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ANALYSIS OF SHARED SERVICE CENTERS AND BUSINESS PROCESS OUTSOURCING CENTERS IN SLOVAK REGIONS

Analýza centier zdieľaných služieb a centier podnikových služieb regiónoch Slovenska

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Annotation

In addition to the automotive industry, Shared Service Centers (SSCs) and Business Process Outsourcing Centers (BPOs) form an important part of the Slovak economy and have a significant impact on the development of individual regions. The SSC & BPO sector, which is one of the fastest growing sectors of the Slovak economy, brings investments, creates economic growth, cultural exchange and provides job opportunities with higher added value. The growth of professional employment in the regions is a key component of the Slovak Republic's development. The aim of the paper is to analyze SSC & BPOs as a creator of new job opportunities in the regions of Slovakia on the basis of their structure, the number of SSC & BPOs in regions and number of employees. We are also examining factors that significantly affect investors in choosing a region. Based on the results of the correlation analysis, it can be stated that factors such as the number of universities, quality of airline connections, the number of economically active residents with university education and quality of road infrastructure in the region significantly influence investors' decisions to create SSC & BPOs. SSC & BPOs are major employers, contribute to education and develop the economy of cities. Third-generation SSC & BPOs are also emerging in Slovakia, they are focused on science and research, especially in the area of information technology.

Key words

Shared Service Centers, Business Process Outsourcing Centers, regions, economy, employment

Anotácia

Popri automobilovom priemysle tvoria centrá zdieľaných služieb (SSC) a centrá podnikových služieb (BPO) významnú súčasť Slovenskej ekonomiky a majú výrazný vplyv na rozvoj jednotlivých regiónov. Sektor SSC & BPO, ktorý patrí k najrýchlejšie rastúcim odvetviám slovenskej ekonomiky, prináša investície, vytvára ekonomický rast, kultúrnu výmenu a poskytuje pracovné príležitosti s vyššou pridanou hodnotou. Rast odbornej zamestnanosti v regiónoch je kľúčovým komponentom rozvoja Slovenska. Cieľom článku je na základe využitia kvantitatívnych metód analyzovať SSC & BPO centrá ako tvorcov nových pracovných príležitostí v regiónoch Slovenska z pohľadu ich štruktúry, počtu v regiónoch a počtu zamestnancov. Skúmame tiež faktory, ktoré výrazne ovplyvňujú investorov pri výbere regiónu. Na základe výsledkov korelačnej analýzy možno konštatovať, že faktory ako počty vysokých škôl, kvalita leteckého spojenia, počet ekonomicky aktívnych obyvateľov s vysokoškolským vzdelaním a kvalita cestnej infraštruktúry v regióne významne ovplyvňujú rozhodnutia investorov pri vytváraní SSC & BPO centier. SSC & BPO centrá sú významnými zamestnávateľmi, prispievajú k vzdelanosti a rozvíjajú ekonomiku miest. Aj na Slovensku vznikajú SSC & BPO centrá tretej generácie, ktoré sú zamerané na vedu a výskum, predovšetkým v oblasti informačných technológií.

Klíčové slová*centrá zdieľaných služieb, centrá podnikových služieb, regióny, ekonomika, zamestnanosť***JEL classification:** C10, F23, M21, O31**1. Introduction**

The need to increase business profitability and efficiency requires businesses to increase service levels, reduce costs, and innovate. According to Kedziora et al. (2018), these are the motivation for global sourcing - outsourcing, business services, and offshoring, which have become a key aspect of business strategies. Outsourcing and process centralization are becoming a worldwide trend, so an increase of offshored business processes can be expected to grow. The SSC & BPOs sector is one of the fastest growing economic sectors in Slovakia. These centers already employ nearly 40,000 people who do high value-added activities.

Slovak centers meet the definitions of Merino (2017) for international outsourcing and external offshoring. International Outsourcing provided by Shared Service Centers (SSCs) is defined as the execution of specific tasks (e.g., financial services and accounting, IT support, human resources services) supporting core activity of the company to its organizational unit in a different location. External offshoring provided by Process Outsourcing Centers (BPOs) is defined as the offshoring of business process services and related responsibilities to third agents, which are based in a different location.

The reasons for the arrival of SSC & BPOs in Slovakia in the past was mainly low wage and transaction costs and a skilled workforce with good language skills (Urbaníková, 2017). SSC & BPOs started in Slovakia with simple activities such as invoice processing and client registration. Common, transactional functions are gradually leaving Slovak centers, replaced by more complex and activities. More and more centers are being created to bring higher added-value to the customer, such as testing, service implementation, and marketing. Recently, research and development centers (R&D) have also emerged in Slovakia. According to Manning et al. (2008), the growing number of such centers in the world lead to "a new trend in global sourcing of science and engineering (S & E) talent." Today, the centers consider a flexible and strong skilled workforce, as well as the internally built know-how and experience, as the main competitive advantage of Slovakia. Budzyńska (2016) considers Slovakia as one of the main European competitors of Poland in the SSC & BPOs sector. Nowadays, the Slovak market is far from providing cheap labor and centers providing only transaction services are not created anymore. That is why our employees have to offer something more - and therefore they must be able to compete in highly sophisticated activities such as Big Data, behavior prediction models, cybersecurity, comprehensive financial analysis, and reporting. The slight slowdown in the SSC & BPOs sector growth in Slovakia is related to automation, where some routine activities are replaced by automated ones. Nevertheless, SSC & BPOs are a strong and important sector of the Slovak economy. The growth of professional employment in the regions is a key component of Slovakia's development. In addition to the increase in the number of centers in Bratislava and Košice, new centers are being established in smaller cities, alongside regional and university cities, there are smaller cities in which a foreign investor usually has an existing production facility, which will be extended by processing of internal services such as financial or accounting activities. An example is Osram - manufacturer of luminaires, PSA Groupe Slovakia - automotive production plant, Embraco - compressor producer, and Johnson Controls or Adient - automotive suppliers. The presence of centers in the regions is important in terms of stabilizing the activities of foreign investors in Slovakia, as well as creating job opportunities. Especially for these reasons, the government of the Slovak Republic undertook to support the sector in its program statement and in the summer of 2016 adopted the Strategy of the Support of Shared Service Centers in Slovakia. The government continues in its support of new forms of business, such as supporting the business of beginning startups, which the Ministry of Economy of the Slovak Republic began in 2015 (Hudáková, 2018). Creating a favorable legislative and regulatory environment, that will increase Slovakia's competitive advantage over neighboring countries, can help to maximize the potential of SSC & BPOs. The competitive advantage of Slovakia lies mainly in economic and political stability, geographical location, strong skilled labor, and the European currency. Despite the rising cost of labor, most investors remain and a large number of them are expanding their activities, which is thanks to their positive experience with entrepreneurship in Slovakia. SSC & BPOs in Slovakia can also use two basic forms of investment support, such as investment aid under Act no. 561/2007 Z.z. on Investment Aid and also programs to support foreign investors in Slovakia under the responsibility of the Slovak Investment and Trade Development Agency (SARIO). Support for innovative ideas in the Slovak business sector is also covered by the Innovations and Technologies Fund, which was established in cooperation with the Slovak Business Agency (Korenková, 2018).

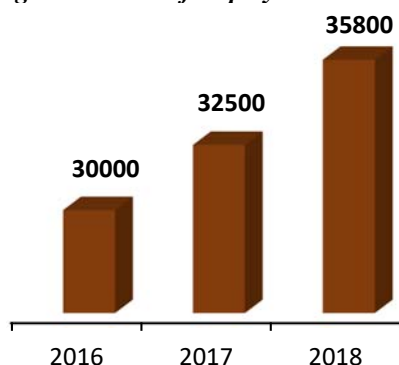
2. Aim and research methods

SSC & BPOs are an extremely strong and important sector of the Slovak economy. Their main benefits are in increasing the stability and added-value of existing foreign investment, increasing professional employment in the regions, employing young people or supporting the non-industrial economy. Based on the use of quantitative methods in the paper, we analyze secondary data on SSC & BPOs in individual regions of Slovakia in terms of their number in the territory, structure, and number of employees. Based on the correlation analysis, we examine as selected factors: the number of universities, the quality of airline connections, the quality of road infrastructure, the number of economically active residents and the number of economically active residents with university education in each region, influencing investors' decisions to create SSC & BPO centers. The data used in the work were obtained from the public sources of the Ministry of Economy of the Slovak Republic, Slovak Investment and Trade Development Agency (SARIO), Business Service Centers Forum (BSCF), Association of Business Service Leaders in the Czech Republic (ABSL), statistical office of the European Union Eurostat, public database of Statistical Office of the Slovak Republic STATdat, the Ministry of Education, Science, Research and Sport of the Slovak Republic, TREND Analyses, Airport Bratislava, Airport Košice and Airport Poprad-Tatry. Calculations were performed in Excel.

3. Research results

In 2016, the Ministry of Economy of the SR recorded 48 SSC & BPOs, which employed 30 000 employees in Slovakia. Thanks to the arrival of new investors, expansion of existing centers, the Ministry of Economy of the SR has already registered 65 SSC & BPOs at the end of 2018, which have 75 offices in individual regions of Slovakia with 35 800 employees. This represents a 19.3 % increase. These centers are mostly subsidiaries of multinational companies. The development of the number of SSC & BPOs sector's employees is shown in figure 1.

Fig. 1: Number of employees in Slovak SSC and BPO centers



Source: Own elaboration based on data from the Ministry of Economy of the Slovak Republic.

According to the Ministry of Economy of the SR new centers are being established in smaller cities in addition to the increase in the number of centers in Bratislava and Košice, alongside regional and university cities, there are smaller cities in which a foreign investor usually has an existing production facility, which will be extended by processing of internal services. Placement of offices of SSC & BPOs in the Slovak region is shown in figure 2. In Bratislava region, there are currently forty-eight of these centers, eleven in Košice region, five in Trnava region, three in Trenčín region and Nitra region, two in Žilina region and Banská Bystrica region and one in Prešov region.

Fig. 2: Number of SSC and BPO centers in Slovak regions in 2018

Source: Own elaboration based on data from SARIO.

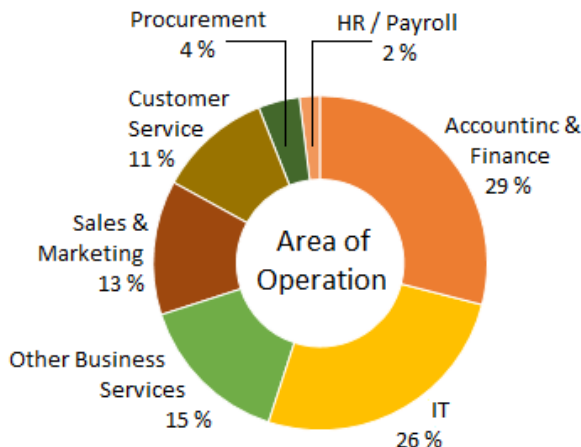
The presence of centers in the regions is important in terms of stabilizing the activities of foreign investors in Slovakia, as well as creating job opportunities. The first centers were established in Slovakia after 1990, the biggest increase occurred after 2000. IBM, which provided work to 5 130 employees in Bratislava in 2016, with an annual increase of almost 14 %, belongs to the centers with the largest number of employees. Second place is T-Systems Slovakia, which is based in Košice and employs almost 3 900 people and this year the number of employees could exceed 4 000. It is also the second largest private employer in Košice (after U. S. Steele). On the third place is AT&T, which offers work to more than 3 400 employees in Bratislava, with an annual increase of almost 13 %. It is worth mentioning the expansion of companies such as Swiss Re, which annually grew by almost 27 % and Amazon, which in 2016 increased the number of employees by 30 % from 650 to 850. in 2017. In table 1, we can see a list of the 10 largest centers in Slovakia in 2017.

Tab. 1: List of the biggest SSC & BPOs in Slovakia in 2017

Sr. No.	Company	Name of the center	Sr. No.	Company	Name of the center
1	IBM International Services Centre, s.r.o., Bratislava	International Services Centre	6	Henkel Slovensko, s.r.o., Bratislava	Shared Service Center Bratislava
2	T-Systems Slovakia, s.r.o., Košice	Global Nearshore Centre	7	Johnson Controls International, s.r.o., Bratislava 2	Bratislava Business Center
3	AT&T Global Network Services Slovakia, s.r.o., Bratislava	Service Delivery Shared Service Center	8	DXC Technology Bratislava 3	DXC Technology Bratislava
4	Dell, s.r.o., Bratislava	Global Business Centre	9	Accenture Technology Solutions – Slovakia, s.r.o., Bratislava	Advanced Technology Center
5	Swiss Re Management AG, organizačná zložka Bratislava	Swiss Re Bratislava	10	Siemens, s.r.o., Bratislava / Siemens Healthcare, s.r.o., Bratislava	Siemens/Siemens Healthcare

Source: Own elaboration based on data from TREND Analyses.

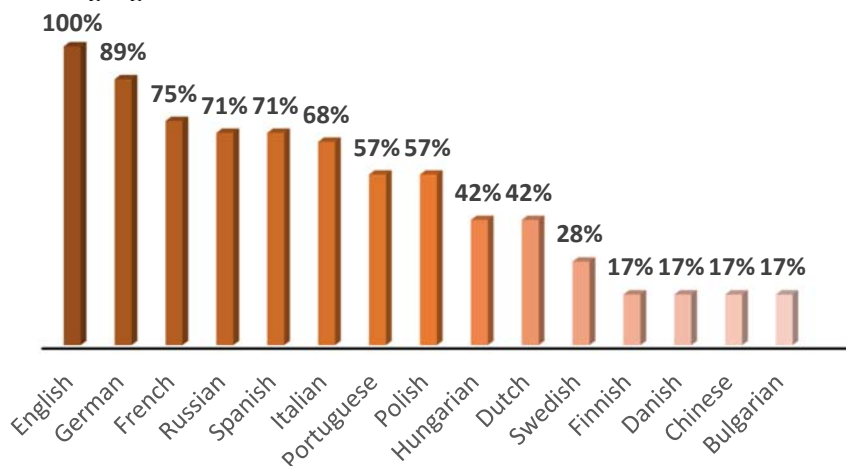
SSC & BPOs perform a wide range of activities in Slovakia. These include financial services and accounting, IT services, customer service, human resources services, sales and order processing, purchasing and more. The share of individual activities of the Slovak SSC & BPOs is shown in figure 3.

Fig. 3: Area of operation of Slovak SSC and BPO centers

Source: Own elaboration based on data from SARIO.

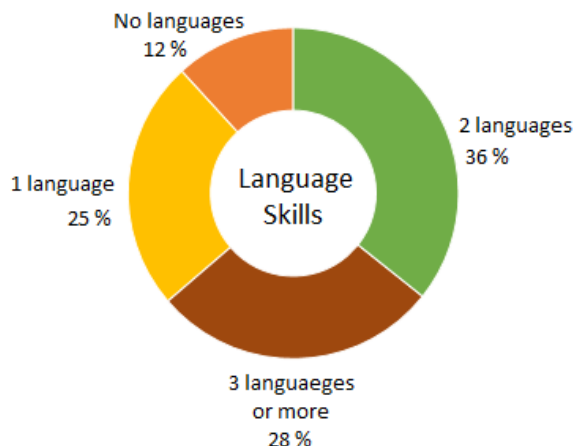
In the area of customer service, the main activities are the support of existing customers, purchase and logistics, sales support, handling of complaints and claims and customer helpdesk. Financial services include in particular financial planning and budgeting, debt and payroll processing, accounting, corporate reporting and control, master data management and billing. In IT, application design and development, user assistance services, application lifecycle management, infrastructure management, and support, service automation and optimization, and other support services. In the area of human resources, SSC & BPOs mainly recruit talent, process mobility, rewards, and benefits. The sector in which SSC & BPOs operate is very dynamic. Thanks to the positive experience with the concentration of purchasing, ordering, and technical support services, the SSC & BPOs are gradually involving in other activities. Therefore, it is possible to expect an increase in services provided, for example in the field of cybersecurity, logistics, banking, and insurance processes and others. According to SARIO (2019), in terms of geographical coverage, Slovak SSC & BPOs provide services for companies based in Europe (60%), North America (34%), Asia (4%) and South America (2%).

According to the BSCF's 2017 survey regarding qualification of employees, 71% of SSC & BPOs employees have a university degree. In addition to the English language, these centers most often use German, French, Russian and Spanish. Other languages are also used, especially Italian, Portuguese, Polish, Hungarian and Dutch. The percentage of individual languages in SSC & BPOs is shown in figure 4.

Fig. 4: Languages used at Slovak SSC and BPO centers

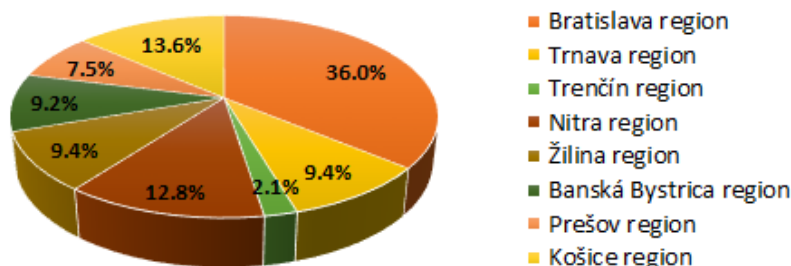
Source: Own elaboration based on data from the Business Service Center Forum.

Knowledge of two or more foreign languages is a great advantage for job seekers in SSC & BPOs. According to Eurostat's 2019 survey, 64% of Slovaks have this competitive advantage in 2016. The survey results are shown in figure 5.

Fig. 5: Number of foreign languages spoken by Slovaks (self-reported) 2016

Source: Own elaboration based on data from Eurostat.

SSC & BPOs in Slovakia also employ foreigners, mostly from European countries, but according to BSCF (2017), almost 89% of employees are citizens of the Slovak Republic. This is in contrast with the Czech Republic, where up to 35% of foreigners work on average, according to the Association of Business Service Leaders in the Czech Republic (ABSL, 2019). In terms of age structure, Slovak centers employ mostly young people, according to SARIO (2019), the average age of employees is 32 years. The SSC & BPOs sector has a balanced gender structure, 48% of women and 52% of men work in it. The disadvantage of Slovakia compared to the Czech Republic or Poland is the lower number of last year students and graduates who represent the biggest source of new talent for SSC & BPOs. In 2017 there were 34 504 university graduates entering the Slovak labor market. Figure 6 shows their percentage representation in individual regions of Slovakia.

Fig. 6: Percentage of university graduates in the region of Slovakia in 2017

Source: Own elaboration based on data from SARIO.

According to BSCF (2017) statistics, the average wage in 2015 was 1660 Euros, for 2017 it was 1730 Euros, an increase of 4.2%. The centers in Bratislava and Košice are responding to the lack of workforce and increasing competition by providing extra bonuses for working in selected foreign languages, language combinations, foreign working hours and more. The increase in the average wage is also related to the change in the nature of the services provided.

We examined the strength of statistical dependence of the number of SSC & BPOs on selected factors by correlation analysis. Examined factors are the number of universities, the quality of airline connections – number of weekly departures at international airports with regular transport, the quality of road infrastructure - the density of motorway and expressway network in proportion to the area of the region, the number of economically active residents and the number of economically active residents with university education in each region. The strength of linear dependence was measured by a sample correlation coefficient r :

$$r = \frac{-b \sum X_i Y_i - n \bar{X} \bar{Y}}{\sqrt{(\sum X_i^2 - n \bar{X}^2)(\sum Y_i^2 - n \bar{Y}^2)}}$$

where $(X_i, Y_i)', \dots, (X_n, Y_n)'$ is a choice from some two-dimensional distribution,

$$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i,$$

$$\bar{Y} = \frac{1}{n} \sum_{i=1}^n Y_i.$$

Numbers of SSC & BPOs offices in each region were obtained from the Ministry of Economy of the SR and SARIO, numbers of universities in each region were obtained from the Ministry of Education, Science, Research, and Sport of SR, numbers of weekly departures at international airports with regular transport were obtained from Airport Bratislava, Airport Košice and Airport Poprad-Tatry, data about the density of motorway and expressway network in proportion to the area of each region were obtained from SARIO, numbers of economically active residents in each region and numbers of economically active residents with university education in each region were obtained from STATdat. The sample correlation coefficient values for the selected factors are shown in table 2:

Tab. 2: Results of correlation analysis

Factor	Number of universities	Quality of airline connections	Quality of road infrastructure	Number of economically active residents	Number of economically active residents with university education
<i>r</i>	0.982419	0.940291	0.881434	0.146758	0.933388

Source: Own elaboration based on own calculation.

We can state that the number of universities in the region, the quality of airline connection in the region and the number of economically active residents with university education in the region have the greatest influence on the location of SSC & BPOs offices in the regions of Slovakia. The high dependence has also been observed at the quality of the road infrastructure of the regions, while there is weak dependence between the number of SSC & BPOs and the total number of economically active population in the region.

3. Conclusion

The development of SSC & BPOs is mainly related to the globalization of the world economy. The SSC & BPOs sector is the fastest growing economic sector thanks to internetization and digitization of processes. Internetization and the interconnection of business processes allow employees to work in different parts of the world in real time on the same task. The benefits of SS & BPOs are seen in increasing the stability and added-value of existing foreign investment, when a foreign investor starts with a basic industrial production in Slovakia and, over time, transfers more activities that are of a high professional standard to Slovak centers. SSC & BPOs often process financial services and IT services where foreign companies bring their know-how. Slovak SSC & BPOs are doing high-level work with higher added-value, whether in finance or IT. Thereby they develop non-industrial or non-productive sectors of the economy. As a result, there is a decline in direct employment in the industry and a gradual wiping out borders between sectors. The spectrum of companies with their SSC & BPOs in Slovakia is expanding every year. These companies are operating in the telecommunications, IT, insurance, food industry, automotive, engineering and other industries. At the same time, this diversity of foreign companies guarantees stability, as individual business cycles are different for each sector. A key trend that can be observed is the change in the scope of services. In the past, SSC & BPOs have focused mainly on centralizing individual processes, and today the emphasis is on improving and optimizing processes through innovation. For example, automation and robotics are used, which means that employees do not have to perform routine activities and instead they may concentrate on solving tasks with higher added-value. For example, testing new strategies is such a type of activity.

Increasing professional employment in the regions is as well a very important benefit. Investors are also starting to be interested in other Slovak cities than Bratislava and Košice. They come to cities like Banská Bystrica, Prešov, and Žilina. With the development of SSC & BPOs, there is a demand for a university-educated workforce in these cities, which means that especially young people will not have to move for work in Bratislava or Košice. Based on the results of the correlation analysis, we can conclude that the following factors influence the inflow of SSC & BPOs into individual regions: the number of universities, the quality of airline connections – number of weekly departures at international airports with regular transport, the quality of road infrastructure - the density of motorway and expressway network in proportion to the area of the region and the number of economically active residents with university education in each region. In regard to the increasing number of SSC & BPOs in Slovakia, there is growing competition among them, which means that they must offer increasingly attractive working conditions. In addition to technical, communication, digital and soft skills, working in SSC & BPOs secondary contributes to improving foreign language levels and learning about other cultures. Important aspects affecting the development of SSC & BPOs are the forthcoming departure of the United Kingdom from the EU, which may entail the transfer of financial and administrative services to other European countries. The second important aspect

is the effectiveness of the General Data Protection Regulation (GDPR) since May 2018, which lays down the obligation to store and process personal data of European Union citizens locally, in the EU member states.

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