A NEW INNOVATIVE PRODUCT PORTFOLIO IN LATVIA AND ITS AVAILABILITY ON THE MARKET (BUSINESS INCUBATION PROGRAMME 2009-2014)

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Abstract. *New product development is a very important issue for economic growth and welfare growth in general. The support programme of business incubators plays a significant role for operation of start-up companies in their creation of new products. In spite of it many enterprises of business incubators are not able to finish their innovation process, which shows on necessity to research these problems. The aim of the research is to investigate the portfolio of new products which were developed by Latvian Start-up companies in the frame of the Business Incubation Programme 2009-2014, related to commercialization and market uptake. The research is based on the authors' conducted research as a part of scientific grant of Rezekne Academy of Technologies „New product development process modeling and analysis in Latvia – innovation barriers". The following methods are used in this research: content analysis, deductive, logical and comparison, and word cloud methods. As a result, the authors worked out and offered the word cloud of innovative products, which are produced in business incubators in Latvia, and which are available in markets. The authors worked out the word cloud of New Products, which are produced in business incubators, but are not on the markets.*

***Keywords*:** Innovation Economic Development, R&D
***JEL code*:** 012, 0310, 0320

Introduction

Innovation is a process, which inevitably leads to a successful commercialisation. The definition of innovation in Latvia (LR EM, 2016): „Innovation is the process by which new scientific, technical, social, cultural or other areas ideas, developments and technologies being implemented in the market and competitive product or service. In the European Commission's Directorate General for Enterprise and Industry study „Innovation Management and the Knowledge Driven Economy" (Innovation Management…, 2004) the term „innovation" has such a definition: „Innovation is a successful upgrade (novelty) in production, inclusion and the use of the economic or social area."

The aim of the research is to demonstrate new products' development in the Business Incubation Programme 2009-2014 by the Latvian start-up companies concerning commercialization and market uptake.

In order to achieve this objective, the authors conducted theoretical studies, examining the existing innovation level of Latvia by using content analysis, deductive, logical and comparison and word cloud methods. As a result, the authors worked out and offered the word cloud of innovative products, which are produced in business incubators in Latvia, and which are available in markets. In the same way the authors worked out the word cloud of New Products, which are produced in business incubators, but are not on the markets.

Research results

Since 2005 the World Economic Forum (WEF) has published the Global Competitiveness Index (GCI). The GCI combines 114 indicators that capture concepts that matter for productivity. These indicators are grouped into 12 pillars: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training goods, market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation. The GCI includes statistical data from internationally recognized agencies and data from the World Economic Forum's annual Executive Opinion Survey. This year's Report provides an overview of the competitiveness performance of 140 economies. In 2012-2013 Latvia ranked 55-nd (out of 144) in the GCI, in 2013-2014 Latvia ranked 52-nd (out of 148) in the GCI, in 2014-2015 Latvia ranked 42-nd (out of 144) in the GCI, but in 2015-2016 Latvia ranked 44-nd (out of 140) in the GCI (Klaus Schwab, 2015).

In 2015-2016 Latvia ranked 62-nd (out of 140) in the Innovation Pillar of the GCI. The most problematic factors for doing business were as follows: tax rates, inefficient government bureaucracy, access to financing, complexity of tax regulations, inadequately educated workforce, insufficient capacity to innovate, policy instability, poor work ethic in a labor force, corruption, inadequate supply of infrastructure, restrictive labor regulations. The stage of Latvia' development in this forum was defined as transition from the efficiency driven to the innovation driven economy. (Klaus Schwab, 2015)

Latvia is a modest innovator. Innovation performance has been increasing until 2011 but dropped in 2012-2013. In 2014 the innovation index rose sharply. Over time, Latvia has been improving its relative performance to the European Union (EU) from 42% in 2007 to 49% in

2014, although there was a significant dip in 2012-2013. Latvia performs well below the EU average for most dimensions, particularly for open, excellent and attractive research systems, linkages and entrepreneurship and innovators. The relatively worst performing indicators are public-private co-publications, non-EU doctorate students and license and patent revenues from abroad. Relative strengths for Latvia are in non-R&D innovation expenditures, the population with completed tertiary education and youths with upper secondary level education. Despite the fact that Latvia performs below the average of the EU for almost all indicators, performance is increasing for about two-thirds of the indicators. High growth is observed for non-EU doctorate students (32%), community trademarks (17%) and new doctorate graduates (14%). A large decline in performance is observed for R&D expenditures in the business sector (-9.0%). For small and middle enterprises (SME), product/process innovations are 51% relative to the average EU. SME marketing/organizational innovations are 64% relative to the average EU. Employment in fast growing firms in innovative sectors is 63% relative to the average EU (Innovation Union…, 2015). These facts show that Latvia has a low innovation performance. It is largely based on a small proportion of innovative companies, small investments in R&D activities and the insufficient cooperation between science, technology and innovation development organisations, higher education and industry sectors (Latvian national…, 2014). One of the most important public support measures in this area is the Latvian Investment Development Agency (LIDA) operational programme "Entrepreneurship and Innovation" 2.3.2.1. activity "Business incubators" funded by the European Regional Development Fund (ERDF) (hereinafter – activity). These activities within the tenderers (start-up companies until 2 years of age) could receive business support services (advice and infrastructure support) and specialised services (new product development consultancy, design and prototyping services, laboratories, international marketing services, design services, etc.) by concluding the appropriate contracts with the business incubator operator or / and the service providers. In the frame of this activity, 493 firms were supported until December 31, 2013. The mostly used services were the consultations about new products development: prototypes' development, technological solutions and services (Latvian National…, 2014). The implementation of the project takes place in all the 5 regions of Latvia and Riga municipality, based on belonging to any business incubator's operator.

The location of business operators in territory of Latvia is shown in Figure 1. There are the following business operators in Latvia: Riga City, the Creative Industry Business Incubator, nongovernment organization

(NGO) “Techhub Riga”, Riga planning region, general partnership Riga Region Business Development Incubator, Kurzeme planning region 1, Ltd., Kurzeme Business Incubator, Kurzeme planning region 2, NGO “Venstspils Augsto tehnoloģiju parks”, Zemgale planning region 1 and 2, Ltd. “JIC Biznesa inkubators”, Vidzeme planning region 1, NGO “Valmieras Biznesa un Inovāciju Inkubators”, Vidzeme planning region 2, NGO “Biznesa inkubators Cēsis”, Latgale planning region 1 and 2, NGO “Latgales aparātbūves tehnoloģiskais centrs”.

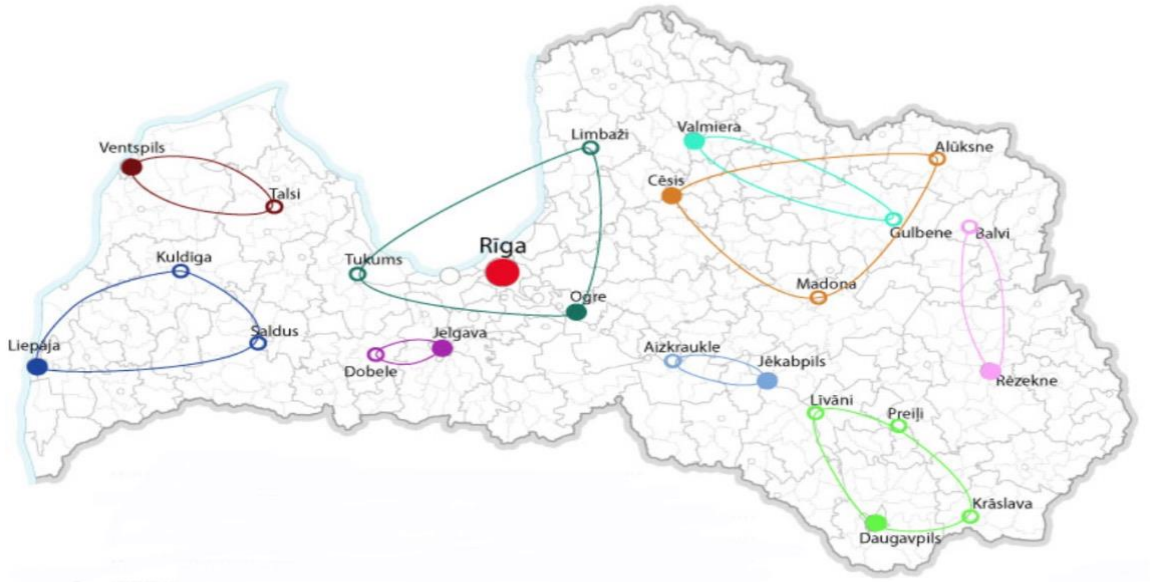

Figure 1. Location of business operators in the territory of Latvia
(source: Biznesa operatori…, 2011)

The research objects were the start-up companies which have developed new products in the frame of Business Incubator Programme 2009-2014 financed by the ERDF and managed by the LIDA during the years 2009-2014. Overall, 141 firms took part in this selection process (KBI 11 companies; VATP 10; HUB 10; RRBAI 39; THESE 20; VBII 15; MAGNUS 14; LATC 22). Information about these firms was selected from the websites and from the business incubators’ operators. We assume these start-ups are among the most promising ones and with more innovative products to show publicly. Kurzeme Business Incubator with its headquarters in Liepaja, also located in Saldus and Kuldiga, shows 18 start-ups in Liepaja, 7 in Kuldiga and 5 in Saldus. From overall 30 companies, we selected 11 with the most innovative products – 10 of them are available in the market – by a more detailed investigation (Uzņēmumi…, 2016). The incubator Ventspils High Technology Park (VATP) with the centre in Ventspils and also located in Talsi have publicized 120 start-up companies, from them we selected 10 most innovative companies (biznesa-inkubatora-absolventi, 2016) The NGO

"Techhub Riga" business incubator operator deals with only creative industry start-ups restricted by the programme rules issued by the Latvian Ministry of Economics. The incubator operator is located in the capital of Latvia – Riga and has shown only 10 companies we selected for the purpose of research (Radošie uzņēmumi,..., 2016). The general partnership "Riga Region Business Development Incubator" operated in Ogre (116), Limbazi (11), and Tukums (25) has shown 153 start-up companies; we selected 39 innovative companies (Inkubētie uzņēmumi..., 2016). The company Jelgava Innovation Centre (JIC) operating in Jelgava, Dobele, Aizkraukle and Jekabpils has publicized an unknown number of start-ups (Uzņēmumi JIC..., 2016) on the home domain that was closed during the research period. We selected 20 innovative start-up companies, from the unknown number. From the NGO "Valmiera Business Innovation Incubator" (VBII) operating in Valmiera (40) and Gulbene (1) and totally showing 47 start-up companies (BI Uzņēmumi..., 2016) we selected 15 the most innovative. The NGO "Business Incubator Cesis" operating MAGNUS BI in Cesis, Madona and Aluksne has shown 69 start-ups (Inkubatoru atstājušie...,2016); we selected 14 products. The NGO Latgale Machinery and Technology Centre operating a business incubator in Rezekne, Balvi, Preili, Kraslava, Livani, and Daugavpils have shown 27 from the amendment period 01.-11.2015. (Inkubatorā esošie...,2016) We have selected 22 companies.

Figure 2. Word cloud of New Products available on the markets of Business Incubation 2009-2014 in Latvia *(Source: own research)*

The more detailed investigation showed that from the products of these selected 141 companies only 87 (KBI 10; VATP 9; HUB 6; RRBAI 16;

THESE 14; VBII 8; MAGNUS 10; LATC 14) were available on the market, which made up 61.7%. For more visual demonstration, we used the word-cloud feature available as an open source application (Word-cloud…, 2016) to demonstrate the innovative character and product content of the products that were developed under the Business Incubation Programme 2009-2014 (continued till 2015), Figure 1. The products that failed to reach markets by the end of the programme are shown in Figure 3.

Of the start-up products developed under the Business Incubator Programme, 38.3% were not able to finish the innovation process owing to the lack of time and other resources, and the obstacles to be concluded in continuing research. This is a significant number, taking into account that the business incubator operators named *these products as most successful* on their internet home pages. Detailed research can be continued to investigate the reasons and main obstacles for market uptake.

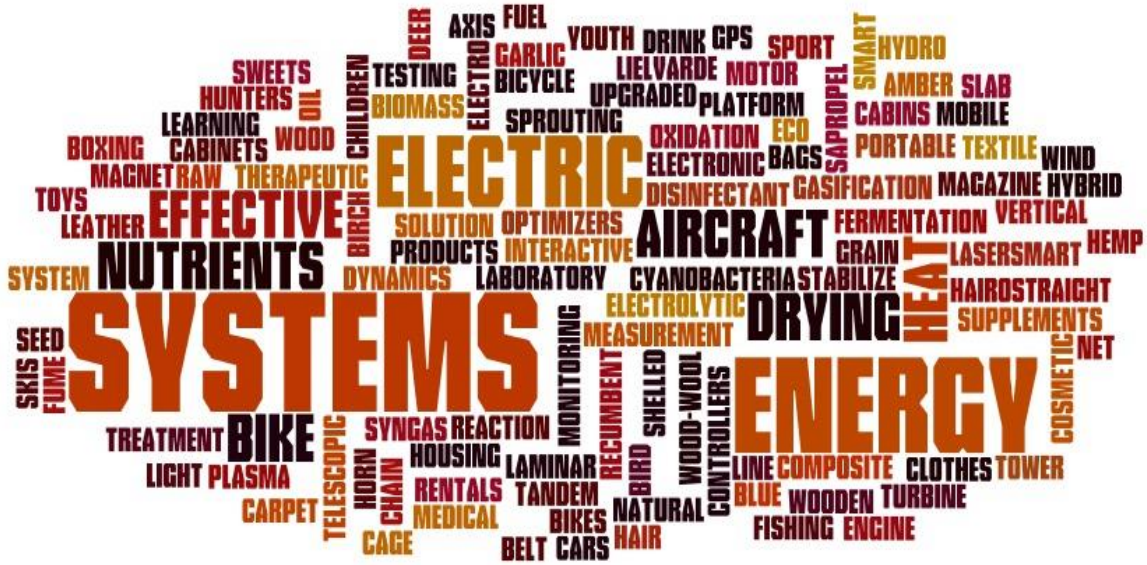

Figure 3. Word cloud of New Products not available on the markets under the Business Incubation Programme 2009-2014 in Latvia
(Source: own research)

Conclusions and suggestions

One of the most important public support in improving the innovation climate in Latvia was the Latvian Investment Development Agency operational programme "Entrepreneurship and Innovation" 2.3.2.1., the activity "Business incubators", founded by the European Regional Development Fund. This activity provided for the start-up companies until 2 years of age to receive business support services and specialised

services, design and prototyping services, laboratories, international marketing services, design services, etc. In the frame of this activity, 603 firms in Latvia were supported until September 31, 2013. As a result, 864 new products were developed by these companies. The mostly used services were the consultations about new products' development, like prototypes' development, technological solutions, and services. The implementation of the project took place in all the 5 planning regions of Latvia and Riga municipality, based on belonging to some business incubators' operators.

The fact that one in three start-up products, which were developed in the business incubators under the Business Incubator Programme, was not able to finish the innovation process shows on necessity to research these problems. Furthermore, the business incubator operators on their internet home pages have named these products as the most successful. Detailed research is going to help to reveal the reasons and the main obstacles for the market uptake of innovations.

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JAUNU INOVATĪVU PRODUKTU PORTFELIS LATVIJĀ UN TĀ PIEEJAMĪBA TIRGŪ (BIZNESA INKUBĀCIJAS PROGRAMMA, 2009-2014)

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Kopsavilkums

Viens no svarīgākajiem valsts atbalstiem inovāciju klimata uzlabošanā valstī bija Latvijas Investīciju attīstības aģentūras darbības programmas 'Uzņēmējdarbība un inovācijas' 2.3.2.1. aktivitātes 'Biznesa inkubatori', ko finansēja Eiropas Reģionālās attīstības fonds. Šīs programmas ietvaros uzņēmumiem līdz 2 gadu vecumam varēja saņemt uzņēmējdarbības atbalsta pakalpojumus un specializētos pakalpojumus, projektēšanas un prototipēšanas pakalpojumus, laboratorijas, starptautiskā mārketinga pakalpojumus, dizaina pakalpojumus u.c. Šīs aktivitātes ietvaros līdz 2013.g. 31.septembrim tika atbalstīti 603 uzņēmumi, šie uzņēmumi attīstījuši 864 jaunus produktus. Konsultāciju pakalpojumi tika izmantoti galvenokārt jaunu produktu attīstībai, kā prototipu izstrādei, tehnoloģiskiem risinājumiem un pakalpojumiem. Projekta īstenošana notika visos 5 Latvijas plānošanas reģionos un Rīgas pašvaldībā caur kādu no biznesa inkubatora operatoru.

Ikvienā valstī jaunu produktu attīstīšana ir ļoti svarīgs ekonomikas izaugsmes un labklājības nosacījums. Biznesa inkubatoru (BI) atbalsta programmas spēlē nozīmīgu lomu BI uzņēmumu jaunu produktu radīšanā. Neskatoties uz to, daudzi BI uzņēmumi Latvijā nav sasnieguši inovāciju beidzamo fāzi - ieviešanu tirgū. Tas noteica nepieciešamību pētīt šo problēmu. Pētījuma mērķis bija izvērtēt jaunu biznesa inkubatoru uzņēmumu produktu attīstību, kas izstrādāti atbalsta programmas "Biznesa inkubācijas programma, 2009-2014" ietvaros pēc to pieejamības tirgū.

Atslēgas vārdi: Inovācija, Ekonomiskā attīstība, P&A.