OKSANA POLINKEVYCH

ROLE OF THE SERVICE SECTOR IN THE INNOVATION DEVELOPMENT OF POLAND AND UKRAINE

JEL O31

Summary: Objectives of the article were defining factors the role of the services sector in the innovation development in Ukraine and Poland, determining the impact of new trends in behavioral economy on areas of innovative development of service sector in Ukraine and Poland. This sector of economy employs more than half of workers. It produces more than half of gross value added in the country. The author of this paper worked on materials that are tangent to the development of Polish and Ukrainian economy in 2000-2015 years. The author noted that the trend of innovative development have not changed significantly in both countries in service sector. This assumption is based on results of SWOT-analysis, comparative analysis. The article describes the essence of service sector in Ukraine and Poland, presents comparative analysis of global dynamics of innovation index, shows the influence of service sector on innovation development of economy of Ukraine and Poland, define factors of innovative development of enterprise in service sector of Poland and Ukraine. Conclusions and recommendations were made regarding to possibilities of using Polish experience in the innovative development of enterprises in service sector of Ukraine. It was established that the most important mechanism for the development of innovative service sector is establishing a contact between the consumer and the seller. It was established that this contact must be based on culture and high level of education on both sides. It was also established that factors that contribute to the innovative development of service sector in Poland and Ukraine have both common and distinctive features. The development of Poland and Ukraine should be based on activities of domestic enterprises, savings, the use of EU funds and know-hows of other companies in Poland and Ukraine.

Key words: enterprise, service sector, SWOT, innovation, Global Index of Innovative Development, behavioral economy.

1. INTRODUCTION

Over the recent years, innovative enterprises have become the focus for behavioural economics development. These enterprises reject the model of extensive development based on routine behaviour of enterprises, and the establishment of

their resource, process and effect structures. In the innovation development model, development of enterprises is based on a quantitative increase in the employment sector, and in machinery and equipment representing the same technical level. This means qualitative and structural changes. The development opportunities of enterprises using the innovation development model become exhausted because of the lack of funds, employees with specific qualifications and bankruptcy of companies. The level of social and economic development in Ukraine is lower than in Poland. And so is the condition of Ukrainian enterprises, which are less developed than the Polish ones. Nowadays, the innovation model consisting in providing the market with an increasingly attractive offer using qualitative factors of development is a standard for enterprises. The development of enterprises is Poland is based on intellectual resources, because of which they become more and more knowledge-intensive [Białoń 2010]. In Ukraine, the innovation development of enterprises is based on changes in the technical level. Not all the entities have an opportunity to implement their innovative projects. Only large and medium-sized companies have innovation development opportunities. Innovation is not the main objective of management. The major aim of management is to derive the maximum profit over the shortest period of time possible. And this rule does not apply to innovation.

The aim of this article is to define the role of the service sector in the innovation development of Poland and Ukraine, and to make an attempt at identifying the influence of new trends in the development of behavioural economics on the directions of innovation development of enterprises in the service sector.

The first part of the article presents the role of the service sector in Poland and Ukraine, and the second one is devoted to the findings of the analysis of changes in the service sector, the dynamics of the Global Innovation Index and the share of the service sector in the innovation development of behavioural economics in Poland and Ukraine. The third part of the article, on the other hand, attempts at determining the factors of innovation development of enterprises in the service sector in both countries. The findings refer to the opportunities for enterprises in the service sector in Ukraine to use the experience of Poland in their innovation development.

2. RESEARCH MATERIAL AND METHODOLOGY

The research was to cover the entire period of changes, with a focus on the years 2000-2017. The research materials were gathered using the data published by the Central Statistical Offices in Poland and Ukraine, presented in specialist market reports.

The data were analysed using the comparative analysis method. The algorithm for the comparative analysis that was conducted was made up of the following elements: 1) the research indicators for the comparison of statistical data; 2) identification of the change trends; 3) assessment of the opportunities to achieve

specific results in Poland and Ukraine. In order to achieve the objective of the research and to verify its thesis, a SWOT analysis was applied, which analysis is a universal tool making it possible to plan national innovation development. An advantage of this analysis is indicating both the factors which can be influenced and those which should be focused on.

3. ROLE OF THE SERVICE SECTOR IN POLAND AND UKRAINE

The service sector is a branch of economy, in which the activity of business entities consists in providing services [Niedzielski, Rychlik, Arkiewicz 2014]. Within this sector, numerous branches and lines of business can be distinguished, the number of which changes along with the development of this sector. This makes this sector of economy heterogeneous. The service sector emerged only in the fifth stage of economic development (according to the classification by F. List), in which economy was divided into three sectors: agriculture, industry and services. A distinctive feature of the service sector is that its development, and, consequently, its share in economy, increases along with economic growth. The service sector performs two types of functions: economic and non-economic ones [Rosa 2005]. The economic functions include: tangible goods production services – services support the production process and constitute an additional element of tangible goods, livelihood functions – services help to satisfy the livelihood needs of a society; social functions – services support societies by way of providing social assistance; culture-creating and educational functions – functions of educational and culture-creating centres, which generate educational and socialisation processes; administrative and organisational functions – functions in the field of economic process management as regards the establishment of conditions for the correct operation of these processes; and research functions – functions which consist in creating progress in science, technology and organisation. Moreover, the economic functions of the service sector include formation of national income, and, thereby, dynamising economic growth. From the financial point of view, services also influence the level of budgetary receipts and the development of monetary-market equilibrium by way of absorbing the basic budget funds (services satisfying the livelihood needs) and funds at free disposal (services satisfying higher-order needs). According to the European Classification of Activity, these functions cover such activities as: foreign affairs, defence activities, legal and court activities, public order and security activities, fire service activities, social security activities, trade union activities, religious and political organisation activities, and international organisation activities.

The service sector is a dynamic and flexible branch of economy. Due to the features of services, activities conducted in this field can be relatively easily adjusted to the environmental changes, both economic and social ones. Moreover, when conducting such activities, it is very easy to react to new trends by way of acquiring technological and organisational innovations, as well as new knowledge.

The service sector covers [Hybel 2006]: 1) classical services (trade and repair, hotels and restaurants, and transport and communication); 2) financial services (financial agency and real estate services); 3) public administration services; 4) human capital creating services (education, health care, social security, personal service activities).

In Ukraine, the service sector is divided into two parts: non-financial and financial. The non-financial sector covers transport and trade, postal and courier activities; food temporary distribution and organisation; information and telecommunications; real estate services; professional, scientific and technical activities; administrative and support service activities; education, health care and social welfare; arts, sports, entertainment and recreation; and other services. The financial sector covers banking operations, securities and other financial sectors. According to the classification suggested by Piotr Niedzielski, Katarzyna Rychlik and Joanna Markiewicz, the service sector can be divided in terms of functions: tangible goods production services, livelihood, social, culture-creating and educational, administrative and organisational, and research services, national income formation services, and services satisfying the livelihood and higher-order needs [Niedzielski, Rychlik, Arkiewicz 2014].

Thus, based on Poland's experience, the following functions of services should be distinguished in Ukraine: I. economic: 1) tangible goods production services; 2) livelihood and social functions; 3) culture-creating, educational and research functions; 4) administrative and organisational functions; II. non-economic: 5) functions satisfying the livelihood and higher-order needs.

The importance of the service sector varied along with the economic changes (Table 1).

Table 1. Role of the service sector according to economic changes

Period of time	Role	Determinants
After World War II	Development of production and agriculture. No substantial role of the service sector at that time.	War damage in the material sphere, reconstruction work and satisfying the material demands.
1970s	Increased significance of the service sector. The development of broadly defined financial services, including banking and insurance services, was of particular importance.	Achievement of an appropriate level of food self-sufficiency, completion of the reconstruction process, achievement of a certain level of the society's material well-being.
1990s	Accelerated development of the service sector, also thanks to telecommunications and IT services. Currently, services related to production, i.e. the so-called business services, are growing in importance. They are among the most	Rapid development in the field of technology and innovation.

cd. Table 1.

Period of time	Role	Determinants
	dynamically developing service activities. Tightening of the bonds between the production sector and the service sector due to higher complementarity of the solutions offered.	
After the 1990s	Development of corporate services, and their transfer to countries with a lower cost per service or operating costs.	Globalisation results in outsourcing.
2006 – now (globally after the 1930s)	Development of services based on feelings and emotions. Development of financial and non-financial services.	Immense impact of emotions, values and instincts on human behaviour and irrational decisions. It should be noticed that behavioural finance is not in contradiction to the classical trend. Classical finance is deliberately based on unrealistic assumptions of market efficiency and rationality of its participants. Behavioural finance describes real behaviour of investors based on the theory of perspective enriched with human tendencies discovered.

Source: compiled on the basis of: [Stefaniak 2018], [Zygan 2013], [Polinkevych, Kamiński 2018].

The service sector is marked by rapid growth, from financial, telecommunications, IT and corporate services, to services based on feelings, emotions and knowledge.

4. CURRENT CONDITION OF THE SERVICE SECTOR IN POLAND AND UKRAINE

Under the current circumstances, the service sector is the core of an economy based on knowledge, which defines its main macroeconomic parameters in a number of aspects. In the majority of countries, the production volume and the share of services in GDP, as well as the number of employees have increased, and development of services as regards international trade has been observed. An upward trend as regards the share of the service sector revenue in GDP appeared as early as in the 1960s-1970s in some countries. In the World Bank's opinion, this share is around 68% of global GDP. The development level of services varies considerably between countries. The differences in the index (GDP share) and the rate of its growth over a period of 30 years allow us to divide all the countries into four groups (Table 2).

Table 2. Level of services by country (GDP share)

Group	Country	Share of services in GDP, %
I	United States of America, Belgium, Great Britain, Netherlands, France	70
II	Australia, Finland, Italy, Spain, Poland	60-70
III	Norway, Marocco, Chile, Costa Rica, Ukraine	50-60
IV	Ghana, Botswana, Mali	less than 50

Source: compiled on the basis of: [Derhal, Vengerska 2009], [Dane Głównego Urzędu Statystycznego Ukrainy 2018].

In Poland, in 2010-2016, the share of added value was 63% in the sector of production and non-production services. In Ukraine, this share was 41% (2010, 2015) and 70% (2016). Thus, the employment structure and the share of production added value in Poland changed along with joining the EU. The situation in Poland and Ukraine is reviewed below (Table 3).

Based on the figures from Table 3, it can be stated that the share of the service sector in gross added value in Poland was higher by 22.1% in 2010 and by 22.2% in 2015, and lower by 6.9% in 2016. The development of the service sector is Poland is more stable than in Ukraine.

In 2016, Ukraine recorded a substantial service sector growth. According to the figures presented above, two segments were dominant in the creation of added value, i.e. trade and repair, and other services. Next came transport and communication, real estate services, public administration and national defence, and education. In 2002, in the EU member states, the dominant services in the structure of added value generated in the service sector were financial and business services, with a share of 26.3% [Stefaniak J.]. In the service sector, the highest growth dynamics of production added value was recorded in the following segments: transport and communication, health care and social welfare, and real estate services. In 2010, the share of added value of services in the EU-28 group was higher by 9.8% than in Poland and by 32.4% than in Ukraine, and respectively by 10.6% and 32.8% in 2015, and by 10.3% and 3.4% in 2016. This indicator is lower in Poland and Ukraine, which results in restraining the innovation development of the service sector.

The service sector is playing an increasing role in employment, and has a large and inexhaustible job creation potential. This refers not only to classical and financial services, but also to services of social nature related to social security, social welfare, education, culture, entertainment, tourism, care for the elderly, environmental protection and protection of animals. Therefore, the share and structure of employment in the service sector in Poland and Ukraine shall be compared (Table 4).

Table 3. Gross added value in Poland and Ukraine in 2010-2016

Specification	Poland						Ukraine					
	PLN million			%			PLN million*			%		
	2010	2015	2016	2010	2015	2016	2010	2015	2016	2010	2015	2016
Trade and repair	245,644	281,711	286,611	19.3	17.6	17.4	100,200	122,855	104,397	11.3	12.2	11.9
Hotels and restaurants	14,303	17,987	17,767	1.1	1.1	1.1	7,035	5,695	5,281	0.8	0.6	0.6
Transport and communication	67,236	102,703	107,721	5.3	6.4	6.5	57,166	66,137	55,330	6.5	6.6	6.3
Financial agency services	52,684	64,917	68,222	4.1	4.1	4.1	34,943	24,108	17,413	3.9	2.4	2.0
Real estate services	67,793	78,407	84,230	5.3	4.9	5.1	31,831	39,391	33,680	3.6	3.9	3.8
Public administration and national defence	77,160	88,521	92,441	6.1	5.5	5.6	24,535	33,015	29,475	2.8	3.3	3.4
Education	64,541	76,880	77,224	5.1	4.8	4.7	28,391	26,830	21,480	3.2	2.7	2.4
Health care and social welfare	55,175	70,565	70,996	4.3	4.4	4.3	20,664	19,829	16,069	2.3	2.0	1.8
Other services	166,131	228,136	238,835	13.1	14.3	14.5	59,960	75,089	334,501	6.8	7.5	38.1
Services in total	810,667	1,009,827	1,044,047	63.8	63.3	63.5	364,724	412,950	617,626	41.2	41.1	70.4
Total	1,271,476	1,596,366	1,645,054	100	100	100	886,021	1,004,116	877,093	100	100	100
Added value of the EU-28 service sector				73.6	73.9	73.8						

Note. Converted at the rates of the National Bank of Ukraine as at 01.01: PLN 1 = UAH 2.83 in 2010, PLN 1 = UAH 4.47 in 2015, and PLN 1 = UAH 6.18 in 2016.
Source: compiled on the basis of: [*Dane Głównego Urzędu Statystycznego Ukrainy* 2018], [*Dane Głównego Urzędu Statystycznego Polski* 2018].

Table 4. Number of employees in the service sector in Poland and Ukraine in 2010-2016

Specification	Poland						Ukraine					
	'000			%			'000			%		
	2010	2015	2016	2010	2015	2016	2010	2015	2016	2010	2015	2016
Trade and repair	2,189.1	2,222.1	2,290.5	15.5	15.0	15.0	1,185	887	903.6	9.4	9.3	9.7
Hotels and restaurants	237.4	252.3	270.6	1.7	1.7	1.8	131.7	94.3	96.8	1.0	1.0	1.0
Transport and communication	701.4	767.3	818.6	5.0	5.2	5.4	1,009.7	704.5	706.5	8.0	7.4	7.6
Financial agency services	337.9	350.5	353.8	2.4	2.4	2.3	317.6	223.2	205.5	2.5	2.3	2.2
Real estate services	196	205.5	217	1.4	1.4	1.4	917.8	156.2	147	7.3	1.6	1.6
Public administration and national defense	970.1	970.8	977	6.9	6.5	6.4	1,223.8	974.5	973.1	9.7	10.3	10.4
Education	1,079.9	1,137.8	1,152.9	7.7	7.7	7.5	1,676.8	1,478.3	1,421.4	13.3	15.6	15.2
Helath care and social welfare	764.4	842	866.1	5.4	5.7	5.7	1,309.9	1,007.9	997.3	10.4	10.6	10.7
Other services	1,479.9	1,237.2	1,332.5	10.5	8.3	8.7	469.5	987	973.8	3.7	10.4	10.4
Number of employees in the service sector	7,956.1	7,985.5	8,279	56.4	53.8	54.1	8,241.8	6,512.9	6,425	65.6	68.5	68.9
Number of employees in the national economy	14,106.9	14,829.8	15,293.3	100	100	100	12,564.2	9,501.1	9,330.2	100	100	100
Number of employees in the service sector in the EU-28				71.4	73.4	73,9						

Source: compiled on the basis of: [*Dane Głównego Urzędu Statystycznego Ukrainy 2018*], [*Dane Głównego Urzędu Statystycznego Polski* 2018].

In Ukraine, similarly to Poland, an upward trend has been observed as regards the percentage of employees in the service sector contrary to industry, agriculture or the building trade. However, in 2016, the percentage of employees in the service sector was higher by 3.3% in Ukraine and lower by 2.3% in Poland. And this is what restrains the establishment of an innovative model of Poland's economic development. In Ukraine, the low level of gross added value with a large number of employees in the service sector has an adverse impact on the innovation process in economy. In Poland, in 2010-2016, the number of employees in the whole economy increased by nearly 8.4%, while in the service sector it increased by almost 4.1% (in Ukraine, it decreased by nearly 25.7% and 22.0% respectively). At the same time, the share of the service sector in the total number of employees decreased from 56.3% in 2010 to 54.1% in 2016 (in Ukraine, it increased from 65.6% to 68.9%). This shows that, from 2010, the service sector was the major source of jobs, but its share in the total number of employees was still low in comparison with a number of highly developed countries, where it was over 70%.

In 2010 and 2016, the highest numbers of employees in Poland were recorded in the trade and repair segment, and, in Ukraine, in the education segment (Table 4). Next in the employment structure were the following segments: education (in Poland), transport and communication, health care and social welfare, as well as public administration and national defence. In the analysed period, there was no decrease in the number of employees in any of the segments both in Poland and Ukraine. In 2010, the percentage of employees in the EU-28 service sector was higher by 15% than in Poland and by 5.8% than in Ukraine, and respectively by 19.6% and 4.9% in 2015, and by 19.8% and 5% in 2016. This indicator is lower in Poland and Ukraine, which results in restraining the innovation development of the service sector.

Below, the shares of gross monthly remuneration in the service sector in Poland and Ukraine shall be compared (Table 5).

Table 5. Average gross monthly remuneration in Poland and Ukraine in 2010-2016

Specification	Poland			Ukraine		
	PLN			PLN*		
	2010	2015	2016	2010	2015	2016
Trade and repair	2,633.98	3,278.13	3,471.27	663.25	1,049.66	939.81
Hotels and restaurants	2,023.1	2,459.59	2,618.62	514.13	623.27	567.15
Transport and communication	2,952.49	3,469.75	3,551.48	939.22	1,040.94	940.13
Financial agency services	5,390.38	6,511.17	6,659.24	1,638.87	1,924.61	1654.85
Real estate services	3,382.59	4,075.46	4,223.38	655.83	818.57	777.35

cd. Table 5.

Specification	Poland			Ukraine		
	PLN			PLN*		
	2010	2015	2016	2010	2015	2016
Public administration and national defence	4,149.92	4,787.61	5,042.17	961.84	980.09	963.27
Education	338.09	4,133.48	4,175.98	673.14	700.67	609.87
Health care and social welfare	3,137.43	3,565.98	3,751.98	575.27	632.89	550.16
Other services	3,400.448	4,183.182	4,383.54	814.06	1,027.52	941.84
Average monthly remuneration in the service sector	3,045.3809	3,414.0702	4,208.629	826.18	977.58	882.71
Total	3,224.13	3,907.85	4,052.19	791.17	938.48	838.67
Share of average monthly remuneration in the service sector in the total remuneration	94.46	87.36	103.86	104.43	104.17	105.25

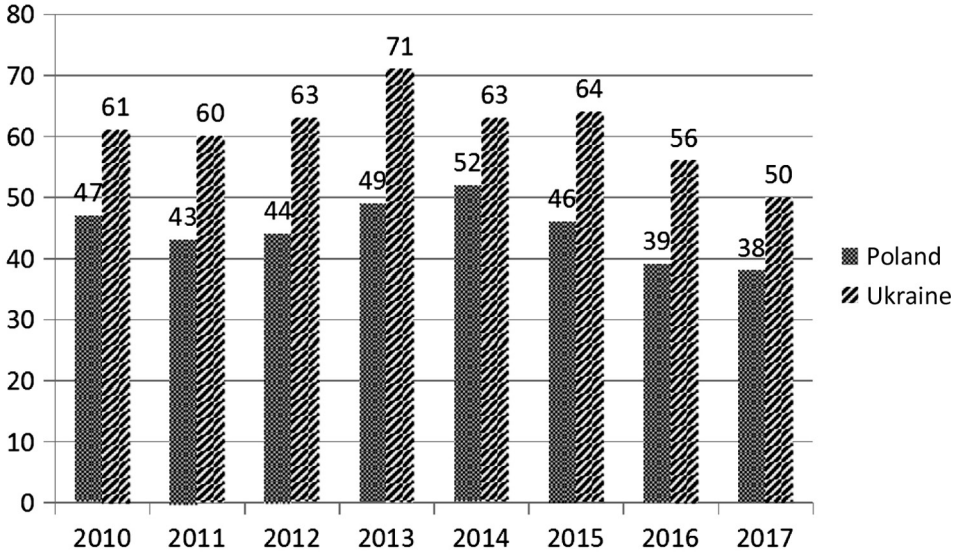
Note. Converted at the rates of the National Bank of Ukraine as at 01.01: PLN 1 = UAH 2.83 in 2010, PLN 1 = UAH 4.47 in 2015, and PLN 1 = UAH 6.18 in 2016.
Source: compiled on the basis of: [*Dane Głównego Urzędu Statystycznego Ukrainy* 2018], [*Dane Głównego Urzędu Statystycznego Polski* 2018].

The dominant services in the gross monthly remuneration structure were financial agency services, and public administration and national defence, which increased by nearly 23.5% and 21.5% in Poland (in Ukraine, they increased by almost 1% and 1.5% respectively) in the analysed period. Next in the structure of gross monthly remuneration in the service sector came real estate services, education and other services. It is worth noticing that, by 2016 in Poland and from 2010 in Ukraine, the share of average monthly remuneration in the service sector in the total remuneration was more than 100%. When comparing the values of this indicator, an advantage of the service sector can be observed in the analysed period when it comes to high-paying jobs.

It should be noticed that Poland's Global Innovation Index is higher than in Ukraine. This shall be shown in Figure 1.

In 2017, the Global Innovation Index in Ukraine was lower than in Poland by 12 points, in 2016 by 17 points, in 2015 by 18 points, in 2014 by 11 points, in 2013 by 22 points, in 2012 by 19 points, in 2011 by 17 points, and in 2010 by 14 points. Therefore, in comparison with 2010, in 2015 we can observe a reduction in the negative trend as regards the level of innovation in Ukraine, while in Poland this index increased by one point.

Figure 1. Global Innovation Index in Poland and Ukraine in 2010-2017



Source: compiled on the basis of: [Dutta, Lanvin, Wunsch 2011-2017], [Kamiński, Polinkevych 2018].

5. RESEARCH FINDINGS

5.1. INNOVATION IN POLAND

The innovation policy refers to the activities of public authorities, which support the creation, diffusion and use of innovations. In the 1980s, the innovation policy became a truly essential element of the social and economic policy (stopping the decrease in economic growth dynamics). In the 1990s, the innovation policy began to be conducted with reference to the so-called system model of the innovation process. At the beginning of the 21st century, the EU's aim has been to make innovation the focus for all the policy areas that are of significance for innovation development [Stryjek 2016].

Small and medium-sized enterprises constitute 99.8% of all companies operating in Poland [Stabryły, Małkusa 2012]. The service sector is, above all, made up of SMEs. Piotr Niedzielski, Katarzyna Rychlik and Joanna Markiewicz have analysed the innovation level of the service sector. This analysis has shown that: 1) innovation refers to new technologies, 2) there are no know-how licences, 3) a disposition to introduce new products (services and new technologies) has become visible, 4) companies give priority to development by way of developing new products (technologies), as well as entering new markets and investing in machinery and equipment, 5) innovations are introduced for economic purposes, i.e. mainly deriving higher business income, introducing new or improved services, cost reduction or increasing labour productivity. Innovations are implemented by

13% of small and medium-sized enterprises (with the EU average of 31%) [*Plan Morawieckiego może pozwolić na szybszy rozwój przedsiębiorstw* 2016].

In 2014-2016, innovation-active service enterprises constituted 14.5% of the total number of service companies (in comparison with 10.6% in 2013-2015), whereby, similarly to the previous research period, the highest percentage of innovation-active entities was recorded in the case of enterprises with a number of employees equal to or more than 250. In 2014-2016, the share of innovative service enterprises was 13.6%. In the case of service companies, this value was higher by 3.9 percentage points. Similarly to the previous years, product or process innovations were most often implemented by entities with a total number of employees equal to or more than 250 (42.3% of service companies in comparison with 41.3% in the previous period).

In the analysed period, the highest share of service companies, including both innovation-active and innovative enterprises, was recorded in the insurance, reinsurance and pension funds segment.

Taking into account the territorial division, the highest percentage of innovation-active and innovative service enterprises was recorded in the Lublin Voivodeship (respectively 23.6% and 23.3%). In the previous research period (2013-2015), the highest share of innovation-active and innovative companies in the service sector was recorded in the West Pomeranian Voivodeship (respectively 13.6% and 13.0%).

The figures presented confirm the differences in the innovation level among enterprises in the voivodeship approach. The difference between the highest and the lowest value of the percentage of innovative service enterprises was 18.5 percentage points. In the previous analysed period, this difference was 6.7 percentage points.

The findings of the innovative activity research show that, in 2014-2016, the entities which implemented process innovations (new or substantially improved processes) represented a higher share in the service sector than those which implemented product innovations (new or substantially improved products), and this was similar to 2013-2015.

In the analysed period, organisational innovations were implemented by 7.6% of service enterprises. When comparing these figures with the figures for 2013-2015, it can be observed that the percentage of service enterprises was lower by 0.5 percentage point. Similarly to the previous years, this type of innovations was most often implemented by enterprises with a total number of employees equal to or more than 250.

In the service sector, the highest percentage of entities which implemented organisational innovations was recorded in the insurance, reinsurance and pension funds segment (39.4%). In 2013-2015, the highest percentage of entities which implemented organisational innovations was recorded in the insurance, reinsurance and pension funds segment (35.8%).

In 2014-2016, marketing innovations were implemented by 7.2% of service enterprises. In the previous analysed period, the percentage of such entities was

lower by 0.6 percentage point. In the service sector, marketing innovations were most often implemented in the insurance, reinsurance and pension funds segment (39.4% in comparison with 41.8% in 2013-2015).

The share of net revenues from sales of new or substantially improved products, launched in 2014-2016, in total sales revenues in the service sector in 2016 was 3.9% (more by 0.9 percentage point). The highest share of revenues from sales of new or substantially improved products in total revenues was recorded in the case of entities with a total number of employees equal to or more than 250, including service enterprises (6.4%).

Service enterprises earmarked the largest amounts of funds for research and development activities, i.e. 41.0% (in comparison with 32.7% in 2015). The lowest expenditure on innovative activities in the service sector was incurred on staff training directly related to the implementation of product or process innovations.

The main sources of funding as regards expenditure on innovative activities in 2016, similarly to the year before, were own funds, which covered 88.2% of the total expenditure incurred for this purpose in service enterprises (73% in 2015).

The highest percentage of innovation-active service enterprises which received public support for innovative activities was recorded in the Podkarpackie Voivodeship (59.0%) [Działalność innowacyjna przedsiębiorstw w latach 2014-2016].

5.2. INNOVATION IN UKRAINE

In Ukraine, innovations are implemented only by large and medium-sized enterprises. Therefore, the service sector has a limited capacity to implement innovations. The main sources of financing in the case of innovations are own funds, as well as credit and investment funds. The majority of innovations are related to machinery and equipment, technologies and development of new products. A negative trend should be observed as regards the lower pace of innovation growth and reduction of investments as a consequence of the country's difficult political and economic situation. The service sector is made up mainly of small and medium-sized enterprises. In 2013-2016, small enterprises constituted 92-98% of the total number of enterprises (based on the data provided by the Central Statistical Office in Ukraine). In terms of its number of enterprises and level of employment, the service sector has the highest share in added value. However, innovations were implemented mainly in the industrial sector, and, to a smaller extent, in agriculture and the building trade. The majority of statistical research refers to the innovation level of industrial enterprises.

Despite the same trends regarding the service sector in Poland and Ukraine, i.e. (1) small and medium-sized enterprises operating in the service sector, (2) a low level of innovation in comparison with other EU member states, (3) spreading of technological innovations, creation of new products, and purchase of machinery and equipment, (4) own funds and investors' funds are the main source of financing, (5) a high share of employment, Ukraine has a lower level of the Global Innovation Index, and the condition of its service sector lags well behind

Poland. The reason for this is a gap in the dynamics of economic growth after 2009. Polish companies have more resources to invest than the Ukrainian market, and, moreover, inappropriate allocation of the income of enterprises in Ukraine is observed contrary to Polish enterprises.

In 2014-2016, innovation-active service enterprises in Ukraine constituted 13.4% of the total number of service companies (in comparison with 8.6% in 2012-2014), whereby, similarly to the previous research period, the highest percentage of innovation-active entities was recorded in the case of enterprises with a number of employees equal to or more than 250. In 2014-2016, marketing innovations were implemented by 10.2% of service enterprises (in comparison with 6.4% in 2012-2014), and organisational innovations by 8.7% (in comparison with 4.7% in 2012-2014). In the service sector, the highest percentage of entities which implemented organisational innovations was recorded in the engineering, research and advertising segment (13.2%), and of those which implemented non-technological innovations in the insurance, reinsurance and pension funds segment (18%) and in the IT and telecommunications segment (17.3%). In 2012-2014, in the service sector, the highest percentage of entities which implemented organisational innovations was recorded in the IT and telecommunications segment (11.1%) and in the trade and repair segment (9.1%).

The main sources of financing as regards expenditure on innovative activities in 2016, similarly to the year before, were own funds (89.5% in comparison with 90% in 2014) [*Działalność innowacyjna przedsiębiorstw na Ukrainie w latach* 2014-2016, 2012-2014].

On that basis, the main factors influencing the situation shall be distinguished.

5.3. SWOT ANALYSIS FOR THE ROLE OF THE SERVICE SECTOR IN THE INNOVATION DEVELOPMENT OF POLAND AND UKRAINE

The SWOT analysis presenting the strengths and weaknesses, as well as opportunities and threats as regards the role of the service sector in the innovation development in Poland and Ukraine shall be presented in Tables 6-10.

Table 6. SWOT analysis – common strengths and weaknesses, and opportunities and threats as regards the role of the service sector in the innovation development of enterprises in Poland and Ukraine

Strengths	Weaknesses
1.1. Monthly remuneration above the average	2.1. Hindered access to funds
1.2. Transit country	2.2. Poor management of competence of employees in the service sector (qualification potential)
1.3. Increase in gross added value	2.3. No respect for people who have the ability to create new solutions, and no social consent to failures

cd. Table 6.

Strengths	**Weaknesses**
1.4. Increased percentage of employees in the service sector	2.4. No good ideas as regards innovations and no convincing reason for their implementation
Opportunities	**Threats**
3.1. Inclination toward research and development of enterprises	4.1. Increasing competition
3.2. Introducing a modern education and learning system, and adjusting the curriculum to the requirements of modern economy by academic centres	4.2. Failure to adjust the quality standards to the EU requirements
3.3. Creating conditions for the establishment and development of business-related institutions with the aim of the development of competitiveness and enterprise innovation	4.3. Legal constraints or impediments as regards investments
3.4. Increase in the GII	4.4. High tax scale

Source: own work based on: [Firlej, Spychalska 2015], [Dane Głównego Urzędu Statystycznego Ukrainy 2018].

Table 7. SWOT analysis (weaknesses/ threats) for the role of the service sector in the innovation development of enterprises in Poland and Ukraine

Weaknesses/ Threats	**2.1.**	**2.2.**	**2.3.**	**2.4**	**Weight**	**Number of interactions**	**The product of weights and interactions**	**Rank**
4.1.	1	0	1	0	0.1	2	0.2	4
4.2.	0	0	1	0	0.4	1	0.4	2
4.3	0	1	0	1	0.2	2	0.4	2
4.4	1	0	1	1	0.3	3	0.9	1
Weight	0.3	0.4	0.1	0.2	1			
Number of interactions	2	1	3	2				
The product of weights and interactions	0.6	0.4	0.3	0.4				
Rank	1	2	4	2				
Sum of interactions						16		
Sum of products							3.6	

Source: own work.

Table 8. SWOT analysis (strengths/ opportunities) for the role of the service sector in the innovation development of enterprises in Poland and Ukraine

Strengths/ Opportunities	1.1.	1.2.	1.3.	1.4.	Weight	Number of interactions	The product of weights and interactions	Rank
3.1.	1	0	1	0	0.1	2	0.2	4
3.2.	0	0	1	0	0.4	1	0.4	3
3.3	1	1	0	1	0.2	3	0.6	2
3.4.	1	0	1	1	0.3	3	0.9	1
Weight	0.3	0.4	0.1	0.2	1			
Number of interactions	3	1	3	2				
The product of weights and interactions	0.9	0.4	0.3	0.4				
Rank	1	2	4	2				
Sum of interactions						18		
Sum of products							4.1	

Source: own work.

Table 9. SWOT analysis (strengths/ threats) for the role of the service sector in the innovation development of enterprises in Poland and Ukraine

Strengths/ Threats	1.1.	1.2.	1.3.	1.4.	Weight	Number of interactions	The product of weights and interactions	Rank
4.1.	1	0	0	1	0.2	2	0.4	3
4.2.	1	1	1	0	0.4	3	1.2	1
4.3	0	0	1	1	0.3	2	0.6	2
4.4.	1	1	0	1	0.1	3	0.3	4
Weight	0.3	0.4	0.1	0.2	1			
Number of interactions	3	2	2	3				
The product of weights and interactions	0.9	0.8	0.2	0.6				
Rank	1	2	4	3				
Sum of interactions						20		
Sum of products							5	

Source: own work.

Table 10. SWOT analysis (weaknesses/ opportunities) for the role of the service sector in the innovation development of enterprises in Poland and Ukraine

Weaknesses/ Opportunities	2.1.	2.2.	2.3.	2.4.	Weight	Number of interactions	The product of weights and interactions	Rank
3.1.	0	1	1	1	0.3	3	0.9	2
3.2.	0	0	0	0	0.2	0	0	4
3.3	1	1	1	0	0.4	3	1.2	1
3.4.	0	0	1	1	0.1	2	0.2	3
Weight	0.2	0.1	0.4	0.3	1			
Number of interactions	1	2	3	2				
The product of weights and interactions	0.2	0.2	1.2	0.6				
Rank	3	3	1	2				
Sum of interactions						16		
Sum of products							4.5	

Source: own work.

Below, summary reports for the results achieved shall be provided (Tables 11-12).

Table 11. Summary reports for the results achieved as regards the role of the service sector in the innovation development of enterprises in Poland and Ukraine

Combination	Results of the SWOT analysis	
	Sum of interactions	Sum of products
Strengths / Opportunities	18/2	4.1
Strengths / Threats	20/2	5
Weaknesses / Opportunities	16/2	4.5
Weaknesses / Threats	16/2	3.6

Source: own work.

Table 12. Results of the strategic analysis and strategy selection as regards the role of the service sector in the innovation development of enterprises in Poland and Ukraine

	Opportunities	Threats
Strengths	Aggressive strategy Number of interactions 18/2 Weighted number of interactions 4.1	Conservative strategy Number of interactions 20/2 Weighted number of interactions 5
Weaknesses	Competitive strategy Number of interactions 16/2 Weighted number of interactions 4.5	Defensive strategy Number of interactions 16/2 Weighted number of interactions 3.6

Source: own work.

Ukraine and Poland have a large internal potential, but face an unfavourable combination of external conditions. Using their strengths, they should overcome threats, e.g. establishing an environment for good ideas for innovations and convincing reasons for their implementation. The conservative strategy includes such activities like selection of products, market segmentation, cost reduction, improvement of competitive products, development of new products and searching for new markets. This is a strategy, the success of which is ascribed mainly to the strengths and reduction of threats.

6. SUMMARY

Summing up the conditions for the operation of service enterprises in Poland and Ukraine in 2010-2016, determined on the basis of the analysis conducted, several conclusions resulting from the current operation of enterprises have been drawn to support their development in the next decade. According to the author of this study:

1. Innovations implemented by service enterprises should be based on (scientific and technological) knowledge of learning organisations (on experience) operating in networks (established by producers, their suppliers, customers, research units).
2. The major subject of innovation in the service sector is the contact between the customer and the service provider. This contact is an important source of innovation. And this is not only about the opinions expressed by customers, but also about their reactions and behaviour when services are provided. The service provider's manners and education are also of great importance here.
3. As regards services, five aspects of innovative behaviour can be distinguished: the new concept of services, the new level of cooperation with customers, the new system of service provision, application of new technologies, prices of new products or regular services (not higher than the prices of the old products).
4. The factors which determine the development of innovative services in Poland and Ukraine are both common and country-specific. The factors which contribute to the development of innovative services in Poland and Ukraine are cross-border benefits, increase in gross added value and increase in the share of employees in the service sector. The gap in the countries' economic growth covers hindered access to funds, poor management of competence of employees in the service sector (qualification potential), no respect for people who have the ability to create new solutions and no social consent to failures, as well as no good ideas as regards innovations and no convincing reasons for their implementation.
5. The overcoming of the factors which favour slow development of service innovation in Poland and Ukraine can be facilitated by the accession to

the EU, an increase in foreign companies' interest in the service sector, an inclination toward research and development of enterprises, introduction of a modern education and learning system, and adjusting the curriculum to the requirements of modern economy by academic centres, and creating conditions for the establishment and development of business-related institutions with the aim of the development of competitiveness and enterprise innovation.

6. Innovation development in the Polish service sector is significantly influenced by a low investment risk. In Ukraine, the innovation development of services is to support stabilisation of the political, economic and legal situation.

The development of Poland and Ukraine should be based on state companies, savings and irrational actions of consumers according to behavioural economics, and should take advantage of EU funds and know-how of companies operating within the EU-28 group.

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ROLA SEKTORA USŁUG W ROZWOJU INNOWACYJNYM POLSKI I UKRAINY

Streszczenie: Celem artykułu było określenie roli sektora usług w rozwoju innowacyjnym Polski i Ukrainy oraz próba identyfikacji wpływu nowych tendencji rozwoju behawioralnej ekonomii na kierunki rozwoju innowacyjnego przedsiębiorstw sektora usług.
Sektor ten ma duży potencjał dzięki zatrudnionym pracownikom, udziałowi wartości dodanej brutto. Autor opracował tezę, że specyfika polskiej i ukraińskiej gospodarki oraz przesłanki

polityczne występujące w latach 2000-2016 nie zmieniły istotnie kierunku innowacyjnego rozwoju w branży usługowej. Do realizacji celu badawczego i weryfikacji tej tezy posłużono się analizą SWOT, metodą analizy porównawczej. W artykule opisano istotę sektora usług w Polsce i na Ukrainie, wyniki analizy

zmian w sektorze usług, dynamikę Globalnego Indeksu Innowacyjności, udział sektora usług w rozwoju innowacyjnym gospodarki w Polsce i na Ukrainie, a także podjęto próbę określenia czynników rozwoju innowacyjnego przedsiębiorstw sektora usług w tychże krajach. Wnioski dotyczą możliwości wykorzystania doświadczenia Polski w innowacyjnym rozwoju przedsiębiorstw sektora usług na Ukrainie. Wykazano, że najważniejszym elementem innowacji w usługach jest kontakt klienta i usługodawcy. Stwierdzono, że kontakt ten stanowi także ważne źródło innowacji. Nie chodzi tu tylko o opinie wyrażane przez klientów, ale o reakcje i zachowanie klienta podczas świadczenia usług. Podkreślono, że ważne tu są kultura i wykształcenie usługodawcy. Na podstawie wykonanych analiz można stwierdzić, że niektóre czynniki decydujące o rozwoju usług innowacyjnych w Polsce i na Ukrainie są wspólne dla obu krajów, ale można wyszczególnić też specyficzne dla określonego kraju. Rozwój Polski i Ukrainy powinien się opierać na państwowych firmach, oszczędnościach jak również wykorzystywać unijne środki i know-how firm działających w Polsce i na Ukrainie.

Słowa kluczowe: przedsiębiorstwo, sektor usług, SWOT, innowacja, Globalny Indeks Innowacyjnego Rozwoju, behawioralna ekonomia.

Prof. dr hab. Oksana Polinkevych
Katedra Ekonomii, Bezpieczeństwa i Działalności Innowacyjnej Przedsiębiorstw
Wydział Ekonomii i Zarządzania
Wschodnioeuropejskiej Uniwersytet Narodowy imienia Łesi Ukrainki
Al. Woli 13
43025 Łuck
Ukraina
e-mail: Kravomp@gmail.com