should be included in the national methodology: debt load (help objectively assess the credit load of a private partner before attracting new loans and credits); Liquidity (solvency): an indicator of current liquidity, fast liquidity; Budgetary efficiency: assessment of the increase in the budget load as a result of the adoption of additional obligations, the risks of project implementation (the risk of underutilization of the facility), the discounted indicator of budget efficiency, the budget efficiency index, etc. It seems that the least developed are the issues of the balance of interests of the project stakeholders. Ignoring the need to consider the interests of the parties in PPP projects increases the risks of the project, which can become a negative factor for the national economy of the country.

The authors formulated the following provisions: the PPP project should have the necessary level of efficiency for the stakeholders of the project - society, the state and the private sector; the PPP project should meet the needs of the region's social and economic development; the PPP project should be based on the financial, industrial, labor and natural resources of the region.

Situation and Development Opportunities of Creative Industries Companies in Latvia

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Key words: *creative industries, creativity, companies' performance improvement*
JEL code: *L26, L80*

Nowadays, the information economy is in process of transition to a creative economy, in which essentials are human creativity and innovative ideas. Creative industries are one of the fastest growing sector of the global economy, more and more export capacity of developed countries of the European Union is related to the creative capital and enterprises of the creative industries. However, figures of the Latvian population innovation and labour productivity are lower than in developed regions of Europe. The aim of research is to evaluate the creative industries companies in Latvia, detect problems and identify opportunities for development.

At first in the article, the theoretical basis of the activity and specificity of detection of the creative industries has been reviewed, considering the fact that creativity is an intangible factor that is exposed to constant change and it is not easy to measure, which creates problems of management in practice. In the second part, basic composition of creative industries in Latvia is defined, including study 8 groups of the activity types, which can be directly attributed to creative industries, including software and computer services group. Next, based on statistical data and survey results, there are defined characteristics of Latvian creative industries, with purpose of understanding the current situation, problems of creative industries sector; as well as analysed development potential of creative industries. At the end of article, there are conclusions and suggestions to improve performance of creative industries companies.

In the research, there are used theoretical methods such as; textual analysis, document analysis, and content analysis, the survey method, methods of data processing and statistical analysis. Period of research is from year 2010 to 2015. Research survey was conducted from April until May 2016. Research is limited by current statistical and economic information inaccessibility for the separate creative industries. Official data are only available in the NACE classification 2-digit level, which limits each creative sub-sector in the industry characteristics and could justify only to sectoral analysis of the sub-sectors directly linked to creativity.

Role of Different Stakeholders in Decisions in Hospitals

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Key words: *decision making, health care, hospital, stakeholder*

JEL code: *D70, I11, M10*

Shall I bring the umbrella today? – The decision depends on something which I do not know, namely whether it will rain or not. Decision theory is very complex. Patient safety is a significant healthcare issue with substantial clinical and economic consequences. The aim of this paper is the theoretical analysis of decision making and to analyse the role of different stakeholders like physicians, nurses, buyers and management roles in hospitals. The result summaries that decision theory is a very complex and wide area and research has been done from different perspectives, that decisions in hospital environment are special, since they are very far-reaching and content of decisions are also life-time-decisions and various stakeholders are involved and do have different roles during the decision process. Further, the primary research was conducted with a quantitative questionnaire, using a 5-point Likert scale involving the different stakeholders (n=113) from different hospitals in Germany. The questionnaire was mostly conducted in person at different conferences and symposia for these relevant stakeholders.

The key conclusions are 1) Self-awareness of nurses and physicians is aligned with the awareness of the other stakeholders, being important in the decision process with physicians being more important than the nurses. 2) Self-awareness of buyers is different than the awareness of others. The buyers view themselves as not majorly important whereas physicians do consider buyers as important. Nurses are undeceiving about the importance of buyers. Consequently, the recommendation for hospital management is that they should make their decision processes transparent since it is clearly shown that there are major variances in understanding which stakeholder is important. In order to do so the hospital will work more efficient and therefore save time and cost.

Towards Effective Change Management in Universities: Case of Latvia

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Key words: *change management, university, University of Latvia*
JEL code: I23, I28, H75.

Higher education plays a crucial role in the supply of high level manpower for the socio-political and economic development of a nation. To this end, the effective management of this educational sector becomes necessary.

A powerful combination of change forces has been bearing down on higher education and research institutions in recent years in Latvia: consolidation of research resources, floating level of financial resources, negative demographic trends form the one side and need for excellence and involvement in European higher education and research area from the other side. In combination, these changes force universities to ensure effective change management in order to achieve ambitious goals set on planning documents.

This paper contains a review of the scientific publications concerned with change management effectiveness in universities and case study of university co-operation with employers.

The aim of the paper is to analyse the change management particularities in universities analysed in scientific literature and analyse approaches of university management in selected universities.

Within this research, the analysis of scientific publications and scientific research are carried out as well as the case study method applied.

Main finding of the paper: analysing scientific literature on change management, author concludes that implementation of changes in universities requires specific concepts and they need to be developed.

Customer Privacy Concerns and Privacy Protection Problems in the Changing Nature of CRM

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Keywords: CRM, loyalty, privacy

JEL code: M1, C01

To stay ahead of the competition companies are more and more forced to turn their attention to the real assets: their customers.

Both, the value of the individual customer and the development of personalized relationships with them have made customer relationship management as one of the emerging topics in the last years.

Companies increasingly collect and use data about their existing and potential clients with the purpose to improve their customer relationship management (CRM), productivity, and client service. That helps companies' to build up their own customer data base with the purpose of strategic decisions making as well as customer relationship enhancing.

This paper briefly reviews the difficulties that privacy concerns are creating for the growth of small and medium-sized businesses and customer relationship management (CRM).

The paper introduces the concept that the changing nature of consumer power is an essential element in ensuring the success of relationship building. The main results and findings of this report is the illustration of what should be done to leverage between the data collection from customers and a privacy concerns.

The following methods were used – literature study and analysis, surveys study.

The research results can be used both theoretically and practically in respect of taking into account described consumer power in the changing environment and modifying thereof the concept of customer relationship management in the company.

Evaluation of Clients as Agents in Business Transactions in Electronic Markets

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Key words: *business transactions, e-business, electronic markets*

JEL code: *D11, D86, M19*

The analysis of business transactions within the field of e-business leads to the creation of a sustainable business environment. The analysed and standardised process processing of those transactions allows the management of e-businesses a better client administration, business controlling and business steering. Due to the technological possibilities of e-business a standardization of interactions with the clients is possible.

The objective of research in this paper is focussed on the analysis of existing models for business (action) transactions in electronic markets and the influence of agents inside those transactions. The analysis is conducted to evaluate existing research gaps regarding the transfer of those models regarding the usage inside social networks. The document analysis researches the state of the art publications in the field of business transactions to provide a comparison between the existing business transactions models to display similarities and differences for client interaction. Within this evaluation, a theoretical transfer regarding the interaction between agents, in the context of traditional and online market cases is approached. That is included to display the need for the extension of business transaction model through sociodemographic characteristics. Within the research is evaluated, if the practical usage of sociodemographic selection criteria for clients is an ability to increase the business outcome of existing business models.

The results will be used for a further standardisation of business transactions in the context of often used functions with social networks within the field of social networks for a more quality ensured client interaction.

CRM Adoption Gaps and Development Tendencies in Latvia SME'S

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Key words: CRM, customer relationship management, SME

JEL code: M10

Lack of internal definition of customer relationship management (CRM) concept in the enterprise may hinder successful CRM project implementation. If there is no unite understanding about CRM concept internally, it is difficult to define aim of CRM implementation and measure its results. Many enterprises begin CRM implementation by taking as baseline technology offering and capabilities, but not their business and customer strategy. In many cases, it is because there is lack of knowledge about CRM and enterprises mostly implement it as technology driven projects. However, understanding of CRM concept is not enough for its success, there should be present CRM components – strategic, operational and analytical, which are usually should be integrated across all enterprise functions.

In Latvia CRM adoption rate is lower comparing with similar companies in other European countries, although enterprises understand the importance of this method for generating profit and building their competitive position in the market. Aim of this research is to evaluate current understanding of CRM definition among experts in Latvia and tendencies of CRM usage among enterprises in Latvia. Then compare those findings with recognized CRM theoretical concepts, which have been adopted in practice.

During study author expect to find gaps of CRM theoretical concept and current reality in Latvia small and medium enterprises. This assessment will be as instrument to provide further guidance for Latvia small medium enterprises for more successful CRM adoption.

This research will contribute to the decision-making process of small and medium enterprises willing to evaluate their CRM implementations or for those who are considering it.

Research is based on semi structured interviews of Latvia CRM experts, expert survey and literature review.

Finding Efficient Airport Operations Model in the New Digital Era

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Key words: *digital age, efficient airports, self-service, the Baltic Sea region*
JEL code: *R42, M10, O11.*

Contemporary leading airports serve up to one hundred million passengers annually. The challenges for airport administrations and operations' teams are numerous, of which the main is risks related to a human factor. Every mistake or inefficient performance by an airport's agent may cause a number of consecutive problems. For instance, the authors have been regularly facing inefficient service by agents at Riga airport business class counters, whose poor performance almost led them to miss the time for dropping their bags or simply created unexpected discomfort right before the flight. Whichever the underlying reason, passengers shall not suffer from any underperformance of the airdromes' staff.

Solution to a dilemma of raising operational costs of airports versus the need for serving increased volumes of cargo and passengers comes from benefits brought by technology's digital era. More and more airports employ electronic software replacement for human staff. In 2016, the Air Transport Research Society (ATRS) has awarded *Kastrup* Copenhagen airport for being the most efficient in Europe. The winning points were implementation of automation of services and using digital solutions to enhance efficiency. Main channel for reaching the result was increased travellers' self-service capacity. In its part, London Heathrow airport is known to be the best in employing the Big Data to maximize performance. Whilst operating to the fullest of its capacity, The Heathrow was recently able to accommodate another carrier from Vietnam and searching for way to do even more.

The authors have been analysing operational models and efficiency of airports for years and found that increased traffic shall be negatively correlated with number of airport employees per passenger. Only then, a number of delays and operational mistakes can be minimized. Another conclusion is that the new age of aviation services inevitably demands more digital solutions for airport operations at all levels. Big Data use would optimize and better predict passengers' and cargo traffic. The authors propose introducing Big Data Passenger Passport or loyalty account, where permitted information is used for better, "in advance and more efficient," trip planning. If applied, cargo and passengers would arrive or depart, but services available at specific time. Among reported results are increased passengers' satisfaction and decreased airports' and airlines' costs of operations.

The aim of the paper is to explore several existing models of airports' increased operational efficiency, where the core is digital solutions. The chosen elements or the complete models are to be proposed to the board at Riga International Airport.

Methods used in the paper are monographic, regression analysis and in-depth expert interview. To start, there were operational models searched for in the available sources. Once selected, those were further tested with an expert in airports' operational management. He has advised and recommended specific blocks of the available models. The chosen blocks and elements were prepared for the regression analysis. Preliminary conclusions were made. The research to be continued.

University Rankings: Challenges for Universities, Public Administrations and Countries

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Key words: *experts, innovation, management, public administration, university rankings*

JEL code: *O30; O32; O38.*

Global competition for students and for research funding makes universities, public administrations and countries to be creative to comply with international requirements for university rankings which become more and more important tool for international and even inter-continental competition. Those aspects are on research agenda for academic researchers world-wide. In those research attentions to different ranking aspects are researched. Research results usually are used for management decision making on different levels: on university level, on higher education and science level and for country level.

Research aim is to analyse aspects important for university rankings on scientific research organisation aspects, on scientific research result implementations and research results communication with scientific community and with society.

Research methods used: scientific publications analysis on university rankings aspects related to science; expert survey on science organisation aspects supporting university rankings. Expert survey is designed with use of evaluation scale 1 – 10, where 1 – fully disagree with the statement and 10 – fully agree with the statement. For expert data analysis indicators of descriptive statistics (indicators of central tendency or location and indicators of variability) are used.

Main results and findings of the study: university management and higher education and science ministry management need to co-operate deeper for better and more innovative scientific research process organisation, for research results communication both for scientific publications on higher possible level and information of society about scientific achievements. Main conclusions indicate that analysis of science organisation management aspects of different countries have to be analysed (especially Estonian and Lithuanian) and evaluated for possible implementations.

Changes and Innovations in the Methods of Lithuania's Student Entrepreneurship Development

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Key words: *entrepreneurship, entrepreneurship development, innovations, methods.*

JEL code: *L26, O15, I25.*

The article analyses the methods applied in student entrepreneurship development, variety of such methods and innovative approaches towards their application. When pursuing their entrepreneurial intentions, individuals have to actually deal in a real-world business environment. Therefore, research works on entrepreneurship should place greater emphasis on analysis of the methods that promote intentions towards entrepreneurship and the changes that determine effectiveness of the entrepreneurship-promoting methods. The findings of the conducted research are compared with the ones of the previous survey conducted 7 year ago: it is analysed how an attitude of respondents towards the applied methods for entrepreneurship development has changed; what innovative changes are relevant for entrepreneurship development, what methods are acceptable for a new generation. Implication of continuous research on entrepreneurship development is of immediate interest as it allows to select the most suitable and relevant methods for student entrepreneurship development. No continuous research studies to analyse the impact of the methods, which are applied to develop student entrepreneurship, on student intentions to start their own business have been conducted in Lithuania yet. Research on student entrepreneurship development methods presupposes the research problem – to make an assessment and identify what changes and innovations in entrepreneurship development methods to the greatest extent promote student intentions to start their own business.

Object of the research – changes in application of entrepreneurship development methods. Objective of the research – by conducting a continuous research to identify what methods of entrepreneurship development are the most important for promotion of student intentions to start their own business.

To achieve the set objective of the research the following questions have been formulated: What promotes intentions of an individual to start a business? What changes in entrepreneurship development are relevant in terms of promotion of Lithuania's student intentions to start their own business? What changes, innovations would promote student entrepreneurship development in higher education schools in Lithuania?

The methods of research literature analysis, systemization, synthesis, generalization and comparison were used in the theoretical part of the article. Information on the educational methods that encourage student intentions to start their own business was gathered by directly collecting data through a survey of the target group of the research. SPSS software and quantitative data processing methods were used to generalize the findings of the survey research. To identify and evaluate significant factors for entrepreneurship development, the methods of descriptive statistics were applied; mean values were calculated and interpreted, the methods of correlation analysis (Pearson and Spearman correlation coefficients were calculated), dispersion analysis (ANOVA) and exploratory factor analysis were used in the research.

Theoretical and empirical implications of student entrepreneurship development have been generalized and significant changes and innovations in entrepreneurship development methods have been identified. On the basis of the research findings a model for entrepreneurship development has been offered allowing for assessment of entrepreneurship of individuals in terms of the discerned elements of an entrepreneurship development construct – attitude towards starting business, desirability and feasibility of pursuing one's own business. The model can be adapted in higher schools as an innovative integrated tool for promotion of student intentions to start their own business

**NEW CHALLENGES OF
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Digital economy and innovations



E-Learning as the Factor to Facilitate the Business Process Efficiency in Companies

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Key words: *efficiency, e-learning, SME*

JEL code: *D83, D23*

The vast availability of information and communication technologies is giving various opportunities for enterprises to ensure high efficiency for their business processes. It is achieved by intensive usage of communication tools and formalized process's workflows that are integrated with technological solutions. Even for small and medium-sized enterprises that has a high necessity for agility in their business processes, the cloud technologies can provide ubiquitous availability and flexibility. Yet, an efficient business process is not always effective. It is not enough to perform tasks in an optimal way, the successful enterprise must do the right activities in the most optimal way. The responsibility to make the right decision in the right time is placed on employee's shoulders. The aim of the research is to ascertain how e-learning may facilitate business process effectiveness in small and medium-sized enterprises and to identify the descriptive requirements that are specific for small and medium-sized enterprises.

The research was based on the analysis of small and medium-sized enterprise's characteristics, such as business process agility, high turnover rate, high bus factor, horizontal enterprise structure. As a result, it was found out that the key knowledge of enterprise business processes is dissipated, unorganized. The key founding of the research is a set of the requirements to which the e-learning solution must comply, in order to satisfy the needs of small and medium-sized enterprises. E-learning solution can serve as an enterprise's knowledge database that is accessible at any place with the Internet connection on any device at any convenient time, and its content can be used up-to-date for enterprise's needs. It is considered that using corresponding e-learning solution the enterprise will put in order its knowledge management and improve competence of employees that will promote the enterprise's growth. The recommendation for further studies is to validate the findings by field experiment using either existing solution or a prototype that include the defined set of requirements.

Factors Impacting the Low Usage of E-Services in Latvia

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Key words: *e-services, ICT usage habits, reluctance*

JEL code: *D83, L86*

Both public and private organizations provide their services in an electronically accessible format thus making these services easier, faster, and more appropriate for users' needs and habits. In the same time, it is supposed that these services increase two-way communication between the users and service providers. Although the use of ICT increases, there are various – partly technological, partly socio-cognitive – reasons why people are still hesitating to use the e-services.

Despite the availability and technological flexibility of many public e-services in Latvia, users do not choose those services as frequently as their developers might wish. There are several possible causes for that: (1) e-services eventually do not meet users' needs, (2) users have socio-cognitive barriers discouraging them from using e-services. (2.1.) These barriers can be related to technological problems (such as data security) or (2.2.) cognitive factors (such as fear of making mistakes in virtual environments lacking direct human interaction).

The aim of the current research was to find out, (a) which e-services users prefer and why, on the contrary, they do not choose to use some e-services. Further we wanted to explore (b) what are the possible factors impacting this behaviour. To answer those questions, a large-scale representative (n = 1005) survey was used to collect data on how users perceive the information that is gained from various digital sources and what are their habits of using ICT, such as frequency of use, choice of devices, and preferences and recommendations for receiving services using ICT.

The results of the research indicate (a) some core habits of using ICT in e-service environments, (b) reasons of the reluctance regarding the usage of e-services, and (3) provide some clues for how to facilitate the usage of e-services. According to the results the greatest advantage of e-services is saved time, and this advantage is almost equally important for both women (53,4%) and men (51%). Further, our results indicate that finances are the most frequent type of internet usage and accordingly the reason of hesitation to use e-services is data security and inconvenient and complicated interface system. In our study, we also discuss the differences between the general use of the internet and the use of e-services.

This research is unique because it covers a representative sample of a society with a highly-developed environment of e-services but still not open enough to use it as frequently as the developers might wish.

Usage of Online Collaboration Tools for Building up the Collaboration Skills

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Key words: *digital skills, labour market, online collaboration tools, teachers*

JEL code: *D83, L86*

Collaboration and group work has become one of the demands for nowadays and is expected to grow in importance in future as well. There could be no better way how to prepare youth for collaborating and working in team as at school. Thus, the digitally skilled teachers are the first step in educating young people to be ready for job and life-long education. Taking these considerations into account there was a pilot project Online4EDU carried out in Latvia, Germany, Estonia, and Lithuania from January till April, 2016.

The research was done with the scope of 33 project's participants from Latvia – teachers of various subjects at schools in Latvia. The aim of this research was to assess the outcomes of the project by analysing the results of the project's surveys, participant's feedback and online tests. There were two surveys performed – pre-training survey and post-training survey, as well as the pre-course online knowledge assessment test and final online ECDL exams.

The pre-course survey indicated that almost 50% of the participants have never used file sharing, social media, and online calendars. The pre-course online test showed the participants' knowledge was on very different levels – from very good (9% of the teachers) to only basic level knowledge (49%). According to the post-course survey, 86% of participants fully agreed that the acquired skills during the training will be fully useful in their further work. The teachers considered that the most useful knowledge gained during the project was about the file storage and collaboration. The most popular tool used for communication was Skype along with the second choice of WhatsApp mobile application. It was acknowledged that the most challenging and complicated topic for teachers was the organisation of webinars since there were limited options for free of charge webinar software.

It was concluded that although information and communication technology (ICT) is widely used for the communication and collaboration in businesses, the teaching process at schools is still behind the meaningful usage of online collaboration. Online collaboration tools (OCT) are even regarded as suspicious due to the teachers' lack of knowledge about OCT opportunities and benefits. The research showed that one of the solutions to this problem is to get teachers trained of how to use and incorporate OCT in the teaching process. It would be of great help if educational institutions support the OCT training for teachers as they are the ones who build up the collaboration skills for students – future participants of 21st century labour market.

Vehicle Type and Licence Plate Localisation and Segmentation Using FCN and LSTM

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Key words: FCM, licence plate localisation, licence plate segmentation, LSTM

JEL code: C45, C60

An end-to-end vehicle type and licence plate localisation and recognition system was developed. The proposed combination of existing methods, modifications in the network architecture and improvements in the training process resulted in a system that locates vehicles and licence plates and recognizes these licence plates with minimal post processing and high accuracy.

The research is based on the existing work of reading car licence plates using such techniques as Convolutional Neural Networks (CNN), Long Short Term Memory (LSTM) networks, Deep Convolutional Sequences for reading scene text, Fully Convolutional Networks (FCN) for semantic segmentation and Feature Extraction Maxout CNNs.

The localisation of vehicles and license plates is accomplished by FCN. Fast training of localisation and classification network was achieved by the application of transfer learning - we used the weights from a pre-trained VGG FCN-8s network. After the localisation of a license plate, the found region of the image is divided in to smaller regions using sliding window approach and those regions are processed by a character reader neural network consisting of customized Feature Extraction Maxout CNN and a Recurrent LSTM network.

The proposed system was implemented, trained and tested using Python language and Tensorflow framework. The base training data was acquired from real life radar cameras angled downwards. In order to improve the robustness of localisation and recognition system, a custom image augmentation system was developed for generating additional training images, adjusting the lighting, rotation, zoom levels, blurring and noise levels. The training was done on NVIDIA 1080GTX GPU.

The test data consisted of real life dirty, blurry, noisy etc. images. The resulting system is capable of localizing multiple types of vehicles (including motorcycles), and their licence plates. The achieved precision of the localisation is 99.5%. The whole number recognition accuracy is 96.7% and character level recognition accuracy is 98.8%. An end-to-end test for a single image took 0.2 seconds on a GPU and 8 seconds on a single core CPU.

Similarities of Clients and Functions in E-Business Models in the Electronic Market Segment of the Internet

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Key words: *CMI pattern, digitalisation, e-business, electronic markets, world wide web*

JEL code: *D39, D47, L1*

With the ongoing digitalisation of business, during the last decade, the importance of electronic markets and e-business activities increases further for management sciences to contact and retain clients. This research paper will provide an entry to electronic markets by comparing existing e-business models of electronic markets, the business cases behind and the evaluation of social networks regarding functionalities and clients. The business approaches within the e-business market itself might have similarities on their target markets and clients, services and especially in their functionalities which they offer to their clients. The evaluation of those functionalities is especially significant to research due to the ability that the usage of those increase the time clients spend in the business model.

The research aims on e-business markets and focuses within those markets on end consumer oriented business solutions and models. As technology platform for the business solutions within the market segment of electronic markets, the Internet is defined as selection criteria.

The research was accomplished in the first segment as a literature analysis of actual and standard publications of the field of electronic markets and e-business to provide a valuable overview about the research area of electronic and e-business markets within the Internet. It contains detailed text analyses of current standard publications from the electronic market and e-business research area regarding business cases and market differentiation. In the second segment of the research the market differentiation within electronic markets is evaluated with an additional focus on client groups and technologically functionalities. In this context, a first introduction for the usage of sociodemographic characteristics and computer-mediated interaction pattern within electronic markets is provided.

As result of the full research, an overview of the most often used functionality for client interaction in end consumer oriented business solutions is summarized and includes an overview about client similarities. The outcome of the research will be used for future research within the field of quality assured business transactions support for e-business models.

Exploring the Concept of Connected Service Innovation

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Key words: *aftersales business, customer loyalty, service innovation*

JEL code: *M31, O33*

The more an economy is developed or the faster it is growing the more it depends on innovation in services for their future growth. In consequence, the successful introduction of new services is becoming increasingly important as a key driver for economic growth and profitability of large manufacturing firms, such as car manufacturers. This paper is concerned with the contribution of Service innovation to customer loyalty. It uses the automotive aftersales business as an example to evaluate if the introduction of innovation such as Connected Services creates loyalty. In this paper customer loyalty is regarded as future repurchase intentions of existing customers. The goal of this academic contribution is developing a three-step model for measuring the contribution of Connected Service Innovation (CSI) towards loyalty. The approach is based first on literature review on service innovation and customer loyalty. In the second step a conceptualization of CSI is conducted. Based on the results of the conceptualization and on existing literature on customer loyalty a model of effects can be derived to empirically measure the effect of CSI towards customer loyalty. The main result of this paper is the explorative conceptualization of CSI in the framework of automotive aftersales business. The result is based on interviews with automotive experts with the target to identify key attributes of CSI. Next, the identified attributes are further analysed within the scope of qualitative interviews with active customers of CSI using the method of means-end analysis. Based on these results the concept of CSI is designed. Results will help any car manufacturer to fine tune its approach of Connected Services and to improve the service offering to create customer value. Reliability of the developed model will be considered after testing the model in the near future.

Customer Behaviour in Retailing and Influencing Factors During the Purchase in the Context of Omnichannel Retailing

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Key words: *brick-and-mortar, consumer behaviour, omnichannel, retail, shopping motives*

JEL code: *D11, Z20*

The proceeding digitalization is influencing all sectors of economy. Customer behaviour has changed over the last ten years since technology and accompanied applicability became part of our daily life. In this new environment, retailers must react and re-examine their strategies. The choice of certain channel for purchasing products, is a complex process and depends on many different factors like acceptance of technology, perceived security, flexibility and many others. Nowadays retailers are overthinking their strategy and looking for a combination of online and offline channels or specializing in one.

The article is showing how customer behaviour changed by the influence of internet and usage of mobile devices. Customers are using different channels while gathering information, the actual purchase process and the post selling process. Retailing changed the last decades and the success story of the internet redrafted the retailing from the classic brick-and-mortar retailers to worldwide acting and selling concerns. Nowadays for SMEs the need of an online shop is one of the big questions. It is difficult for companies to understand and explain channel choice for purchase of consumers.

The aim for the article is to show which different motivations consumers are having for shopping online vs brick-and-mortar shop or shopping with an omnichannel approach. The research was accomplished by a comprehensive literature review and comparison of common models in the field of consumer behaviour and shopping behaviour.

In the article, it will be shown that there are many different motivations and factors when it's about the channel choice of purchasing products like acceptance and use of Technology, personal innovativeness, perceived security, intrinsic and extrinsic motivation, products and many others. The theoretical and managerial implications are discussed.

These findings have direct implications for retailers interested in understanding whether and how integrating different channels affects customer outcomes. The results of different studies provide converging evidence and show that online-offline channel integration lead to a competitive advantage and channel synergies rather than channel cannibalization.

Distributed Profile of Typical User Behavior in a Multi-System Environment

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Key words: *anomaly activity detection, internal threats, Markov chain, multi-system environment*
JEL code: *M15*

Information systems (ISs) of large organisations are constantly becoming more complex. State, banking, corporate structures create new internal and external subsystems, thus changing the existing solutions. As a result, it is becoming extremely difficult to secure against internal threats and safeguard sensitive data in such an environment. Each subsystem usually has its own security tools, which are often expensive and incompatible with each other. There is a need for a common centralized data protection platform, which existing solutions cannot fully provide.

One way to defend against internal threats using intelligent algorithms is Anomaly Activity Detection (AAD). When it is used, the profile of a typical user behavior is constructed in the system, and then it is compared with the current activity of the user in the system. If the template of user current behavior differs markedly from his typical one, then perhaps another (malicious) person works under his account.

To gain benefits of AAD systems and avoid their typical problems, we have developed according AAD framework, which is embedded into the target IS on the application level of the OSI model and allows abstracting from the complexities and details of the internal implementation of the target IS. The created User Behaviour Profile (UBP) is represented in the form of the Markov chain, which allows us to use a well-designed mathematical tool for efficient profile management.

If one organisation has a number of different isolated ISs, it is usually necessary to integrate AAD framework into each of them separately. Monitoring of the results also occurs separately for each system. As a result, resource costs increase according to the number of target ISs.

To solve the problems associated with the growth of the number of information systems, within the framework of the article an extension of simple UBP to a *Distributed User Profile* has been developed. Under this approach, one user has a common profile for all ISs of the parent organisation. Thus, the effect of centralisation of control is achieved, as a result of which the costs of implementing, maintaining and using the abnormal behaviour detection system are significantly reduced. At the same time, there is a cumulative effect when the amount of data about the user behaviour increases due to their receipt from all target ISs, which gives improvement in the efficiency of such a global profile. The paper suggests the following three approaches to solving the problem:

1. The profile consists of several graphs — sub-profiles, one for each target IS;
2. The profile consists of one graph for all target IS, but each ISs has its own subgraph that does not intersect with each other;
3. The profile consists of one graph, which takes into account both transitions within one IS and transitions among nodes of different ISs. In this case, only synchronisation of the arrival of transition time data is required using clock common for all ISs.

The Competitive Edge of the Knowledge Management System in the Organizational Capital of an Industrial Company

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Keywords: *innovative activity, intellectual activity, knowledge management, knowledge management system, organizational capital*

JEL code: 03

Today, when the economy is knowledge-based and characterized by rapid changes in the external environment, intangible resources can become a key source of competitive advantages and growth in the company's value as they are unique and cannot be copied by competitors or replaced by another asset. However, a lot of companies do not have any system of managing intellectual activity that would encompass R&D management, management of employee innovation activities, as well as formation and development of knowledge management systems.

The purpose of the research is to develop an organizational and economic tool for managing intellectual activity in the company's management system.

Research methods include a system approach, comparative and regression analyses, as well as concepts of a resource approach, strategic management, competitive advantages, and intellectual capital.

We have justified the application of the dynamic approach in the resource theory to the management of the company's intellectual resources due to market volatility, strong competition and the growth in knowledge and science intensity of the industrial complex.

We have developed a conceptual approach to the management of intellectual activity as a set of methods and tools that ensure the effective use of intellectual resources, the formation of strategic assets and the application of employees' intellectual potential, all these factors influencing innovative and technological performance of the company.

We have analysed indicators of companies' innovative activity and built regression models reflecting the relationship between financial indicators and R&D costs based on a set of data obtained from fifty companies.

We have proposed a model of managing the organizational capital of an industrial company. The model has the following characteristics: management of intellectual activity as the main function; a separate new management function, namely knowledge management; clearly formulated objectives in strategic and tactical management; a newly developed structure of strategic assets connected with organizational capital and including technology, skills, competence, and knowledge management systems (KMS).

We have revealed problems in the functioning of existing knowledge management systems, including a low degree of managerial involvement, complexity or lack of methods for assessing KMS effectiveness, a mismatch between the strategic and tactical levels of management, and a conflict between inertial intellectual models and innovative management concepts.

We offer suggestions for modernizing knowledge management systems based on the methodology of the project approach and the integration of KMS into the system of managing the organizational capital of an industrial company.

ICT Industry's Growth Potential in Latvia

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Key words: *growth scenarios, ICT sector, ICT specialists*
JEL code: *O39*

The impact of Information and Communication Technology (ICT) on economic growth and development has nowadays proven to be significant for almost all national economies. The latest research on ICT indicates that the dynamics of ICT has become a major driving force for productivity, competitiveness, collaboration, and superposition of resources at both a national and international level.

The importance of the ICT sector has grown over time; there is forecasted also further growth of ICT industry. CompTIA's consensus forecast projects 4.9% worldwide IT industry growth in year 2016 that is more than total economies growth forecasts for the same time: 3.4%.

ICT sector can be described as high added value industry that is closely integrated in economy by its strategic position. To insure further growth of ICT sector in Latvia, the main indicators that characterizes the industry must be evaluated and compared to other countries' performance. The aim of the paper is to describe ICT sector in Latvia, make its comparison to other countries' performance and find out the possible growth scenarios of the industry and its delaying factors. Significant attention is focused on the share of ICT specialists in total employment as a factor that could ensure not only the further growth of the industry but also its indirect impact to total economy's growth. With further research of the measurement dynamic over the years and its comparison to the average in other EU countries there can be concluded that the increase of the relative number of ICT specialists will contribute the further growth. To evaluate the impact of the relative number of ICT specialists, different measurements were taken in consideration as ICT sector's share in value added and countries export, Digital Economy and Society Index measurements is explored.

The research results indicate that Latvia has low share of ICT specialists in total employment: 2.2% compering to 3.5% in EU average or 4.4% in Estonia. The sufficient numbers of skilled ICT specialists will not only positively influence the productivity of companies, but also will generate surplus to GDP. Furthermore, it makes the region more attractive to global companies, who are interested in outsourcing the task.

The Basic Principles of Economic Growth of the Country (on the Example of Ukraine)

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Key words: economic policy, *economic processes*, economic situation, government, *macroeconomic stability, risks, strategic priorities*

JEL Code: A11

The unstable situation in the world economy has strengthened the experts and the Ukrainian population's anxiety about the prospects of stability of the Ukrainian economy. In fact, the global instability is testing the Ukrainian authorities about the risk management and the crisis lessons of 2008-2009.

One of the major goals of economic policy of the government of any country is to stimulate the economic growth, to support its rates at a stable and optimal level. All this requires a clear understanding of economic growth, factors of its stimulation, so the chosen research topic is extremely relevant in the conditions of formation and development the Ukraine's economy.

Maintaining of macroeconomic stability and relatively good macroeconomic indicators show a significant increasing of own sustainability of the economy of Ukraine in comparison with 2008. However, the existing the risks of instability, due to the retraction of the open economy of our country in the global economic stagnation is inevitable. These risks have an impact on the process of implementation of the strategy of economic and social reforms. Meanwhile, the achieving of antirecessionary stabilization is impossible without consistent reform of key areas of economic and social life. Therefore, the adequate and effective policy of antirecessionary stabilization plays a critically important role for ensuring the consistency of reforms.

The author has analysed the features of economic processes in Ukraine during 2010-2016, and formulated the main strategic priorities for positive structural changes in economic and social spheres of Ukraine.

At the same time, we need new incentives for domestic re-investment in sectors with high added value, an active implement the policy of import substitution, changes in the structure of exports in favour of products with deep processing and application of new technological solutions. Economic reforms are the basis of the new national economic model of development. And 2017 can become the key in achieving goals of reform and development. Ensuring this very analysis gives the opportunity to see the main factors of economic growth of the country.

Fostering Research, Innovation and Digitalization in Europe and Latvia

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Key words: *digitalization, ICT, innovation, investment into R&D, research*

JEL code: *O30*

The contribution of higher education to jobs and growth, and its international attractiveness, can be enhanced through close, effective links between education, research, and innovation – the three sides of the ‘knowledge triangle’. In addition, digitalization serves as a catalyst for closer integration of various elements within the ‘knowledge triangle’. In this paper, the main focus is placed on research, innovation and digitalization performance in the EU member states and their financing from the different European instruments.

This paper presents the rationale behind the EU Investment Plan, evaluates the current research, innovation and digitalization performance of Latvia from multiple perspectives, looks at the economic consequences of innovation activity, and provides an overview of the EU innovation support instruments relevant for Latvia. The paper concludes that besides funding, the inherent quality and marketability of research projects remains essential.

Evidence suggests that public and private investment into technological innovation in the EU continues to lag behind its global competitors, such as the United States and Japan. To reach its self-established objective of 3% of GDP targeted to funding research and innovation (R&I), the EU ought to boost its investment by 130 billion per year, according to EIB. Latvia has long suffered from under-investment in research. Lack of financing leads to a limited number of world-class research projects, outdated technologies and depleted human capital, which, consequently, erodes future growth potential.

As regards digitalization, Latvia has relatively developed connectivity and infrastructure, but is increasingly facing shortage of skilled ICT professionals and integration of internet-based solutions in business operations, especially among SMEs, is below its EU peers. Latvia ranks 19 from EU-28 in Digital Economy and Society Index 2017. Overall progress is driven by increasing shares of fast broadband subscriptions as well as by the improved delivery of public services. More and more Latvians are going on-line and are using eGovernment services but still half of the population has low or no digital skills. Latvians are increasingly shopping online but businesses are exploiting technologies in a limited way.

The article concludes that, for innovations to flourish, investment is, no doubt, a necessary prerequisite, globally, in Europe and in Latvia. In this context, the national governments are responsible for a reasonable budgetary spending for research, but even more for creating conducive framework conditions – such as fostering private enterprise, creating a vibrant eco-system for start-ups, fighting shadow economy and improving the business environment. The EU stands ready to offer multiple support instruments, ranging from Investment Plan to Structural Funds, to Horizon 2020, and to InnovFin. However, even when financing is available, it is up to the research community to make good use of them.

Application of Virtual Agents for Delivery of Information Services

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Key words: *bot, information services, interface, virtual agent*

JEL code: *O33, O35, O38*

In this paper, we analyse the application of virtual agents for providing information services in both the public sector and business environment. In our context, we define the virtual agent in a broad sense as a software character that is able to answer customer questions, provide information, or perform certain tasks and services. Virtual agents range from chatbots in online messaging platforms to computer generated characters with realistic animated embodiment, emotional expressions, and speech interface. Although different variations of virtual agents have been applied in niche applications for several decades, only in the last couple of years we can observe an explosion of interest in this computer-user interaction paradigm thanks to the rapid developments of artificial intelligence technologies.

We describe the motivation of our research by outlining the major technological, economic and social factors that are driving the adoption of the virtual agent paradigm. Users are switching from traditional computers as the main computing device to smartphones and tablets. Increased social and business mobility as well as omnipresent internet access are changing IT usage habits towards frequent mobile interactions on the go. Voice based communication is becoming an increasingly attractive alternative to the click based and typing interfaces that are often inconvenient in a mobile context. Advancements in artificial intelligence in general and machine learning and natural language processing technologies in particular, enable a new generation of smart virtual agents that in some applications can mimic or even surpass human assistant capabilities.

Our research is focused on studying (1) the application of virtual agents based computer-user interaction in several representative use cases, and (2) analysing user perception and preferences in communication with virtual agents. As a representative use case for customer service we studied customer relationship management at an airline company. We selected several typical tasks and implemented them in a prototype application. Our study shows that a virtual agent not only provides an attractive alternative to the traditional online interface but also opens an efficient channel for cross product sales and brand loyalty-building through post-sales engagement interactions. To explore the potential of virtual agents for information rich public services we created a pilot application for the public libraries of Latvia. In this example, we show how virtual agents enrich the client experience and increase the value of digital public data supporting human servants rather than substituting for them. Applications for education has been studied on an example of a language teaching bot – a text based virtual agent integrated in major online messaging platforms.

The results of the user perception and preference analysis presented are based on several surveys in various use scenarios. The majority of users assess the dialog with generic virtual agent as friendly (83%) and are satisfied with its replies (76%). Most of the users (70%) prefer to work with the 3D avatar and the voice interface, while 17% prefer communication using voice and keyboard and 13% - text only communication. The paper elaborates and analyses these and other results in details.

Enrichment of Full Text Resources by Adding User-Defined Annotations

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Key words: *data collection and analysis, digital economy, linked data, text annotation, text enrichment*

JEL code: *C88*

There is an ever-growing amount of text documents created and made available online. Efficient analysis of information stored in these documents can have great benefits to any organisation that holds a substantial amount of text documents: both digital and analogue. Using computerised methods such as data mining, natural language processing and full-text search one can recognize patterns and regularities that would not be obvious otherwise.

One method of improving text analysis is adding structured annotations to text documents. Previous research has primarily concentrated on automatic recognition of named entities for fixed number of annotation classes. Although this provides quick identification of typical elements such as Persons, Organizations, Places, Dates and Numbers it also has its drawbacks. In many cases a manual reviewing of automatically generated annotations is still necessary and there is only a limited number of annotation classes available.

In our research, we use a different approach by letting data operators define any annotation classes that are necessary for their particular task and by introducing an Entity database that helps data operators to uniquely identify objects mentioned in text documents and to record any additional information about these objects. Besides typical object reference annotations we also propose structural and composite annotations. While the requirements at the foundation of this approach were derived from analysing cultural heritage annotation scenarios the proposed approach is applicable to any domain that can benefit from annotating textual content. This approach would be especially beneficial to companies that are currently digitizing their legacy documents and want to enrich this information beyond simple text recognition.

An integral part of the proposed annotation architecture is the Entity database. It is the central repository of named entity references in annotated content and can hold additional information about these entities such as entity type, properties and links to other entities.

We also propose an annotation storage format based on well-established W3C standards that will improve data interchangeability between different systems.

**NEW CHALLENGES OF
ECONOMIC AND BUSINESS
DEVELOPMENT 2017**

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University of Latvia

Digital marketing



The Impact of Knowledge Management, Learning and Socio-Cultural Factors on Innovation

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Key words: *innovation, knowledge management, learning, socio-cultural factors*

JEL code: *M14, O31*

In advanced economies, knowledge management processes and organizational learning are key assets for fostering innovation, long-term competitive advantage and sustainable development. And, while learning, knowledge creation, sharing and application depends on organizational infrastructure, those processes are also to large extent effected by socio-cultural factors – shared values, beliefs and attitudes – that shape individual and organizational behaviours, processes and practices. Cultural factors can be innovation enablers encouraging cooperation, teamwork and creativity, on the other hand excessively hierarchical or competitive cultures can work against innovation. Similarly, predominant organizational values and beliefs may promote or hinder capacity for creating, sharing, and applying knowledge.

The aim of this research paper is to analyse the role of cultural factors, knowledge management processes and organizational learning on innovation performance. Respectively, it looks for knowledge management aspects and patterns of cultural traits that make organizations innovative.

A quantitative study of 112 small and medium sized enterprises from various industries was conducted in Latvia and Russia to assess organizational learning and knowledge management processes, organizational structures and working methods, various cultural factors and innovation performance. We used the OECD Oslo Manual for categorizing and measuring product, process, marketing and organizational innovation, and a framework adopted from Denison and Spreitzer to construct four dimensions of organizational culture - Team, Development, Results and Structure.

Our research reconfirmed that knowledge management statistically significantly increased innovation, and knowledge management and learning processes were closely related. Organizational learning had a positive impact on product, process and organizational innovation, while no statistically significant impact on marketing innovation. The research also confirms that stronger and more developed organizational culture in any of the four dimensions lead to better innovation performance. Finally, using an independent samples t-test to compare groups of Latvian and Russian enterprises, the results suggest that Latvian companies had significantly better performance on learning and slightly better performance on organizational innovation and knowledge creation in comparison to the Russian companies surveyed.

Digital Marketing Challenges in Medical Tourism

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Key words: digital marketing, global services, medical tourism

JEL code: M00

Looking at the global medical tourism development, Latvia has significant potential for the development of resort and health tourism services. Digital marketing provides a unique opportunity to succeed, to attract and inform potential remote clients. Medical tourism exists because of the chance to perform various medical manipulations cheaper, more efficiently and anonymously in neighbouring countries. It is important to speak and to communicate with potential customers through the unique opportunities provided by modern technologies. New technologies, such as social networks, websites, e-mail and other make it possible, using digital marketing to promote medical tourism and to build our digital identity - the reputation of medical tourism. It is a global challenge for each individual, as well as the whole Latvian economy to develop digital marketing in medical tourism area and can make a valuable contribution to the national visibility of the global environment. The purposes of this research were to clarify how much of an impact digital marketing has on medical tourism and its influence on health communication. To reach the aim, a brief review of literature, the interviews of 156 respondents and websites content analysis was done. The main results and findings of the article include general conclusion that digital reputation is the key to success for a successful business, where anonymity and possibility to spend time abroad being together with family and gaining new experiences is of particular importance. Finally, the author outlines potential ways for further research.

Content Marketing Development in Latvian Market

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Key words: *comment marketing, content marketing, internet marketing, search engine optimisation, social media marketing*

JEL code: *M31*

Rapid developments in technology, the constantly growing amount of information and people's growing immunity to traditional marketing tools are just few reasons that are challenging companies to think about new and more effective forms of how to reach the target audience. One of the most recent trends is based on consumer education through high quality Content marketing. Content marketing provides a creation and distribution of useful, important, consistent, free of charge content in order to attract, retain and educate a clearly defined audience, and it leads the company's consumers to the profitable behaviour in the end. It's a discreet way to gain consumer loyalty. Many companies and organizations in the world have already implemented Content marketing in their marketing routines, and it has proven its success, but in Latvia this topic is still something new and not discussed much. There are few Latvian companies that are using Content marketing approach in their activities and they are completely aware of the benefits of this approach. Yet most part of the companies and organizations in Latvia are using Content marketing unconsciously. It means that not all benefits of Content marketing are fully used.

The aim of the study is to determine and evaluate the most significant opportunities that digital content marketing provides to companies. The main goal is to evaluate what affects usage of Content marketing in the market of Latvia based on different authors' insights on Content marketing topic in the professional, scientific literature, as well as expert interviews and Internet user survey.

The study examines the theoretical aspects of Content marketing, it analyses Content marketing trends in the world and in the market of Latvia as well as gets to know Latvian habits of Internet usage in the Content marketing context. In order to collect data for this research and get a picture of current state of Content marketing usage, there were organized 4 expert interviews with Content marketing specialists from Latvia and an Internet users survey. 100 people were surveyed to get a fairly accurate result about their Internet usage habits in the Content marketing context.

The findings of this research have shown that Content marketing has the potential to develop in Latvia, because not all companies deliberately use it. Content marketing provides businesses several advantages. For example, it helps to improve search results and SEO, as well as builds brand image and value, creates followers, etc. Research methods used for this study: scientific literature analysis, statistical analysis to learn about Content marketing trends, qualitative expert survey, and quantitative Internet users online survey.

Social Networks Role in the Consumer' Purchasing Path in Latvia

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Key words: *consumer-generated media, integrated marketing communications, promotion mix, purchase path, social media*
JEL code: *M31*

Despite of Latvian population minor decrease, social networks' (SN) active users count in Latvia grows. Numerous researches points on SN' increasing influence on the consumers' behaviour. Brand awareness, informational research, attitude building, post-buy communication etc. now more and more often happens within SN. Such behavioural change is explained with overall informational overflow across all media space and our brains developed safety filters with narrow focused attention. For clients and media agencies this all means a tight challenge in each advertising campaign of gaining consumer attention.

The aim of this research is to adapt theoretical purchase path model to the Latvian situation, to have a look how deep SN now is connected with consumer buying decision and to have insights for advertising campaigns optimisation.

Purchase path analysis is made on specific products, which was selected based on involvement rate: one high involvement product (a car), one with moderate involvement rate and one low involvement product. Purchase path adaptation analysis is based on deep interviews, asking respondents about purchase starting from 1st interest moment up to bought product usage moment (post-buy stage). Media influence across purchase path is analysed with quantitative internet based poll, as the SN is the main point of interest and internet non-users are not target audience of this research. The poll questionnaire is about whole media space, but the main point of interest is the SN.

The results of this research give valuable information for advertising campaign optimisation – either optimising advertising volumes, either adapting exposed messages to each purchase path step. Also, this research gave information about existing need in deeper local Latvian purchase path analysis.

Digitalization Perspectives of Successful Brand Strategy - *Radio SWH*

Case

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Key words: brand, brand strategy, digitalization, radio market, radio SWH
JEL code: M31

The clear brand and positioning strategy leads to coordinated branding and brand management. It is a process which has to be integrated in all steps of marketing management including digital measures and solutions. It is widely understood statement, but rarely applied in the radio market of Latvia. Recently *Radio SWH* has established clear brand strategy directions, which has led to masterpiece of both: emotional brand perception and rational business results, giving the station a tangible advantage over the competition and fundamentally improving its market positions.

The aim of the research is by comparing recent strategy steps taken with theoretical models, analyse the pre- and after- effects of the implemented strategy, reveal the findings about relevance of these measures for the future strategy goals in digital environment. Namely, the goal of the research is to pinpoint particularly important branding elements, which have led to outstanding recent performance of *Radio SWH*.

Analyses, based on theoretical frameworks of strong brand development, importance of brand identity, brand knowledge and elements, which lead from perception to definite action and business results, in combination with real life and measurable key performance indicators (rating growth, listener profile changes, “ability-to-charge-higher-price-per-thousand-of-audience” phenomena, and others), shall allow to draw important conclusions and develop recommendations for the next strategy actions including digital perspective for sustaining the current success.

Research methodology: firstly, the Authors have conducted analyses of recent theoretical trends and beliefs of strong brand building models. In conjunction with that, the Authors have also analysed the newest available radio market performance indicators (Reach, AQH, CPT, listener socio-demographic profile and other indicators) provided by research company *TNS/Kantar* on regular radio market research in Latvia basis. These quantitative data have been processed by *Supernova* data software. Also, the Authors have done content analyses of digital measures and social media solutions in the radio market of Latvia, to get overall insight of tendencies and trends there.

The major conclusion and finding of the research: *Radio SWH* case is a clear evidence of how an elaborated brand strategy in accordance with the latest brand building theories, based on deep market, customer and product analyses, generates a visible business advantage over the competition allowing to achieve better performance indicators even in the relatively short period of time. These practices shall be integrated also in future digital performance in line with the general strategy guidelines.

Tourists' Perception Regarding eTourism Services in Bangladesh: A Review of the Literature

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Key words: *Bangladesh, e-Tourism, information and communication technology (ICT), Tourists' Perception*

JEL code: *M31*

Information and Communication Technology (ICT) is now-a-days a center of our modern civilization and the impact of ICT on tourism industry is so profound that it is prime time for Bangladesh to examine the scope and contribution of eTourism in the attainment of standard and effective promotional campaign to the tourists of the country and abroad through assessing the tools and models of e-Tourism. The aim of this study is to measure the tourists' perception regarding the e-Tourism services as a key to unlock and stimulate a systematic process of sustainable growth for the tourism industry of Bangladesh. It is a qualitative study based on literature and focus group discussion is to find out which factors are affecting regarding eTourism services perception. Theories from social science in general and business growth theory based on technology, and tourism supply chain network in particular are used as the underlying theoretical model and also constructs a new theoretical framework based on tourists' perceived services regarding eTourism from service providers. The study found that social media and ICT supported network businesses are a perfect blend for the online-prone and tourism services like visa processing, accommodation, shopping, transportation, tourist's destination apps are mentionable to measure perception positively and chance to spread positive word of mouth. In addition, timely and user-friendly applications of eTourism like-reliability, security of transaction, and easy of use will enhance the competitiveness and tourists' experiences positively. In Bangladesh, national level business model for eTourism and strategic planning is required for the expansion of tourism business and economic growth of the country. Currently, tourists are expecting technology based creative and innovative features from tourism business and it essentials for sustainable competitive advantages.

eWOM Factors Influence on Consumer Decision Journey

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Key words: *electronic word of mouth (eWOM), purchase decision, recommendation, social networks*

JEL code: *M31, M39*

Many studies on consumer behaviour prove that time spent online is increasing considerably every year. It has been proven that Internet has become an important tool to provide information during consumer purchase decision journey. Part of it is a so-called electronic word of mouth (eWOM) communication which allows consumers to access and exchange information, to share opinions through different networks, social groups and other tools. This information which consumers spread by the help of social networks, recommendation systems and other eWOM communication tools is one from many factors which influence consumer purchase decision. Research done in other countries does show that the influence of eWOM communication is increasing fast. Still, the authors' experience has shown that companies in Latvia are not yet utilising the full potential of available eWOM communication tools and there is also limited research done on consumers' attitude towards eWOM in Latvia.

Therefore, the aim of the paper is – to evaluate different eWOM communication factors' influence on consumer purchase decision, to understand an importance and specifics of those factors in Latvia. To achieve the aim, the authors have defined following tasks for the paper: 1) to explore what does so far realised scientific research has found out about eWOM communication influence on consumer purchase decision process; 2) to assess how eWOM is perceived by consumers in Latvia by measuring customer perceived eWOM credibility, eWOM experience, susceptibility to interpersonal influence (CSII) and eWOM effects.

Research methods used are consumer survey gathering primary data and examining user attitudes towards eWOM and secondary data analysis which reviews scientific research results in this specific field.

Research results contribute to the understanding of factors influencing the eWOM effect in Latvia. Results provide suggestions for entrepreneurs and marketing specialists in Latvia.

Promoting Activities in a Mussel Farming Industry

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Key words: *Baltic Sea Region, blue mussel, digital marketing, environment protection, mussel farming*

JEL code: *M31; M16; M11*

Mussel farming is growing in recent years world-wide as mussel in many countries is used in food, for animal feed as well as mussel is environment protector. Blue mussel as seawater cleaners is used in many countries (including countries of the Baltic Sea Region). The development of mussel production especially the end-use of production is distributed for international markets. For the end-use of production several sources of information are used but in recent years digital marketing becomes more on more popular.

This paper analyses the promotion activities which have been achieved in digital environment by mussel farmers or industry promoters.

Marketing specialists have advised to use websites as a source for search of information and entrepreneurs are using it for browsing or promoting their products. By increasing influence of internet, a lot of information is published on websites.

The aim of this research paper is to analyse academic findings published in the academic publications, to evaluate available digital marketing information on mussel farming and prepare suggestions for more efficient use of digital marketing for mussel farming.

Research methods: scientific publication analysis, analysis of internet and social media resources for mussel farmers, content analysis.

Main findings of the research: developers of blue mussel's market have put the information in their own websites, some of them have established specific websites. Professional associations take part in publishing social media networks, making them more attractive for stakeholders and promoting their activities in the society. Direct marketing is not a very common form in this industry. The lack of information in social media has influenced the interest of stakeholders and might affect the industry development as well.

Due to the published researches it is possible to observe the increase of interest of stakeholders, scientists and regional government institutions taking an active role in the development of industry.

Market analysis of perspective of blue mussel industry has been carried out in several countries and some of researches were carried out by the Food and Agriculture Organisation of the United Nations.

The research has revealed the regional divergence in the behaviour of the market players in the Baltic Sea Region. Mussel farmers do not invest in popularisation of their product, but researchers update their websites to inform the society about achievements.

Marketing as Scarcity and Its Sell Out in Digital Marketing

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Key words: *digital marketing, marketing, scarcity marketing*

JEL code: *M31*

The digital marketing has been on upriser as such the new tools of marketing are used to gain as much sales as can be done one such is Scarcity. the concept of scarcity is activated, and further what influence those processes might have on subsequent, unrelated decisions. Scarcity involves motivating people to buy something by telling them there is a shortage in what is available and a limited time to act the goal is to create a sense of urgency through an aggressive call to action; to make people scared that they will not be able to acquire something that they want if they don't act fast. Which is scarcity marketing ,This Paper is undertaken in order to understand the impact of scarcity on the psychology of consumer purchase in digital marketing where scarcity to be ethical and non-ethical is debated as such we have tried to explain by one example of travelers as respondents in multiple airlines with the questionnaire in order to find out do Scarcity increase the purchase tendency randomly in digital world of marketing, and is scarcity directly proportional to marketing for sales increase but what paper concludes is A sense of urgency more frequent marketing with sense of scarcity multiplies the chance of sell out and chances of company reputation on stake, all though the study finds out the use of scarcity doesn't have acute impact on purchasing decisions while the urgent need sums up the want, but when combined with aggressive marketing it propels to much Rise in making purchase decisions leaving the consortium of ethical and non-ethical issue to more or less on the view point of preference of individuals on the positive sides of emotions.

Relationship Marketing in the Internet Dimension: New Challenges for the Baltic States Market

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Key words: *Baltic States, internet, loyalty level, relationship marketing,*
JEL code: *M31*

Relationship marketing could be considered as a new approach for the customer relationship and loyalty level. The main idea of that approach is long-term relationship and influence on each other. All market participants develop their selves, products and communicational skills in order to satisfy customer needs and build strength relationship with them.

Living in the 21st century it is impossible to avoid internet dimension in our everyday lives. The number of internet users are increasing every year as well as number of e-commerce users. Communication has a new place to develop a new level connections and satisfaction that as a result will improve customer loyalty level. Vendors are facing problem to integrate already known relationship marketing in the internet dimension considering internet environment specialities, evolution and development.

As well as all other countries, the Baltic States (Latvia, Lithuania and Estonia) also develop their market and adapt it to the internet dimension. It is important for to find out the main differences between traditional approaches to the relationship marketing and interactive approaches. The Baltic States has high level internet access and high customer awareness of internet possibilities. The main problem is to connect high technical level and low loyalty level of customers.

The aim of the paper is to find out the main approaches to the relationship marketing in the internet dimension used in the Baltic States. Research methods are the study and analysis of scientific literature on the topic, statistical data analysis and evaluation.

The main result of the paper is relationship marketing approaches introduction in the internet dimension. Results can be used both theoretically and practically to improve communication with customers in the online dimension and build long-term relationship.

Digital Marketing as Innovative Marketing Technology

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Key words: *digital marketing, innovative marketing*

JEL code: *M31*

Innovative marketing is relatively new term; therefore, implementation of it can be challenging process as innovative marketing includes a mixture of many different technologies in new and improved ways. Omni-channel marketing is the next evolution stage of multi-channel marketing and it is a part of innovative marketing strategy. It can be challenging for companies to provide seamless experience for consumers as it requires understanding the nuances of the technologies that are used as well as the risks. Digital marketing is one of these technologies and it offers many possibilities. One of the problems of digital marketing is the inaccurate and ineffective use of it.

This paper aims to analyze digital marketing as a part of innovative marketing strategy and to find the most successful ways of using it. The authors present the relationship between the innovative marketing and digital marketing and how they affect each other. Also, some of the most common mistakes of the digital marketing are discussed in this paper. This paper consists of theoretical review of digital marketing's role in innovative marketing strategies, review of digital marketing trends and an empirical research. In the empirical research a survey among the citizens of Latvia is conducted to determine the most effective digital marketing approaches. The required sample size of the survey with confidence level 95% and confidence interval 5 is 384.

Practical examples of digital marketing implementation as a part of innovative marketing strategy and existing digital marketing solutions that could be used in innovative marketing are discussed. This paper discusses how different ways of using digital marketing may have different effects on the audience, as well that the most expensive tools are not necessarily the most effective.

Facebook as a Communication Channel for Crowdfunding Campaigns

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Key words: *analysis, crowdfunding, facebook, kickstarter*

JEL code: *M31, G20*

Today more companies than ever are using crowdfunding websites to fund their projects. In Latvia, this is evidenced by the growing number of companies that are participating in crowdfunding campaigns and by the government activities that are supporting this.

One of the success factors of crowdfunding campaigns is the use of social media networks. The most used social media network by companies in Latvia is Facebook. Hence, it is essential to determine the differences in communication on Facebook among successful and unsuccessful crowdfunding campaigns.

The aim of this paper is to conduct Facebook account analysis of all the Kickstarter crowdfunding campaigns that were published in 2015 in technology category, to determine what kind of Facebook metrics should campaigns attain to raise the possibility that their crowdfunding campaigns will be successful.

To achieve the aim of the paper several research methods were applied: 1. Theoretical analysis to determine with Facebook metrics should be analysed; 2. Secondary data research method was applied to: a. Collect Kickstarter technology category campaign data; b. Collect data from Kickstarter campaign Facebook accounts. Statistical package for the social sciences (SPSS) was used to analyse collected data. SPSS was applied for following analysis methods: 1. Correlation analysis; 2. Analysis of variance.

The results of the paper were: 1. The main metrics that can indicate if crowdfunding campaign will reach its goal and be successful or not were determined; 2. Recommendations that can increase the crowdfunding campaign being successful were proposed.

In practice this paper can be used as an informational material while developing marketing strategy for crowdfunding campaigns. The theoretical contribution of this paper is that it can be used as a basis for other crowdfunding researches that examine the social media influences on technology crowdfunding campaigns.

Social Networks for Higher Education Export

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Key words: *foreign markets, higher education export, marketing, social networks*

JEL code: *M31, L86, M38*

Demographic changes in many countries, recent political problems in several countries and demographic situations in many countries encourage many universities offer study programs for foreign students – participate in higher education export. Higher education export different aspects are on research agenda for numerous researchers in many countries world-wide to develop the most efficient approaches and use recent technological tools including social media for foreign student attraction.

Data that were presented in the report by Ministry of Science and Education show that in the previous academic year (2015/2016) the proportion of foreign students in institutions of higher education has reached 8%. The forecast for this year is even higher - 10%. This number has risen significantly over the past several years. Higher education export in Latvia is fast growing sector. It contributes to the national economy directly (by tuition fees and taxes - EUR 84.5 million) and indirectly (housing expenses, buying food, tourism etc.).

Aim of the paper is social network applications analysis for higher education export; how efficient information interesting for students on higher education study programs is reflected in official messages in social networks of the countries, ministries and higher education institutions.

Research methods used: scientific publications studies; analysis of previous performed research on social network applications for higher education export; empirical analysis of countries (Baltic countries and several Nordic countries), ministries and higher education institution social network information on higher education study programs available for foreign students, foreign student survey on social network information on study programs. The evaluations of different aspect availability and information quality is evaluated in scale 1 – 10, where 1 – not available and 10 – available in full extent. For empirical data analysis, there are used descriptive statistics indicators.

The research results showed that there are analysed several different aspects covered in professional and private networks, social networks for possible foreign students is often the first information source on possible studies in foreign country, then followed by information on webpages, university ratings, word of mouth. Research showed that the recent findings on information requested for interest of foreign students.

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Customer Purchasing Habits in Internet Shops: Behaviour Characteristics of Various Generation Customers

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Keywords: *generation, lifestyle, internet shops, purchasing behaviour*
JEL code: *M31*

Statistics and results of surveys performed by various marketing agencies in Latvia suggest a rise in the use of the Internet across all age groups and a dynamic increase in online trade where customers attend both Latvian and foreign Internet shops. As the main reasons for purchasing goods and services online customers mention better prices, bigger choice, more convenient comparison of the product range as well as more comfortable delivery.

The interaction between the brick and mortar and virtual storefronts have a specific kind of effect on the purchasing behaviour of customers that takes two different forms. In the first case, the customer first searches the information online, while the actual buying takes place in the brick and mortar (physical) environment. In the second case, however, the consumer first studies and compares the offering in the physical environment and afterwards buys the product online. The respective purchasing habits are determined by different factors, including the consumer age and belonging to a certain generation. In marketing the concept of the generation lifestyle is described by the value orientation and personal traits of different people resulting in a set of specific factors of consumer behaviour.

The aim of the research is to compare the specific features and influencing factors of the purchasing behaviour of the millennials and generation Z when purchasing goods and services in the online shops in Latvia.

The study deals with the theoretical aspects of customer behaviour, their purchasing motivation in the physical and online shop environment and the lifestyles of the customers representing various generations that determine the specific features of the customer behaviour. In the theoretical part the Author has used secondary data from the scientific and statistics databases as well as the results of surveys performed by marketing agencies. The empirical part is based on the expert evaluations of the characteristics of consumer behaviour in the online environment in Latvia. Based on the conclusions acquired in the study the Author has established the common and different characteristics of the millennials and generation Z as Internet shop customers as well as summarized the possible trends in the future online behaviour of Latvian consumers based on the experience of other countries and global developments in the field.

E-Communication Strategy for Tourism Destinations

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Key words: *destination, e-communication, tourism*

JEL code: *M15, M31*

Continuous changes in tourist travelling habits create a need for tourism destinations to monitor and reconsider their communication strategy. Increasing tourist knowledge level based on more frequent travel experience together with the adaptation speed of new technologies make the tourist habits change even faster than before especially in using online information sources. Electronic sources of information provide a better access to information about myriad of destinations around the world as well as possibility for direct communication with numerous tourists who have already experienced travelling to a particular destination. Competition of tourism destinations in global arena of new communication technology adaptation creates situation for tourism destinations in which they need to be among the first to use innovative communication approaches or they will be left behind the stripes. Research paper focuses on the sources of information tourists use when they obtain the information about a tourism destination – the first part of the article makes a theoretical contribution analysing importance of e-communication strategy for tourism destinations from recent tourism marketing scientific publications, second part of the article will include quantitative empirical study based on survey of 495 foreign tourists collected in the destination Jurmala – a seaside resort of Latvia. Article aims to analyse main sources of information for different tourist segments, like, first time visitors and repeated travellers, peculiarities for separate tourism motivations as well as specific differences between the countries using crosstabulations, analysis of variance ANOVA and t-test. Study provides recommendations addressing key stakeholders of the destination Jurmala for improvements of e-communication strategy including social media usage, need for presence in tourism portals and destination website attractiveness.

The Influence on the Time on Internet: Evidence of Online Advertisements of Housings in Austria

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Key words: *Austria, housing prices, real estate online marketing, time on internet*

JEL code: *R31, M37*

It is widely known, that home buyers increasingly rely on the Internet, when searching for homes; as shown in different studies over the years. In contrast to the established time on internet (TOI) analyses, which analyse the duration of commercialisation from starting the marketing to the successful sale, this paper focuses on the online marketing time. The end of the marketing time concerns not the sale or the transaction, then the delete of the advertising on the platform. Nevertheless, the problem is that there are only a few investigations about the influence on the TOI are available. This study analysis the TOI of online advertised housings in Austria in relation to the difference between offering and transaction prices. The study figures out the influence of several characteristics of the real estate e.g. offering price, transaction price, quality of the housing, number of clicks and housing size. The observations are from an Internet platform covering 2010-2013. The sample includes no more recent data because the company of the internet platform was sold in 2014 and the new owner does not collect data in such detailed level. Therefore, this sample is used for further investigation.

The methodology is based on descriptive analysis, especially on correlation and regression analysis. Within the correlation analysis the relation between the internet and housing related variables are investigated. The regression analysis investigates the influence on the dependent variable TOI. The independent variables are the number of clicks, the number of printed advertisements, the price difference between offering and transaction prices, the size and also the condition of the housing.

The empirical findings show that the internet related characteristics (number of clicks and printings) have a high impact on the TOI. This could be linked to the interesting on the advertisings, which means the more clicks and printings per day; the more interesting is the offering which affects the TOI. The housing related characteristics (price, quality and size) have no impact on the TOI. However, this could be linked to the high market demand. Regarding the correlation analysis one result shows that the condition of the housing affects the price difference. The implication of this paper is on the one hand relevant for real estate agents for an estimation of the TOI and on the other hand for the housing sellers to estimate their price levels in context to the housing characteristics. The conclusion could be confirmed as “the higher the interesting on the object, the lower the TOI”. The interesting on the object is therefore measured by the number of clicks and printings - parameters which are related to the real estate marketing and the type of advertising (eg. title, pictures of the object).

Tourism Enterprise Cooperation Specifics: Comparative Study of Riga and Novosibirsk Travel Agencies

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Key words: *comparative study, cooperation, cooperation networks, travel agencies, tourism*
JEL code: *M10*

Topicality of cooperation among enterprises has been analysed from many aspects – additional challenges of global competition, new innovations in technology advancements, tendencies of direct sales in tourism, increase of tourist experience; these are the main driving forces, but not the only ones that are pushing traditional travel agencies out of the market and transforming the tourism intermediates into new open business model. Cooperation and networking creates ability to achieve goals that an enterprise is not capable of achieving on its own, thus giving rise to a new phenomenon referred to as collaborative advantage. Networking and collaboration in the tourism sector has gained importance particularly since these networks promote the spread of information and strengthen the connections between heterogeneous sectors of tourism industry, private and public companies, international partners, contribute to more sustainable tourism development that has extra actuality this year as the United Nations General Assembly announced 2017 as the International Year of Sustainable Tourism for Development. Research is based on qualitative study methodology of 5 case studies from each of two destinations Riga and Novosibirsk; using semi-structured interviews of company managers that allows interaction with each study object and give advantage for more detailed information collection, analysing motivation for involvement in cooperation. Article aims to investigate if there are cooperation peculiarities for the different types of travel agencies and tour-operator enterprises. Cooperation factors for analyses include cooperation importance, objectives, motives, trust, coordination, networking coverage, frequency and other important cooperation indications. Despite the fact that all examined tourism enterprises are involved in cooperation activities, in conclusion the study indicates differences in cooperation habits, advantages and disadvantages of studied tourism enterprises.

GOA-WORKBENCH® Software - Excellence Support Tool for the Enterprises

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Key words: *business excellence, EFQM, GOA-Solution software,*
Jel code: *L25, C31.*

In the 20th century, many organisations focused on auditing and quality assurance processes. In the 21st century, the quality management procedures aim to reach sustainable growth and outstanding results through the principles of excellence, continuous improvement and learning.

Excellence, sustainability and future success of the company base on EFQM (European Foundation for Quality Management) Excellence model as a philosophical background combined with organizational self-assessment and striving for continuous improvement. European leading organizations have been using EFQM Excellence Model, one of the three worldwide renowned Total Quality Management tools, for a quarter of century.

Excellence, sustainability and future success of the company base on EFQM (European Foundation for Quality Management) Excellence model as a philosophical background combined with organizational self-assessment and striving for continuous improvement. European leading organizations have been using EFQM Excellence Model, one of the three worldwide renowned Total Quality Management tools, for a quarter of century.

GOA - Solution methodology has become a part of the business thinking. However, in the strategic management its role of strategic resource remains virtually unexamined. The GOA - Solutions methodology can help to produce competitive advantages - improves behavioral features regarding the behavior of employees, competence improvement, development of corporative culture etc.

This paper aims to explore GOA - Solution methodology as a part of self-assessment tools and to find the most efficient ways of using it. The author presents the interactions between the GOA - Solution methodology and EFQM model and their mutual impacts. The author to find the most important interfering factors that impact the GOA - Solution methodology and its application. This paper consists of theoretical review of the role of GOA - Solution methodology in self-assessment and empirical research. In the empirical research, a survey among the enterprises of Latvia was conducted to determine the most effective GOA - Solution as self-assessment tool. Practical examples of GOA - Solution implementation as a part of self-assessment tools in the enterprises of different areas is also discussed. The paper uncovers different ways of application of self-assessment tools and different effects of it on performance indicators of the companies. The enterprises do not need a lot of resources for successful operation, all they have to do is to choose the most appropriate self-assessment tool.

Analysis of Regulation of Independent Directors Compensation by Using Pay-Performance Sensitivity Paradigm of Bombay Stock Exchange (BSE) - 260 Firms

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Key words: *Bombay stock exchange, corporate governance, executive compensation, firm performance, independent director, Indian firm*

JEL code: G34

The new corporate governance policy was introduced in the year 2006 for the firms listed on stock exchange in India. With this event in mind this research papers aims to test the alignment hypothesis of agency theory, also the impact of the new corporate governance policy on the firms listed on stock exchange in India.

The argument of the policy in favour of structure based director compensation is intuitively appealing, there is very little evidence of the efficacy of structure based independent director compensation to non-executive director towards keeping eye on short term profits and long term shareholder value.

In an effort to determine the effectiveness of this policy, the study will use multivariate regression to examine the relation between director compensation and firm performance. Specifically, before-after design to test the implication on of this policy. Drawing from the agency theory, this study tests the alignment hypothesis. The study finds low pay –to performance relation which is in alignment with earlier research. This study is trying to look it from the lens of economist, to see if linear pay-performance relationship exists, which prefer incentives throughout the entire range of performance levels and advocate fixed performance standard which discourages earning manipulations. The findings provide some interesting insights into the relation between Independent director compensation and firm performance. There is opportunistic behaviour on part of independent directors, the compensation is non-aligned with the shareholder's returns.

Theoretical and practical implications of the work: The study rejects the alignment hypothesis. As the independent directors of the Indian firms are not paid through the stock options, therefore, the compensation committee through stock option can improve the sensitivity of compensation to firm performance.

The background is a solid teal color with a white network of lines and dots, resembling a complex graph or data structure, extending from the bottom right towards the center.

**NEW CHALLENGES OF
ECONOMIC AND BUSINESS
DEVELOPMENT 2017**

18-20/05/2017/Riga
University of Latvia

Finance, banking and accounting

The Factors Affecting the Profitability of Banks Distinguished by Business Models, National Regulation in Terms of Proportionality and Single Supervisory Mechanism Institutions in Latvia

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Key words: *panel data model, profitability, ROE*

JEL code: *G21, C01*

Bank profitability is a topical issue for a wide range of stakeholders including bank managers and investors, financial supervisors and economic policymakers as well as economists, analysts and journalists. While the general factors of the bank profitability have been thoroughly investigated in the scientific literature, differences in the significance of those factors among diverse bank business models and various degrees of banks systemic importance have been analysed less comprehensively. The paper aims out to determine the main factors and its' level of impact on profitability of banks in Latvia. The analysis is enhanced by considering three different perspectives of the subdivision of the banking sector in terms of bank business models or their systemic significance determined respectively by the national supervisory authority or the Single Supervisory Mechanism. The research is based on analysis of statistical information and bank financial statement data; the conclusions are drawn based on analysis of the panel data fixed effects cross-section weights model. The research has shown that in Latvia bank profitability is affected mostly by such factors as economic environment, inflation, interest rates (spread), competition in the banking sector as well as bank specific financial situation in the means of overall effectiveness of the bank. The findings outline the differences between bank business models and describe the unique banking market in Latvia from the perspective of bank own business decisions, at the same time giving valuable insight on profitability aspects for the national supervisory authority and the European Central Bank when carrying out assessment for systemically significant institutions for regulatory purposes.

Evaluation of Perception of Accountant`s Role at the Enterprise in Latvia and Lithuania

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Key words: *accountant`s role, accountant`s responsibility, tasks, competencies, international accounting education standards*

JEL code: *M41*

Accountants provide the biggest amount of information on the enterprise according to which different accounting information users make their decisions, that is why profession of accountant is one of most important and most regulated professions. Besides, the profession has a demand from a general public and plays a significant role at the enterprise. The acquisition and development of an accountant`s profession under the influence of changes in the 21st century`s economic system is quite a widespread subject in scientists` researches and publications in different countries. Its topicality has especially been underlined recently not only due to the adoption of new accounting regulatory enactments in the EU Member States but also in connection with other international conditions affecting the above profession, for example, Framework for International Education Standards for Professional Accountants and Aspiring Accountants (2015). This refers to the need of the investigation of accountant`s role at the enterprise and analysis of the skills required for the profession. Therefore, it is essential to evaluate the current situation in the field of accounting in the Baltic States – Latvia, Lithuania and Estonia. Following the research methodology carried out at Tallinn University of Technology (Estonia) in 2016 to find out the students' point of view as regards the accountants` role in Estonian enterprises, a similar study has been aggregated in Latvia and Lithuania.

The purpose of the article is to evaluate the perception of accountant`s role at the enterprise and the skills required for the profession in Latvia and in Lithuania. Systematisation, comparison and summary of information methods for the research of theoretical aspects of the problem were used. A questionnaire-based study among practicing accountants and students of different level studies was used for evaluation accountant`s role at the enterprise and the skills required for the profession.

The study is based on the hypothesis that on these issues the views of accountants – practitioners as to the role of accountants in an enterprise, the scope and character of their daily work functions as well as the necessary knowledge and skills are different from those of students. To achieve the objective of this research, the authors conducted a survey among students of the accounting study program at both the University of Latvia and University of Vilnius, as well as among accountants working in Latvian and Lithuanian enterprises. The results were compared and evaluated concerning the differences in the position of the aspiring and practicing accountants at various professional maturity levels and with regard to the national criterion as well. The conclusions made at the end of this research regarding the connection of the survey data with the knowledge and skills accounting students will gain at completing the university study program in the context of international accounting standards in education allowed us to identify the directions for improvement in accounting study programs.

Entropy of Quality of Financial Statement

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Keywords: *entropy (uncertainty) in accounting, quality of financial statement, quality of financial statement, risk of material misstatements, misstatement*

JEL code: M41

Quality of financial statement is a corner question in a situation when the economic agent solves a problem of optimum distribution of the resources which are available for him in limited quantity, in conditions incomplete information for adoption of economic decisions. In certain cases, this economic agent attracts to an independent assessment of quality of auditors, that is outsiders in relation to that economic subject in which results of activity he is interested. From the point of view of the economic agent financial statement. From the point of view of the economic agent accounting reports are in one of two qualitative states: before audit (ex ante) and after audit (ex post). The high-quality of financial statement before audit is determined by probability of its misstatement as a result of non-compliance with quality requirements of financial statement. The high quality of financial statement after audit depends on the established extent of its misstatement and probability of undetected misstatements as a result of non-compliance with quality requirements of audit.

In other words, the economic agent makes the decision in the conditions of uncertainty and acts in her borders, however at the appeal to institute of audit, he aspires to reducing uncertainty concerning quality of information provided in accounting reports by means of auditor work. But also, the auditor, taking out an assessment of quality of accounting reports, also works in uncertainty conditions. So, content of misstatements from the accounting point of view is caused by a capability of its significant effect on the facts of economic life. Therefore, in the context of a financial statement subject, misstatement of the financial statement can be treated as the wrong representation of the facts (as a result of incorrect reflection of the “facts- actions” and “facts- events” in financial statement or as misstatement of a high-quality of the financial statement). The high quality of financial statement is a result of the “facts- actions” and the “facts-events” occurring in his business activities and reflects its affairs.

The system of financial statement, in particular bookkeeping form, aims at dynamic balance of accounting data, and the speed of entropy increasing in system aims to the maximum size corresponding to this dynamic balance. In the context of financial statement` quality audit allows to receive a certain quality evaluation of financial statement that determine the degree of confidence or degree of the uncertainty removed as a result of audit. Then the main theoretical objective is the assessment in what of high-quality microconditions in case of the established risk level of essential misstatements and the level of confidential probability of 95%. In this theoretical foreshortening financial statement moves from a condition of some uncertainty ($\Theta = 1$) to a condition of some definiteness ($\Theta = 0$).

In the report the following key questions are represented for discussion: limit (entropy) of uncertainty of financial statement quality; influence of a high-quality of financial statement uncertainty` factor; application of theoretical and informational links based on the amount of auditing information $I(y; x)$.

Favorable Tax Regimes that Constitute Selective State Aid From the Perspective of the Cjeu Recent Case-Law

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Key words: *amortization of goodwill, recovery of selective measure, state aid, tax subsidies in the EU*

JEL code: *H25, H71, K34*

The issue of state aid is crucial for the EU Member States that are implementing favorable tax regimes in order to foster investments and business activities performed by their tax resident companies. Up until recently, according to the General Court of the Court of Justice of the European Union, where the European Commission (EC) has been assessing whether a specific tax measure qualifies as a state aid, it had been required to prove that such measure favors certain undertakings capable of identification by reason of characteristics specific to them that other undertakings do not possess. This approach has changed by the Judgment of the Court of Justice delivered on 21 December 2016 in joined cases C-20/15 P and C-21/15 P with which the EC burden of proof has been substantially eased in classifying measure at issue as selective.

The aim of the research is, by researching the reasoning behind the conclusion reached by the Court of Justice, opinions of Advocate General and jurisprudence on fiscal state aid, to evaluate whether any fiscal measure introduced in the future that is not exempt under de minimis provision or other exemptions eventually may be classified as selective.

Main research methods are legal theory research as well as applied law reform research. Theoretical research underlying the paper is focused on the analysis of the CJEU case-law related to the judgement, as well as the analysis of related publications and opinions, whereas the applied law research includes the analysis of social and economic impact of the CJEU and EC position on state aid in fiscal measures. The findings of the research determine to what extent the EC will have more leeway in investigations into state aid tax measures as it will not have to identify a specific category of beneficiaries. In its conclusion, the paper addresses the question of whether the EU Member States may practically in the future implement any fiscal favorable regime (and maintain existing ones) without a risk of the regime at issue being classified as selective.

Payday Lending and Regulatory Responses: The Case of Lithuania

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Key words: *consumer behaviour, credit access, payday lending, transaction*

JEL code: *G28, D12, D14, D18*

Payday loans became popular very rapidly and recently, causing much controversy among general public and policymakers. The authors propose the framework of analysis and use data from extensive payday borrowers' survey, conducted in Lithuania. Empirical study is performed to investigate variables of payday lending borrowers' over-indebtedness. Findings from the empirical analysis are presented to explain how to regulate payday lending transactions, so that borrowers would be protected from the threat of over-indebtedness without prejudice to the fundamental values of society that limits regulatory discretion.

The results indicate that in general the probability of over-indebtedness is higher when borrowers are acting irrationally; opportunistically, or under higher uncertainty conditions. However, the results show that the probability of over-indebtedness is not higher when payday loan is a specific asset. Accordingly, the legislative response is offered concluding, that contrary to present regulation in Lithuania, means of regulation should be directed not only to the responsible lending as a priority, but also to responsible borrowing and related borrower's activities

Understanding the Essence of Alternative Finance: Theoretical Aspects

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Key words: *alternative financing, financial markets, market development*

JEL code: *O17, O16, G2*

While playing an inherent role in economic system, financial markets are subject of constant development. In recent conditions of global economic crisis accompanied by historically low GDP growth and challenges in potential growth, financial market counterparties were placed in rather unfavourable conditions of profound risks, accelerating regulative requirements and turbid profit perspectives. Such conditions became a greenhouse for innovations accelerating emergence of various alternative finance opportunities, which were believed to solve or at least minor the pressure of the topical problems of access to finance and overall lack of investments.

The research aim of this paper is to suggest a fundamental understanding of what term alternative finance represent by suggesting a systematisation covering alternatives and develop a fundament for further research in this area. In order to reach the set goal, a vast number of top publications by leading experts and professional organisations will be acknowledged, highlighting the organisational criteria and main characteristics of alternative channels for raising both -funding or credit resources. Through the work author will use monographic method, method of economic analysis and method of graphical visualisation.

Developing a consensus could have an important role in further academic research as well as provide a certain support to the on-going development of alternative finance regulation by all means providing a decent input in the practical sense. The results of the presented work states that in spite of boldly used believe that the alternative investment market is poorly understood; the reached level of the alternatives allows us to move to the next step and develop a detailed market structure classification and analysis.

Indicators of Financial Statements and Internal Audit Function

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Key words: *financial statements, internal audit, local governments*

JEL code: *M42*

The role of internal audit is to provide independent assurance that an organisation's risk management, governance and internal control processes are operating effectively. The purpose of this research was to substantiate the significance of the internal audit function and the relationship between indicators on financial statement indicators (revenues and balance sheet value) and the existence of the internal audit function in local governments in Latvia. It is investigated 22 local governments in Latvia with the internal audit function in 2016, which is 18.5 % of all 119 local governments. This study used the quantitative case study approach to investigate the relationship between revenue and total balance values and (the relationship) between revenue, balance sheet value and internal audit existence in local governments in Latvia. The methods of this research were financial statement (data) analysis, the Kolmogorov-Smirnov test, the Kruskal-Wallis test and the Mann-Whitney test.

The research elucidated the relationship between financial indicators, as revenue and balance sheet values of local governments in Latvia differed significantly with high probability in the years 2013, 2014 and 2015, as evidenced in the Kruskal-Wallis test. Revenue and balance sheet values in local governments with the internal audit function differed significantly as evidenced in the Mann-Whitney test results. The suggests making changes and amendments in legislation, namely, Chapter 1, Section 3 “Application of this law” of “Internal Audit Law” should be supplemented with special conditions for local governments: internal audit implementation depending on the local government revenue and the balance sheet total

Latvian Commercial Banks Branch Network Opportunities in Digital Era

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Key words: *administration costs, banks, branch network, cash, financial services.*
JEL code: *G210*

The transformation process from classic banking models to new forms has begun, and it is a major change period, which is closely followed by Latvian financial and capital market commission. Commission is urging banks to change the strategic vision, because new circumstances require new operational scenarios, but the administrative cost reduction opportunities are almost exhausted. Study objective is to assess the current situation in banks branch network related with Latvian citizens' financial services habit changes.

In research was carried out respondent survey with 113 respondents and was conducted four interviews with banking experts. The research show that banks customers have significantly changed their habits what is caused by offered remote banking services. Cash transactions in branch networks for clients are no longer important, because banks offer to client's alternative services. Bank branches in customer views now serve as advice places where they can solve complex questions or get bank experts opinions. Also, banking experts think, that banks branch networks are not associated with cash transactions, because in last year's banks offer new innovations and services to clients who provide remote financial management. Banks should start thinking about effectiveness of branch network in this era where everything is concentrated around innovation and branches are no longer cash operation points.

Research results show the possibility of digital era for Latvian commercial banks branch network, which would allow to come more effective. In overall for Latvian commercial banks this would be the most appropriate time to transform its branch networks to advisory service centres without cash operations. Considering technological advances and customer habits, banks branch network will rise in new forms in these conditions.

Banking Business Models of the Digital Future: The Case of Latvia

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Key words: *banking business model, products and services, profitability and efficiency*

JEL code: *G21, O16*

How changes the banking business model in Latvia? What are the main forces determining these changes and what are the main consequences of this process? What group of banks in Retail Banking sector has had more intensive changes during the last 3-5 years? Are banks feeling competition from FinTech companies and realising more flexible and focused policy or continue to believe in traditional banks' domination?

This paper explores this process by analysing banking products and services in Latvia such as: settlement and cash services, account management, savings and investments, loans. How advancements in technology continue to transform the lives of banking customers? The study shows that digitalization is a guarantee of development of banks. Banks are looking at newer avenues such as mobile application and mobile marketing to provide value-added services to customers and increase revenues by charging nominal fees for the services. Latvian banks are getting more and more flexible in rendering of customer services and banking products like crediting and financial resources transferring.

Authors divided Latvian commercial banks into two significant groups: private banking and universal banks. Financial indexes have been compared in conformity to these two groups. The CIR, ROA, ROE estimates point out the profitability and efficiency of commercial banks. LIQUIDITY shows that banks in Latvia have an adequate stock of unencumbered high-quality liquid assets that can be converted easily and immediately in markets into cash.

The profitability and efficiency indicators are more predicted and stable in universal banking sector. Private banking sector banks ability to pay debt obligations and its margin of safety is higher than in universal banking sector, but it is within the Latvian norm 30 percent. Private banking sector specializes in focused retail, but universal banks provide a wider range of products and services. As a result, universal banking sector is more flexible.

Electronic Money and Electronic Money Institutions: Recent Development and Issues

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Key words: *electronic money, electronic money institution*

JEL code: *K02, O03*

Innovation in payments is driven by competition, facilitated by technology, and will usually deliver value to consumers and merchants. In the last few years, the most successful innovations in payments have been those that offer payments in areas that were either un-served or under-served, such as online and mobile commerce, or those that offer access to customers who were previously excluded, or payments within new business or social interactions. Cash continues to be gradually replaced by digital money, providing consumers with more convenience and choice - and organisations with lower cost transactions. Wider adoption enables new offers to proliferate. Consumers will adopt digital or contactless payments over cash and digital wallets will start to supersede the physical wallet. The aim of this research is to identify types of electronic money and their development possibilities in the future, analyzing the legal regulation and considering a necessity of a new legal regulation.

Main results: The commercial and technological environment for electronic payments is changing rapidly, making it difficult to develop policy that is both timely and appropriate. For these reasons, inflexible and highly prescriptive regulations and rules are inappropriate and potentially harmful. In the near term, case-by-case monitoring of electronic payments is preferable to regulation. The issuance of electronic money is likely to have significant implications for monetary policy in the future. Above all, it must be ensured that the price stability and the unit of account function of money are not endangered. A significant development of electronic money could have implications for the monetary policy strategy and the control of the operational target; A number of additional regulatory concerns (i.e., the efficient functioning of payment systems and confidence in payment instruments, the protection of customers and merchants, the stability of financial markets, and protection against criminal abuse) also have to be taken into account; The rights and obligations on the part of the respective participants (customers, merchants, issuers, and operators) in an electronic money system must be clearly defined and disclosed; An electronic money system must maintain adequate technical, organizational and procedural safeguards to prevent, contain, and detect threats to the security of the system, particularly the threat of counterfeits; Protection against criminal abuse, such as money laundering, must be taken into account when designing and implementing electronic money systems.

The Private Placement of Convertible Debt: A Few Observations from the US Market

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Key words: *corporate finance, debt policy, convertible debt financing, private convertibles, public convertibles*

JEL code: *G23, G30, G32.*

The existing literature delves into a problem of a marketplace of hybrid debt issuance very rarely. Most previous studies do not apply to convertibles financing directly but have been twined into a broader examination of debt and equity issues. Thus, it seems necessary to identify potential factors which may influence management decisions on selling convertibles publicly or privately. The motives for using private convertible bonds are particularly interesting in this context.

The intent of this paper was to examine the determinants on selling convertibles in the private market by companies in good financial performance. To our best knowledge, the study is one of the first that helps to answer an important question, namely why profitable firms decide to borrow capital from private sources instead of offering convertible bonds publicly.

The study examined 529 private issues of straight, callable and putable convertible bonds carried out between 2004 and 2014 by manufacturing and service companies from the United States. A few selected issuance parameters and proxies for financial performance of the issuers (describing their size, market value, leverage, profitability, growth opportunities and cost of raising capital) have been analyzed by means of descriptive statistics, statistical significance tests, and both logistic regression and classification tree models.

The results of the research indicate that profitable companies are likely to use private convertible bonds as a substitute for common equity. Issuing convertible debt may enable them to avoid an issuance of undervalued equity and to change their unfavourable capital structure, perhaps to be better prepared to carry out their further investment projects. It is possible that profitable firms decide to borrow hybrid capital from a small group of dedicated lenders for two reasons, which are similar conclusions for straight debt. First, because they want to speed up raising capital by cutting down the time for a due-diligence process. Secondly, because they try to conceal from rival firms the information about their valuable investment options.

Does Family Business have Peculiar Financing Policy? Evidence from Listed Companies in Central and Eastern Europe

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Key words: *Central and Eastern Europe, comparison, family business, financing policy, ownership*

JEL code: *G32, G34*

The article describes the characteristics of listed companies financing policies, with particular emphasis on family businesses. The aim of the article is to find statistically significant differences in financing policy between family owned companies and others. The nature of family enterprise is associated with a greater degree of ownership concentration and may affect the financing decisions. In addition, management in these types of businesses may also be targeted to the problem of maintaining the ownership control and decisions may be different from non-family businesses. More than 2,000 listed companies in selected Central and Eastern European countries were analyzed in period of 2006-2016, including more than 600 family businesses. Data was obtained from Amadeus database. The analysis was mainly focused on the problem of capital structure. To take into account the economic context of the researched entities, their profitability and liquidity were also analyzed. Beside the descriptive statistics, the significance difference test were used. The research was conducted in a general, sectoral and national context. The results show that family businesses compared to other companies apply conservative financing policies. They are less indebted and generally achieve higher profitability. This relationship is particularly evident in services (mainly transport) and construction activities. It must be stressed, however, that the results obtained are not entirely clear. This may be caused both by the sectoral conditions of financing strategy and the differences in the family business development stage in particular country. The research results do not allow concluding about the role of liquidity in the financial policy at the general level, but only at national one.

The obtained results contribute to the research on the capital structure determinants. They also provide new insights about the family businesses behaviour. In addition, some information about the role of centralized ownership in business management was provided as well. The results are mostly consistent with previous achievements, but they point some significant differences in the level of borrowing ability or financial liquidity in each country. Therefore, the paper may also provide some information for adjusting the state economic policy in family business promoting.

Causes and Consequences of Systemic Risk in Relation to Latvia

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Key words: *financial crisis, financial institutions, regulation, systemic risk*

JEL code: *G01, G21, G28*

One of the main lessons learned from the last financial crisis is the limited understanding of systemic risk and its functioning that led to unprecedented losses by market and regulators and governments were forced to bailout or inject huge sums of money sometimes in form of guarantees that significantly increased the sovereign risk. Since then many academics, regulators and professionals alike have committed in closing this gap.

The analysis of the paper is conducted by literature survey as well as regulator's documentation and market analysis.

First of all, this paper analysis the various definitions of systemic risks and systemic events and its implications in relation to Latvia as small open economy where different status quo persists than the large G8 economies. Afterwards paper develops cause identifier with distinct agents (banks/financial institutions, depositors, regulator, market itself). The final part of paper deals with consequences of systemic risk in form of fire sales, deterioration of value of balance sheet as well as off-balance sheet positions, loss in confidence that turns into higher interest rates, market freezes that have the ability to slow down the whole economy, broken interbank linkages and shadow banking expansion.

Causes and consequences are analysed in relation to situation in Latvia during 2007-2013 and several causes like asset bubbles (housing market), deposit insurance, limited liability by financial institutions and moral hazard problems to name a few are identified.

Comparison of Pension Reforms in Growing Giants Countries: Case of China and Russia

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Keywords: *China, pension reform, pension rights, pension system, risk of poverty at old age, Russia*

JEL code: H55

The both Chinese and Russian citizens (being «a child and a prisoner» of the centrally planned economy system) were not supposed to manage their risks of poverty at old age during pension period, and as a result, they have no experience of making decisions on the risks of life cycle. During economic transformation from command-administrative to market-oriented pension schemes governments faced many problems requiring urgent solutions. Those challenges made a significant boost to the beginning of large-scale pension reforms in both countries. *The purpose* of the article is to conduct a comparative analysis of current pension reforms in Russia and China, to evaluate their possible outcomes comparing them with global trends for further studies of improving the regulation of the public pension system, autonomous pension funds and insurance companies. *Research methods:* a comparative empirical analysis based on a single algorithm. *Results.* A relatively short period of existence of a new market-oriented model of pension provision and a transfer of the risk of poverty at old age from the public to an individual level is common to both countries. In China, due to the demographic imbalances created by the state policy of «one family – one child», and in Russia due to a combination of reasons, including the high share of informal employment and low household income, the pressure on the pension systems in the medium and long-term periods will increase. It requires extra sources of fund raising. Because of a series of non-successful pension reforms, the Russian regulator narrows the number of potential participants in pension plans by imposing stricter requirements, reducing the significance of the social pension, motivating to continue the employment during the retirement period. The focus of Chinese pension reform is widening the number of participants (creating new pension schemes for rural residents and civil servants), the development of a pension provision funded component and the inclusion of insurance market mechanisms.

Changing Banking Landscape: The PSD2

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Key words: banks, FinTech, PSD2, risks

JEL code: G21, G29

Development of information technologies (IT) in finance, and changing competitive environment have gradually modified modern banking business. Moreover, evolutionary banking regulation puts banking business under additional pressure, increasing competition in financial services. A substantial driving force for the changing banking landscape will be the new EU Payment Service Directive (PSD2) that allows non-financial companies (“Third Party Payment Providers”) to provide access to financial services for bank customers, creating innovative IT solutions for payments, savings, lending and other services traditionally covered by banks. Despite the new regulation will be fully in force by the end 2018–middle 2019, banks are already facing growing competition from large technology companies such as Google, Apple, Facebook, Amazon, large and small FinTech companies such as PayPal, Moven, TransferWise, mobile network operators and other existing and potential market participants. Thus, implementation of the new directive (PSD2) will substantially change the banking landscape, increasing competition and creating new risks for banking business.

The aim of the paper is to identify challenges and opportunities created for banks and FinTech companies by the new EU Payment Service Directive (PSD2). Moreover, the paper examines the driving forces of FinTech development, explores the opportunities as well as the risks that the PSD2 will bring to banks in the nearest future. In doing this, the paper provides an analysis of PSD2 Directive and the recent trends in FinTech, examining case studies of the leading European and US FinTech companies and banks, as well as surveys conducted among users and providers of financial services in different countries. Besides, based on the authors’ survey of Latvian FinTech companies, the paper identifies the main driving forces and challenges of FinTech development. The authors conclude, that imperfection of the PSD2 creates for banks additional risks and responsibilities related to the Directive. Besides, analysis of the current trends shows occurring banking innovation paradox.

Capital Structure Ratios Analysis: Research of the Agricultural Companies in Latvia

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Key words: *agriculture, capital structure, financial sustainability, financial stability, financial risk*

JEL code: *G33, M41, Q10*

Capital structure is one of the determinant factors, which points to the company's solvency problems, particularly in agriculture, where the amount of raised funds significantly affect the company's financial stability.

Capital structure ratio analysis of the agricultural companies is one of the signals that may indicate an individual company's solvency problems as well as the sector's problems. Liability and financial stability ratios are the main problem indicators for the company to identify and evaluate the possible threat of insolvency and financial risks timely. Through the above-mentioned ratios, any interested person – a company, investor or creditor – can assess the company's financial sustainability.

Based on the analysis of the scientific literature and agricultural statistical data, the aim of this paper is to examine and evaluate the capital structure of the agricultural companies in Latvia, to determine the potential financial risks and problems.

The materials for this research study includes 43 agricultural companies with annual turnover up to 500 000 euros. The analysed data (published annual reports) are reported for the period from the year 2009 to 2015. Economic analysis, data grouping, comparison and graphical methods are applied in this study.

The analysis and examination of the capital structure ratios of the agricultural companies indicates the potential financial risks that may affect the company's financial stability.

Access to Finance for Latvian SMEs

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Key words: *access to finance, banks, SMEs, SMEs financing*

JEL code: *G21; L10; O12; O16*

In this paper, we attempt to explore why banks possessing free assets and willingness to lend, on the one side, and businesses lacking money, on the other side, do not meet. We are looking for answers why all EU initiatives for more available funding for SMEs still haven't resulted positively and loan growth rate is more than modest. The following tasks are conducted:

- based on the bank expert interviews, to carry out the qualitative analysis of the bank loan supply;
- based on the SIBIL and LURSOFT data, to analyse the demand for loans;
- based on the timber industry's case studies, to analyse companies experience in getting loans;
- to design recommendations for policy makers and academician.

The empirical part of the research is based on the quantitative and qualitative assessment of the commercial banks and SMEs of Latvia. During the research the following research methods were used: the generally accepted quantitative and qualitative research methods in economics, including the comparative analysis and synthesis and graphical depiction. The result of the analyses has been discussed and recommendations have been provided for policy makers and academician, opening new areas for this timely topic research.

Fintech as Financial Innovation – the Possibilities and Problems of Implementation

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Key words: *competition, fintech, financial services innovation.*

JEL code: *O16, G21, G23.*

Problem statement. Financial technologies (fintech) is a term collectively describing non-bank companies offering modern technologies in financial services. It is a field with great potential for innovations, attracting considerable interest from investors and enterprises. It has become even more relevant after the global financial crisis, which undermined the image of banking industry and helped spur innovation in all traditional bank services. By lowering transaction costs, fintech can help businesses execute new ideas and change consumer behaviour. The problem is that in Latvia the development of the fintech industry has been slow with banks maintaining their dominant position in the financial sector.

The aim of the research is to assess the level of development of fintech in Europe and Latvia by analysing which financial services with innovative technologies do fintech companies offer, and the advantages and drawbacks of these services compared to services offered by traditional providers of financial services.

Research methods used: the authors applied statistical methods to evaluate how prepared are consumers in Latvia for fintech services and to assess their level of information about these services, their convenience, speed, and security. The research also assessed consumers' level of satisfaction with bank services. To assess the level of fintech development, qualitative analysis of the industry dynamics was used, considering historical trends, theoretical and practical aspects of its development.

Theoretical implications of the research confirm that globalization and IT development have given small but sophisticated companies a chance to develop innovative financial services without relying on banks. However, in *practice* the development of the fintech industry in Latvia has been limited, because of limited access to finance. The survey also established that Latvian consumers are not properly informed about new innovations in the financial sector, but would be receptive to using them in the future.

The *conclusions* are:

- Strict licensing requirements in Latvia are a significant obstacle to fintech development. Experience worldwide suggests that actively lobbying and cooperating with supervisory and regulatory bodies has helped fintech startup enterprises to enter the market, to gain consumers and institutions' trust, and to attract investors. This experience could be replicated in Latvia.
- Fintech industry bodies should make more efforts to inform consumers about fintech services. Fintech companies themselves should invest further in marketing.
- Risk capital funds need to find ways to assess fintech companies and support them, because they have a large potential for growth.

FDI Attraction: Comparative Analysis of the Baltic States and Georgia

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Key words: Baltic states, foreign direct investment, Georgia, investment climate

JEL code: F21, F44

Problem statement: Attraction of foreign direct investment (FDI) is among policy priorities in many countries due to positive effects on economic growth and direct and indirect benefits (such as new capital and technology, higher employment, new management practices, services quality improvement, innovation and lower production costs, etc.) that the country receives. The Baltic countries as members of European Union has accumulated experience in reforming economy which has crucial importance for Georgia.

The aim of the article is to assess the investment climate in the Baltic states and in Georgia in order to share the Baltic countries' FDI policy objectives and approaches.

The research methods applied in the paper are quantitative and qualitative analyses that include empirical literature review, countries' statistical and econometric analysis based on three international indices - Index of Economic Freedom, Corruption Perceptions Index, and Ease of Doing Business Index.

Findings: Despite the limitations, the findings are quite meaningful. All three international indices used in the research are relevant measures of investment climate in observed countries or, to be more precise, the indices are useful in assessing investment liberalization, promotion and facilitation. However, the research shows that the intensity of correlation varies by countries.

Recommendations: To work out FDI attraction policy, country's national policy-makers should be oriented not only on unified/ common goals and approaches but mostly they have to take into account country-specific characteristics. For countries that have achieved sustainability and sufficient size of most components of indices (in this case, Estonia), further FDI attraction depends mostly on macroeconomic factors and outside external factors. For Georgia, on the other hand, there is an empty room for improvement of country's investment climate through further reforms on property rights, freedom from corruption and financial freedom.

Solvency Evaluation, Comparing Traditional Financial Situation Assessment Methods with Information from Cash Flow Statements, Using Data From Insolvent Companies in Republic of Latvia

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Key words: *cash flow ratios, cash flow statement, financial analysis, insolvency prediction*
JEL code: M41, M49

Insolvent companies negatively affect on the country's overall social and economic development. In Republic of Latvia between 2011 and 2016, each year an average of 870 companies was being proposed with insolvency. In order to minimize or avoid the company's insolvency it is important to timely evaluate company's business activities and to take appropriate decisions. Company performance analysis can be made with traditional financial analysis ratios, which are calculated by using the balance sheet and profit and loss statement data, but, based on the views of theorists and authors previous study results, it is also important to use the cash flow statement data analysis.

In the research were used fifty freely chosen, in the Republic of Latvia registered companies whose insolvency procedure started in the period from November 1, 2014 to December 31, 2016, and which operate in one of the four following sectors: trade sector, transportation, sector of services or production.

In order to rapidly assess the company's ability to pay, thereby avoiding the possibility for the company to fall into the insolvent company's status, the authors puts forward the objective of the study: explore, compare and assess the solvency indicators, which are calculated using the traditional methods of financial analysis and cash flow statement, developing proposals for solvency prediction.

To achieve this goal there were used economic analysis and synthesis method - studying the theoretical aspects and corporate reports, statistical methods - data processing and analysis, as well as the logical constructive methods of interpreting the results of the study, setting conclusions and recommendations.

In the research, there were defined conclusions and formulated proposals for company's business analysis in order to timely detect and avoid the corporate insolvency. The most important of them are included in the conclusion part.

The article has a theoretical and practical meaning in solvency forecasting through traditional financial situation evaluation ratios and cash flow statements.

The Modification of Liquidity Ratio for the Company's Solvency Assessment

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Key words: *analysis, liquidity, methods, modification*
JEL code: *M41, M49*

Financial performance of a company can be calculated with the help of financial ratios. By using ratios companies can determine financial strength or weaknesses as well as opportunities in the market or industry. One of important ratio is liquidity - a measure of company's ability to pay off current debts as they come due.

Bases on scientific literature the liquidity ratio is known from the end of the 19th century when was beginning powerful development of infrastructure in America. The article perspective - indicators of liquidity are based on data of the financial reporting of the companies from the 19th century. Eventually the annual statement of the companies were enhanced and there were appeared new components which on 19th century were not detailed shown on debtors and liabilities positions, such as: *Trade receivables, Payments of the next period, Accrued income; Next period income, Liabilities due to suppliers and contractors, Accruals.*

The aim of the research is to study and to analyze the calculation methods of liquidity ratios, taking into account urgent components of the data from annual statements of the companies, and basing on the empirical research to modify the calculations of liquidity ratios.

The authors of this paper are using the international scientific literature and articles that helps to study the different schools of financial analysis. For the empirical research, to compare the traditional and modified calculation of liquidity ratios, are used the data from annual statements of Latvian most profitable companies of the different industry over a five-year period. In the research the authors have applied quantitative and qualitative methods of economics such as the mathematical and the statistical methods, the ratio analysis, the graphical method, logically – constructive methods. At the end of the research the authors give the summary of general conclusions and findings.

Capital Market Union: The Case of Latvian Corporate Bond Market

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Key words: *capital market union, corporate bond market, regulation, funding*

JEL code: *G23, G24*

When facing critical economic and political challenges of the bank-based economy during the crisis years, the steps for a more market-based European economy were initiated by the European Commission in the way of increasing the role of the financial markets and fostering capital mobility. Capital Market Union (CMU) is an attempt to redesign the structure of funding by the European corporates and gradually transform European economies towards market-based economies. As one of the target changes initiated by the CMU is activation of a corporate bond market of a country.

Latvian corporate bond market showed very moderate development till year 2012, when it took off and in 2017 reached 94% weight of all the number of the Baltic bonds quoted in the region. While 14 issuers are publically present in Nasdaq Riga bond list, 10 of them are financial sector companies (Nasdaq Riga, 2017). Scarce presence of the non-financial sector companies represents their limitations for public debt listing from both supply and demand side thus making CMU introduction relevant and desirable for Latvian corporate bond market.

The aim of this article is while investigating the essence, progress and challenges of CMU introduction, explore the impact of CMU on Latvian corporate bond market development, its relevance and outcome scenarios. The article reveals that Latvian corporate bond market has currently reached its highest historical number of the issues outstanding driven by the financial issuers, where the current investor appetite is exceeding the bonds issued. The need for more issuers coming to the market as one of the key principles of CMU is found to face the burden of Latvian SME scope and high costs of securitisation as well as continuous favourable conditions of crediting by the local banks. While the high-risk issuer segment could benefit from the cross-border investment supply stimulated by the CMU, the comparatively higher costs of corporate bond funding could be the obstruction for those issuers unless issuing process becomes more standardised. The article concludes that Latvian corporate bond market while not being the first one to benefit from CMU introduction will gradually increase the number of non-financial sector issuers following the examples of bigger scope countries. The methods used in this article are scientific publication analysis, document analysis, data evaluation, and case study.

Accounting Development of Technogenic Energy Resources

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Key words: *biogas, mineral resource, municipal waste, natural capital, technogenic energy resource*

JEL code: *Q29, Q42, Q53*

In the context of the development of energy efficiency and of the environmental problems solution related to the municipal waste management, there is the need to determine the resources increment for economic development of the country and of the individual organization, as well as, there is the need to determine the negative environmental impacts in the accounting system of organizations that carry out municipal waste disposal and biogas extraction. Therefore, the authors propose and set forward **the objective** of the research: to develop recommendations for accounting of technogenic gas resources stocks (biogas). In order to achieve the target of the above mentioned work, the following **tasks** shall be carried out: to investigate the economic essence of municipal waste in terms of their resource usefulness and possible use in economic activities; to study the process of formation and the economic essence of biogas stocks (technogenic gaseous resources) from the position of the energy (economic) potential; to justify scientifically and recognize biogas stocks as an accounting object; to propose a version of estimating biogas stocks in accounting based on stakeholders preferences; to suggest the model of the account and reflecting in financial statements of the biogas stocks allowing to provide information on the used natural capital.

The structure of the article has been formed and created according to the contents and sequence of the tasks. In the research, there are applied the methods of general scientific research in economics: of economic analysis and synthesis, logically – constructive, including the methods of the analysis of normative acts. The theoretical and methodological grounds of the paper are: the legislative documents and normative acts regulating energy saving, waste management, accounting, works produced as by Belrussian so foreign scientists and Internet sources.

Proceeding from the set tasks, we investigated the economic essence of the new accounting object «technogenic gaseous (energy) resources of municipal waste» as a long-term asset, taking into account its specific features, which are the part of mineral resources. Authors offer to account this object in two aspects: from the one hand, assessment the cost of investments for formation alternative energy resource (such costs as the right to land use, the devices supporting optimum temperature level in the landfill body, etc.), and from the other hand - current market value of biogas stocks (technogenic gaseous (energy) resources). In contrast to the existing accounting and analytical practices, this approach will provide users with diverse information about the incurred costs for the formation the technogenic gaseous (energy) resource of municipal waste, as well as about the economic potential of the used alternative energy resource. This approach helps to assess the efficiency of biogas extraction, the energy security development in the country. In the balance sheet the formation source of long-term asset at historical costs valuation is own equity (capital) or liability. Considering biogas as an element of natural capital, and also considering its formation at disposal sites that can be exploited for commercial purposes on a lease or temporary basis, we came to the conclusion that it is necessary to reflect in balance sheet as a source of formation of natural resource - attracted natural capital. Such an approach will provide an opportunity to further assess the contribution of natural capital to the development of the business entity and the state as a whole.

The presented model of accounting can find its practical application when it is introduced into the normative legal acts of the Republic of Belarus, neighboring countries, the EU regarding the accounting of natural resources.

The Influence of Brand Strength on Bank Financial Results – the Empirical Investigation from Polish Listed Banks

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Key words: *bank performance, brands in banking, brand strength, shareholders value*

JEL code: *C23, M31, D46*

Currently, brands play an increasing role in value creation for companies. For many companies, corporate or product brands constitute strategic resources which substantially contribute to a sustained competitive advantage and high rates of return. While brand contribution to company performance is well documented through various researches with respect to the consumer goods industries, in the case of the banking sector, the subject literature is rather scarce. The purpose of this article is to present the results of empirical research on the relationships between brand strength and bank performance for Polish listed banks. Research was conducted based on an unbalanced panel time-series sample of 12 banks companies and a 71-year observation of banks listed on the Warsaw Stock Exchange between 2008 and 2014. This study reveals a strong, significant and positive relationship between the brand strength index and different bank performance measures: interest spread, return on assets (ROA), return on equity (ROE), economic profit margin (EPM) and price to book value (P/BV) ratio.

The results of this research contribute to the development of both, marketing and corporate finance theory and could have several practical implications. Primarily, bank managers receive additional evidence for brand investments legitimacy. Additionally investors, based on research findings, can utilize brand strength of banks as an indicator, which is useful for selecting investment objectives.

European Funding: Does it Induce Exporting?

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Key words: *European funding, exporting, export promotion*

JEL code: *C32, C25, O19, F41*

Judging by the past five years, history seems to be stress-testing the European Union (EU) like a central bank would its banking sector—with the fallout of the 2008 financial crisis sparking the European debt crisis, which in turn, birthed the Greek financial bailout as well as the looming threat of the Italian debt issue. Such calamities are not limited to monetary and economic matters. All over Europe nationalist politicians such as France’s Marine Le Pen and Holland’s Geert Wilders are now gaining popularity as the alternative to a seemingly dysfunctional European elite. Today, the odds appear stacked against the Union.

However, since the European Central Bank loosened its monetary policy, there has been an upswing in European competitiveness. Therefore, it is reasonable to look to the exporting sector and its growth prospects to find some glimmer of hope for the EU. In this study, we examined the impact of European Structural and Investment Fund (ESIF) financing on Latvian companies’ tendency to export, disaggregated between large and small companies, “experienced” and “less experienced” management, and lastly between ESIF funds. We used a difference-in-differences methodology, combined with propensity score matching to eliminate the impact of any factors other than the “treatment” with EU funding and thus prove a positive relation between receiving EU funding and the exporting decision. We find a statistically significant, positive effect on exports’ revenues for the funding recipients over those that had not received ESIF financing, the average treatment effect on the treated of which is 24.7%. What is more, we also find that, as we hypothesized, small companies would experience a greater effect from this influx of capital; more experienced management used the money more efficiently; and the agricultural investment fund had a more pronounced impact on the exporting decision than the regional development one.

It can therefore be concluded that ESIF financing is indeed a boon to the Latvian economy and its competitiveness. These findings should indeed yield the government some insight into more efficient ways to allocate the delegated capital.



**NEW CHALLENGES OF
ECONOMIC AND BUSINESS
DEVELOPMENT 2017**

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University of Latvia

Human development in digital era

Information Support of Agricultural Advisory Activity in Ukraine

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Key words: *agricultural advisory activity, agricultural advisory services, information technologies*

JEL code: *Q16, O33*

Reformation process of agricultural sector in Ukraine has set forward the task of developing a new system of information delivery to agricultural producers and rural communities, whose effective and rational functioning in the current market conditions highly depends on their awareness of modern technologies in agricultural production and processing, economic trends, market prices for the products and resources, legislation framework, etc. Therefore, agricultural advisory service has become the important infrastructure element of the domestic agricultural market. However, lack of sufficient government support, resource limitation and low level of information technologies have constrained rapid development of agricultural advisory activity in Ukraine. The aim of this study is: providing brief review of agricultural advisory services development in Ukraine, defining the role of information technologies in agricultural advisory activity, analyzing its delivery methods and information recourses used in agricultural producers consulting, determining main problems of proper information support of agricultural advisory activity in Ukraine and perspectives for their solution. The research methods used are dialectical methods of knowledge, systematic approach to economic processes study, observation, generalization, and others.

As a result of the conducted study it should be summarized that there are several advantages of information technologies application in agricultural advisory activity in Ukraine, in particular: providing with a continual process of data collection, analysis and assessment of relevant information, including the situation on the domestic and foreign markets; acceleration and facilitation of spreading of modern knowledge and experience, achievements in science and technologies, market conditions analytics; ensuring access of agricultural producers and rural population to electronic information sources including WEB-technologies; solving a number of calculation and technological tasks that previously could not be solved without computer equipment; immediate information exchange between consultants, advisory services, and agricultural producers with the help of electronic mail; automation of office activities of agricultural advisory services, etc. Development of the adult distance education is one of the perspective directions of practical use of information technologies in agricultural advisory activity in Ukraine, since majority of Ukrainian farmers do not have special agricultural education. Another useful opportunity of information technologies application in agricultural advisory activity that necessary to develop is forming of digital data base such as computer-aided directories of agricultural crops, pests, diseases, machinery, technologies, other inputs, and interactive programs targeting to increase income of rural population and private producers. Thus, application of information systems and technologies is a priority trend for the effective functioning and development of agricultural advisory activity in Ukraine. Advisory services should apply and implement modern information technologies, depending on the objectives, advisory methods, available technical tools that will enable effective decisions making and increase the competence level of the domestic agricultural producers and the rural population in their activities.

The Lost Element in Employee Engagement Debate

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Key words: *employee engagement, human resource management, personality traits*

JEL code: *M540*

Within the given paper, Authors intend to answer the question whether a correlation between certain character traits and individual employee's engagement exists. The goal of this paper is to find scientific research based evidence that proves or disapproves such correlation and in case of positive conclusion, to draw the list of specific character traits associated with high engagement that can be successfully used to perform more efficient recruitment for organizations.

Consultants, Researchers and Human Resources Management professionals around the globe are spending enormous time and effort to solve the puzzle of employee engagement. According to research (Gallup, PWC, etc.), both, public and private sector organizations that report higher employee engagement levels, achieve by far better results. Still, despite of all the effort, vast number of sources (Gallup, TNS, Bersin by Deloitte and many others) quote global average engagement level as low as 13%. Organizations spend millions each year on trying to understand secrets for higher employee engagement and on investments in work environment improvements to achieve it, as research quotes as much as 33% higher profitability for companies with engaged employees. According to Josh Bersin, founder of Bersin by Deloitte, more than 120 vendors are now providing pulse survey tools, employee mood monitoring systems, and culture and engagement assessments.

However, one important element in this equation is in most cases forgotten – personality of individual employee. Perhaps, there is little that companies can do to drive engagement, if certain personality traits are missing in their employees? Perhaps, the answer to the ongoing debate around more engaged workforce is not found within what companies can do to raise engagement of their existing workforce. Perhaps, the answer is in what kind of people companies should hire if they care about high engagement levels.

To support the findings from theoretical research, article includes analysis of short survey results, as well as considers possibilities to support and trigger individuals' engagement through a smart use of modern technology.

Online Communication with Citizens - a Case Study of the European Parliament on Social Media

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Key words: *civic engagement, decision-making process, European Parliament, public administration, social media*

JEL code: *L86, M15, O31*

For the democracy, it is important that citizens are exercising their duties and rights, as well as, that they are involved in the decision-making process of public administration. However, over the past few decades, citizens' participation is declining and there is a need for a solution to improve the level of civic engagement. The study is discussing citizens' engagement into European Union issues, where lack of knowledge about European Citizenship is a problem that is preventing citizens from exercising their opportunities and duties in the European Union. As a solution to this problem study is investigating social media, as it can provide direct two-way communication, therefore also might be a contemporary tool for educating people and fostering their civic engagement. The aim of the study is to research how institutions are using social media for a two-way communication and if there is a potential of social media to be used for civic engagement.

Research methods that are used in the study: analysis of publications and academic literature about civic engagement, social media and European Citizenship; and case study; as well as, content analysis of the European Parliament's social media accounts in Latvian. In the case study data about citizens' feedback to the social media entries are gathered and analysed, providing information how this social media content is perceived and which topics and publication styles are more favourable to the social media users. The case study provides notion about the main topics that are represented in the analysed social media accounts, gives an impression of the European Parliament's publication style, and indicates which technical opportunities of social media European Parliament are exercising. Results of the study suggest that the European Parliament is not successfully utilising two-way communication opportunity that social media is providing, therefore the potential to foster citizens' knowledge about European Union issues and improve civic engagement is not fulfilled. Main findings of the study can be used as justification for the better development of European Parliament's social media communication. As well as, results of the study might be useful not only for European Union institutions but also for the national institutions to whom two-way communication with citizens on the social media can be a contemporary way how to involve citizens in the decision-making process of public administration. In addition, results of the study are suggesting that there is potential for future studies about forms of civic engagement in the 21 century and use of social media for a two-way communication between institutions and citizens.

Individually Designed Incentive Programs: Is There a Difference in the Work-Related Preferences, Commitment and Needs Based on Personality Types and Working Coping Patterns

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Key words: *incentive systems, job characteristic, needs and motives, personality types, organizational commitment,*

JEL code: *M52*

Human capital is considered to be one of the most important factors for business success. Companies have always strived to address the needs and motives of employees through appropriately designed incentive systems. The aim is to keep organizational commitment of managers and employees high and to bind them to the organization in the long-term. Inadequate job design leads to costly withdrawal behaviour and ultimately for key personnel leaving the organization. This applies even more to the fast-developing business environment of the digital area. The influence of personality types on this process of organizational commitment and adequate job design, as well as on individual needs, has not yet been fully researched.

The underlying research questions are whether different personality types (measured by work-related behaviour and experience patterns) value the same job characteristics, show differences in their valuation of their needs and have the same organizational commitment on the affective, continuous and normative level. In order to answer these questions two studies have been conducted. The first study analyses the differences in the work-related commitment and the preferences for the specific needs between the different personality types among 197 participants. The study revealed differences between personality types and their organizational commitment as well as some trends in the personality preferences for certain job related needs. Statistically significant differences were found in such job characteristics as high income, good promotion prospects and interesting job among the different personality types and were more appreciated by more work-oriented types of personalities than by the other types. A follow-up study aimed to reveal the relationships between the personality types and work-related motives and was conducted with 90 participants. Although the analysis of the study revealed gender differences in the importance and satisfaction of work-related needs, no such difference was found among the participants with different personality types.

The findings support the assumption that personality types and work-coping patterns indicate certain types of commitment and individual preferences for the job characteristics. The practical implication of these findings could be a concept with individually based solutions for incentive systems and a job design based on the personality types and work-related coping patterns.

Agricultural Education System Modernization in the Digital Era Condition

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Key words: *agriculture, competencies, digital era, education system*

Jel code: *I25; O13; O30.*

The conception of "postindustrial society" and digital era development become more and more popular throughout the previous years. These conceptions have been analyzed in the article, as well as the opinions of the scientists, such as: Daniel Bell, Alvin Toffler, Laszlo Z. Karvalic about the role of the information in the global economy. The structure of the global GDP of 2015 proved, that the most part of global GDP comes from the service sector it is 63.6% that confirms the increasing role of the information and new technologies in the modern society.

The main challenges of the modern digital world have been proved as well as the factors that determine the content of new education paradigm, such as: the transforming of education system from memorizing and storing of large amount of information to the methods of continuously getting new knowledge and self-education; transition to the formation of an independent way of thinking, ability to work with different kind of information and different data; form not only professional knowledge and skills but also professional competence. It creates the necessity to improve the education system and particularly the agricultural education system.

The objective of the research is to find out both the useful and efficient ways to improve the agricultural education system in Ukraine and in general and new methods of forming required modern skills of the students and future leaders of agriculture.

To achieve the objective of the research the following methods: analysis, synthesis, induction, deduction and formalization have been used. The description and surveillance were using to characterize different aspects of agricultural educational system development. Some comparison methods helped to investigate the actual data from certain periods of time and graphics have been used to illustrate the dynamics of the period.

As the results of the research, the place and role of the agricultural sector in the world economy and Ukraine economy were presented in the article. Moreover, the features of the agricultural education system in Ukraine have been defined. The key skills and competitiveness that shall be developed for the efficient agricultural student and future leader have been proved and they are: flexible logic, the ability to quickly navigate the situation, strategic thinking, the ability to quickly acquire new knowledge and technologies, ability to work in a team and an innovative and creative approach to production, motivation to self-education; ability to carry out creative and research activities.

Main results and findings of the study presented by the complex of tools, which have to be used on the deferent levels (governmental, regional, university level), have been developed to improve the agricultural education system.

Motivation of the Head of the Public Administration Institution, Improving the Internal Control System

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Key words: *control, internal control, motivation, public administration*

JEL code: *H83, H11*

In Latvia, there are 164 heads of the public administration institution's and they have responsibility to create, to improve and to consummate internal control system of the public administration institution. But there is no system which can motive the head of the public administration institution to provide a better results of internal control system functioning. Resources available to the countries are decreasing, but internal control can find wasteful functions in public administration institutions and also reduce waste of financial resources. That's why the national trend set itself the aim to create an efficient, cost-effective and professional public administration and to provide the transparency of procedure control, has allowed to examine an internal working of public administration institutions.

The aim of the paper is to research motivation factors that can promote to consummate internal control system the head of public administration institution, especially, if there are innovative use of information and communication technologies. In terms of methodology, the paper uses a literature review and policy document analysis as its main methods.

The results describe what are the advantages and disadvantage, in addition of key performance indicators compared to existing motivation system. The main finding of the paper is proposals for government and Ministry of Finance, to impact efficiency of internal control system in the public administration institutions of Latvia. The result of the paper is also practical implications for inter-institutional cooperation geared to the opportunities better use information and communication technologies to consummate internal control system. Sharing information, knowledge, and best practices, as input for internal control system, but opportunities as output and motivation factor for head of public administration institutions.

Aspects of Impact of Electronic Evaluation Form Information System (EEFIS) on the Development of Manager's Competence

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Key words: *coaching, electronic form, evaluation, manager's competence.*

JEL code: *D73, D89, M12, M19, M59*

Development of manager's competencies and productivity of assignment execution is essential for making the work procedure effective. A manager should be able to manage productively organization and team. Nowadays employees have become more demanding and more aware. They wish to take more part in decision-making process concerning their professional field. Therefore, high importance must be paid to labor relations. A manager has to constantly perfect himself/herself to sustain his/her authority. At the same time, a manager has to ensure productivity.

There are certain factors, which may develop and affect manager's competences. These factors are the following: manager's education, gained experience, ability to learn from one's own and others' mistakes, constant mastering of knowledge, learning and use of latest technologies. Manager's basic skills enhancement and knowledge acquisition is an ongoing process. Consequently, public organizations regularly evaluate managers and employees' competencies and professional abilities.

The urgency of the article is substantiated by gained work experience of authors in relation to managers and subordinates. A manager is a person who is not only focused on achievement of organization's aim, but also on the team, when all employees are treated equally and each employee would be evaluated impartially.

The aim of the article is to study facilitation of manager's competence regular evaluation system EEFIS (electronic evaluation form information system) for development of manager's competence.

To reach this aim, literature on manager's competence content was studied and the answer to the question "what is the basic knowledge, skills and experience, the body of which is called manager's competence?" was given. Explanation, content and system of the materials (brochure and forms of manager's self-evaluation) suggested by EEFIS was considered. Theory on coaching being a modern way for development of employees' competence, including self-coaching methods for development of manager's competence was studied.

Conclusion - electronic evaluation form information system (EEFIS) is a useful basis of manager's competence growth evaluation. And, to supplement and specify the manager's competence according to the specific situation, team, development of specific skills of assignments, one column could be added. It is the column, in which the manager in cooperation with professional support specialist, for example, a coach, could enter criteria required personally by him/her and follow their development, too.

Vulnerable Families: Case of Latvia

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Keywords: *children, family, parents, vulnerability*

Considering the increasing variety and complexity of family types, it is necessary to focus on the protection of vulnerable families or those families that are “at risk”.

Although it is argued that there does not exist a specific family type which leads to vulnerability, most experts agree that there are some types which have a higher possibility of being vulnerable – the most noticeable of them are families with single parents and families with many children.

Discussions were also related to the specific vulnerability of migrant families and families who include members in need, especially disabled children.

In the research, the author has determined a relationship between these factors in the context of Latvia. The research shows how different socio-economic factors of the woman influence the poverty risk of her family.

10 877 women whose first child was born in 2006 and their families are included in the study cohort and observed in 10 years' period.

The research shows a significant correlation between the vulnerability risk and the level of education of the woman. The vulnerability risk is similar in families with one to three children, and it increases starting from the fourth child. In single mother's families, state benefits are important.

In Latvia, it is not possible to see a link between vulnerability risk and a past of immigration. In families with disabled children, the level of income does not differ from other families; however, they have larger expenses and other risks of vulnerability.

A continuity of vulnerability from one generation to the next in relation to the level of education can be seen, but the level of education of the woman is more related to the level of education of her spouse than the level of education of her parents.

The analysis is based on data from the Population and Housing Census 2011, the Office of Citizenship and Migration Affairs, the Ministry of Education and the State Revenue Service.

Knowledge Triangle: Higher Education and Research Impact to Innovations in EU and Latvia

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Key words: *cluster analysis, knowledge triangle, market size* ,
JEL code: *E61, F62, C01.*

The Knowledge Triangle (KT) is a policy paradigm that stresses the need for an integrated approach to research, innovation and education policy. It was conceived in 2000 as a part of the Lisbon Strategy (EU) in response to a series of challenges the region faced in its transition towards a knowledge-based society. Policy-making for the development of “Europe of Knowledge” has relied on a number of different policy instruments. Comparing their relative impact and also comparing their impact across national and institutional borders may provide new insights as to what instruments work in higher education (HE) reforms. It is crucial especially for EU countries like Latvia, where the GDP per capita and the average income for inhabitants is comparatively low and the market size of country is relatively small.

One of the options to analyze the success of the used policies in education is to use World Competitiveness Index (GCI) analysis. The main purpose of GCI is to assess the ability of countries to provide high levels of prosperity to their citizens, where one of the main prosperity indicating branches is the development of education system. Latvia takes 39th place in pillar “higher education and training” and only 57th place in pillar “innovations” according 2016-2017 GCI. Usually specialists explain that it is the impact of country market size.

The purpose of this research is to find out if the market size is indeed the main factor that makes impact on the elements of knowledge triangle. It is very important to emphasize the kinds of instruments to carry out policy changes in the HE.

We propose to make statistical analysis of following GCI indicators :1) overall country GCI, 2) higher education and training, 3) innovations 4) market size and 5) research indicators about 28 EU countries and Norway. Statistical analysis except the intercorrelation analysis includes cluster analysis.

Results of the research: it was found out that groups with similar countries allow to analyze similaritie and thus to make policy changes in higher education according to the best examples. Research shows that innovation level is strongly connected to the overall country GCI.

Mega-Projects of the Public Sector: A Guideline to Avoid Logical Failures

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Key words: *critical success factors, flood prevention, knowledge management, knowledge retention, public sector*

JEL code: *H43, D81, D83*

Context and motivation: Due to the climate change, extreme weather situations are increasing and become more and more disastrous. Especially floods influence our daily lives and create immense financial losses. The possibility of the subsequent risks and harms shows the necessity to implement efficient flood prevention urgently. Because of high costs, the public sector is mostly responsible for building and operating such facilities. However, several lighthouse projects show massive delay and financial deficits. This is due to different interests in law, administration and politics. Currently, an interdisciplinary approach for systematizing the knowledge of successful realisation of comparable projects is still missing. Consequently, projects of flood prevention are repeatedly delayed and, thus, cannot protect citizens.

This article is part of an overall research project on knowledge management in the public sector. We investigate projects in flood prevention to ensure powerful services of general interests within the current financial, demographical and environmental contexts. We identify and systematize influences on decision making in such projects and aggregate them into Critical Success Factors. Therefore, we consider differences in industrial structures, specifics of organisations (geographic area), contexts (current politics) and time (floods). In an earlier article, we conducted a document analysis on projects for implementing flood prevention of a concrete organisation. Now we will evaluate and extend these results by externalising knowledge of (former) decision makers and experts of this concrete organisation. We use the method of semi-structured tandem-interviews to achieve situational and temporal context information on past decisions. Furthermore, they find relations between the identified factors and add new ones if appropriate. All interviews will be recorded and transcribed or memos will be taken if an expert does not agree to be recorded. Finally, the data will be analysed qualitatively and compared with or added to the existing results.

This article addresses the call on more research on knowledge management in the public sector and, at the same time, concentrate on services of the public sector that are relevant for the overall security. Questioning experts of politics as well as the public and private sector enables us to model decision processes in the public sector. The interdisciplinary knowledge will be aggregated into a guideline for practitioners to foster their projects while keeping the budget. The reasons for delays or even failures are transparent and, thus, can be addressed with relevant information before they harm projects. This increases the acceptance of all participants and enables a quicker implementation of public projects. Especially projects on flood prevention can subsequently secure the economic power, save lives and the existence of citizens.

Using Data Mining Technology for Student Data Analysis

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Key words: *data mining, predictive modelling, student retention, student drop out*
JEL code: *C530*

The use of data mining technology helps to improve the quality of decision-making in different areas of business and medicine. The accumulated large amount of student data in educational information systems is the informational basis for using of data mining technologies in the education sector too. Therefore, recently the methods of knowledge discovery have deserved the attention from educational researchers too and this approach in literature has been called the educational data mining (EDM).

Thanks to its predicative function, the data mining technologies can help the university to find out the students who are prone to dropout. This will make more favourable conditions for more focused work with students in order to keep them in the university lists and identify the factors, which make students decide to leave the university. In addition, it can improve the quality of monitoring students.

The aim of the research is to create a model for predicting the dropout of students based on the accumulated data for each student using methods of data mining technologies.

The subject of the study is university student's performance. The collected sample contains data about 5000 students, which study in university within different study programs, graduated from university or have been dropped out from university. The data have been collected over the period from 2011 to 2016.

The collected data regard student's study history: the student level of previous education, student average point for previous education, region and types of school that the student graduated from, study programs in university, student average grade in university, type of studies in university: full or part-time as well as other information.

In paper, there is discussed the application of different classification algorithms (*C5*, *Quest*, *Neural Network*, *C&R Tree*, *Support Vector Machine*) in order to create to the student's dropout predictive model. During the research, there have been created the predictive models which were tested and evaluated with the use of IBM SPSS Modeler and Microsoft ML Azure software's tools.



**NEW CHALLENGES OF
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Modelling economics and business

Analysis of Entrepreneurial Ecosystem Frameworks: The Need to Quantify Entrepreneurial Activity

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Key words: *entrepreneurial ecosystems, entrepreneurship, public policy, startups*

JEL code: *L26*

It is commonly accepted that entrepreneurship is a key activity in the current economic context, and entrepreneurs create value in form of new business ventures, and generate new jobs by mobilizing economic resources, which in combination has a positive impact in terms of increasing productivity and economic growth, among other positive effects. To this respect, international institutions like the United Nations or the Organization for Economic Cooperation and Development agree on the importance of innovation and entrepreneurship in sustainable economic growth and material and non-material welfare. In this context, the concept of entrepreneurial ecosystem arises to illustrate the impact of framework conditions, such as public policies, culture or access to finance, to promote or disincentive the entrepreneurship initiative in a given location.

Although the interaction of entrepreneurship and economic development has become a hot topic in the agenda of policy-makers and private investors, traditionally there has been a lack of understanding in this particular field, mainly due to the absence of a framework that gathers and quantifies the agents and its relationships as a necessary step to measure and evaluate the different inputs and outputs of the entrepreneurship performance in a certain region/city. Therefore, academic research on the entrepreneurship field has been mainly focused on the individual entrepreneur's concept, underestimating (i) the complexity of the interactions among different agents in each stage of the entrepreneurial process, and (ii) their evolution over time to evaluate the entrepreneurial outcome in a certain region.

Given the need to progress to more quantitative approaches of the ecosystem's activity, the objective of the paper is to present a comprehensive review and comparison of the most relevant frameworks that represent entrepreneurial ecosystems in order to identify the existing gaps to quantify entrepreneurial activity, and reflect on the indicators that could contribute to evaluate and monitor its progress.

Entrepreneurship being a central part of the policy agenda in Europe, and in particular the notion of the app economy or web entrepreneurship among key entrepreneurship policy cornerstones for the EU, the paper can contribute to the debate in order to design improved frameworks to establish entrepreneurial ecosystems in specific locations (e.g. cities) as a way to foster economic and social development through entrepreneurship and innovation.

The Relationship Between Innovation, R&D Expenditures and Economic Growth in the Baltic States

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Key words: *Innovation, panel data mode, productivity, cointegration, R&D expenditures,*
JEL code: *O30, C23, F43*

There is a general agreement in the economic literature that research and development expenditures play an important role in the economic development, as is an essential driver of innovations and growth. However, it is also known that different types of innovations play different roles at various stages of economic development. On one hand, Baltic countries can be treated like quite similar, with lot of likeness in their histories, but on the other hand Estonia's leadership is noticeable, and comparison of these countries is worth analysing.

The objective of the paper is to examine the relationship between economic growth, research and development and innovation for Latvia, Lithuania and Estonia. Empirical analysis is carried out with panel data regression estimations using various specifications.

To quantify the innovation, we use the following variables: R&D expenditures, number of patents, and number of trademarks. To make the comparisons of Baltic countries, before modelling, we investigated innovative activities in these countries, GDP per capita growth dynamics, and structure of export, paying attention mainly to the changes in the proportion of high-tech export. We find that on all these accounts Estonia is the leader among the three Baltic countries.

The modelling results provide evidence of a positive, but weak relationship between research and development expenditures and innovations; and positive, statistically significant relationship between research and development and economic growth for all three countries.

Fiscal and Economic Effects of Microenterprise Tax in Latvia

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Key words: *employment, labour taxation, microenterprise tax, productivity*

JEL codes: *H25, H26, J24*

The microenterprise tax (MET) regime in Latvia was introduced at the end of 2010 as a tool to foster job creation in a country hardly hit by the crisis. By 2015, the regime covered 9% of all employees with non-zero earnings; moreover, similarly measured MET share in the private sector has reached 13% but in some professional service activities was between 40% and 60%. During the last year, the MET regime was in the spotlight of policy debate; recent and further projected changes in MET remain a focal point of the dialog between the government and social partners. This paper employs econometric analysis of full-coverage administrative data to look at the evolution of the MET regime. First, we identify sector-specific factors which determine the share of MET workers in private employment reached by 2015. It appears that, other things equal, the share of microenterprise workers increases with pre-MET burden of labour taxes and profit taxes (each measured as a share of turnover); there is also evidence that firms in sectors with wide-spread wage manipulation practices were more likely to use the MET regime.

Second, we show that sectors with larger shares of MET-only workers indeed have seen larger cuts (or smaller increases) in the burden of main taxes. However, the share of mixed workers (those having earnings at both MET and the general tax regime) has an opposite effect.

The expansion of the MET regime had an economic impact beyond purely fiscal effects: other things equal, sectors with higher shares of microenterprise workers in 2014 feature smaller growth (or larger decrease) of real labour productivity, as well as larger growth of nominal unit labour costs. The latter finding contrasts with the fact that labour cost per full-time equivalent worker, as could be expected, is smaller in sectors with larger MET share in employment, other things equal.

Overall, we provide evidence that firms switched to the microenterprise tax regime to reduce tax burden - and succeeded. The MET regime had a positive effect on employment but a negative effect on labour productivity.

Statistical Model for Fast Evaluation of Policy Decisions in Agriculture

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Key words: *agriculture, policy making, statistical model*

JEL code: *C44, Q18*

Appropriate statistical models are not always available in policy making in order to react immediately to policy proposals. Evaluation of policy drafts can take more time than policy makers are ready to wait. As a result, decisions are taken spontaneously and unreasonably based on influences of politicians and active stakeholders. The aim of the research is to develop a statistical model to improve policy making process and evaluate consequences of policy proposals. The proposed statistical model is developed as a software (support tool) for policy makers to estimate consequences of policy decisions in farming sector. The statistical model consists of three main parts – input, data processing and output component. It is based on existing statistical and administrative information, in addition forecasts are used to provide up-to-date information in the model. Information of the Farm Accountancy Data Network (FADN) is used, which provides farm accountancy data collected every year using a sample survey according to European Union regulations. Information of the FADN usually is published with a lag of two years therefore it is extrapolated in the model to make the statistical model closer to the moment and environment of decision-making. The model provides a simple framework for policy makers to quickly update a set of assumptions according to the chosen criteria of optimality to find the best decision. Elements of decision theory and sensitivity analysis are used in the statistical model. The purpose of this model is to provide a method for the policy makers to find and propose the best policy solution within a limited time frame, to evaluate impact of changes in support policy or tax policy. The model also helps to identify inefficient decisions. The research shows how using available statistical and administrative information we can develop a framework for immediate impact analysis of policy proposals and adapt it for evaluation of new policy tools.

The Relationship Between Job Satisfaction, Work Motivation and Job Performance of Employees in an Organizational Context

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Key words: *employees, job satisfaction, performance, work motivation*

JEL code: *M540*

The concept of job satisfaction in organizations has received increased attention in the research literature recently as both managers and organizational analysts seek ways to increase work motivation and performance of employees. Regardless of the size of an organization or the extent of its resources, the need of a committed and satisfied work force is necessary in order to be successful as a company. In order to generate such organizational commitment of the employees, the knowledge about what motivates and satisfies them is essential.

Regarding the problems that the real economy currently faces, specific aspects of job satisfaction and work motivation has to be analyzed. At the beginning of the 21st century, job satisfaction and motivation theories are facing new challenges. As every individual is different, they are distinguishing themselves from each other in their behavior, needs, expectations and individual characteristics. Researchers and theories indicate on basis of their findings that job satisfaction is related with work motivation and job performance. Aim of this paper is to indicate major factors that influence job satisfaction and in further consequence, outline the relationship among job satisfaction, work motivation and performance of employees. The paper reviews the approaches of the motivational theorists Maslow and Herzberg and draws a conclusion about the impact of work motivation on job satisfaction. Moreover, the Job Characteristics Model of Hackman and Oldham, which allows the core job dimensions to have direct and indirect effects on work performance, will be discussed and analyzed.

The Impact of the Tax and Benefit System on the Labour Supply in Latvia

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Key words: *EUROMOD, Heckman model, microsimulation model, participation level, probit*
JEL code: *C15, H31, J21.*

When formulating the tax and benefit policy rules, it is crucial to understand the labour supply behaviour, in particular, the influence of changes in the tax and benefit system on the individual's decision making to participate in the labour market. The aim of the research is to estimate the impact of the tax and benefit system on the changes in labour supply. The research presents the structural labour supply model that allows estimating the effect of gains to work on the participation probabilities in Latvia, thereby the effect of the recent tax and benefit reforms on the changes of labour supply in Latvia. Gains to work are defined as the difference between net wage and the amount of lost benefits due to taking up a job.

Heckman model is used to impute the hypothetical earnings for those actually not working on the basis of the observed workers' earnings. The amount of out-of-work benefits are observed only for those who are not working, while the calculation of these measures for working individuals requires the detailed coding of the Latvian tax and benefit system provided by a tax and benefit microsimulation model EUROMOD. Using EUROMOD, individual and household tax liabilities and benefits entitlements are simulated under the existing policy rules.

For the structural order probit equation the author uses the same set of independent variables as in the selection equation of Heckman sample selection model, and, in addition, individual gains to work.

The empirical analysis relies on microdata of EU-SILC surveys, years 2011-2015 adapted for the use with EUROMOD.

The research results allow policy makers to assess the impact of various tax-benefit reforms and to identify the reforms which can increase the labour force participation level of different population groups.

Analysis of Deficiencies of Data Quality Dimensions

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Key words: *data quality, data quality dimensions, data users*

JEL code: *C0, C13, O31*

The research and analysis of the quality of statistics is extremely important. The ESS Vision 2020, a common strategic response of the European Statistical System, adopted by the ESS Committee in May 2014, identifies five key areas in which common action is needed for European statistics to be “fit for the future”. The quality is one of these key areas. Summarizing the scientific studies on theoretical aspects of statistical data quality, the author found that a greater contribution in this field gave the following foreign researchers: Wang R.Y., Strong D.M, Ballou D.P., Pazer H.L., English L., Lee Y., Strong D., Parker M. B., Redman T. C., Olson J. Based on scientific studies on data quality, author developed data quality assessment framework containing 13 data quality dimensions: data objectivity, data completeness, data representativity, data accuracy, quality of methodology, coherence, actuality, data accessibility, interpretability, informativeness, utility, statistical disclosure control, optimal use of resources. The set of data quality dimensions has been tested with experts using some possible shortcomings of data quality dimensions: lack of scientific understanding, the concept has the ambivalent understanding, insufficient methodological support for the assessment of data quality dimension, too large variety of methods and the resulting diversity of evaluation results, only qualitative assessments of data quality dimension, insufficient quality of assessment methods of data quality dimensions.

This paper presents some results of experts’ survey on data quality issues carried out by the author. The results illustrate the fact that the most problematic data quality dimensions are: data objectivity, data completeness, representativity, data accuracy, quality of methodology, coherence and interpretability. Scientific definitions and explanations should be streamlined and clarified, mainly for the following dimensions: data objectivity, quality of methodology, data coherence and interpretability. Assessment methodology should be developed for data completeness, accuracy, representativity, quality of methodology, coherence and interpretability. Both scientific definitions and assessment methodology should be developed for quality of methodology, coherence and interpretability.

The empiric method (analysis of texts and documents) and the method of theoretical research (analysis of the experts’ survey data) are applied.

Macroeconomic Effects of the Asset Purchase Programme: Structural Bayesian VAR Approach

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Key words: *asset purchase programme, Bayesian VAR, euro area, quantitative easing, sign restrictions*

JEL code: *C54, E47, E58.*

To prevent the Eurozone economy from entering a deflationary spiral and to achieve its main goal – maintaining price stability – the European Central Bank announced the Asset Purchase Programme (APP) on January 22, 2015. The purchases of public and private securities started in March 2015 and are intended to be carried out until December 2017 or until the inflationary path is consistent with the inflation target.

The aim of this paper is to evaluate the macroeconomic effects of the APP on the euro area output and price level and determine the channels through which the asset purchases are transmitted to the real economy. The empirical evidence on the macroeconomic effects of the APP is provided by Wieladek and Garcia Pascual (2016) and Zlobins (2016). These papers identify the QE shock from the asset purchase announcement variable and as a reduction in the long-term interest rate spread respectively. This paper expands the literature by identifying the QE shock from the quantity variable, i.e., securities held by the Eurosystem.

In order to assess the macroeconomic effects of the APP, we estimate a structural Bayesian vector autoregression (VAR) with normal-Wishart prior. The model is then used to obtain impulse response functions to the QE shock which is identified from the quantity variable by using sign and zero restrictions. The results from the structural Bayesian VAR model suggest that the APP has had a significant positive impact both on output and price level. The evidence suggests that the APP was transmitted to the real economy through the portfolio rebalancing, signaling, credit easing and exchange rate channels, while the uncertainty channel had no significant effect.



**NEW CHALLENGES OF
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Regional development and cohesion



Pattern Identification by Factor Analysis for Regions with Similar Economic Activity Based on Mobile Communication Data

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Key words: indicators of economic activity, mobile data.

JEL code: O10

The rapid development of mobile technologies is giving the new source of statistical data – mobile data. There are different mobile data applications in the field of mobility and transportation, urban economy, public safety and land-use planning, but only some of them are used in real-life urban management. The study analyses the regions' economic activity in Latvia under the purpose to identify the regions with similar economic activity patterns using mobile communication data. The following tasks have been defined: to make preliminary data analysis of Call Data Record (CDR) data with special attention to interconnection of number of call activity and number of unique phone users; to test call data changes and the logic of economic activity on different aggregation levels by day and by 15 minutes; to compare the regions with similar economic activity patterns.

The exploratory factor analysis was applied on the method of principal components to describe variability among correlated variables of 119 cities and counties. As the result two factors have a significant data load and describe 95% of the total variance. The first factor can be interpreted as the regions with lower economic activity, but the second factor has high values in weekdays and lower values in weekend days and can be interpreted as the regions with higher economic activity. The call number of the call activities and number of unique phone users can be indicators of economic activity and its changing in a certain region for the updatable Latvian regional business index development.

Issues of Labour Market Development in Latvia and EU Countries

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Key words: *employment, labour market, unemployment*

JEL code: *E2, E6, E24, J2, J4, J21.*

The paper presents labour market flows between employment, unemployment and economic inactivity. The aim of the paper is analysing labour market flows, as well as analyse “Europe 2020” strategy employment targets in the EU countries have to reach by 2020, as well as, national employment targets. In the given research, such methods as the analysis of the literature and advanced papers in the field of employment and unemployment were used. Methodology is based on Eurostat labour market flow statistics for age group 15 – 74.

According to labour market flows, there are four country groups: 1. countries with relatively low unemployment and high transition into employment; 2. countries with relatively low unemployment and low transitions into employment; 3. countries with relatively high unemployment and high transition into employment, and 4. countries with relatively high unemployment and low transition into employment.

Improvement of the economic situation has effect on labour market: employment growth has contributed to reduced unemployment in Latvia. At the same time, there is a risk of long - term unemployment. And long - term unemployment may lead to an increase in structural unemployment.

At Assessment of challenges under the Employment Policy Guidelines and progress towards the EU headline and national employment rate targets compare to current and projected 2020 rates. In the result of this research key indicators of labour market performance in Latvia have been compared with other EU countries.

The Culture Economy as a Sign of Renewal of Rural Territories in Latvia

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Key words: *culture economy, reorganization of economies, rural renewal, social and economic traits*

JEL code: *Z10, Z13*

Two parallel processes are observed in rural territories in Latvia lately – depopulation, shrinking, centralization, on the one hand, and innovative activities, rebirth of places, building of community, on the other hand. It is seen as a part of common trends in rural territories where social and economic activities in rural areas are considered as a form of endogenous development in which economic activity is re-formulated so as to be based more firmly on local resources, physical and human.

Latvian researchers have highlighted the emerging of the culture economy in Latvia that is seen in mutual exchange of goods and services, dense use of cultural products and heritage both on individual and collective levels. However, a variety of economic relations in rural territories in Latvia is not considered as a powerful driving force for the renewal of rural territories yet. Certain part of decision-makers still believes in strong investors and development of intensive production in rural territories as being “saviours” of situation. Current economic relations remain in the hidden area of rural craft economy at the same time. Therefore, the aim of the research is to reveal typical paths and models of the culture economy in rural territories in the context of renewal of the territory and society.

Results collected using qualitative and quantitative social research approach reveal that large variety of new economic forms has developed in rural territories in Latvia. Those economic forms are quite fragmented and fragile as they are small and do not provide high profit yet, however they bring out a set of developmental functions in rural territories and are seen as a sign of healthy communities and renewal processes in rural territories. Planned and supported culture economy is seen as a tool for rural policy in Latvia.

Landfill-Based Industrial Symbiosis as a Tool for Regional Development Enhancement

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Key words: *circular economy, regional development, waste management*
JEL code: *M10, R11, R58*

In the context of circular economy industrial symbiosis is gaining its popularity as a basis for resource efficiency by saving raw materials and waste prevention. Key concept of industrial symbiosis is to ensure that one industry's waste becomes another industries raw material. It is considered that it can generate the highest environmental, social and economic benefits as well as business opportunities, but at the same time the highest business risks followed by utility sharing and planning and management are to be assessed.

Latvia is currently entering the stage of transition towards circular economy. When speaking of circular economy, it has to be stated that it appeared in the literature through recycling, recovery and reuse and is most commonly associated with waste management.

The aim of the research is to analyse Latvian municipal waste landfills as starting points for industrial symbiosis, thus fostering regional economic development.

The research is based on quantitative and qualitative methods, including data analysis (primary and secondary data), systems dynamics (logical causal-loop diagrams) and mathematical modelling (MonteCarlo).

Main results and findings of the study development of landfill's resource equations, which can be applied in any landfill in order to identify most valuable internal resources that can be used for industrial symbiosis

Theoretical and practical implications of the research are in offering an industrial symbiosis model, which can be applied in different ways and different timeframe. The authors also provide a range of possible options or modules with their required input raw materials, which can be attracted for launching industrial symbiosis.

Main conclusions of the research are that landfills, being municipality owned and having a range of liabilities, which are currently main waste management infrastructure elements in the country, can be used as a basis for paradigm shift from waste to resource management.

Determinants of the Attractiveness of Special Economic Zones to Foreign Investors in Poland. Results of Empirical Studies

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Key words: FDI, Poland, special economic zones,

JEL code: F21, F23, R11

Special economic zones (SEZ) are systematically gaining in popularity as tools of investment policy, in particular in developing and emerging economies. Since the first contemporary industrial SEZ was established in Shannon in Ireland in 1959, their population has grown over the years to 4,300 in more than 140 countries, vast majority of them after 2000 (The Economist, 2015). Both in the developing countries and in in-transition economies, who are European Union Member States, the zones are established to, hopefully, attract foreign direct investors, their capital, new technologies and get easier access to international markets.

The study on SEZ conducted in Poland and discussed in this paper focuses on the assessment of factors decisive for the success of a particular zone among entrepreneurs, especially the foreign ones, seeking investment locations to pursue economic operations. Because of the number of zones, unprecedented in the new EU Member States for a single country, their long presence and relatively high importance for the economy, Poland makes a good case.

The paper aims at identifying the importance of factors, due to which some SEZ in Poland attracted more FDI than others. In our opinion, that might be caused by the following three fundamental reasons: location of the zone in a particular, more or less attractive region (equivalent to a voivodeship); investors' opinion about the zone (its reputation); and the quality of the work of zone managing companies. The hierarchy of the above reasons at general and detailed levels may provide some guidelines for those responsible for regional policy, who implement it also through the SEZ, in Poland and in other countries. The study uses simple statistical methods (Spearman's rank correlation and Pearson correlation) and the regression model.

Our calculations have shown statistically significant positive relationships between FDI inflow to SEZ and the overall coefficient that describe investment attractiveness of voivodeships. Correlation and regression results also suggest that efforts of managing companies with regard to wooing investors are important in increasing the inflow of foreign investment.

Demographic Implications of the Recent Regional and Cohesion Policy Developments in Latvia

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Key words: *cohesion policy, regional demographic development*
JEL code: *J11, J18, R11*

Background: Latvia has been characterised by low GDP per capita relative to the EU average, as well as large territorial disparities, notably between the capital Riga, central part and the rest of the country. Territorial differentiation is mirrored by the main demographic characteristics. Regional aid measures has been introduced for the cohesion policy initiatives. Considering the shortage of national funding, national authorities, with the help of Integrated Territorial Investment principle, are channelling cohesion policy funding towards the development needs of weaker regions and specific local municipalities.

Aim of the study is to analyse demographic implications in the course of recent regional and cohesion policy initiatives. **Research questions:** 1) To determine demographic implications of the updated regional and cohesion policy tools; 2) To analyse public responses to depopulation and policy initiatives to promote a socio-demographic development.

Data and methods: Current statistics on national and regional level. Exploratory spatial analysis of the demographic data on the municipal level, geographically-weighted regression models. Content analysis of the Latvian parliamentary (Saeima) debate corps and policy documents dealing with development and population policy issues is performed over post-accession years to the European Union. Sample survey «Migration and Population Policy» data from the year 2016 of 18-74 years old residents (n=2049), which were interviewed in 216 survey points over the whole territory of Latvia, are used in analysis of public response to depopulation caused challenges. Stratified random sampling data were weighted according to territorial distribution, age, sex and ethnicity.

Findings: Results of the recent survey on the inhabitants' perception of the demographic problems in the country indicate variance of opinions on the demographic problems and their possible solutions between the residents of different regions. Furthermore, recent econometric studies have demonstrated the complex picture of direct, indirect and spatially distributed demographic effects of socioeconomic factors and associated policy tools. Study results indicate that the revised regional and cohesion policy approach in 2014-2020 appear to be only partially in agreement with the general population views on the regional demographic challenges. Most noticeable disagreement can be observed between policy-makers' and public views on the role of local municipalities in addressing the long-term regional development problems. However, some of the new aid measures seem to be more in line with the opinions expressed by the representatives of Riga region. According to the reviewed econometric model results, the cohesion policy activities planned for 2014-2020 period have a potential of bringing limited positive demographic change to the target areas, but fail to account for the possible spatial spillover effects of the investment.

Conclusions: Key socioeconomic concerns from a demographic development perspective, are low levels of private income per capita, high unemployment rates, intensive out-migration of economically active inhabitants and a rapidly ageing population.

Fiscal Policy of the Krasnoyarsk Territory: Problems and Perspectives

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Key words: *fiscal policy, regional economics*
JEL code: *E62*

One of the major challenges in the current market conditions is to achieve cooperation on beneficial terms for both individual companies and the market of the Russian Federation as a whole. Providing correct functioning of the financial and economic mechanism allows to combine different systems of regions (social, economic) in to a single economic space and ensure its efficient functioning using financial support tools. This article will examine the problem of the potential financing from the economic development of the region point of view. The purpose of this article is to identify possible ways to solve the regional budget deficit, to search for new sources of fillability of the regional treasury and to determine further development of the region as a region with great potential development in many sectors of the economy.

The budget of the Krasnoyarsk Territory is mainly formed by income tax from taxpayers. In 2015, the amount of the revenue art of the budget was 173.4 billion rubles. As seen from the diagram below the largest share in the structure of regional income has a profit tax and a personal income tax. As a part of gratuitous income grants are highlighted - 6.7 billion rubles, subsidies - 6.9 billion rubles, subventions - 7.2 billion rubles, and other income - 9.3 billion rubles. However, expenditure of the regional budget in 2015 amounted to 205.4 billion rubles. Actual income from income tax and excise were less than planned volume. That was due to low prices on precious, non-ferrous metals, oil, as well as lack of achievement in the planned volume of sales of oil products in the whole Russian Federation. After detailed consideration of the structure of budget expenditures for the period from 2015 to the first half of 2016 the following may be noted: In 2016 budget funds were spent to maintain and develop the fuel and energy complex; Expenditures on general economic and other issues in the national economy significantly increased.

This situation reflects the fact that the regional government defines the fuel and energy complex as a potential source of income. In addition, the development of this sector of the economy is embedded in the strategy of socio-economic development of the Krasnoyarsk Territory until 2020. That strategy should be fully implemented for development and creation of stable socio-economic climate on this territory. By the end of 2015 the regional budget deficit came to 18 billion rubles, and by the end of 2016 the regional budget deficit increased to 24 billion rubles. According to the results by the end of 2016 the state debt of the Krasnoyarsk Territory for securities, budget credits and loans from other budgets loans from credit institutions, state guarantees of the Krasnoyarsk Territory and other debt obligations amounted to 95.9 billion rubles. The described situation suggests an absolute need in finding of additional sources of budget income by creating production facilities and implementing other projects in the Krasnoyarsk Territory. In order to reduce the budget deficit and further economic development of the region it is proposed to develop the processing sector on the Territory.

As a perspective industry for development on the Krasnoyarsk Territory the oil refining industry was chosen. Nowadays, chemical and petrochemical industry occupies 1.1% of the total structure of the regional industry. Oil deposits on the Territory is actively developing but significant part of the extracted raw materials is directed on export. As a consequence, the further development of the products does not take place and as a result tax income to the budget is decreasing. This industry was chosen with the consideration of specifics of the plan for socio-economic development of the Krasnoyarsk Territory until 2020. As it was revealed the main problem restraining the effective development of the region in general is the deindustrialisation of the industrial regions of the Territory during the market reforms.

Considering geographic and geopolitical features and peculiarities of the location of production on the Territory the creation of the petrochemical production complex which would help solve a number of problems. The type of problems which within the implementation of the state and regional programs, socio-economic development plan and other actions carried out by the regional authorities remained unsolved. Thus, after analysing of the obtained data it can be concluded that Krasnoyarsk Territory is a promising region for organising high-tech production. As such industries, it is offered to consider the petrochemical industries. In turn, the acceptance of this decision will entail a correction of the existing fiscal politics. Therefore, for instance, the implementation of the construction project of a new refinery significant income is required which will subsequently pay off in full. Realisation of the construction project of an oil refinery only the regional budget could receive from profit tax (18%), transport tax, property tax approximately 5 196 million rubles.

Smart People: Region Process Analysis

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Key words: *changes, human capital, rural areas, smart people, tendencies*
JEL code: *O15, O18, R11, R23*

It is objective necessity to ensure sustainable development of economics in present society evolution phase, and it is also challenge for Latvia economics, because only in this way it is possible to provide state competitiveness and growth of social welfare in future. Ensuring sustainable development of Latvia economics must be based on balanced region development, which is possible, if smart specialization is realized and development of rural areas is promoted. The main condition of rural areas smart development is human capital availability; therefore it is very important to find out its potential in context of smart people concept. In Latvia until this smart people approach is practically not used in research of human capital. Smart people situation research are realised by authors in Vidzeme planning region.

The aim of this research is to find out the smartness potential of Vidzeme planning region rural areas inhabitants and to identify tendencies of human capital changes in context of smart economics development.

To analyse region human capital situation and find out the tendencies of changes, authors used monographic method and analysed data of region strategic planning documents and statistics. Statistic data are characterizing inhabitants smart potential aspects incomplete, that's why authors also used data of focus group interviews in territories of deeper research, analysis of good praxis examples and method of hierarchy analysis.

This article examines theoretical concept of smart people as aspect of human capital notion transformation. Also it shows the analysis of Vidzeme planning region strategic planning documents in context of smart economics development. Authors are selecting and analysing the main statistic indicators, which characterize the smartness of human capital of rural areas. They also evaluates aspects of human smartness in deeper research territories (districts Mazsalaca and Kocēni) and in region overall. As a result the smart people situation is clarified and the main tendencies of changes concerning human capital in Vidzeme planning region are found out.

Theoretical and practical results of research will be used to create guidelines for Latvia rural areas smart development, as well as to work out recommendations for the Vidzeme planning region municipalities to develop and involve the human capital.

Ethnicity in Population Censuses and Administrative Registers: Case of Latvia

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Key words: *ethnicity, population, population census, registers*
JEL code: *O15*

Background: in most of the multi-ethnic countries the only source to collect data on the ethnical background are population censuses or some socio-demographic surveys, whereas in Latvia information on the ethnicity is possible to obtain also from the administrative registers. Information on the ethnicity of inhabitants in Latvia has been registered in vital statistics over almost hundred years and declared in all ten population censuses since 1920. This tradition continues also in 21st century - since Latvia regained its independence the Population Register of the Republic of Latvia was established as well as two Population Censuses in 2000 and 2011 were organised – where the following variables are used to describe the ethnical situation in the country: ethnicity, language use, citizenship and place of birth. However, until now not so many studies in Latvia explored the methodology of Population Census and vital registry from perspective of ethnicity (e.g. I. Mežs, P. Zvidriņš, A. Bērziņš, etc.).

The aim of the study is to analyse the ethnical aspect (methodology, data collection process, etc.) in the administrative registers and population censuses. Authors will also provide an overview of other sources that includes information about ethnicity (mainly socio-demographic surveys) and its interaction between administrative registers and population census/data base of the Central Statistical Bureau of Latvia.

Data and methods: the study will be focused on the analysis of the results related to ethnicity of the last Population and Housing Censuses in 2000 and 2011 (ethnic structure of population and other variables) as well as the information provided by the Population Register for the same period of time. Considering that the next Population Census, that will take place in 2021, will be based only on the administrative data sources, authors will analyse the possibility to obtain data on ethnic background from the Population Register to the year 2016 and 2017. To collect the qualitative information the literature review and semi-structured interviews with related experts will be conducted.

The preliminary results show that a higher number of persons declared Latvian and Russian ethnicity in Population Census 2011 than it's included in the Population Register, due to the fact that data on ethnicity in the Population Censuses were obtained based on the answer of respondents or members of household.

The Impact of Environmental Regulations on Regional Development in Eastern Estonia

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Key words: *innovation, regional development, SECA regulations, smart specialisation*
JEL code: *R11, O33, M11*

The European Parliament (EP) in 2012 established Sulphur Emission Control Areas (SECA) in Northern Europe including the Baltic Sea where ships since 2015 must use low sulphur fuel content not exceeding 0.1%. This has spurred discussions if and how these regulations impact maritime stakeholders as well as the economy in the Baltic Sea Region (BSR).

Estonia shale oil industry is located in the Eastern part of the country (Ida-Viru County) and represents up to 5% of the national economy. Ida-Viru County is an economic weakly developed region with a common border with Russia and where the majority of the population belongs to the Russian speaking Estonians. Regionally, shale oil industry plays an importing role since approximately half of regional workforce is employed directly or indirectly in this industry so that problems in shale oil business may lead to severe economic and social regional consequences. Currently, a big part of shale oil shale is used for the production of maritime bunker oil. Unfortunately, the sulphur content of shale oil is higher than the allowed upper limit of SECA regulation and in addition to that the low oil prices putting extra pressure on oil sector which endangers the traditional business model of the Estonian shale oil industry.

The paper investigates the impact of the environmental SECA regulations on the Estonian shale oil industry and discusses the consequences on regional development as well as on economic and social coherence in Ida-Viru County. The authors participate in a European project on the assessment of impact of SECA regulations on BSR which opens up the access to empiric measures. The research is based on expert interviews and a case study and explores the options in the frame of the Estonian smart specialisation strategy to overcome possible economic distortions and to strengthen the social coherence in Eastern Estonia.

Design of Territories and Management Structures in Regional and Rural Development

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Key words: *regional development, rural development, management structure*

JEL code: *R11*

European regional and rural development policy and respective programmes have implicated the creation of new spatial entities as well as of various implementation structures at local level. Such structures often exist in parallel, cover overlapping territories and operate in a more or less coordinated way. But there are also cases where implementation structures are designed as one single organisation, following a more comprehensive approach and making use of all available funds. Neither programme stipulations nor evaluation studies provide clear suggestions on how to design territories and management structures for regional and/or rural development in the most appropriate way. Nevertheless, these factors are supposed to have a decisive impact on the effectiveness of management. The paper aims at exploring relationships between spatial matching of territorial entities and the effectiveness of management. Moreover, it is analysed which management model is more appropriate for an effective regional and/or rural development. The empirical investigations follow an explanatory sequential mixed methods procedure. The quantitative analysis is based on the midterm evaluation of LEADER implementation in Austria in the period 2007-2013. The qualitative part is built on expert interviews helping to interpret the quantitative results and to transfer them from the narrow world of LEADER in Austria to a more general context. A Spearman's rho test revealed a weak but significant positive relationship between spatial matching and the setting up of an effective management. Moreover, for one-stop-shop models it seems to be more likely to realize an effective management than for those which concentrated primarily on LEADER. The expert interviews in general confirmed these results but suggested more specifically a matching of functional, administrative and identification areas. One-stop-shop models are seen as more effective but also imply the risk of less flexibility. These findings deepen the knowledge on good governance in regional and rural development and help programme authorities and local partnerships to more effectively prepare for the coming programme period 2021-2027.

The Legal Structures for Digital Market (DSM) and Regional Business Environment Conducive to the Promotion of Social Investment in the Baltic States and Latvia

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Key words: *digital single market, legal structures, social dialogue, social investment, regional development*

JEL code: *P25, O31, O35*

The social, economic, and political processes of the 21st century are characterised by mutual dependence and interaction, which clearly indicates the increasing complexity of these processes as well as the links between the various problems of the society. Some of the most important factors affecting the global labour market are: rapid technological development and economy measures taken by the countries, as well as the trend to reduce production and labour costs. In the EU, the Juncker Commission's aims at creating a DSM, with free movements are ensured. Scholars agreed that, digitised information has become a strategic resource, and the network - the chief organising principle of the economy and society as a whole. However, there is lack of consensus on the founding principles of the digital economy as revealed by a literature review carried out by scholars

The aim is threefold:

- Identify and evaluate existing legal structures (LS) for the digital market and business environment at EU, Baltic States and Latvia's levels;
- Explore social impact of LS on the promotion of social dialogue (SD) and investment to improve welfare;
- Collate practical knowledge and assess it to inform policy-makers and practice across the Baltic States.

Objectives: development of SD concept in Digital Single Market based on the relevant LS, identification of partners in SD and stakeholders in the EU and Baltic States, implying Smart Specialisation strategy, elaboration of policy recommendations to social partners and stakeholders for DSM regulatory system of decision-making and social investment (SI), dissemination of results, communication with stakeholders and public at large.

Expected results: a comparison of different legal models on the decision -making process in the DSM and suggestions on regulatory principles of DSM, ensuring potential applicability of the research.

Impact: identification of key policy-makers and stakeholders to express research results, establish means of reaching policy-makers to affect welfare systems, deepening the knowledge base on the ways in which individuals' sense of identity is shaped by social welfare policy and practice.

Impact of Indirect Regional Financial Policy on Economy of Latvian Regions

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Key words: *indirect financial policy, Latvia, region, regional economic policy*
JEL code: *P25*

Regional economy should be considered as a whole interconnected system, which includes a large scope of factors. Each of these factors has its influence on economy of a region and in the long run leads to a resulting effect.

The authors assess economy of Latvia and its regions as a whole interconnected system, which includes a large scope of factors related to a region –its geographical location, level of economic independence, development of technologies and level of education of manpower resources. Each of these factors has its influence on economy of a region and to a respective level of regional development.

The authors show that financial policy of a state as a complimentary part of the general economic policy of a state has a strong impact on regions in Latvia. The financial policy determines economic growth and welfare in different ways in different regions.

The research concludes that to improve welfare of a region, along with regional financial policy, implemented in Latvian regions, there is a need of introducing a concept of indirect regional financial policy. For its enchantment, authors suggest several appropriate instruments. For example, regionally diversified amortization, which allows enterprises, working in challenging regions to finance accelerated amortization, introduction of sanctions for environment polluting enterprises, especially in unfavourable regions etc. The authors show the efficiency of utilization of the instruments by example of Riga and near-Riga region.

Scenarios of Local Government Intervention in Case of Market Failure. The Case of Latvia

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Key words: *economic intervention, local governments, market failure, scenarios*

JEL code: *H70*

Local and regional governments have always been important players in economic development. They create jobs as employers and as purchasers of inputs from the private sector. Local governments are often responsible for regulating local economic activities and providing the social and physical infrastructure which complements private economic activities. In liberal market regimes, the opinion is generally divided on whether municipalities who intervene in market in developing their own government enterprises, promote local economic development or, in contrary, create an additional competition in private sector. The aim of the article is to outline possible scenarios for local government intervention in order to correct market failures at the local level.

The article begins with the assessment of economic role of local and regional governments in EU countries. It then provides theoretical investigation of the concept of market failure by adapting it to the level of local government decision making. Consequently, it turns to the literature on local economic development, to distinguish between a variety of approaches to local economic development policies, such as the business-oriented approach, or the poverty reduction-oriented approach, such as the reduction of unemployment (pro-poor).

The assessment of economic role of local and regional governments shows that in nearly all EU countries local and regional authorities are allowed to engage in economic activity. In some cases, there are restrictions or safeguards such as prohibitions on exercising a monopoly, ceilings (whether absolute or percentage) on equity participation, or a requirement that activities be reconcilable with the local authority's interests. Theoretical investigation of the concept of market failure suggests that local government's action or its omission in a case of the market failure, as well as its interpretation, in a large way, depends on the social and economic orientation of the local government. Before the implementation of the particular method of correcting the market failure, the local government need to be aware whether the free market mechanism can be applied to solve the specific problems. In cases where the provision of services for the private market players is a high risk, a variety of risk mitigation strategies or alternative development models, including a social entrepreneurship has to be considered by local governments.

