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Digitalization as an essential growth factor contributing in SME development (experience of Latvia and Romania)

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Abstract. In today's global economy, entrepreneurship is an important economic growth engine for the European Union. Small and medium-sized enterprises (SMEs) are the backbone of Europe's economy, providing 85 % of all new jobs. The European Commission aims to promote entrepreneurship and improve the business environment for SMEs, to allow them to realise their full potential in today's global economy (EC.2015. COSME). The expansion of SMEs in today's environment is increasingly influenced by the use of digital networks. The present research focuses on the characteristics of digital environment use by SMEs in two EU Member States – Romania and Latvia. Groups of entrepreneurs that produced both goods and services and differed in number of the employed and geographical location were surveyed in each country. The information acquired revealed the technological and economic characteristics of the digitalization process in each country, highlighting both similarities and differences. An analysis of the data gives an opportunity to identify main priorities to enhance SME digitalization processes in the future. The first of them is the accessibility of competent workers in digitization and digitalization.

Key words: SMEs, digitalization, economic benefits, rural viability.
JEL codes: D2, M15, O10, R1.

INTRODUCTION

The Digital Agenda presented by the European Commission forms one of the seven pillars of the Europe 2020 Strategy which sets objectives for the growth of the European Union (EU) by 2020. The Digital Agenda proposes to better exploit the potential of Information and Communication Technologies (ICTs) in order to foster innovation, economic growth and progress (EC, 2010). It will help rebooting Europe`s economy by delivering sustainable economic and social benefits from a digital single market (EC. 2014).

Digitalization as an important phenomenon has been discussed at several forums held in Europe. At the TUAC (Trade Union Advisory Committee) Forum (February 2017), analysing the positive effect of business digitalization on economic growth, a focus was placed on the effects of this change on the labour market: employment as such and particularly training and new working conditions for employees aimed at raising their competences and opportunities in the labour market. The entry of technologies has to be aligned with building up the workforce's knowledge and skills, as new quality jobs are created. Only in this way, it is possible to maintain and increase prosperity for the population (TUAC, 2017).

At the Stakeholders Forum (March 2018), the main tracks of industry digitising have been widely discussed, stressing that the future of Europe and industry is digital, and the needs of digitalization are enormous. Therefore, the European Platform of national initiatives on the digitising industry is being established. The participants of the forum set the following key functions for the platform: coordination of national and regional activities, expansion of private-public partnerships not only in usual fields but also in the financial field, exchange of positive experience and the build-up of employee and employer competences needed because of changes in economic activity (EC, 2018b).

Since SMEs comprise a significant share of the total enterprises in the European Union, one of the key messages from the Stakeholder Forum is dedicated to SMEs. The message stresses that only one in five such enterprises is engaged in digitalization, as this process is hindered by financial, human skill and time constraints. For this reason, there is a need to provide digitalization and financial help to SMEs (EC, 2018a:59)

The nature of digitalization and the impact of it on the society are important research problems for scientists. Digitalization is characterised as the most striking feature of the Fourth Industrial Revolution (Schwab K.; 2017; Rachinger M. et al., 2018). The concepts of 'digital production' and 'digital people' emerged, referring to changes both in production processes and in people involved in the processes and stressing that the digital people represent the new technologies that entered the production of goods and services (Perkowitz S., 2005; Rhoades L, 2005). In order for digitalized activities to emerge, the territory where the activities develop has to have a digital environment, i.e. Fiber to the Premises (FTTP), meaning the Internet is available to any group of individuals interested in the use of it (Broadband...2017). Consequently, a new business model is emerging, which encompasses the customer dimension, the benefit dimension, the value added dimension, the partner dimension and the financial dimension and which has to form a system for networking of actors (Shalmo et al., 2017).

Scientists focus also on the spatial distribution of the digitalized economy in the European Union, examining the performance of the EU as a whole and each individual Member State and giving an opportunity to do a comparative analysis. In this respect, an example is the research on the digital economy that compared Poland with the other EU Member States (Moroz, 2017). A similar analysis was done on the pace of business digitalization in Sweden, assessing the results achieved (Mahring et al., 2018). A focus is placed also on an analytical combination of the spatial and content aspects. An example is the research on the digitalization of microenterprises that compared the situations in Eastern European and Western European countries and used an online survey of 36 microenterprises as an information source (Pytkovska & Korynski, 2017).

The present research continues detailing the spatial and content aspects of business digitalization. The research object is a combination of SMEs as the content aspect and two EU Member States – Latvia and Romania – as the spatial aspect. **The research aims are:** a) to assess the positions of Romanian and Latvian SMEs within the EU based on the DESI index and b) to compare and assess the technological and economic characteristics of the digitalization process in each country. **Methodology and methods:** The research used the following information sources: the Digital Economy and Society Index (DESI), which showed the situation of each country examined by the research within the EU, while a more detailed situation in both countries was identified by conducting a survey in each of the countries (n = 100 in Romania and n = 100 in Latvia operating in the manufacture of goods, in the supply of services and marketing). Since most of the respondents represented microenterprises (81.0% in Romania and 70.0% in Latvia) located outside cities, the data acquired gave an opportunity to get insight into the manifestations of digitalization contributing to maintaining the viability of rural space both in Romania and in Latvia. To maintain the viability of rural areas, the society has to move with the times and engage in modernisation processes. Nowadays, the key path of modernisation is digitalization that significantly affects the economy and the society's life as a whole.

To assess the situation, the research used the DESI index component 'Business technology integration: the digitalization of business and development of the online sales channel' (EC. 2018a).

RESULTS AND DISCUSSION

1. Positions of Rumania and Latvia within the EU with regard to SME digitalization

The DESI is a composite index (five components) that shows the overall situation in a spatial unit examined. According to the latest data, both Latvia and Romania still lagged behind the EU average. However, the data indicated the two countries progressed and continued approaching the EU average (Fig. 1).

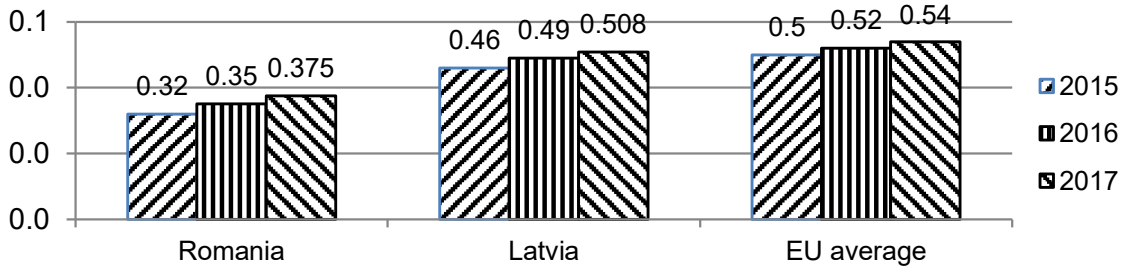

Figure 1. Digitalization progress in Rumania and Latvia in the last three years. Source: (DESI composite index, EC. 2018a).

In the last three years, the EU average rose by 8.0%, while the index for Latvia increased by 10.4% and for Romania by 17.2%. In the result, Latvia reached 94.1%, while Romania – 69.4% of the EU average. The population's interest in the use of the Internet and the build-up of digital skills to be used for mutual communication as well as communication with national regulatory authorities increased.

As regards the research problem, the authors were particularly interested, first, in the composite index components showing residents' use of the Internet for shopping (3c2) (Table 1), as the Internet serves as a source of various information and a means of communication and as a platform for shopping. Online shopping is a form of electronic commerce, which allows consumers to buy goods and services directly from a seller (Moroz, 2017).

Table 1. Increase in the use of the Internet as a tool for shopping, (%)

Online shopping	2015	2017	Growth, %-points
Romania	18%	23%	5%
Latvia	48%	74%	26%
EU average	65%	68%	3%

Source: authors' calculations based on the DESI index (3c2) (EC. 2018a).

According to the authors' calculations, online shopping as an option of consumer behaviour rose sharply in Romania and in Latvia in particular over the last years, exceeding the average growth rate for the EU. Nevertheless, a lot of efforts have to be made to increase the availability of digital services and reach the most optimum level (84% in Sweden, 82% in Denmark), in Romania in particular.

Second, the composite index components for SMEs reveal important facts regarding the research problem, as they show the SMEs engagement in this form of electronic commerce (DESI 4b1, 2, 3) (Table 2).

Table 2. Engagement of SMEs in online selling (% of total SMEs)

	2015	2017	Growth, %-points
Selling online			
Romania	7.4%	7.7%	0.3%
Latvia	8.3%	10.6%	2.3%
EU average	16.0%	17.2%	1.2%
Selling online cross-border			
Romania	1.9%	1.8%	- 0.1%
Latvia	3.9%	4.7%	0.8%
EU average	7.5%	8.4%	0.9%

Source: authors' calculations based on the DESI index (4b1, 3) (EC. 2018a).

SME electronic commerce in Romania and Latvia has begun and expands. The number of SMEs engaged in such activities rose, which was indicated by an increase in the share of those engaged in the digitalization process. Online selling in Romania approached the EU level (44.8% of the EU average), while in Latvia this level slightly exceeded the EU average (61.6% of the EU average). The levels for online cross-border selling were lower, yet this kind of activity grew. Overall, electronic commerce is an indicator of successful economic activity for SMEs, which is confirmed by an increase in e-commerce turnover in the last year (2017/2016) by 0.9% in Romania and 0.4% in Latvia.

If analysing SME e-commerce, a comparison of an indicator for an individual country with the EU average represents only an intermediary comparison. A comparison of it with the optimum level among the EU Member States has to be the next step. For example, 30.0% of the population in Ireland, 28.5% in Sweden, 27.8% in Denmark and 21.9% in Lithuania were involved in online commerce. This is an obvious target to move towards for the employees of SMEs in Romania and Latvia (The Digital... 2018).

2. Technological and economic characteristics of the digitalization process in Romania and Latvia

The DESI composite index components give a rough notion of the phenomenon researched, as they indicate the overall situation in the countries, whereas the survey of SME businesspersons conducted by the authors and an analysis of the data give some insight into the digitalization process at the enterprises engaged in e-commerce in each of the countries and allow assessing the process. Since the survey involved respondents from enterprises producing goods and services and trading enterprises with less than ten employees as well as with a larger number of employees, this gives an opportunity to identify whether the kind of economic activity and the size of enterprises can affect the SME digitalization process. Progress in the SME digitalization process both in Romania and in Latvia has been confirmed by the DESI index (4b1, 2, 3). The survey, however, gives insight into the purposes of engagement in Internet marketing or e-commerce, the results achieved and the problems related to this activity.

2.1. Purposes of engagement in Internet marketing or e-commerce

Marketing as a phenomenon involves at least three components – communication with customers, advertising goods or services and, finally, sales of the goods or services offered.

The survey results allow concluding that overall, communication with customers was almost of the same importance for SMEs in both countries. Selling goods as a purpose was more stressed by the respondents in Latvia, yet there was a considerable difference in perception of the role of advertising between both countries. It was referred to as dominant by the Romanian respondents, whereas only a tenth of the Latvian respondents mentioned it (Table 3). This could be explained by the fact that online shopping as an option of shopping was more popular in Latvia than in Romania (EC 2018, 3c2). In Latvia, there are service enterprises developing Internet tools (websites, social networks, mini blogs etc.) for other enterprises ordering the tools (Marketing Angels Ltd).

Table 3. Main purposes of using the Internet environment by enterprises, % (several answers possible)

Purpose	Average	Goods-producing enterprises	Services-producing enterprises	Trading enterprises	Others
Romania					
Advertising	73.0	64.3	67.3	90.9	88.9
Selling goods or services	67.0	60.7	86.5	36.4	44.4
Communication with customers	72.0	78.6	73.1	45.4	33.7
Latvia					
Advertising	11.0	96.0	83.8	44.4	23.5
Selling goods or services	77.o	78.3	73.0	66.7	64.7
Communication with customers	71.0	0.0	5.4	27.8	70.6

Since the SMEs surveyed were comprised of those producing goods or services and trading ones, the data acquired in the survey gave an opportunity to analyse the components of interest in e-commerce as well as the kinds of economic activity represented. In both Romania and Latvia, the interest in the use of the Internet

environment differed between business entities producing goods or services and trading ones as well as those engaged in other kinds of economic activity. In Romania, the role of advertising increased for the mentioned groups of enterprises, whereas the role of sales promotion and communication with consumers decreased. In Latvia, the situation was completely opposite – the demand for advertising decreased, whereas the demand for the Internet environment increased in order to communicate with consumers of goods and services.

As regards the size of enterprises, in both Romania and Latvia the replies given by the representatives of microenterprises with up to ten employees were consistent with the average for all the SMEs (Table 3) – communication with consumers dominated, followed by opportunities for selling goods or services. However, the needs for advertising were different. In Romania, advertising as an important purpose was noted by 69.1% of the respondents, whereas in Latvia – only by 12.9%. In Romania, the larger the enterprise in terms of employment, the higher the interest in digitalized advertising. The interest of enterprises with more than 25 employees could reach even 100%. In Latvia, the situation was opposite – the larger the enterprise, the lower the interest in business digitalization.

2.2. Gains from engagement in Internet marketing or e-commerce

Net turnover includes the revenues from the sale of products, goods, and services. The ability to use electronics provides an opportunity to increase net turnover from both producing goods and producing services (21st century...). In the opinion of the Romanian and Latvian respondents, the SMEs benefited from it in both countries.

Table 4. Net turnover increase after commencing Internet marketing or e-commerce, % (enterprises operating for more than one year)

Turnover increase	Average	Goods-producing enterprises	Services-producing enterprises	Trading enterprises	Other
Romania					
No increase	8%	20.0%	4.2%	9.1%	0%
Insignificant	23%	**48.0%**	12.8%	18.2%	33.3%
Significant	52%	28.0%	**70.2%**	**72.7%**	**44.5%**
Very significant	9%	4.0%	12.8%	0%	22.2%
Latvia					
No increase	5%	0%	0%	5.6%	11.8%
Insignificant	31%	**52.2%**	32.4%	33.3%	29.4%
Significant	47%	47.8	**45.9%**	**44.4%**	**58.8%**
Very significant	12%	0%	21.6%	16.7%	0%

Even though the percentages of increase in net turnover differed between Romania and Latvia, the dominant positions were the same. An insignificant increase in net turnover was specific to goods-producing enterprises, while a significant increase in net turnover was specific to services-producing enterprises irrespective of the kind of services they provided. For such enterprises, an increase in net turnover was very significant in Romania. This indicates Romania expanded activities paving the way to approach the EU average for financial gains from Internet marketing or e-commerce activity.

Both in Romania and in Latvia, e-commerce took both forms – domestic trade as well as cross-border sales (EC. 2018a - 4b1, 3). The survey results revealed a breakdown of domestic e-commerce transactions for the SMEs that had engaged in digital marketing. In both countries, the percentages of enterprises engaged only in domestic trade were equal (71%). For this reason, the percentages of SMEs engaged in cross-border commerce were also equal (29%). Nevertheless, the degrees of engagement in the European Union or even the global markets were quite different (Fig. 2).

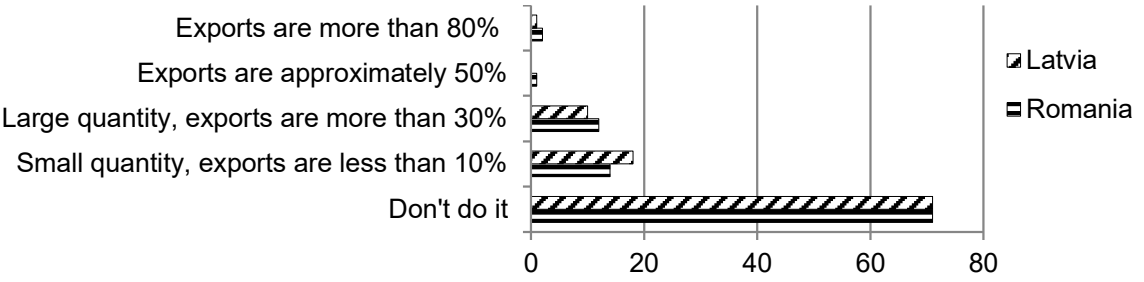

Figure 2. Exports of goods or services abroad, as a % of SMEs using e-commerce.

The data acquired in the survey were consistent with the DESI index values presented in Table 2, i.e. SMEs slowly commenced their cross-border commerce. A breakdown of the enterprises by kind of economic activity revealed that in Romania, their engagement in cross-border commerce ranged from 9.1% (trading enterprises) to 38.5% (providers of various services). Just like in Romania, in Latvia too trading enterprises were minimally (18.8%) engaged in cross-border commerce, whereas goods-producing enterprises were maximally (45.5%) engaged in cross-border commerce. This means there were both differences and similarities between the countries.

The survey data revealed the effect of enterprise size on their extent of cross-border commerce. A comparison of the enterprises by size (in terms of employment) revealed that the engagement of the enterprises employing more than 25 people in cross-border commerce was the highest both in Romania and in Latvia (80.0% in Romania, 83.3% in Latvia), whereas the engagement of the microenterprises (up to 10 employees) was the lowest: 13.5% in Romania, 14.3% in Latvia.

The slow engagement of SMEs in e-commerce and particularly in cross-border commerce was affected, in the opinion of the respondents, by two factors. The first one was high costs of maintaining the e-commerce environment. A larger problem, according to the Romanian and Latvian respondents, was a lack of competent specialists at enterprises (12% in Romania and 35% in Latvia). To expand e-commerce and particularly cross-border commerce, specialists having competences in production and particularly competences for organising sales on the Internet were needed.

A survey of Western and Eastern European microenterprises done by Polish researchers identified a lack of finances as a factor constraining the expansion of digitalization; another obstacle was the insufficient skill of consumers themselves to use the Internet for shopping (Pytkovska & Korynski, 2017). The aspects of a digital buyer have become a research problem (Managing..., 2018). The European programme 'COSME' (2014 – 2020) was established for strengthening the positions of SMEs within the business sector and getting access to financial assistance for entry into the single

market and for cooperation networks, with a special focus being placed on promoting business digitalization (EC, 2015). Successfully implementing the programme could contribute to mitigating the mentioned problems. How fast this could be done largely depends on the implementation of the digitalization policy in each EU Member State.

2.3. Assessment of the results achieved of Internet marketing efforts according to the goals set

Commencing any innovative activity is associated with the goals to be achieved by implementing this activity. Commencing Internet marketing or e-commerce, as described in section 2.1 of the paper, is associated with specific goals. The survey of SMEs in Romania and Latvia gave an opportunity to identify not only the goals of beginning something new but also the extent to which the goals, in the opinion of SME representatives, had been achieved at their enterprises.

A positive fact, of course, is that engagement in business digitalization and e-commerce has yielded real results. In both countries, the SMEs achieved some results for each of the goals set: advertising goods and services, communication with buyers of their goods and services as well as selling their goods and services (Fig. 3).

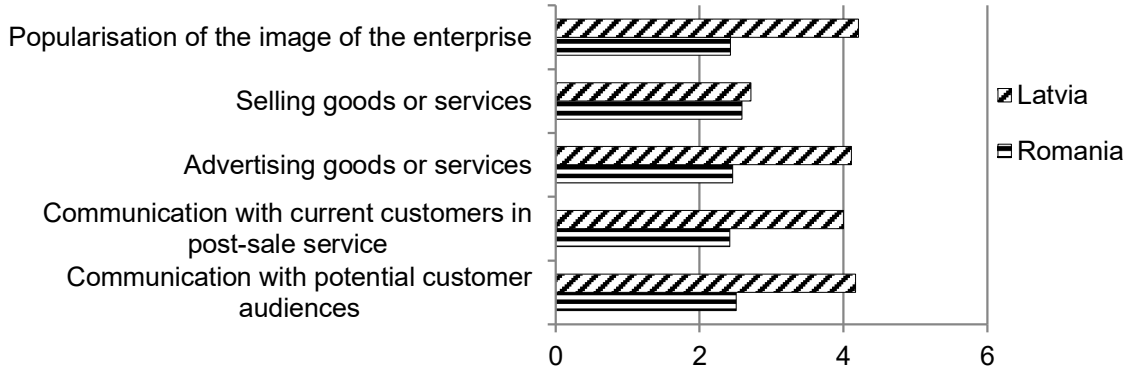

Figure 3. Respondents' ratings of e-commerce activity at their enterprises (weighted average on a five-point scale).

The survey revealed both similarities and differences between the countries. The first difference was the respondents' perspective on opportunities provided by e-commerce. In Romania, all the use options of digitalization were rated almost equally (ratings varied around 2.5 on a 5-point scale). In contrast, in Latvia the respondents' ratings of use options of digitalization were different. Communication, advertising and image popularisation were rated relatively high (ratings varied around 4.0), whereas selling goods and services was rated relatively low (only 2.7). It is interesting that in both countries particularly the ratings of selling goods and services were almost equal. This, in the opinion of the authors, confirms the opinion of the respondents of both countries once more that the relatively high development level of the Internet environment providing a possibility to advertise goods or services as well as communicate with buyers of goods and services does not ensure e-commerce activity is successful. As noted by the SME representatives, specialists competent in both digitalization and commerce organisation were needed. This was convincingly confirmed by the DESI indicator. In Romania, ICT specialists accounted for 2.0% of the

total employees, in Latvia – 2.2%, while in Sweden where e-commerce activity was two-fold higher, they comprised 6.3%, i.e. three times more (EC. 2018a).

Table 5. Role of e-commerce in selling goods or services (weighted average on a five-point scale)

Country	Goods-producing enterprises	Services- producing enterprises	Trading enterprises	Other
Romania	2.33	2.54	2.90	3.0
Latvia	2.30	3.52	3.57	4.33

In both countries, in the opinion of the respondents, the largest problems were faced by goods-producing enterprises selling their goods through e-commerce, as the representatives of this group of enterprises gave the lowest ratings of e-commerce. This means that this group of enterprises in particular has to seriously and actively consider hiring ICT specialists, and – what is important – the specialists being able to also improve the performance of their e-commerce units. Swedish researchers associate it with their skill to better understand the needs and wishes of diverse consumer groups and the fact that the demand for goods is differentiated if the society is differentiated. Since the dominant part of the market is represented by buyers/consumers, this fact has to be taken into consideration in e-commerce and particularly cross-border selling management in order to promote the sales of goods and services (Monitoring ...2018).

CONCLUSIONS

The DESI index data aggregated by the authors confirm that the digitalization process progresses both in Romania and in Latvia. It is showed both by the DESI composite index and by the characteristics of SME economic activity, indicating that both countries are approaching the level of the old European Union Member States.

The data of the survey of Romanian and Latvian SME representatives gives an opportunity to express some conclusions on the pace of digitalization in two new European Union Member States that are very different in area size and population density as well as geographical location. There are similarities in SME digitalization between both countries. Communication with buyers/consumers promote sales of goods and services. In Latvia and Romania e-commerce takes the form of both domestic and cross-border selling. As result most of the SMEs financially benefit from digitalization, as their net turnovers rise. Also released problematic similarities. The Internet environment for the purpose of e-commerce is expensive. Lack of ICT specialists that can manage the e-environment and also competently organise cross-border selling, as it is not the same job. The smaller the enterprise (in terms of employment, net turnover), the lower the share of the enterprises engaged in e-commerce because of the two mentioned factors.

At the same time, one quite important difference in opinion on e-commerce between the Romanian and Latvian SME representatives has to be stressed. The Romanian respondents rated communication, advertising and sales with regard to e-commerce quite equally. The Latvian respondents' opinions on the same phenomena were different. The Latvian SME representatives rated advertising goods or services and communication with consumers higher than the Romanian counterparts did. However,

the key purpose of economic activity – selling goods and services – that brings financial gains was rated considerably lower.

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