

NATURE AND POTENTIAL BARRIERS OF FACILITY MANAGEMENT IN MANUFACTURING ENTERPRISES

Potkány M., Kamodyová P., Stasiak-Betlejewska R., Lesníková P.*

Abstract: Facility management as a coordination tool for the management of support business processes has the potential to improve the quality of processes, generate cost savings and create space and time to manage the core business activities. The main aim of the paper is to present the awareness level of the use of facility management, as well as the forms of its management and the primary implementation barriers in Slovak business environment. The questionnaire survey method in environment of manufacturing SMEs was used. For assessing the representativeness of the sample and evaluating working hypotheses were used the selected statistical methods. The research results confirm the low level of awareness about managerial approach coordinating the management of all supporting business processes. As regards the preferred form of management it is concerned of outsourcing and insourcing principles combination and the key barriers include ignorance of facility management nature and its effects.

Key words: facility management, SME, outsourcing, barriers.

DOI: 10.17512/pjms.2021.23.1.20

Article history:

Received December 08, 2020; *Revised* February 28, 2021; *Accepted* March 05, 2021

Introduction

The role of each enterprise is to use the available human, material, and capital sources as efficiently as possible within its operation in the competitive environment. This assumption is the basis to sustain and increase the market and competitive position. In recent years, the share of support activities (e.g., research and development, technical preparation of production, maintenance, care for the property of the enterprise and its protection, administrative works, marketing activities to support sales as well as customer service) has been growing in practice of manufacturing enterprises. These activities not only increase the share of the overhead costs but also require time for their management. The practical solution is to replace a significant part of the support process activities by establishing business relationships on the principle of outsourcing. The studies of authors

* **Potkány Marek** Assoc. prof., PhD., Technical University in Zvolen, Faculty of Wood Sciences and Technology, **Kamodyová Paula** Ing., Matej Bel University in Banská Bystrica, Faculty of Economics, **Stasiak-Betlejewska Renata** Ing., PhD., Czestochowa University of Technology, Department of Production Engineering and Safety, **Lesníková Petra** Ing., PhD., Technical University in Zvolen, Faculty of Wood Sciences and Technology

✉ corresponding author: potkany@tuzvo.sk;

✉ paulakamodyova@gmail.com; renatastasiak@gmail.com; lesnikova@tuzvo.sk

Vetráková et al. (2013), Iqbal (2013) and Di Gregorio (2009) are confirmed this statement. Other authors e.g., Kamodyová et. al (2020), Frost and Sullivan (2019) and Roper (2017) point out the possibility of coordinated management of support business processes using the facility management (FM). Despite the potential practical benefits to business that FM can generate in the form of creating more time and space to manage the core business, cost savings, or increasing the quality of auxiliary and service business processes, it could be state that in the conditions of Central and Eastern European countries, this approach is still looking for its application.

Based on the previous facts, the paper focuses on examining the awareness level of the FM use in the Slovak business environment, as well as using its forms and identification of the main implementation barriers in small and medium manufacturing enterprises in Slovakia. The paper is structured as follows. The first section presents the nature and structure of FM services using in practice. The second section is focused on the research methodology and the last section brings the paper results and findings.

Literature review

The nature of FM in the report of Middle East Facility Management Association (2017) is presented as “the organizational function which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of the core business”. In many studies of authors e.g., Mohamat Nor et al. (2014), Kurdi et al. (2011) and Price (2006) it is stated that FM has gone through its historical development, especially in the USA and Western European countries. Sari (2018) claims in his study that there is seen a fundamental difference in the development of FM in Western European and Central European countries (Sari, 2018). Moreover, in the field of FM may be a great opportunity for the development, but it still the research related to this issue is limited and insufficient. Explanation of the nature of FM and available definitions from various authors and sources were published in study of Kamodyová et al. (2020). All definitions are related to the definition of International Facility Management Association (IFMA), which supports more than 24,000 members in more than 100 countries dealing with this issue. FM is defined by IFMA as a discipline involving several fields to ensure the functionality of the built surroundings by integrating people, place, processes, and technologies. The FM definition according to Vyskočil et al. (2009) is modified by us to the following form: FM is a managerial approach coordinating the management of all supporting business processes provided in the form of outsourcing and insourcing principles to reduce their costs and increase their quality. From the available studies in the literature review and presented worldwide databases, it is possible to state a relatively wide range of areas of FM utilization. The management of building is considered as the centre of the FM interest (Lam Terence, 2019; Zalejska-Jonsson, 2020; Weise et al., 2014). At present, FM utilization has extended far beyond the

area of property management and building maintenance (Mohamat Nor et al., 2014). FM is understood as a balance between technical, managerial, and business focus, which may be related to the operational, tactical, and strategic decision-making process (Kamaruzaman and Zawawi, 2010). Moreover, FM should be based on knowledge, thus a shift is indicated from functional facility management knowledge to an organization-wide knowledge base (Waheed and Fernie, 2009). This is also evidenced by studies in the field of the health-care sector (Nazeer et al., 2020) or higher education institutes (Lok and Baldry, 2016). FM is often even today understood as a form of building management from providing cleaning services up to currently detailed management of all available supporting business processes-mainly in the region of Visegrad group (V4). FM thus combines a form of management with the use of outsourcing and insourcing principles into a coordinated form. However, the objective is no longer just to increase the quality of these processes, but especially the effort to reduce costs and increase the competitiveness and flexibility of the enterprise.

To present the practical use of FM in the Slovak business environment, it could be use the information from Slovak Association of Facility Management (SAFM) Guide 2019. One of major issue is seemed to be the problem of classification of facility services. In theory and in legislative standards too, it is possible to encounter several possible classifications. Kuda et al. (2012) propose classification in space or infrastructure and the people and organizations services. In the standard STN EN 15221-4: 2012 is stated that the categorization structure should be closely linked to business processes. This classification/categorization by SAFM (2019) is divided into three main areas:

- technical services: including technical administration and maintenance, control engineering, energy management, heating – ventilating – air condition, computer-aided FM, and other technical services,
- support and soft services: including data services, cleaning and security services, waste management, catering, vending, reception, postage, printing, garden and landscaping, fleet management, fire protection, parking services, event, workshop, and other support services,
- entrepreneurial (business) or administrative services: including accounting, controlling, training, health care, other education, property management, planning, design, insurance, and other business services.

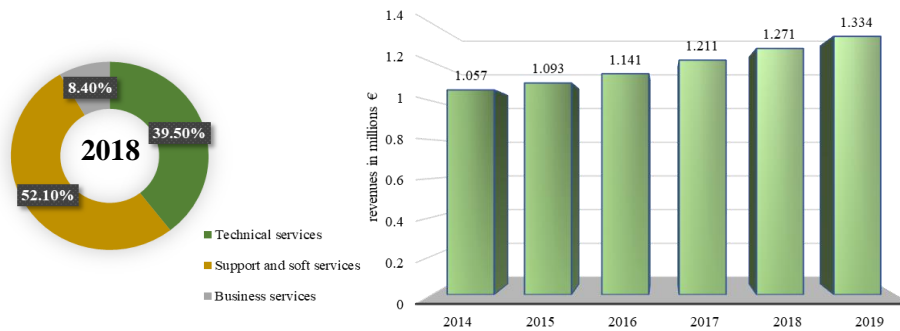


Figure 1: Share of facility services in the Slovak market in 2018 and its development (SAFM Guide, 2019).



Figure 2: Comparison of the growth of facility services markets (SAFM Guide 2018).

The data of the SAFM Guide (2019) show (Figure 1) that the largest market share in 2018 was recorded by the support and soft services (52.10%). Business services represent the smallest share (8.40%), but with also a considerable potential. The total FM market in 2018 can be estimated at almost 1.3 billion €, which represents an increase of almost 5% compared to 2017. Looking at the development of the market in Slovakia since 2014, there is seen an obvious average increase of nearly

5% per year. Figure 2 presents an overview of the development of FM services markets in the selected European countries for years 2018-2019. The Czech Republic recorded a market growth of up to 4%. Countries such as Germany, Belgium, Austria, Italy, Finland, and Slovakia reported an increase of interest in facility services in the range of 4-5%. Countries such as Norway and Sweden observed an increase of up to 6%, but one of the fastest growing markets is the market in Poland, where an increase of more than 6% was recorded.

Nowadays, world trends have affected the issue of FM in the form of Industry 4.0 or sustainable issues. In the case of the transition to a 4.0 enterprise, of which dominant feature is a smaller number of operators in production, there is an improvement of services through FM in terms of ensuring the functional background of the enterprise (Pheng Low, 2019).-The discussion about benefits resulting from functioning administration that includes FM (Goulden and Spence, 2015) is presented on the one hand, in view of benefits for the environment, on the other hand, there are also seen economic benefits (decrease in operating cost) and social benefits associated with the quality of the environment for employees (Somorová, 2014). Facility management is being introduced mainly due to the increasing financial cost of building management, but the social and environmental aspects are also getting important (Atkin and Bildsten, 2017). Moreover, facility management is contributed directly to a sustainable development of the built environment within the major areas of responsibility and has a positive effect on this areas at all (Junghans, 2011; Alfalah and Zayed, 2020). The FM SMEs seemed to be struggling to implement the different dimensions of sustainability (Støre-Valen and Buser, 2019). Furthermore, the significance of FM in the enterprise brings also benefits that can be applied in times of a crisis, where the facility manager plays an important role within the company (Pala and Menzi, 2009).

Research objective and methodology

The research objective of paper based on the survey results, is to identify the awareness level of facility management utilization as well as forms of its management and main implementation barriers in the Slovak SMEs. This paper is based on data from the questionnaire survey, which was focused on small and medium manufacturing enterprises in the Slovak business environment, potentially using facility management services. The selection criterion was the average number of employees according to the classification of the European Commission Recommendation 2003/361/EC. 1,180 manufacturing enterprises from the database of the Statistical Office of Slovak Republic were addressed, which are included to the NACE classification of food, textiles, manufacture and processing of metals, metal structures, manufacture of computer electronic and optical products, manufacture of electrical equipment, manufacture of machinery and equipment, manufacture of furniture, repair and installation of machinery and equipment. From our point of view, these enterprises have a high potential for utilization of facility

services. The survey itself took place from December 2019 to February 2020 through the electronic platform of a questionnaire published in the Google search.

For purpose of this paper and based on the introduction part we focused on the following working hypotheses (WH) related to the small and medium enterprises:

-WH1: the most small and medium enterprises in Slovakia have not met with the concept of facility management in their practice.

-WH2: the key implementation barrier of facility management in the business practice is ignorance of its nature and effects.

-WH3: the most common form of FM is the use of a combination of own resources (insourcing) with the principles of outsourcing management.

Depending on the evaluation of the working hypotheses we used selected statistical tests (Binomial test, Friedman test). The essence and methodology of the applied tests are explained in detail in works of authors Kozáková, (2008) Kaščáková and Nedelová (In: Chajdiak, 2014). To test the representativeness of the sample set, we used the Pearson's chi-square goodness of fit test, while the representativeness was verified on the selection character of the size of the enterprise according to the number of employees. The hypotheses as well as the representativeness were tested at the significance level of $\alpha = 0.05$, using the statistical programme SPSS.

Results and discussion

The results of the survey are based on the analysis of answers from 320 respondents who use or are interested to use the FM services. The representativeness of the sample set was tested through the non-parametric Chi-square goodness of fit test. We stem from the hypothesis H_0 , that states that empirical classification of frequencies is equal to theoretic class frequencies and from the alternative hypothesis H_1 , which rejects the respective statement. According to the results of the testing in the statistical programme SPSS (Table 1), we can claim that at the significance level of 5%, we do not reject the null hypothesis, in which it is assumed that the sample set is representative (p-value = 0.993). The research sample can therefore be considered representative in terms of the size of the enterprise.

Table 1. Verification of the representativeness of the sample according to the size of the enterprise (own research)

Frequencies	Observed N	Expected N	Residual
Micro enterprises	226	226.9	-0.9
Small Enterprises	66	65.6	0.4
Medium-sized enterprises	28	27.5	0.5
Total	320		
Chi-Square	.014 ^a		

Df	2	
Asymp. Sig.	0.993	

Within the WH1 we assumed that most small and medium enterprises in Slovakia have not met with the concept of facility management. Table 2 shows the results of the verification of the hypothesis.

Table 2. Results of verifying hypothesis WH1(own research)

		N	Observed Prop.	Test Prop.	P-value
Encounter with the term of FM	Yes	114	0.36	0.50	0.000
	No	206	0.64		
	Total	320	1.00		

Through the Binomial test ($p\text{-value} = 0.000$) it is possible to state that we do not reject the given hypothesis and accept the formulated assumption. Based on the relative frequency we can at the same time claim that more than 64% of enterprises have not met with the concept of FM in their practice. This happens even though SAFM spreads awareness of FM and has been performing various support activities in the Slovak business environment for more than 10 years. However, the association unites only those companies that provide facility services, which are their core business. Based on the available information, more than 100 business entities are registered within the organization, which, however, try to coordinate their activities on the supply side. The potential recipients of these services, i.e., the enterprises of our survey, unconsciously apply in practice terms such as building management, maintenance, cleaning work, etc. These services are often outsourced and combined with their management by own resources but without any effort to coordinate them. The nature of FM is just the coordination of support services. We believe that the recently adopted series of standards of the ISO 41 000 and STN EN 15221 may be a tool for raising awareness of using FM in the practice of enterprises also in terms of approaching trends in the practice of Western European enterprises. Mentioned standards define terms and provide definitions, give instructions for the quality of services and possible benchmarking. Evidence of the use of the term FM are also studies trying to explain its essence, for example Shin et al. (2018), Bröchner (2017), Junghans and Olsson (2014) and Vyskočil et al. (2009).

The working hypothesis WH 2 assumes that the key barrier for the implementation of facility management in the business practice of small and medium enterprises is ignorance of its nature and effects, which follows the previous hypothesis. The arguments for our hypothesis were the results of similar studies dealing with the use of outsourcing management principles (Choi et al., 2019; Calvo, 2018; Kim et

al., 2018; Olsovska et al., 2016), as well as studies concerning barriers of the implementation of controlling (Sedliačiková et al., 2019, Zheng et al., 2019).

Table 3. Results of descriptive statistics. (own research)

Reason of non-use of FM	n	%
We do not know the nature and effects of FM	166	61.48
Concerns about the cost increase	32	11.85
Concerns about the leakage of confidential information	26	9.63
Concerns about loss of control over the outsourced area	18	6.67
Concerns about profit decrease	8	2.96
Others	20	7.41
Total	270	100.00

A major part of the respondents in their answers were convinced that a small enterprise has neither human nor financial sources; the enterprise does not use this concept; transformation of management occurs slowly; or it is a specific entity (sheltered workshop).

Table 4. Results of verifying hypothesis WH2. (own research)

N	270
Chi-Square	425.372
df	5
P-value	0.001

Based on the relative frequencies (Table 3) and results of the statistical analysis of Friedman test in Table 4 (P-value = 0.001), it is possible to state that the major barrier of FM utilization in the practice of Slovak manufacturing enterprises, is the lack of knowledge of the nature and effects of FM. At the same time, we present the order of other reasons, which include the concerns about cost increase and concerns about leakage of confidential information of the enterprise. This hypothesis confirmed the arguments about the low awareness of the issue in the practice. The solution would be a targeted coordinated campaign by the providers of these services, but also better dissemination of the results of studies regarding the effects of support process management. One of the most important benefits can be considered the cost savings. Potkány et al. (2016) present the methodology of quantification of cost savings by using outsourcing. Choi et al. (2019), Lahiri (2016) and Jyoti et al., (2015) deal in their works with the respective effect as well as other effects in the form of gaining more time and attention to the management of the core subject of business or the transfer of risk to the service provider to increase its quality. Martynyuk (2017) points out to the use for diagnostics of the company Management and technological maturity.

The paper also addressed to the identification of the most frequently used form of facility service management in the Slovak manufacturing enterprises. Facility

services can be managed by the principles of using external resources, own resources, or a combination of both. Vetráková et.al. (2013) deal about possible forms of facility service management as well as the process of implementation. Based on previous results, we focused on the form of using a combination of both principles, which was indicated by 52 respondents. Table 5 presents the results of the verification of the hypothesis using a binomial test. We assumed that the most common form of FM in the Slovak business environment of small and medium enterprises is the use of a combination of own resources (insourcing) with the principles of using external resources (outsourcing). By means of the binomial test and the p-value (0.002), we can claim that our assumption has been confirmed.

Table 5. Results of verifying hypothesis WH3. (own research)

		N	Observed Prop.	Test Prop.	P value
FM in the form of combination of outsourcing and insourcing	Yes	52	0.68	0.50	0.002
	No	24	0.32		
	Total	76	1.00		

The logical outcome resulting from the low awareness of FM in the practice of Slovak manufacturing enterprises is the fact that the facility services are partly provided by their own resources and some of them are outsourced. Recently, enterprises in our region have been seeking to harmonize this combination into the competence of management through the job position of a facility manager. This is evidenced by the number of job offers for a given position in manufacturing enterprises in the V4 countries published through the web portals of job offers. Potkány and Kamodyová (2019) dealt with the comparison of facility manager job offers in the V4 countries, as well as the specification of this job position. Goulden and Spence (2015) present a similar issue in their work. Such an approach can become the basis for coordinated management of supporting business processes, even with the application of all its potential effects. Wolszczak-Derlacz and Parteka (2015) pointed out on the possible impact of international outsourcing on domestic labour market in the European countries.

Summary

With the globalization of the business environment, the issue of managing business processes becomes very sensitive. The coordinated management of these processes can create a potential for cost savings, increase the level of quality processes, as well as create time for core business management. Our research was focused on finding related to the awareness level about the use of FM in the Slovak manufacturing SMEs, forms of its management and the main barriers of their implementation. Based on the research, it turned out that:

-The awareness level of the nature of FM in the practice of Slovak SMEs is relatively low. There is a lack of targeted and coordinated support of marketing presentation by providers of these services, as well as professional literature explaining the issue. The solution could be a precise marketing campaign coordinated from the position of the National Association of Facility Management.

-The main barrier, or the reason for the lack of interest in FM on the part of enterprises, is the lack of knowledge of nature and implementation effects. In addition to the primary effect, i.e., core business management, the cost savings is the expected effect. As part of our results, we provide a reference to our own methodology that can be used to determine cost savings from the use of outsourcing principles and the step sequence of the FM implementation. This is so important practical recommendation with the quantification of cost savings.

-The most used in common form of facility management is a combined method of insourcing and outsourcing, but in practice often fragmented into the management of partial services. Another practical recommendation is the need to create facility manager jobs position with a specification of its job description and competencies in the managing of support business processes.

The limitations of this research it could be consider mainly its focus on small and medium-sized manufacturing enterprises without the inclusion of large enterprises and enterprise from service field. The potential future study direction will focus on identifying the difference in supply and demand for facility services also in the context of a possible survey of V4 countries. The results of present survey shall could serve to raise awareness of the FM issue what we consider as crucial. Our presented findings could become a starting point for further scientific studies about the subject issue and their comparison on the regional and global scale.

Acknowledgement

This study was financially supported by the project APVV-18-0520 Innovative methods for analysing the performance of wood and forestry complex using the principles of green growth and project KEGA 005TU Z-4/2020 „Economics, Management and Enterprising in Wood Industry Companies - University Textbooks with the Support of Visualization in Virtual Space.

References

- Alfalah G., Zayed T., (2020). A review of sustainable facility management research. *Sustainable Cities and Society*, 55.
- Atkin B., Bildsten L., (2017). A future for facility management. *Construction Innovation*, 17(2), 116-124.
- Bröchner J., (2017). Measuring the Productivity of Facilities Management. *Journal of Facilities Management*, 15(3), 285-301.
- Calvo J., (2018). High-tech start-ups in Japan: Cogent Labs, AI-OCR solutions for automated business process outsourcing. *International Journal of Entrepreneurial Knowledge*, 6(2), 12-31.

- Di Gregorio D., Musteen M. and Thomas D. E., (2009). Offshore Outsourcing as a Source of International Competitiveness for SMEs. *Journal of International Business Studies*, 40(6), 969-988.
- Frost & Sullivan Institute, (2016), *The Future of Facility Management. A New Era of Service Integration, Energy Management, Business Productivity, Smart Technology, and Internationalization*, <http://www.frost.com/sublib/display-report.do?id=MBEB-01-00-00-00>, Access on: 01.05.2019.
- Goulden M., Spence A., (2015). Caught in the middle: The role of the Facilities Manager in organisational energy use. *Energy Policy*, 85, 280-287.
- Chajdiak, J., et al., (2014). Dotazníkový prieskum II. – overovanie hypotéz. *Forum Statisticum Slovacum*, 10(3), 259.
- Iqbal Z., Dad A. M., (2013). Outsourcing: a Review a Trends, Winners and Losers and Future Directions. *International Journal of Business and Social Sciences*, 4(8), 91-107.
- Junghans A., O. E. Olsson, N., (2014). Discussion of Facilities Management as an Academic Discipline. *Facilities*, 32(1/2), 67-79.
- Junghans A., (2011), *State of the art in sustainable facility management*, [in:] Haugbølle K., Gottlieb S. C., Kähkönen K. E., Klakegg O. J., Lindahl G. A., & Widén K. (Eds.), 2011 Proceedings of the 6th Nordic Conference on Construction Economics and Organisation: Shaping the Construction/Society Nexus. Volume 2: Transforming Practices.
- Jyoti J., Arora H. & Kour S., (2015). *Outsourcing and Organizational Performance: Role of Cost Leadership, Differentiation and Innovation Strategies. Sustainable Competitive Advantage: A Road to Success*, New Delhi: Excel India Publishers.
- Kamaruzaman S. N., Zawawi E. M. A., (2010). Development of facilities management in Malaysia. *Journal of Facilities Management*, 8(1), 75-81.
- Kamodyová P., Potkány M., (2019). *Complexity and preferences in the service facility offer in the Slovak business environment*, [in:] DOKBAT 2019 conference proceedings: 15th annual international Bata conference for Ph.D. students and young researchers, 542-551.
- Kamodyová P., Potkány M. and Kajanová J., (2020). Facility management - trend for management of supporting business processes and increasing of competitiveness. AD ALTA: *Journal of Interdisciplinary Research*, 122-127.
- Kim B., Park K. S., Jung S. Y. and Park S. H., (2018). Offshoring and Outsourcing in a Global Supply Chain: Impact of the Arm's Length Regulation on Transfer Pricing. *European Journal of Operational Research*, 266(1), 88-98.
- Kozáková, D. (2008). Statistical processing of research. <http://www.educano.sk/vyskumy.php>. Access on: 5.5.2019
- Kuda F., Beránková E. and Soukup P., (2012). Facility Management v Kostce: pro Profesionály i Laiky, *Olomouc: Form Solution*.
- Kurdi M. K., Abdul-Tharim A. H., Jaffar N., Azli M. S., Shuib M. N. and Ab-Wahid A. M., (2011). Outsourcing in Facilities Management – a Literature Review. *Procedia Engineering*, 20(2011), 445–457.
- Lahiri S., (2016). Does Outsourcing Really Improve Firm Performance? Empirical Evidence and Research Agenda. *International Journal of Management Reviews*, 18(4), 464-497.
- Lam T. Y. M., (2019). A Sustainable Procurement Approach for Selection of Construction Consultants in Property and Facilities Management, *Facilities*, 38(1/2), 98-113.

- Lok K., Baldry D., (2016). Demand and Supply of FM Outsourcing Services. *Journal of Facility Management*, 14(3), 221-248.
- Martynuk O., (2017). Methodology for Diagnostics of the Company Management and Technological Maturity. *Montenegrin Journal of Economics*, 13(4), 31-42.
- Mohamat Nor N. A., Mohamed A. H. and Alias B., (2014). Facility management history and evolution. *International Journal of Facility Management*, 5(1).
- Nazeer S. F., Ramachandra T. and Gunatilake S. et al., (2020). Emerging Sustainable Facilities Management Practices in Health-care Sector, *Journal of Facilities Management*, 18(1), 1-19.
- Olsovska A., Mura L. and Svec M., (2016). Personnel Management in Slovakia: An Explanation of the Latent Issues. *Polish Journal of Management Studies*, 10(2), 110-120.
- Pala F., Menzi E., (2009). *Facility management organizational models*, [in:] De Toni A. F., Ferri A., Montagner M., Open Facility Management - A successful implementation in a public administration, 83-104.
- Pheng Low S., Gao S. and Wan Leng Ng E., (2019). Future-ready project and facility management graduates in Singapore for industry 4.0: Transforming mindsets and competencies. *Engineering, Construction and Architectural Management*, 28(1), 270-290.
- Potkány M., Stasiak-Betlejewska R., Kováč R. and Gejdoš M., (2016). Outsourcing in Conditions of SMEs – the potential for Cost Savings. *Polish Journal of Management Studies*, 13(1), 145-156.
- Price If., (2006). *The Selfish Signifier: Mutation of meaning in management fashions*. Facilities Management Graduate Centre, Sheffield Hallam University, UK.
- Prischl P., (2017), *ISO 41000 Facility management: A series of global standards*, Middle East Facility Management Association, <http://mefma.org/images/stories/pdf/DreesSommerEversion.pdf>, Access on: 10.10.2020.
- Roper K., (2017). Facility Management Maturity and Research. *Journal of Facility Management*, 15(3), 235-243.
- Sari A. A., (2018). *Understanding Facilities Management Practices to Improve Building Performance: The Opportunity and Challenge of the Facilities Management Industry over the World*, [in:] MATEC Web of Conferences International Mechanical and Industrial Engineering Conference. August 30-31, Indonesia, 204, 1-7.
- SAFM Guide, (2018). Slovenská asociácia facility management. Bratislava, IC Consulting k.s.
- SAFM Guide, (2019). Slovenská asociácia facility management. Bratislava, IC Consulting k.s.
- Sedliačiková M., Stoková Z., Drábek J. and Malá D., (2019). Controlling implementation: What are the benefits and barriers for employees of wood processing enterprises? *Acta Facultatis Xylologiae Zvolen: vedecký časopis Drevárskej fakulty Technickej univerzity vo Zvolene*, 2, 163-173.
- Shin H., Lee H., Park M. and Lee J. G., (2018). Facility Management Process of an Office Building. *Journal of Infrastructure Systems*, 24(3).
- Somorová V., (2014). Optimization of the operation of green buildings applying the facility management, *SSP – Journal of Civil Engineering*, 9(1), 87-94.
- Støre-Valen M., Buser M., (2019). Implementing sustainable facility management: Challenges and barriers encountered by Scandinavian FM practitioners, *Facilities*

- Vetráková M., Potkány M. and Hitka M., (2013). Outsourcing of Facility Management. *E+M Ekonomie a Management*, 16(1), 80-92.
- Vyskočil V. K. et al., (2009). Facility management procesy a řízení podpůrných činností. *Praha: Professional Publishing*, 2009. 176.
- Waheed Z., Fernie S., (2009). Knowledge based facilities management, *Facilities*, 27(7/8), 258-266.
- Weise A. D., Schultz CH. A. and Trierweiler A. C. et al., (2014). The Combined Use of Business Management with Facility Management as an Option for Intelligent Building, *Independent Journal of Management & Production*, 5(1), 65-82.
- Wolszczak-Derlacz J., Parteka A., (2015). Does off shoring affect industry employment? Evidence from a wide European panel of countries, *Journal of International Studies*, 8(1), 41-52.
- Zalejska-Jonsson A., (2020). Does Facility Management Affect Perception of Building Quality? A Study of Cooperative Residential Buildings in Sweden, *Facilities*, 38(7/8), 559-576.
- Zheng H., Yaozhong H. and Chihoon L., (2019). On Pricing Barrier Control in a Regime-switching Regulated Market. *Quantitative finance*, 19(3), 491-499.

CHARAKTER I POTENCJALNE BARIERY ZARZĄDZANIA OBIEKTAMI W PRZEDSIĘBIORSTWACH PRODUKCYJNYCH

Streszczenie: Zarządzanie obiektami jako narzędzie koordynacyjne do zarządzania wspierającymi procesami biznesowymi ma potencjał do poprawy jakości procesów, generowania oszczędności oraz tworzenia miejsca i czasu na zarządzanie podstawową działalnością biznesową. Głównym celem artykułu jest przedstawienie poziomu świadomości wykorzystania zarządzania obiektami oraz form jego zarządzania i podstawowych barier wdrożeniowych w słowackim środowisku biznesowym. Zastosowano metodę ankietową w środowisku MŚP produkcyjnych. Do oceny reprezentatywności próby i oceny hipotez roboczych zastosowano wybrane metody statystyczne. Wyniki badań potwierdzają niski poziom świadomości na temat podejścia menedżerskiego koordynującego zarządzanie wszystkimi wspierającymi procesami biznesowymi. Jeśli chodzi o preferowaną formę zarządzania, to chodzi o połączenie zasad outsourcingu i insourcingu, a do głównych barier należy nieznamość charakteru zarządzania obiektem i jego skutków.

Słowa kluczowe: zarządzanie obiektem, MŚP, outsourcing, bariery.

制造企业设施管理的自然和潜在障碍

摘要:设施管理作为支持业务流程管理的协调工具, 具有改善流程质量, 节省成本并创造空间和时间来管理核心业务活动的潜力。本文的主要目的是介绍对设施管理使用的认识水平, 及其管理的形式以及斯洛伐克商业环境中的主要实施障碍。采用了制造业中小企业环境下的问卷调查方法。为了评估样本的代表性并评估工作假设, 使用了选定的统计方法。研究结果证实, 对于协调所有支持业务流程的管理的管理方法的意识不高。关于首选的管理形式, 它涉及外包和内包原则的结合, 而主要障碍包括对设施管理性质及其效果的无知。

关键词:设施管理, 中小企业, 外包, 障碍。