

# Offshoring of Business Services as a Modern Business Model for Hotel Companies Operating in a Knowledge-Based Economy

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## ABSTRACT

The aim of this paper is to identify categories and forms of offshoring of business services (OBS) as well as factors influencing the choice of business model (BM) determining the way of running hotel chains from the perspective of knowledge-based economy. Due to the specific purpose, a survey was conducted using the survey method with the use of Computer Assisted Web Interview (CAWI) technique with the author's questionnaire created for the purpose of this study. The survey was conducted between June and July 2020 among 470 representatives of hotels belonging to hotel chains operating on the Polish market in the category of three, four and five-star facilities. In order to confirm the relations between the surveyed variables, statistical inferences were applied using the Statistica12 program. The research results may provide motivation for the hotels to implement the BM using the OBS concept. The issues presented in the study are an attempt to fill a gap indicating practical experience with the application of individual forms and models of offshoring of business services in the hotel sector, as well as their use in the process of shaping the BM and implementing the development strategy of hotel corporations.

**Keywords:** *Offshoring, modern business services, knowledge-based economy, hospitality, innovative forms of service activity organization*

## 1. INTRODUCTION

The contemporary globalization processes, as well as the development of knowledge-based economy and changes in the conditions of competition have contributed to the transformation of the organization management process. Moreover, the use of modern information and communication technologies (ICT) allowed the services to be provided in different regions of the world. As a result of these processes, global hotel corporations have initiated the separation and transfer (relocation) of business services, especially those supporting key hotel operations, abroad according to the adopted costing model and the implemented competition strategy. The choice of appropriate management methods is of fundamental importance for the development and competitiveness of the corporation on the global market. Thus, the use of both internal and external resources is an innovative form of service organization for hotel chains. Therefore, the strategic objectives of the corporation resulting from increasing efficiency and competitiveness are implemented, among others, by OBS. It consists in transferring tasks and functions separated in hotels to the foreign location of the executor (a capital independent entity, external or capital related organization, own subsidiary – a service center of the corporation or a branch

established as a result of foreign direct investments). A specific feature of modern offshoring are multi-faceted business processes based on knowledge and specialized services with a high degree of diversity, which provide high value. Moreover, it is also related to the search for qualified human resources, whose skills and qualifications enable consolidation and common specialization. The places popular among investors investing capital in offshoring service centers (OSC) include Central and Eastern Europe as well as China, Malaysia and India [1]. Corporations decide to transfer their functions also to Poland and other countries of Central and Eastern Europe despite the fact that labor costs in this region of the world are higher than in Asian countries [2]. Nevertheless, among the key factors of OSC's location in the mentioned areas there are determinants resulting from the high level of employees' education, education system, cultural proximity, similar BM and e-business, friendly climate for foreign direct investments, good infrastructure and lower labor costs in relation to the countries of Western Europe and the United States[3-6]. Therefore, it is necessary to pose questions: 1. what form and model of OBS is used in hotel companies? and 2. what factors have influenced the determinants of the choice of target location of offshoring processes, i.e. what factors determine the interest of investors, what circumstances they pay special attention to. In reference to the above questions the aim of this paper

has been established, which is to identify the categories and forms of OBS and the factors influencing the choice of BM determining the way of conducting hotel chains' activity from the perspective of knowledge-based economy. It was carried out based on the results of empirical research. The survey was conducted using the author's questionnaire among 470 representatives of hotels belonging to hotel chains operating on the Polish market. The data obtained were used to verify the hypothesis that hotel chains operating in a knowledge-based economy are expected to create a new BM meeting the conditions for effective adaptation of OBS concept assumptions.

## **2. LITERATURE REVIEW**

### ***2.1. Business Model of Enterprises in a Knowledge-based Economy***

Contemporary changes in the social and economic area, which are conditioned by the globalization of markets, dynamic flow of information, use of ICT, as well as the increase in knowledge position, have contributed to the concept called knowledge-based economy (KbE) [7, 8]. This term is used to formulate a new trend among modern economies. Moreover, it refers to the thesis of information society and the popular concept of technological waves developed by A. Toffler. According to its author, the present economic system is a third wave economy in which information and knowledge play a key role. It was created as a result of changes initiated by the technological revolution and the resulting information technologies, the formation of global economy and the interdependence of current economy with science [9]. There is no single commonly accepted definition of KbE in the literature. It should be assumed that it is based on the process of transforming knowledge into capital, products, production factors important for the economy and economic processes in which determinants such as production, accumulation, acquisition, sale, learning, sharing and protection of knowledge have become dominant and decisive in the context of making profit and ensuring economic value from the perspective of long-term development [10]. In the microeconomic dimension, the key element of KbE are companies whose competitive advantage results from knowledge. In turn, the macroeconomic approach indicates an economy distinguished by the dynamic development of areas related to information processing and scientific development [11]. The assumptions of KbE shape the trends resulting from growing importance of the field of services and investments in intangible resources, dissemination of new ICT technologies, creation of information society as well as model modern criteria and concepts of knowledge in learning organizations [12]. Under the influence of KbE, enterprises have been obliged to adapt to new functioning conditions. Therefore, their task is to verify and modify existing BMs and management methods. Thus, the operation of corporations in the KbE

obliges them to adapt and implement appropriate BMs and to adopt an appropriate form of knowledge management. The ability to define and renew BMs should be considered as a key knowledge competence for building value and company competitiveness. This type of model explains the relations between the different elements, the convergence of which enables creation and provision of value for the client and the company [13]. Among the elements that constitute BM, four basic strategic dimensions should be distinguished [14]: 1. strategic choices (clients, value proposition, skills, revenues, competitors, offer, strategy, branding, diversification, mission); 2. value creation (resources and assets, processes and activities); 3. value acquisition (costs, profits, financial aspects); 4. value network (suppliers, customer information, customer relations, information, products and services flows). The conabulation of cause-and-effect relationships between the individual BM components should enable the strategic objectives of hotels to be achieved [15]. The implementation of indicated process is conditioned by skillful use of the possessed specialist knowledge used, among others, in the modern business services (MBS) sector. From the perspective of KbE, increasing competitiveness and implementation of more effective methods of hotel operations on the BM market in the form of offshoring is gaining more recognition.

### ***2.2. Forms and Models of the Offshoring Organization of Business Services***

Development of the global KbE is a circumstance that creates new opportunities for businesses. They are implied by the alleviation of barriers occurring during relocation of business processes in the area of services. As a result, hotel corporations have shaped a new BM called OBS which is also considered an innovative model of management and organization of hotel chains. In the literature, offshoring (OF) is usually defined as a process by which the production of services is carried out on the territory of another country [16, 17]. It can be conducted internally by the organization or externally on the basis of cooperation with a foreign counterparty [18, 19]. Due to the dynamic development of OF, several organizational forms of centers where business services are provided have been formed. The first of them, called Shared Services Center (SSC), are separate units which perform activities and instructions for the needs of a domestic organization. Such centers implement only internal business processes for specific departments of hotel corporations and for its customers [20]. Another form of the center is Business Process Offshoring (BPO), in which selected departments of the corporation performing administrative tasks necessary for its functioning are separated from the organizational structure for the benefit of an external business services provider [21]. BPO centers also operate in the field: 1. Business Process Utility (BPU), i.e. solutions prepared for individual customer needs, 2. Human Resource Outsourcing (HRO) tasks consisting

exclusively in human resources management, 3. Direct Procurement Outsourcing (DPO) functions related to purchasing department services, which are carried out for the corporation needs [6, 22] Whereas the centers having the form of Information Technology Offshoring (ITO) are formed in order to prepare software, test computer applications, operate computer networks, Internet services and provide IT support for a hotel corporation [23]. MBS are also implemented in units taking the form of Research and Development Centers (R&D). They organize tasks consisting of activities: 1. R&D, the aim of which is to adapt the technologies emerging in the hotel corporation to the needs of local markets; 2. laboratories producing innovations oriented towards the local markets; 3. international producers of technologies oriented towards producing innovations applicable in the global economy; 4. units monitoring technological changes [24]. Another specialized center is Legal Process Offshoring (LPO), which provides legal advice to global hotel corporations. They provide the following services: court, as a part of intellectual activity, corporate, legal compliance, employment, real estate services, employee resources, consulting and service packages (e.g. knowledge processing services). In turn, Knowledge Process Offshoring (KPO) operates as organizational units or organizationally separate entities starting or developing their activities. Their key task is to conduct scientific research and development works by qualified staff in separate facilities adapted to such activities [25].

Due to the above mentioned types of OFs, organizations function according to a selected category. The classic OMs include captive offshoring, i.e. capital offshoring carried out in the form of direct foreign investments at a distance from the country where the hotel company has its registered office. This model is undertaken by organizations that adopt OFs in terms of key processes for their functioning. Nevertheless, if the corporations have previously expanded into the market of a given country, they have knowledge about its conditions and thus adapt to the needs of a given economic system [26]. Another category is offshore outsourcing, in which the location of activities is transferred to another distant country both in terms of location as well as ethnic and cultural factors [27]. Nearshoring, on the other hand, is the cooperation of entities from geographically and culturally close markets [28]. Joint ventures are also considered OM, i.e. the procedure of establishing a company with foreign capital in order to use the know-how of the foreign partner and reduce the costs of venture [29]. In turn, virtual captives are based on the assumption that an entity has "ownership" of a given process, which is carried out using tangible and intangible assets of another supplier [26]. OM called a third-party transparent consists in the creation by corporation of an independent center for the provision of services, which previously took the form of outsourcing and were performed by a business service provider. The purpose of applying this model is to reduce customer costs and increase the supplier's margin. The opposition model is a build-operate-transfer, in which the corporation commissions a specialized outsourcing entity to create a

service center. Nevertheless, within a certain period of time the offshore unit is transferred to a foreign entrepreneur – service provider [30]. The key motive for the application of chosen form and model of OBS is to minimize the costs related to human resources and the implementation of operational activities of hotel corporations.

### **3. RESEARCH METHODOLOGY**

Identification of the BM, which is used in the OBS process, and identification of important factors influencing the choice of this business form by hotel chains was conducted on the basis of data collected during the empirical study. The research problem undertaken in this study concerned the determination: 1. what model of business services offshoring is used in hotel companies? and 2. what premises influenced the choice of target location of offshoring processes? For the purposes of this study a hypothesis was also adopted, which assumes that hotel chains operating in a knowledge-based economy create a new BM meeting the conditions for effective adaptation of OBS concept assumptions. The research objective and hypothesis thus adopted determined the subject scope of research, which was designed according to a typical scheme of conduct adopted in empirical studies [31]. The quantitative research was carried out using a survey method with the author's questionnaire created for the purpose of this study, which was prepared on the basis of factors influencing the implementation of OBS concept. The model components were proposed by A. Dixit and G. Grossman [32], R. Jones and H. Kierzkowski [33, 34], J. P. Doh [35], G.M. Grossman and E. Rossi-Hansberg [36], K. Bunyaratova, E. D. Hahn, J. P. Doh [37], W.W. Chang, [38], P. Harms, O. Lorz and D.M. Urban [39], P. D. O. Jensen and B. Petersen [30], D. Mukherjee, A.S. Gaur and A. Datt [40], W.C. Liao [41], S. Manning [42], Pisani N. and J.E. Ricart [43].

The diagnostic survey was conducted using an online survey, which was carried out with CAWI technique. The form consisted of 21 questions, including 4 of data sheet. The survey was undertaken between June and July 2020 with a sample of 470 representatives of hotel chains (directors or managers – respondents) functioning in the three, four and five-star standard on the Polish market. Only one respondent from a hotel in a given category could participate in the survey. The condition for filling in the survey was the use of selected OBS forms in accordance with the adopted BM. Thus, the entities selected for this survey were not selected at random, but on the basis of prior verification and established contacts. A total of 318 hotels (67.66%) filled in the questionnaire. As a result of the assessment of correctness and completion of all forms, 32 questionnaires were excluded from further research. Thus, 286 (60.85%) correctly filled in questionnaires were finally obtained, which were classified for further analysis. The answers provided by the

respondents were summed up, structured and evaluated in absolute terms.

In the first research stage, the positions presented by the respondents allowed to identify the form and model of OFs that hotel chains use in the adopted BM. In case of analysis of the differences that occurred in the answers to indicated issues and to check the hypothesis a chi-square ( $\chi^2$ ) independence test was applied. The value of function was calculated according to the formula [44]:

$$x^2 = \sum_{i=1}^l \sum_{j=1}^k \frac{(n_{ij} - \widehat{n}_{ij})^2}{\widehat{n}_{ij}} = \sum_{i=1}^l \sum_{j=1}^k \left( \frac{n_{ij}^2}{n_{ij}} \right) - n; \quad \widehat{n}_{ij} = \frac{n_i \cdot n_j}{n} \tag{1}$$

where:  $\widehat{n}_{ij}$  – theoretical numbers,  $n_i$  – number of sample elements corresponding to level  $x_i$  of feature X,  $n_j$  – number of sample elements corresponding to level  $x_j$  of feature Y,  $n_{ij}$  – number of sample elements corresponding to level  $x_i$  of feature X and level  $x_j$  of feature Y,  $n$  – sum of sample elements corresponding to level  $x_i$  of feature X and level  $x_j$  of feature Y,  $k$  – number of columns,  $l$  – number of rows.

In turn, the results of the second research part, which concerned the indication of determinants influencing the choice of location of OBS structures were also subjected to statistical analysis. The analysis of the main components of PCA was used to interpret the obtained data [45]. It is carried out by means of a covariance matrix, in which the variables characterized by the largest variance among the input data have a significant impact on results. The basic PCA equation is as follows [46]:

$$Z_j = b_{j1}S_1 + b_{j2}S_2 + b_{j3}S_3 + \dots + b_{jn}S_n \tag{2}$$

where:  $z_j$  –  $j$  variable ( $j=1,2,\dots, n$ ),  $S_1 \dots S_n$  – main components,  $b_{j1} \dots b_{jn}$  – coefficients of main components.

As a result of analysis, the data obtained during the study showed statistical justification. The calculation of indicated factors was conducted using Statistical2, RStudio and Microsoft Excel statistical package tools.

#### 4. RESULTS OF THE RESEARCH

On the basis of conducted research in the first stage, the form and model of OBS, which is used by hotel chains, were identified. From the hotel manager’s perspective, OM is a form of organization internationalization. The OF process carried out by hotels is mainly related to business services, which have an information-intensive character. Moreover, they oblige service providers to have considerable skills and knowledge when implementing them. Such services are provided to entities located in other countries through the use of modern ICT. The purpose of using OBS is to shape the new BM of hotel operations in the form of what is known as an extended organization. It is also based on relocation of activities, i.e. distribution of particular functions of the company to selected countries. Hotel chains operating in Poland use OBS in terms of BPO (90% of 5\* hotels; 70%-4\*; 53%-

3\*), DPO (86%-5\*; 71%-4\*), SSC (81%-5\*; 58%-4\*; 51%-3\*), ITO (81%-5\*; 44%-4\*; 58%-3\*), KPO (48%-5\*; 71%-4\*; 42%-3\*), BPU (76%-5\*; 73%-4\*; 15%-3\*), HRO (52%-5\*; 54%-4\*; 56%-3\*).

Appropriate choice of the organizational form of OBS is an important task, because it determines the later functioning of hotel chain’s facility. It determines its model and long-term business strategy. Therefore, the following hypotheses were verified using the  $\chi^2$  independence test (see Table 1):

$H_0$ : Application of selected offshoring form of business processes does not depend on the hotel standard.

$H_1$ : Application of selected offshoring form of business processes depends on the hotel standard.

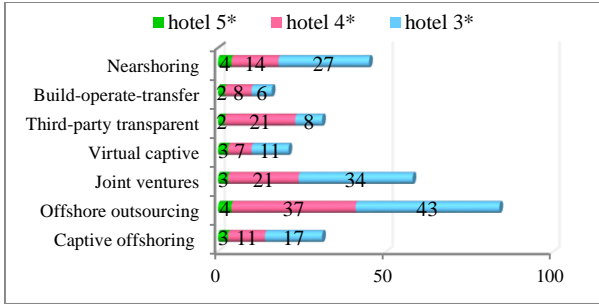
**Table 1** Results of test statistics for the form of offshoring of business services in hotel chains

Statistics	$\chi^2$	df	p
Chi <sup>2</sup> Pearsona	54,216	df=8	p < 0,001
Chi <sup>2</sup> NW	53,956	df=8	p < 0,001
Fi	1,5030		
Contingency coefficient	,83256		
V Craméra	,11215		
Chi-2=54,216, p<0,001***			

where: assumed level of significance difference  $\alpha = 0,05$ ; number of freedom degrees  $df=8$ ; critical value of the  $\chi^2$  test for  $df=8$  according to the tables is 15,507.

The statistics value of Pearson’s  $\chi^2$  independence test and Cramer’s V-factor, which accompanied it, showed the statistical significance of studied correlation at a 1% error rate of 1st type. Therefore, it should be concluded that there is a statistically highly significant correlation between the hotel standard and the use of OF form. Therefore,  $H_0$  should be rejected, which means that there are no relations between studied features and the  $H_1$  hypothesis should be accepted. However, the strength of relations between the individual standards of facilities is small, because the value of Cramer’s V coefficient is at the level of 0.11.

After deciding on the organizational form of OBS and the planned short-term and long-term goals, hotel chains shape the BM and create a development strategy. The created structures of OSC in the field of OF are of unusual importance, because they are obliged to create the value of home facilities of a hotel chain and to influence the shaping of values concerning entities operating in the chain, e.g. on a franchise basis. For this reason, in the next research stage the respondents defined OM, according to which business services are provided (see Figure 1).



**Figure 1** Offshoring of business services model implemented by hotel chains

The research shows that hotel chains use offshore outsourcing to achieve their strategic objectives (19% of 5\* hotels; 31%-4\*; 30%-3\*), i.e. classic business services offshoring model. Nevertheless, they also operate according to indirect categories of offshoring model called joint ventures (18%-4\*; 23%-3\*) and nearshoring (19%-5\*). Occasionally, hotels implement the following OM types: third-party transparent offshoring (10%-5\*; 5%-3\*), build-operate-transfer offshoring (10%-5\*; 7%-4\*; 4%-3\*) and virtual captive (6%-4\*). The OBS process carried out by hotels is related to the concept of networking. This approach is a new BM of functioning of an organization in a knowledge-based economy. Corporations creating hotel chains entrust the management process only to one decision-making entity, which sets standards and defines the model of conducting business activity including OBS. As a result, the following hypotheses were verified using the  $\chi^2$  test:

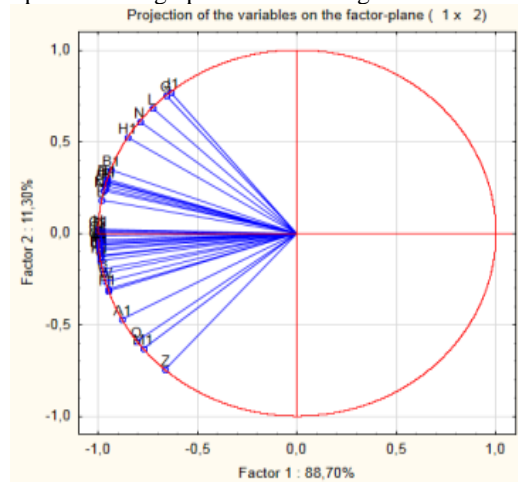
$H_0$ : Offshoring of business services model implemented by hotel chains does not depend on the hotel standard.

$H_1$ : Offshoring of business services model implemented by hotel chains depends on the hotel standard.

Statistical analysis based on the use of the Pearson's chi-square independence test (13.469;  $df=4$ ;  $p=0.009$ ) showed a statistically significant correlation between the standard of a hotel operating in the chain as a variable determining the choice of an appropriate OM. The study results confirmed the accepted alternative hypothesis ( $H_1$ ). Moreover, the value of Cramer's V statistics ( $V=0.56631$ ) indicates a strong correlation between the studied variables.

The implementation process of OM indicated by the respondents is a result of international expansion of hotel chains. Thanks to internationalization, they shape common service centers for hotel business processes by means of consolidation in a selected location of undertakings previously implemented in various organizational branches. Thus, the proceedings resulting from relocation and transfer of selected activities abroad lead to the use of comparative advantages of individual countries. Decisions on the geographical location of the business services center are primarily related to access to resources and the amount of operating costs. In the course of conducted research the respondents indicated determinants that contributed to the selection of target location with regard

to offshoring processes. The PCA method was used to present the circumstances that influenced the possibility of locating the OBS center of hotel chain. Multiple layers were reduced and the convergence and/or differentiation between the examined hotels belonging to the hotel chains was visualized. Due to the number of answers given concerning the determinants of OBS centers location, the PCA analysis was conducted by means of calibration of variables to the unit variance. In the first phase of the second research stage, a correlation matrix was carried out, which describes the degree of dependence between individual determinants. It is assumed that the higher the absolute value, the greater the correlation between individual parameters. Next, the matrix eigenvalues were determined, which show the significance of the main components in explanation of the input variables' information resources using the percentage share in the variability of data set. To determine the number of main components the method of eigenvalue greater than unity called Kaiser criterion was applied. In case of analyzed determinants of OBS center location, the first two main components are decisive as they represent variability of primary data. The first main component transfers 89% of the information contained mainly in variables concerning reduction of other costs, living conditions, quality of road network and connections as well as negatively correlated variables such as reduction of employment, location and time zone, supplier base and concentration on key business areas. The second variable explains 21% of the data volatility through security and protection of copyright and intellectual property rights, real estate availability and the size of offshoring sector in Poland. Correlations between the primary variables and the acquired main components were presented in graphical form in Figure 2.



**Figure 2** Diagram of variables. Location of load vectors in relation to two main components for the determinant of selection of the target location of offsetting processes

where: A – reduction of labor costs; B – reduction of infrastructure costs; C – reduction of real estate costs; D – reduction of other costs; E – lower tax dues; F – capacity of telecommunication network; G – availability of real estate; H – quality of road network and connections; I –

energy reliability; J – qualifications of workforce; K – educational system; L – size of the offshoring sector; M – foreign language skills; N – cultural compatibility; O – supplier base; P – value creation; Q – value retention; R – implementation of strategic objectives; S – response to hotel guests' needs; T – adoption of new practices in the hotel industry; U – access to new markets; W – use of specific location advantages; X – reorganization of business processes in the hotel; Y – improvement of service quality; Z – reduction of employment; A1 – focus on key business areas; B1 – competitive pressure; C1 – hotel development strategy; D1 – search for resources; E1 – government support; F1 – business environment; G1 – living conditions; H1 – geopolitical environment; I1 – cost advantage; J1 – safety and protection of copyrights and intellectual property rights; K1 – accessibility of transport; L1 – attractiveness of the local market; M1 – location and time zone; N1 – access to nearby markets; O1 – possibility of disturbing events; P1 – safety; Q1 – legal risk; R1 – macroeconomic risk.

The PCA analysis shows that the following factors have a positive correlation: reduction of other cost-living conditions; access to nearby markets-government support; creation of value-ability of disturbing events; availability of real estate-security and protection of copyright and intellectual rights. In turn, there is a lack of correlation between the variables of infrastructure cost reduction and the geopolitical environment; focus on key areas of supplier-customer activity. However, the following factors are negatively correlated: security and protection of copyright and intellectual rights in relation to employment reduction; availability of real estate in relation to location and time zone; size of OF sector depending on the suppliers' facilities; cultural compatibility in relation to concentration on key areas of hotel chain activity.

## 5. CONCLUSIONS

New forms of service activity considered from the perspective of created BMs based on cooperation, competition, creation and retention of value take, among others, the form of OBS. The research shows that depending on the adopted BM, the hotel chain uses a specific category of OM. Usually it consists in modification of business functions related to the transfer outside the home country of separate organization functions (offshore outsourcing, build-operate-transfer offshoring). Nevertheless, OF may also have a holistic form (captive offshoring, third-party transparent offshoring, joint ventures) related to the transfer of the hotel chain activity. On the basis of conducted research it should be concluded that OF may constitute a modern new BM, which in consequence of the undertaken actions will be the basis for the implementation of a specific development strategy of a hotel chain. The adoption by the managers of specific components and assumptions resulting from the BM has consequences in shaping OBS strategy. The forms and types of offshoring undertakings presented in the study indicate that the OF should be an

effective tool in the implementation of adopted BM. As a result, it is a factor that enables the development, creation and retention of value through the use of global intellectual capital resources and processes performed in different geographic locations. Determinants indicated by the respondents are not equally important factors influencing the creation of BM resulting from OBS. Moreover, their influence on the choice of target location of offshoring processes has no analogous dimension. The most important factors for hotel chains are economic determinants (e.g. investment costs and savings from offshoring model), which clearly contribute to improving financial results and strengthening market position. Whereas the determinants related to culture and knowledge of foreign languages are the factors supporting the decision on location selection. Nevertheless, hotel chains currently pay special attention to the possibilities of acquiring global talent. Nowadays, the OF activity has a strategic character and concerns mainly new types of business services. Thus, the research results confirmed the adopted hypothesis assuming that hotel chains operating in KbE create a new BM meeting the conditions for effective adaptation of OBS concept assumptions.

## REFERENCES

- [1] A.T. Kearney, Digital resonance: the new factor influencing location attractiveness, The 2019 Kearney Global Services Location Index, Chicago-Illinois (2019)
- [2] A. Ishizaka, A. Bhattacharya, A. Gunasekaran, R. Dekkers, V. Pereira, Outsourcing and offshoring decision making, *Int. J. of Prod.*, 57(13) (2019) 4187–4193.
- [3] Global shared services survey report executive summary 2019, Deloitte Development LLC., Hermitage- Tennessee, United States (2020).
- [4] Outsourcing and Shared Services 2019-2023. Global, Middle East and UAE industry outlook, Deloitte & Touche Enterprise Risk Services Pte Ltd., Singapore, Monitor Deloitte, (2020).
- [5] G. Cook, J. Johns, F. McDonald, J. Beaverstock, N. Pandit, *The Routledge Companion to the Geography of International Business*. Abingdon-on-Thames, United Kingdom, Routledge, (2018).
- [6] M. Sako, Outsourcing and Offshoring of Professional Services, in: L. Empson, D. Muzio, J. Broschak, B. Hinings, *The Oxford Handbook of Professional Service Firms*. Oxford, England, Oxford University Press, (2015).

- [7] S. Trzcielinski, The Influence of Knowledge Based Economy on Agility of Enterprise, *Pro. Manuf.*, 3 (2015) 6615–6623.
- [8] Y. Yeo, J. D. Lee, Revitalizing the race between technology and education: Investigating the growth strategy for the knowledge-based economy based on a CGE analysis, *Tech. in Soc.* 62 (2020) 101–146.
- [9] A. Toffler, *Trzecia Fala*. Warszawa, Państwowy Instytut Wydawniczy, (1997).
- [10] O. Nicolescu, L. Nicolescu, *Economia, firma și managementul bazat pe cunoștințe*. București: Libris SRL, (2006).
- [11] E. Dworak, *Gospodarka oparta na wiedzy w Polsce. Ocena, uwarunkowania, perspektywy*. Łódź, Wydawnictwo Uniwersytetu Łódzkiego, (2012).
- [12] A. L. Platonoff, S. Sysko-Romańczuk, B. Moszoro, *Innowacyjność polskich firm w gospodarce opartej na wiedzy*, *Ekon. i Org. Przed.*, 1 (2004) 86–94.
- [13] R. Casadesus-Masanell, J. Heilbron, *The business model: Nature and benefits*. Boston, Harvard Business School, (2015).
- [14] S. M. Shafer, H. J. Smith, J. C. Linderb, The power of business model, *Bus. Hor.*, 48 (2005) 199–207, doi: 10.1016/j.bushor.2004.10.014.
- [15] D. Acar, A conceptual evaluation of 5S model in hotels, *Afr. J. of Bus. Manag.*, 30(7) (2013) 3035–3042.
- [16] E. Helpman, Trade, FDI and the organization of firms, *J. of Econ. Liter.*, 44 (2006) 17–29.
- [17] M. Roza, F. A. J. Van de Bosch, H. W. Volberda, Offshoring strategy: Motives, functions, locations, and governance modes of small, medium-sized and large firms, *Inter. Busin. Rev.*, 20 (2011) 314–323.
- [18] J. Häätönen, Making the location choice A case approach to the development of theory of offshore outsourcing and internationalization, *J. of Inter. Manag.*, 15 (2009) 61–76.
- [19] W. Kohler, B. Kukharskyy, Offshoring under uncertainty, *Europ. Econ. Rev.*, 118 (2019) 158–180.
- [20] B. Bergeron, *Essentials of Shared Services*. New Jersey, Jon Wiley & Sons, Inc., (2003).
- [21] L. Greenemeier, *Business-Process Outsourcing Grows*, *InformWeek*, 14, (2002).
- [22] Y. Luo, S. L. Wang, V. Jayaraman, Q. Zheng, Governing business process offshoring: Properties, processes, and preferred modes, *J. of Wor. Busin.*, 48(3) (2013) 407–419.
- [23] N. Kshetri, Institutional factors affecting offshore business process and information technology outsourcing, *J. of Inter. Manag.*, 13(1) (2007) 38–56.
- [24] H. Yoshikawa, *Design Methodology for Research and Development Strategy. Realising a Sustainable Society*. Tokyo, Center for Research and Development Strategy, Japan Science and Technology Agency, (2012).
- [25] M. Sztorc, Stan i kierunki rozwoju sektora nowoczesnych usług biznesowych w Polsce pod wpływem procesu globalizacji korporacyjnej, *St. i Mat. Miscellanea Oeconomicae*, II(1) (2018) 313–326.
- [26] D. Ciesielska, *Offshoring usług. Wpływ na rozwój przedsiębiorstwa*. Warszawa, Oficyna Wolters Kluwer Business, (2009).
- [27] A. Pongelli, A. Calabrò, R. Basco, Family firms' international make-or-buy decisions: Captive offshoring, offshore outsourcing, and the role of home region focus, *J. of Busin. Res.*, 103 (2019) 596–606.
- [28] F. Caniato, R. Golini, M. Kalchschmidt, Offshoring and nearshoring success: the importance of strategic reasons, *Europ. Oper. Manag. Assoc.*, 4(2) (2011) 623–639.
- [29] S. Lebedev, Z. Lin, M. W. Peng, Power imbalance and value creation in joint ventures, *Lo. Ran. Plan.*, 1(1) (2020) 102–114.
- [30] P. D. O. Jensen, B. Petersen, Build-operate-transfer outsourcing contracts in services—boon or bane to emerging market vendor firms?, *J. of Inter. Manag.*, 19(3) (2013) 220–231.
- [31] R. Kumar, *Research Methodology*. London, SAGE Publications Ltd., (2011).
- [32] A. K. Dixit, G. M. Grossman, Trade and Protection with Multistage Production, *Rev. of Econ. Stud.*, 49(4) (1982) 583–594.
- [33] R. W. Jones, H. Kierzkowski, The role of services in production and international trade: A theoretical framework, in: R. W. Jones, A. Krueger (eds.), *The political economy of international trade*. Oxford, Blackwell Publishers, (1990).

- [34] R. W. Jones, H. Kierzkowski, Globalization and the consequences of international fragmentation, in: R. A. Mundell (eds.), *Money, capital mobility, and trade : essays in honor*. Cambridge, MIT Press, (2001).
- [35] J. P. Doh, Offshore outsourcing: implications for international business and strategic management theory and practice, *J. of Manag. Stud.*, 42(3) (2005) 695–704.
- [36] G. M. Grossman, E. Rossi-Hansberg, Trading tasks: A simple theory of offshoring, *Amer. Econ. Rev.*, 98(5) (2008) 1978–1997.
- [37] K. Bunyaratavej, E. D. Hahn, J. P. Doh, Multinational investment and host country development: location efficiencies for services offshoring, *J. of Wor. Busin.*, 43(2) (2008) 227–242.
- [38] W. W. Chang, The economics of offshoring, *Glob. J. of Econ.*, 1(2) (2012) 1250009–1250026.
- [39] P. Harms, O. Lorz, D. M. Urban, Offshoring along the production chain, *Can. J. of Econ.*, 45(1) (2012) 93–106.
- [40] D. Mukherjee, A. S. Gaur, A. Datta, Creating value through offshore outsourcing: an integrative framework, *J. of Intern. Manag.*, 19(4) (2013) 377–389.
- [41] W. C. Liao, Inshoring: The geographic fragmentation of production and inequality, *J. of Urb. Econ.*, 72(1) (2012) 1–16.
- [42] S. Manning, Mitigate, tolerate or relocate? Offshoring challenges, strategic imperatives and resource constraints, *J. of Wo. Busin.*, 49(4) (2014) 522–535.
- [43] N. Pisani, J. C. Ricart, Offshoring of Services: A Review of the Literature and Organizing Framework, *Manag. Intern. Rev.*, 56 (2016) 385–424.
- [44] M. Sobczyk, *Statystyka*. Warszawa, Wydawnictwo Naukowe PWN, (2020).
- [45] S. Ingrassia, G. D. Costanzo, *Functional Principal Component Analysis of Financial Time Series*. New Developments in Classification and Data Analysis. Berlin, Springer- Verlag, (2005).
- [46] G. R. Naik, *Advances in Principal Component Analysis: Research and Development*. Berlin, Springer, (2018).