IMPORTANCE OF INNOVATIONS FOR ENTREPRENEURSHIP DEVELOPMENT – VIEWS OF ENTREPRENEURS IN KURZEME REGION



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Abstract

Innovation is one of the most influential aspects for entrepreneurship development. Therefore, also academic researchers pay a lot of attention on different aspects related to innovations. Current research paper is devoted to evaluation of the views of entrepreneurs related to innovation practical applications and problems of introduction of innovations. Aim: evaluate the views of entrepreneurs related to innovation practical applications and problems of introduction of innovations. Research methods applied: previous conducted scientific research results analysis, analysis of statistical data, survey of entrepreneurs. Survey data are analysed by most used characteristics of descriptive statistics: indicators of central tendency or location (arithmetic mean, mode, median) and by indicators of variability or dispersion using standard deviation, standard error of mean and range. Most important results by views of entrepreneurs are: innovations support increase of expert and increase of share in realisation of products or services.

Key words: innovations, entrepreneurship, region, survey.

Introduction

Innovation is one of the most influential aspects for entrepreneurship development. Therefore, also academic researchers pay a lot of attention on different aspects related to innovations. Current research paper is devoted to evaluation of the views of entrepreneurs related to innovation practical applications and problems of introduction of innovations. Aim: evaluate the views of entrepreneurs related to innovation practical applications and problems of introduction of innovations. Tasks: 1) analyse previously conducted scientific research results; 2) analysis of statistical data on innovations development in Latvia; 3) analysis of good experience of Estonia and Lithuania for increase of innovations; 3) analysis of views of entrepreneurs on innovation for their entrepreneurship. Research methods applied: previously conducted scientific research results analysis, analysis of statistical data, survey of entrepreneurs. Survey data are analysed by indicators of descriptive statistics: indicators of central tendency or location (arithmetic mean, mode, median), by most often used indicators of variability or dispersion (range, standard deviation, standard error of mean).

Theoretical Findings

Academic researchers have investigated in detail many important aspects of role of innovations in entrepreneurship, on innovation affecting growth of starting entrepreneurs where the researchers have indicated that culture and economic freedom has influence (Saeedikiya, Ashourizadeh, & Temiz, 2022) where many innovative aspects are evaluated. Researchers have pointed out on aspects on linking non-financial motivators of women entrepreneurs with entrepreneurial satisfaction with use of multivariate analysis including cluster analysis (Yadav & Kumar, 2022) where practical usable conclusions are suggested. Researchers have analyzed entrepreneurs' dreams that entrepreneurial ecosystems can promote sustainability (Raposo, Fernandes, & Veiga, 2022). Inspiring the entrepreneurial university in realisation of two experiments and with the development of proposal for aspects of innovation in higher education (Etzkowitz, Dzisah, & Clouser, 2022). Aanalysis of critique of innovation districts are covered for analysis of entrepreneurial living and the burden of shouldering urban development (Kayanan, 2022) where researcher has devoted special and deep attention on innovations entrepreneurship development. Researchers for have innovative approaches - like orchestrating entrepreneurial ecosystems in circular economy: the new paradigm of sustainable competitiveness (Castro Oliveira et al., 2022). Researchers have performed detailed analysis on emerging needs of social innovators and social innovation ecosystems (Audretsch, Eichler, & Schwarz, 2022) with conclusions that social innovations are becoming more and more important in different fields of entrepreneurship. Researchers have performed modelling (social) for intra entrepreneurship (Carvalho, 2022) for more detailed analysis of innovation for entrepreneurship. Aspects on relying on the engagement of others with detailed review of the governance choices facing social media platform start-ups (Reuber & Fischer, 2022; Fayolle & Gailly, 2008). Data management efficiency is on deep attention with major opportunities for shared value innovation (Lichtenthaler, 2022). Cooperation and innovation are considered as key success factors for development in regions (Štefenberga, 2019). Researchers have analysed the impact of bankruptcy regimes on entrepreneurship and innovation and were

looking is there any relationship (Prusak *et al.*, 2022) analysed product and service innovation in Portugal where are indicating several patterns and specificities (Costa, Rocha, & Madeira, 2022) and have paid attention on listening to the buzz and exploring the link between firm creation and regional innovative atmosphere as reflected by social media (Corradini, Folmer, & Rebmann, 2022). Endogenous development of green finance and cultivation mechanism of green bankers are investigated in big detalisation degree (Zhang et al., 2022). Factors of the effectiveness of innovative development of Baltic states in the context of digitalization are on special attention by academic researchers (Vasilevska & Rivza, 2020). The role of innovation in sustainable regional development is analysed (Stefenberga & Sloka, 2019). Researchers are analyzing how the creative mindset affects entrepreneurial success in the tourism sector considering the mediating role of innovation capability (Yodchai, Ly, & Tran, 2022). Regional development issues and consequences of Covid 19 pandemic as experience and recently developed ability and innovative approaches for remote work (Štefenberga, Rivža, & Sloka, 2021) which could be used also after pandemia. Digitalization in the Baltic States is of special attention for politicians and researchers (Rivza & Rivza, 2020) as the reasonable political decisions could be developed based on research result conclusions and suggestions. For successful work organization, it is important to respect also ergonomic aspects (Kalkis, Andza, & Roja, 2020; Kalkis, Graveris, & Roja, 2021). Marketing aspects in innovations in entrepreneurship are becoming more and more important (Batraga et al., 2019) as well as financing aspects (Romanova et al., 2018). Municipalities have special role for innovations in entrepreneurship (Savrina & Seimuskane, 2018; Seimuskane, Vilka, & Brekis, 2017). Development of products and services in small enterprises with found proposition of an artifact to discuss creative logics is on research agenda (De Sordi et al., 2022). Researchers have considered that there is the impact of information technology culture and personal innovativeness in information technology on digital entrepreneurship success (Abubakre, Zhou, & Zhou, 2022; Hatt, 2018). Different countries have different approaches and findings for small and medium enterprises in Mexico and the craft beer sector in Baja California where among the most important factors are dynamic capabilities, culture and innovation (Alvarado, 2022; Gabrielsson et al., 2020), importance of education for innovations (Flynn, 2018). and other important aspects for innovations in entrepreneurship, like national innovations systems (Alnafrah & Mouselli, 2020), role of creative economy for sustainable economic development (Streimikienė & Kačerauskas,

2020) where more and more importance has e – commerce development (Vasilevska & Sproge, 2020) in all those aspects innovations are considered of great importance for entrepreneurship.

Materials and Methods

For empirical research methods applied in this paper based on analysis of research results which were based on previously conducted scientific research, analysis of different official statistical data, conducted survey of entrepreneurs was performed. For many aspects related to innovations in entrepreneurship in the empirical research in survey by entrepreneurs, several questions to be evaluated in scale 1-10 were asked. Obtained survey of entrepreneurs data are analysed with indicators of descriptive statistics among them statistical indicators of central tendency or location (arithmetic mean of the evaluations by entrepreneurs, mode as most often chosen evaluation by entrepreneurs, median as indication distribution of evaluations by entrepreneurs) were used most often, as well as with indicators of variability or dispersion of the evaluations by entrepreneurs (range - indicating difference between higher and lower evaluations by entrepreneurs, indicators of variability - standard deviation and standard error of mean) were used most often.

In Latvia, more and more attention is paid to research and development and innovations statistics as it was also analysed and stressed in the meeting of Statistics Board of Latvia on March 17, 2022 (Central Statistics Bureau, 2022) where some suggestions how to improve those aspects taking into account experience of other countries were analysed and developed. In Estonia, Ministry of Economics Communication of Estonia sends a letter to entrepreneurs inviting to allocate at least 2% from turnout of the company while in Lithuania, there are tax reductions in case of innovations (Central Statistics Bureau, 2022) to increase innovations in companies as well as to reflect more precise information on those aspects. Innovations for entrepreneurship are among very important aspects which are analyzed in Europe with the help of the same methodology where the data source used by statistical authorities to acquire the data is a survey on innovations in enterprises which is based on Community Innovation Survey questionnaire reflecting two innovations (Official Statistics portal, 2022). To design a sample frame, all statistical units which are precise in correspondence with the description of the target population are included. To prepare a sample frame, the information of Statistical Business Register of Republic of Latvia was used. The sample size was set by the Central Statistical Bureau specialists by using Neyman's optimal allocation. It is very important to mention that the sample was

Table 1

Year	Sample size		
2016-2018	3103		
2014-2016	3103		
2012-2014	1501		
2010-2012	1573		
2008-2010	1358		

Number of respondents in the Community Innovation Survey in Latvia in 2006-2018

Source: Official Statistics database.

built based on the method of stratified simple random sampling (Official Statistics portal, 2022), sample sizes in analyzed years (2006-2018) are included in Table 1.

Community Innovation Survey in Latvia is realised based fully on Eurostat methodology and data are collected strictly respecting random sampling requirements to get representative data. Information on respondents included in the business sector sample is extrapolated by using weight for each sample unit by specialists of Central statistical Bureau. Estimation calculations of data are based on the Horvitz-Thompson estimator (Official Statistics portal, 2022). That makes confidence that data are representative and could be used for research and for decision making.

Results and Discussion

In recent years data on number of innovative enterprises and share of innovative enterprises in Republic of Latvia are growing and data are included in Table 2.

Data indicate that innovation-active enterprises share in Republic of Latvia during the last decade is increasing in all fields (total, industry, manufacturing and services) with bigger increase of innovationactive enterprises share in manufacturing. To investigate views of entrepreneurs about several aspects of innovations, the survey of entrepreneurs was conducted, and several questions related to importance of innovations in their production on development of products and services were asked. The data were obtained by personal interviews of entrepreneurs, each of them was approached personally and agreed on time to be interviewed. To obtain data in the survey, main indicators of descriptive statistics were used; results of analysis are reflected in Table 3 and 4.

Survey results of entrepreneurs indicate that entrepreneurs have shown that the most important aspect among the analysed was that innovations have supported increased offer of products or services with the high evaluations – there was the biggest average of evaluations (7.07) with evaluations 7 and 9 (indicated by mode) given most often, half of entrepreneurs in Kurzeme region evaluated this aspect with evaluation 7 or less, and half of entrepreneurs in Kurzeme region have evaluated with 7 or more (characterised by median), there was the lowest variability of entrepreneurs evaluations which is indicated by indicators of dispersion: standard deviation and standard error of mean.

Views of entrepreneurs are very different as almost for all evaluated aspects cover full evaluation scale which is used by entrepreneurs for evaluations except for the statement that productivity has increased – the lowest evaluation was 2 there. The most important aspect was indicated that productivity has increased – arithmetic mean of the evaluations was 6.9 with mode 8 and median 7. Less important aspects by entrepreneurs there were considered the organization of production

Table 2

Kind of activity	Number of innovation-active enterprises					Share of innovation-active enterprises (in %)						
	2008	2010	2012	2014	2016	2018	2008	2010	2012	2014	2016	2018
TOTAL	1408	1234		1276	1453	1558	24,3	29,9	30,4	25,5	30,3	32,9
Industry	707	364	619	622	678	761	26.9	19.2	29.3	28.2	32.6	37.7
Manufacturing	658	323	549	559	609	690	28.1	19.6	29.6	28.9	33.7	39.4
Services	460	328	822	654	775	797	14.5	14.6	31.4	23.4	28.5	29.3

Innovation-active enterprises in Latvia in 2008-2018

Source: Authors construction based on Official Statistics database.

Table 3

Stati	stical indicators	Opened new market or increased market share	Increased offer of products or services	The quality of products / services has improved	Productivity increased
NT	Valid	30	30	31	31
N	Missing	7	7	6	6
Arithmetic mean		6.10	7.07	6.97	6.90
Standard error of arithmetic mean		0.435	0.389	0.419	0.392
Median		6.5	7	7	7
Mode		9	7 and 9	9	8
Standard de	viation	2.383	2.132	2.331	2.181
Range		8	8	9	8
Minimum		1	2	1	2
Maximum		num 9		10	10

Main characteristics of most used descriptive statistics on Kurzeme region entrepreneurs' assessments of the impact of innovations on the aspects of the company's operations

Source: Authors calculation based on Dace Štefenberga conducted survey of entrepreneurs, evaluation scale 1-10, where 1 - no influence; 10 - significant influence.

work improved where full scale of evaluations was used by entrepreneurs – in the evaluations for this aspect there was the biggest variability of views by entrepreneurs – standard deviation and standard error of mean were the biggest, the most often chosen evaluation was 9 (mode), half of entrepreneurs gave evaluation 7 or less and half of entrepreneurs gave evaluation 7 or more (characterized by median). The lowest evaluations were given to the aspect that Consumption of materials and / or energy per unit of output decreased where the arithmetic mean of the evaluations was only 4.7 although all evaluation scale was used by the respondents but the most often chosen evaluation was 2 (mode) and half of respondents gave evaluations 4 or less and half of respondents gave 5 or more (median was 4.5). Entrepreneurs have indicated that all analyzed aspects related to innovations were important to them even if the views of several entrepreneurs were quite different. Survey data analysis has confirmed many aspects of innovations having importance for development of products and services also in Kurzeme region in Latvia.

Table 4

Main characteristics of most used descriptive statistics on Kurzeme region entrepreneurs' assessments of the impact of innovations on the aspects of the company's operations

	Statistical indicators	Productivity increased	The organization of production work improved	Consumption of materials and / or energy per unit of output decreased
N	Valid	31	31	30
	Missing	6	6	7
Arithmetic mean		6.90	6.26	4.70
Standard error of arithmetic mean		0.392	0.499	0.477
Median		7	7	4.5
Mode		8	9	2
Standard deviation		2.181	2.781	2.615
Range		8		9
Minimum		2	1	1
Maximum		10	10	10

Source: Authors calculation based on Dace Štefenberga conducted survey of entrepreneurs, evaluation scale 1-10, where 1 - no influence; 10 - significant influence.

Conclusions

- 1. Latvia can take into account good experience in motivation of companies for innovations from other countries and especially from neighboring countries Estonia and Lithuania.
- 2. Innovation-active enterprises share in Republic of Latvia during the last decade was increasing in all fields (total, industry, manufacturing and services) with bigger increase in manufacturing.
- 3. Entrepreneurs in Latvia consider that innovations have increased the offer of products or services, the quality of products / services has improved, productivity has increased and the organization of production work has improved; influence of innovations on aspects of new market opening or increase of market share in respective markets as well as aspect on consumption of materials and / or

energy per unit of output has decreased and were considered less important.

4. Entrepreneurs in Latvia can take more in their consideration findings and suggestions by entrepreneurs of other countries especially in other Baltic countries in increase of role of innovations in their companies operation in creation of products or services.

Acknowledgement

This research is supported by the National Research Programme 'LATVIAN HERITAGE AND FUTURE CHALLENGES FOR THE SUSTAINABILITY OF THE STATE' project 'CHALLENGES FOR THE LATVIAN STATE AND SOCIETY AND THE SOLUTIONS IN INTERNATIONAL CONTEXT' INTERFRAME-LV', No. VPP-IZM-2018/1-0005.

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