

Reality and Prospects of E-Business in Lithuania

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Abstract

This article is aimed at the assessment of the current situation and prospects of e-business in Lithuania on the basis of legal and statistical data analysis. The results of the research have revealed that absence of any special law on e-business regulation determines fierce competition between traditional and e-business and so burdens e-business development in the country. Large business enterprises are more inclined to employ e-business than smaller enterprises, which confirms the theoretical proposition that e-business development, among all other determinants, is influenced by the size of an enterprise. The opportunities of e-business development in the country are comparatively wide considering the changes in consumers' habits and advancement of IT. Rising perception that IT may significantly contribute to retention of competitive advantage in the market and business inclination to innovations also determine e-business development, although main barriers of new technology implementation in Lithuania include high costs of innovation, lack of internal funds, lack of external funds and dominance of the largest enterprises

Keywords: e-business, prospects, reality, development, Lithuania.

1. Introduction

Although scientific research on the topic of e-business development in Lithuania is comparatively new, the practice of e-business is gathering pace. Minding the changes in consumers' habits as well as the general economic trend to transfer a substantial part of services to digital space, Lithuanian entrepreneurs are forced to direct their effort towards broadening of the range of products and services available online (Mikalajūnas & Pabedinskaitė, 2010; Čiurlytė & Pabedinskaitė, 2013). Nevertheless, as it was noted in the Report of the State Control Department (2015), the process of e-business development in Lithuania remains slow in comparison to the trends observed in the other EU member-states.

Thus far, the studies on the problems of e-business in Lithuania were mainly aimed at the analysis of e-business determinants (Saulytis, 2009; Čiurlytė & Pabedinskaitė, 2013), e-business models (Mikalajūnas & Pabedinskaitė, 2010; Paliulis & Sabaitytė, 2012; Štītis, 2014), advantages and disadvantages of e-business (Saulytis, 2009; Mikalajūnas & Pabedinskaitė, 2010), outlines of e-business development ("Info Balt", 2012), e-business establishment ("Versli Lietuva", 2015) and e-business control (the State Control Department, 2015). However, scientific literature still lacks the studies to cover the analysis of the statistical data on the situation of e-business in Lithuania. This is partly determined by poor and occasional accumulation of the statistical data on the dynamics and activities of e-business entities, which, in turn, impedes the research on e-business market and prolongs the decision of potential e-entrepreneurs to start-up and develop e-business.

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The purpose of this article is to assess the current situation and prospects of e-business in Lithuania on the basis of legal and statistical data analysis. For the fulfilment of the defined purpose, the following *objectives* have been raised: 1) to analyse the theoretical aspects of e-business development, including the concepts and interpretations of e-business and the determinants of e-business development; 2) to conduct the empirical evaluation of legal and statistical data for the assessment of the current situation and prospects of e-business in Lithuania.

The methods of the research include systematic and comparative analysis of the scientific literature, legal and statistical data analysis.

1. The analysis of the theoretical aspects of e-business development

While analysing the theoretical aspects of e-business development, first of all, it is important to have an insight in the concepts and interpretations of e-business considering its nature, communications and the impact on the overall business competitiveness. Furthermore, it is necessary to understand which determinants drive e-business forward and contribute to its development. Hence, the further subsections of this article have been dedicated to the theoretical analysis of the concepts of e-business and the determinants of e-business development.

1.1. The concepts and interpretations of e-business

With reference to Mikalajūnas and Pabedinskaitė (2010), the term of e-business was proposed by Louis Gerstner, representative of IBM, in 1996. In different scientific sources (Velmurugan, 2009; Niranjanamurthy, Kavyashree, Jagannath, & Chahar, 2013; Hajli, Sims, & Shanmugam, 2014; Kim & Lee, 2016, etc.), the term of e-business is mentioned not so commonly as the terms of e-commerce and e-trade, although in most cases the terms can be considered as synonyms. With reference to Čiurlytė and Pabedinskaitė (2013), “e-business is a business system or business process that enables to develop a business model, in which the infrastructure of information technologies is employed to increase business efficiency and create the foundation for the development of new products and services” (p. 7). Hence, e-business can be treated as the foundation for any business activity online, while the other forms of e-activities (e.g. e-trade, or e-services) are structural parts of this parental concept.

Organisation of e-business processes is based on IT. According to Jeon, Han, and Lee (2006), e-business refers to a significant form of technological innovation, which is oriented towards both the process and the new model of small and medium business development. Other scholars (Wiengarten, Humphreys, McKittrick, & Fynes, 2012; Verdu-Jover, Alos-Simo, & Gomez-Gras, 2014) define e-business as employment of the Internet for business operation support. The latter concept represents a broader attitude towards e-business, when usage of the Internet changes internal and external processes inside an organization.

According to Velmurugan (2009), e-business refers to employment of information and communication technologies while conducting business online, including not only mere sales and purchases of products and services, but also communication with business partners and customers. In this case, the role of communication of business is highlighted.

With reference to the Report of the State Control Department (2015), several concepts linked to the trade in electronic space have been defined in the provisions of the law of the EU and Lithuania:

- The Law on Information Society Services defines electronic commerce as provision of information society with products and services at request;
- The Directive of Electronic Commerce, promulgated on June 8, 2000, provides that information society services refer to “the remote services which are provided at a request of an information society service recipient via electronic channels for particular fee” (p. 8).

Summarising, it can be stated that although the concepts and interpretations of e-business are interrelated, in its general sense, e-business refers to interactive business operations in the Internet, when the systems of intranet, extranet and the Internet are employed to link the staff, co-owners, suppliers and consumers, and employment of these systems contribute to creation of value added as the primary purpose of business. Considering the nature of operations, e-business can be treated as a part of e-commerce, when products and services are sold exceptionally in electronic space, and business operations are conducted in the environment of data transfer networks.

1.2. The determinants of e-business development

Scientific literature proposes a wide range of the determinants of e-business development. Considering the impact of macro and micro environment, the determinants of e-business development can be attributed to the following groups:

- Legal determinants (i.e. the norms of e-business establishment, bureaucratic and administrative restrictions, regulation of IT sector);
- Sectoral determinants (i.e. the type of an industry in which an enterprise operates);
- Market determinants (i.e. openness or closeness of domestic and foreign markets);
- Technological determinants (availability of IT and social networks);
- Company-related determinants (i.e. attitude of business managers towards innovations, size of an enterprise.);
- Consumer-related determinants (i.e. consumers' habits and demographic characteristics).

The impact of e-business and IT sector regulation was emphasized by Ye Wan, and Chen, (2011), Al Khattab, Aldehayyat, Alrawad, Al-Yatama, and Al-Khattab (2012), Adomako and Danso (2014) and others, who state that legal framework of a country has a considerable impact on e-business development because it establishes the forms of business activities and the rules of trade, regulates business taxation and ensures personal data protection.

The impact of the type of an industry where an enterprise operates was observed by Hogevoold et al. (2014) and Mangiaracina, Marchet, Perotti, and Tumino (2015), who note that some types of industries (for instance, information and communication, scientific and technical industries) are more favourable to e-business performance than the others (e.g. construction). Hence, high rates of e-business development might be faster achieved by the enterprises that operate in the sectors favourable to e-business and vice versa.

According to, Harris and Rae (2009), e-business should be oriented towards the market in order to retain competitive advantage. On one side, particular markets, usually domestic, where business enterprises and consumers share the same culture, customs and similar attitudes, can be more opened to e-business development, whereas the others (for instance, foreign markets) may burden it due to social and cultural differences of suppliers and consumers (Martinez, 2012; Adomako & Danso, 2014; Molthan-Hill, 2015). Furthermore, delivery to foreign markets might require additional investment in communications and logistics, which also slows down e-business development (Mangiaracina et al., 2015).

Some studies (Jeon et al., 2006; Tsai, Li, Lee, & Tung, 2011; Bordonaba-Juste, Lucia-Palacios, & Polo-Redondo, 2012; Maditinos, Chatzoudes, & Sarigiannidis, 2014 and others) propose that external factors are not so important for e-business development as internal ones. Internal determinants of e-business development combine technological and company-related factors. Technological resources such as availability of IT and the Internet as well as quality and speed of selected technologies are essential for both internal and external business communication (Al-Qirim, 2007, Li & Xie, 2012; Čiurlytė & Pabedinskaitė, 2013). On the other hand, the links have to be bidirectional, i.e. consumers must as well possess technologies and software that would allow them to take the advantages of e-business (Mikalajūnas & Pabedinskaitė, 2010; Mangiaracina et al., 2015 and others).

Tsai et al. (2011) emphasize the role of innovations (i.e. business inventions, market innovations, R&D and productivity expansion) in e-business development by saying that a market-oriented business must be innovative and ready to face constant market challenges. Nevertheless, it should not be overlooked that adjustment of new technologies is more likely to be employed by large than small enterprises since the former commonly have access to more abundant resources (Filis, Johansson, & Wagner, 2004; Jeon et al, 2006; Maditinos et al., 2014).

Finally, business market orientation is closely linked to economic and social environment since constantly changing economic and social conditions significantly influence consumers' behaviour (Čiurlytė & Pabedinskaitė, 2013). Digitalisation of population's lifestyle that leads to the prevalent habit to operate in e-environment serves as one of the major drivers which push business enterprises to change operational environment from traditional to digital one in order to retain a competitive advantage in the market (Elbeltagi, 2007; Li & Xie, 2012; Torres, Lisboa, & Yasin, 2014 and others).

Summarising, e-business development to a large extent depends on legal, sectoral, market, technological, company and consumer related determinants. Legal determinants dictate the forms of e-business and establish the rules of trade/service provision, taxation and personal data protection. Sectoral and market determinants may form e-business favourable environment, while technological determinants (e.g. access to the Internet, speed of IT, etc.) are vital for e-business functioning. Business managers' inclination to innovations as well as the size of an enterprise contributes to adjustment of new technologies and attraction of the funds for this purpose. Finally, digitalization of population's lifestyle serves as the major driver, which pushes business enterprises to change operational environment from traditional to digital one in order to retain a competitive advantage in the market.

2. Empirical evaluation of the current situation and prospects of e-business in Lithuania

Considering the findings of the scientific literature analysis, the empirical evaluation of the current situation and prospects of e-business in Lithuania will be based on the research of the data on legal regulation of e-business in Lithuania as well as the analysis of the statistical data on dependence of e-business on the type of industry and the market, availability of IT and the Internet, size of an enterprise, implementation of innovations and consumers' habits.

2.1. Legal regulation of e-business in Lithuania

The regulations for e-business in Lithuania are the same as the ones applied for the other kinds of economic-commercial activities, i.e. e-business can be started-up after establishment of an enterprise (a joint-stock company, a company of limited liability, a small company or a public institution), registration of an individual activity or acquisition of a business license. All the revenue earned from e-business is accounted and taxable (no tax exemptions of incentives have been established). Lithuania does not have any special law on e-business regulation; the requirements for particular areas of this activity are established in the following legal acts (with reference to the information announced in the Report of the State Control Department (2015)):

- Civil Code of the Republic of Lithuania;
- The Law on Information Society Services of the Republic of Lithuania;
- The Law on Consumer Right Protection of the Republic of Lithuania;
- The Law on Prohibition of Improper Commercial Practices in Respect of Consumers of the Republic of Lithuania;
- The Law on Legal Protection of Personal Data of the Republic of Lithuania.

With reference to the information announced by public institution "Versli Lietuva" (2015), the main legal acts that regulate e-trade in Lithuania are as follows:

- The Order on Confirmation of the Provision of Electronic Connection Services, issued by the director of Connection Regulation Service of the Republic of Lithuania on December 23, 2005;
- The Law on Electronic Connections of the Republic of Lithuania No. IX-2135, issues by the Parliament of the Republic of Lithuania on April 15, 2004.

Following the data of the research, which was conducted by the order of the Committee of Information Society Development (2015), in 2014 the number of e-shops in Lithuania composed 1200. This number is constantly changing since opening of an e-shop can be completed over a few days, and the activities of e-shops can be ceased simply by cancelling the website account. Trade in the virtual space is a very convenient way to acquire products or services without leaving home. In 2014, every third Lithuanian trade company had their Internet shops (The State Control Department, 2015). However, apart from the data of occasional research, the official statistics on the dynamics of the accurate number of e-shops in Lithuania is not accumulated, which eliminates an opportunity to base the studies on statistical-mathematical methods such as regression or correlation analysis.

2.2. Analysis of the statistical data on the current situation of e-business in Lithuania

In order to make evaluations of the situation of e-business in Lithuania, at first, it is purposeful to review the trends of e-business in the EU, and, with reference to this data, assess the positions of Lithuanian e-business. With reference the data of "Eurostat" (2015), commercial statistics over 2014, 43 percent of large enterprises conducted e-purchases, which determined 24 percent of the overall turnover.

The similar results were observed while analysing the statistics for medium enterprises: 28 percent of medium enterprises conducted e-purchases, which composed 13 percent of the overall turnover in this group. On the contrary, only 17 percent of small enterprises conducted e-purchases, which generated only 6 percent of the overall turnover in this group. While analysing the data on distribution of e-business by sector, it was established that accommodation sector takes the leading positions in web sales with nearly 99 percent of the total amount of web sales in EU-28. Manufacturing sector generates the smallest amounts of web sales, which amount to nearly 60 percent of the total amount of web sales in EU-28. The largest amounts of EDI-type sales are generated in large enterprises without financial sector and manufacturing, whereas the sector of real estate generates the smallest amounts of EDI-type sales in EU-28.

The biggest part of the EU Member-States conduct e-sales in their domestic markets (18 percent of the total e-sales in EU-28 in 2014), while only 8 percent of EU-28 conduct e-sales in other EU markets (see Figure 1).

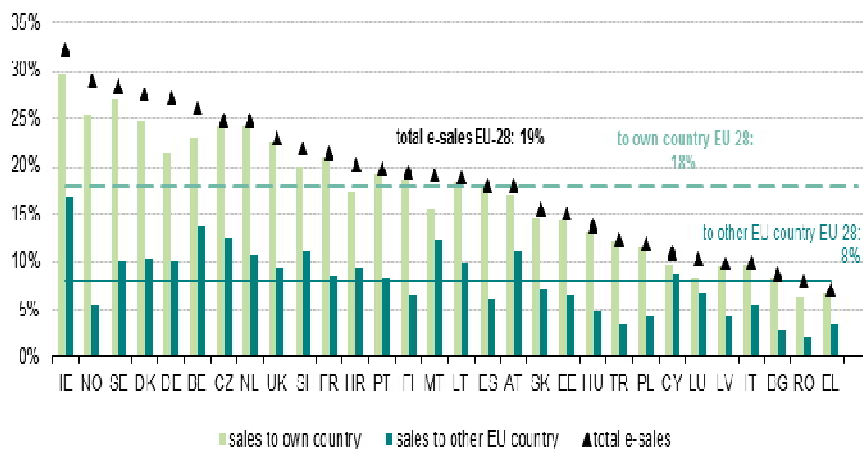


Fig. 1: E-sales in domestic and foreign markets in EU-28 in 2014 (as a percentage of the total number of enterprises)

Source: "Eurostat", 2015.

As it can be seen in Figure 1, in 2014, 19 percent of Lithuanian business enterprises conducted e-sales in domestic markets, while 10 percent of them traded in EU markets. With reference to the State Control Department (2015), in 2013, the share of B2C e-sales turnover in Lithuania amounted to 0.360 billion EUR (21th position among EU-28).

Following the statistics announced in the Report of the State Control Department, (2015), the extensive electronic network in Lithuania determines the rise of the number of consumers who do their shopping online. Although over the period of 2007-2014 the number of e-consumers in Lithuania grew faster than the average of the EU, in 2014 it was twice as low as the EU average (see Table 1).

Table 1: The percentage of e-consumers in some EU Member-States over the period of 2007-2014

Position in EU-28	State/Year	07	08	09	10	11	12	13	14
1	UK	53	57	66	67	71	73	77	79
6	DEU	52	53	56	60	64	65	69	70
18	LVA	11	16	19	17	20	27	32	34
19	POL	16	18	23	29	30	30	32	34
24	LTU	6	6	8	11	16	20	26	26
28	ROU	3	4	2	4	6	5	8	10
EU average		24	26	31	34	37	40	42	46

Source: compiled by the authors with reference to the data of the State Control Department, 2015.

Lithuania is treated as a small open economy, the competitiveness of which mainly depends on the ability of the country to produce and timely present qualitative products and services for international markets. Hence, exploitation of e-business opportunities may increase competitive advantage of Lithuanian business enterprises, especially in export markets. Establishment of e-business is not a complicated process; e-shops are often established as a supplementary method of sales alongside with traditional sales. Any physical or juridical entity operating in digital space may become an e-consumer. According to Mikalajūnas and Pabedinskaitė (2010), an entity that operates in e-space possesses different types of objects, connections and measures for the management and maintenance of the processes of communication and service provision. In Lithuania, physical entities rather actively make e-purchases or employ e-services (see Figure 2).

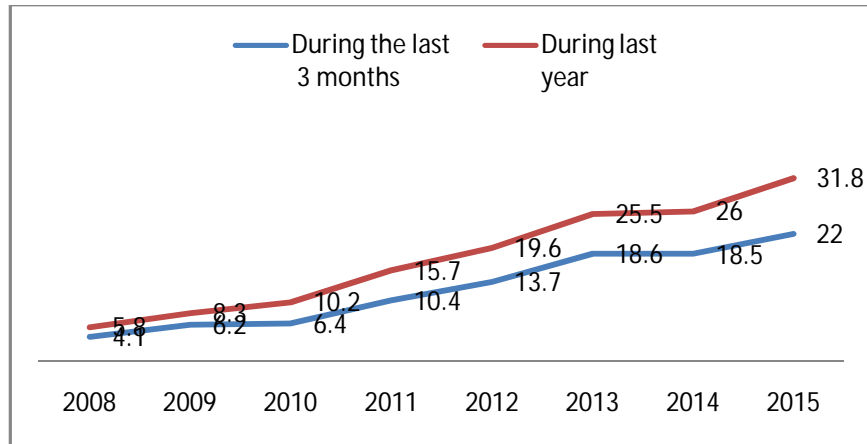


Fig. 2 The figure of physical entities who ordered products or services online over the period of 2008-2014, as a percentage of the total population aged from 16 to 74

Source: compiled by the authors with reference to the data of Lithuanian Department of Statistics (2015).

As it can be seen in Figure 2, the percentage of Lithuanian physical entities who order products or services online gradually increased over the period of 2008-2015. Over the five years, the percentage of e-consumers grew from 5.8 to 31.8 percent, which shows that acquisition of products or services online is becoming an increasingly attractive option for a Lithuanian person aged from 16 to 74. The rapid growth of the number of e-consumers was, to a large extent, determined by the extensive Internet network in the country. In 2008, 49.5 percent of the total number of Lithuanian households had the access to the Internet, and in 2015, this number already amounted to 68.3 of households (see Figure 3).

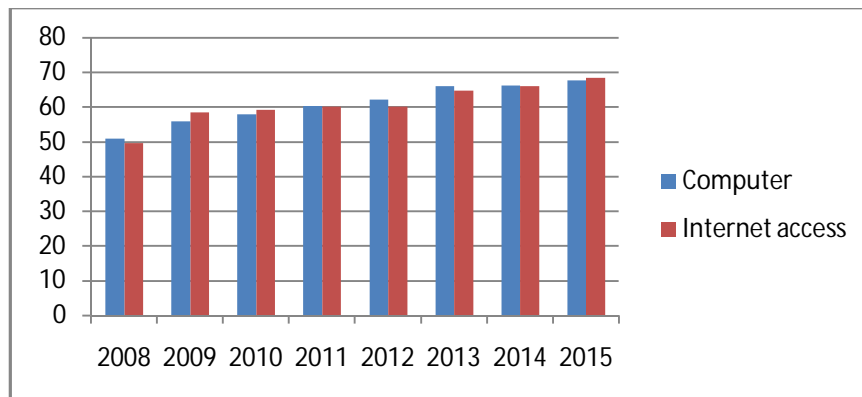


Fig. 3 The number of Lithuanian physical entities who possessed a computer and had the Internet access in 2008-2015, as a percentage of the total number of households

Source: compiled by the authors with reference to the data of Lithuanian Department of Statistics (2015).

Over the period of 2008-2015, the percentage of the households that possess a computer also rose: in 2008, the percentage of such households amounted to 50.9 percent, while in 2015 it grew to 67.6. However, despite the observable trends of e-consumption growth, it must be noted that Lithuania takes only 24th position in the EU by this indicator.

While analysing the statistical data on the number of Lithuanian business enterprises that implement innovations (the theoretical analysis has revealed that implementation of innovation is an important determinant of e-business development), it was observed that the percentage of such enterprises increased over the period of 2012-2014 in comparison to the periods of 2008-2010 and 2010-2012 (see Figure 4).

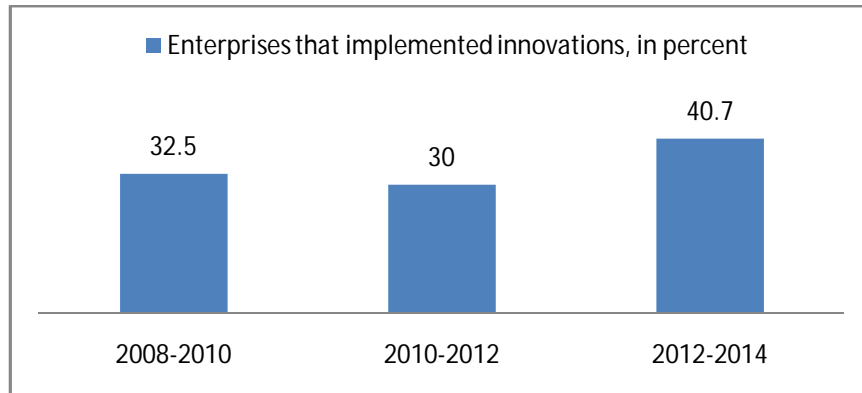


Fig. 4 The number of Lithuanian enterprises that implemented innovations over the period of 2008-2014, as a percentage of the total number of enterprises

Source: compiled by the authors with reference to the data of Lithuanian Department of Statistics (2015).

The data in Figure 4 reveals that Lithuanian business enterprises seek innovativeness and competitive advantage in the market. Nevertheless, small and medium businesses still face the barriers of new technology implementation. With reference to the data of the survey conducted by Lithuanian Department of Statistics (2015), the main barriers of new technology implementation include high costs of innovation (as it was appointed by 15 percent of the respondents), lack of internal funds (as it was appointed by 14 percent of the respondents), lack of external funds (as it was marked by 11 percent of the respondents) and dominance of the largest enterprises (as it was noted by 11 percent of the survey participants) (see Figure 5).

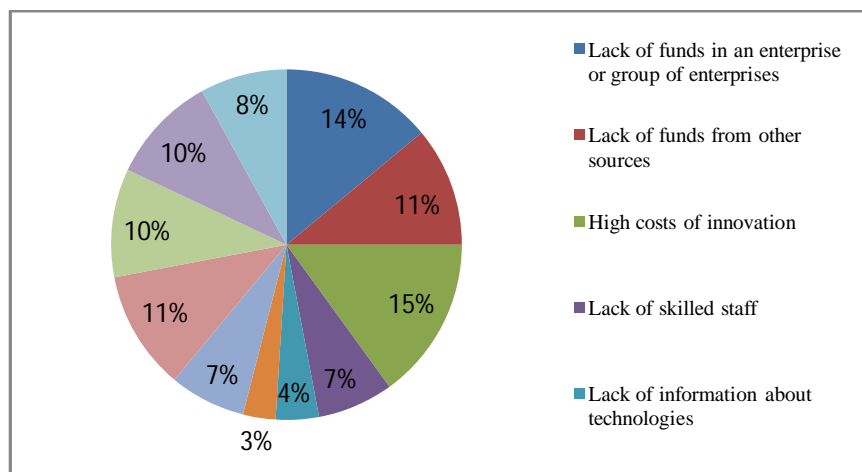


Fig. 5: The factors that burden technological innovation in Lithuania, percentage distribution of the respondents' answers

Source: compiled by the authors with reference to the data of Lithuanian Department of Statistics (2015).

With reference to the data of "Eurostat" (2015), 77 percent of the total number of Lithuanian business enterprises has their websites; 37 percent participate in the activities of social networks; 8 percent have their Internet blogs. This data shows that Lithuanian business enterprises are increasingly directing their efforts towards building their market competitiveness via expansion of e-business.

Summarising, the results of the research have revealed that legal requirements for e-business in Lithuania are the same as the ones for traditional business. The opportunities of e-business development in the country are comparatively wide considering the changes in consumers' habits and advantages of e-space (convenience of home shopping, accessibility of 24-hour e-services, availability of products or services that are not traded in domestic market, extensive Internet network, relatively low costs of computer acquisition, etc.). Improving technological environment (with reference to the data of Lithuanian Department of Statistics (2015), nearly 70 percent of Lithuanian households possess a computer and have an access to the Internet) as well as rising perception that IT may significantly contribute to retention of competitive advantage in the market also determine e-business development. Nevertheless, the analysis of the statistical data has disclosed that larger enterprises are more inclined to employ e-sales than smaller enterprises, which confirms the theoretical proposition that e-business development, among other determinants, is influenced by the size of an enterprise. Lack of the practice to collect and accumulate the official statistics on the dynamics of the accurate number of e-business entities in Lithuania complicates application of statistical-mathematical methods for e-business research and burdens e-market analysis for current and potential e-entrepreneurs.

Conclusions and recommendations

The analysis of the scientific literature has enabled to clarify the concept of e-business, which, in its general sense, refers to interactive business operations in the Internet, when the systems of intranet, extranet and the Internet are employed to link the staff, co-owners, suppliers and consumers, and employment of these systems contribute to creation of value added as the primary purpose of business. The results of the scientific literature analysis also propose that e-business development mainly depends on legal, sectoral, market, technological, company and consumer related determinants.

The results of the empirical research lead to the following conclusions:

1. Absence of any special law on e-business regulation determines fierce competition between traditional and e-business and so burdens e-business development in the country.
2. Apart from the data of occasional research, the official statistics on the dynamics of the accurate number of e-shops in Lithuania is not accumulated, which eliminates an opportunity to base both the scientific and e-market studies on statistical-mathematical methods such as regression or correlation analysis.
3. Large business enterprises are more inclined to employ e-business than smaller enterprises, which confirms the theoretical proposition that e-business development, among all other determinants, is influenced by the size of an enterprise.
4. The opportunities of e-business development in the country are comparatively wide considering the changes in consumers' habits and advantages of e-space (convenience of home shopping, accessibility of 24-hour e-services, availability of products or services that are not traded in domestic market, extensive Internet network, relatively low costs of computer acquisition, etc.). Rising perception that IT may significantly contribute to retention of competitive advantage in the market and business inclination to innovations also determine e-business development, although main barriers of new technology implementation in Lithuania include high costs of innovation, lack of internal funds, lack of external funds and dominance of the largest enterprises.

The results of the research enable to formulate the following recommendations for e-business development in Lithuania:

1. Separation of e-business regulation from traditional business regulation would allow to increase the level of e-business safety and would increase reliability of this kind of economic activity from both entrepreneurs and consumers' attitudes.
2. E-business could be promoted by introduction of tax exemptions for newly established e-business entities.
3. Constant and purposeful accumulation of the statistical data on the dynamics of e-business would facilitate market analysis of this area.

4. Improved internal and external funding of technological innovations would reduce high costs of technology implementation and, in turn, would encourage Lithuanian business enterprises to turn to IT while looking for opportunities to increase market competitiveness.

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