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ORGANIZATIONAL INNOVATIONS IN SMALL AND MEDIUM-SIZED ENTERPRISES

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Resource and knowledge sharing is key for innovative projects and achieving competitive advantage by small and medium-sized enterprises. Organizational innovations are an essential source of improvement for SMEs. They mean changes in: workplace organization, organizational structures and relations with the external environment. In this context, organizational innovations in external relations play a key role. In this article, the focus is on the application of organizational innovations. The goal is to show the importance of this type of innovations for small and medium-sized enterprises. The article starts with the definition of innovation, especially organizational innovation. Further follows an analysis of the results of research on organizational innovations in SMEs accompanied by the author's own study focused on the Leszno subregion. This analysis allowed for formulating conclusions on organizational innovations for SMEs.

Keywords: innovation, organizational, SMEs, environment, subregion

1. INTRODUCTION

Companies now build their competitive advantage by using knowledge and information and creating innovations. The success of an organization depends on its employees' knowledge, experience and qualifications, and continuous activity, learning, research and development. Only efficiently managed organizations that simultaneously create innovations for the future can gain sustainable competitive advantage. Innovations are still considered to be a critical factor for market success. In this process, knowledge is a foundation for innovative activities and the

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assimilation of new technologies, and it plays a key role in leading to learning processes within an organization and the generation of new ideas. Cooperation with the external environment is regarded as particularly important as it allows the dissemination of knowledge and experience. This is all the more vital for SMEs since they have limited innovative autonomy as compared with large enterprises. Innovative projects and competitive advantage of SMEs are specifically conditioned by sharing resources and knowledge (Urbanova, 2013, p. 82). In this context, a special role is played by organizational innovations in external relations.

In this article, the focus is on the application of organizational innovations in enterprises. The goal is to show the importance of this type of innovation for small and medium-sized enterprises. The article starts with the definition of innovation, especially organizational innovation. Further follows an analysis of the results of research on organizational innovations in SMEs accompanied by the author's own study focused on the Leszno subregion. Given the importance of organizational innovations in terms of building external relations for SMEs, emphasis was put on their cooperation with the external – both institutional and business – environment. That analysis allowed for formulating conclusions on SME organizational innovations.

2. INNOVATION

According to Schumpeter's theory (1960, p. 99-101), innovations are defined as new original solutions that involve the manufacture of a new product or a product with new properties, a new organization of production methods or the introduction of a new production method and winning new markets or sources of raw materials. They are incremental and associated with a sudden change, impossible to achieve through continuous activities (Olejniczuk-Merta, 2013, p. 22). Currently, according to the Oslo Manual, innovations are defined as the introduction of a new or significantly improved product, service or process, the implementation of a new marketing method or a new organizational method in business practices, workplace organization or external relations (OECD, 2008). Although the economic literature on this topic generally distinguishes four basic types of innovations: product, process, marketing and organizational, their typologies and classifications vary over time depending on their determinants and roles assigned to them. Today, a special role is played by open and social innovations (Lachiewicz, 2014, p. 153). Economics for a long time held the view that an innovation was a product of a single company. Currently, innovations are regarded as the result of complex interactive processes with a territorial dimension, such as research and development, investment, commercialization (Olejniczak, 2014, p. 287).

The traditional model of innovations, based on the supply-side theory, assumes intra-company learning and reliance on the company's own R&D departments with minimal interaction with the environment. External entities such as universities operate outside the model of innovation generation, only taking part in the exchange of information. Such a closed model, based on the company's own resources, is to effectively protect it against competition and guarantee its innovative activities.

Currently, due to the free flow of information and technological progress, the closed model is losing its importance in favour of open innovations which are the result of collaboration between enterprises and entities in their environment. High costs of the operation of companies' own research and development departments, lack of accumulated knowledge and the need to combine different technological solutions are not insignificant here (Rojek, 2014, p. 210). Innovations are therefore rather the effect of complex economic and social evolutionary processes, which does not exclude exceptions when innovations are incremental (Olejniczuk-Merta, 2013, p. 22). According to Chesbrough (2003, p. 25), the open model should use both internal and external resources to produce innovations. The most important external partners in the innovation generation process include: universities, research entities, competitors, suppliers and customers (Buganza and Verganti, 2009, p. 310). They should play a role at every stage of innovation production, from generating ideas, through implementation, to the commercialization and diffusion of innovations (Rojek, 2014, p. 2011). Moreover, Chesbrough (2006, p. 13) argues that solutions unused in one enterprise should be made available to other companies. The continuous nature of the innovation production process is also present in the definitions of social innovations that develop as a result of technological, social and economic changes. In the conditions of globalization and interpenetration of products, societies and cultures, they cease to be merely the result of technological innovations or changes in management and become an active tool in the hands of societies. These are experimental social activities that are oriented to improving the quality of life of people and entire societies. They are undertaken in enterprises and their business, business-related and natural environment (Olejniczuk-Merta, 2013, p. 26-28). According to the European Commission's definition, social innovation is the development and implementation of new ideas to meet social needs and the creation of new social relationships or collaborations. It refers to any change in business operations and activities of societies (Komisja Europejska, 2013). Social innovations are thus all actions consisting in the original use of held resources and the involvement of partners from different economic sectors to solve social problems (Olejniczuk-Merta, 2013, p. 30). The process of dissemination and popularization of innovative changes is also called social innovation. According to the definition of the Polish National Centre for Research and Development, social innovations are the "solutions that both respond to social needs and lead to a sustainable change in particular social groups. These solutions may involve innovative products, services or processes that allow for solving common social problems in

a different manner” (NCBiR, 2012). In terms of effects, innovations are divided into soft innovations, such as changes in workplace organization in order to improve the quality of time spent there, and hard technical and technological innovations meeting the objectives of social innovations. Furthermore, social innovations may occur on the macro, meso and micro scale, depending on the effects of such changes. Social innovations are frequently implemented in the workplace organization or in the development of regional and local strategies. Other examples of social innovations include: promoting sustainable transport, ecology, activities targeted at persons with disabilities or interbank cooperation aimed at facilitating the financing of investment (Olejniczuk-Merta, 2013, p. 31).

2.1. Organizational innovations

Organizational innovations mean the introduction of new methods to a company’s operation, workplace organization or external relations, with the key element being the first application of such organizational methods that result from the management’s strategic decisions in the company. Innovative principles of operation also involve new methods for organizing in-company procedures and routine tasks (Pawłowski, 2014, p. 598). Examples of this type of innovation are (1) new practices in learning and knowledge sharing across the enterprise such as the first implementation of practices for codifying knowledge, e.g. databases of best practices and other knowledge so that it is easier to access by employees, (2) the implementation of new practices for improving workers’ skills such as new education and training systems, (3) the first introduction of production and supply chain management systems, business re-engineering, lean production, (4) the first introduction of quality management systems (OECD, 2008, p. 54).

Innovations in workplace organization entail a new allocation of tasks and powers leading to the division of labour among or within organizational departments and among organizational units (Pawłowski, 2013, p. 17). They include the implementation of new methods for the allocation of responsibilities and decision-making related to the division of labour within and among organizational units as well as new concepts of organizational structure, such as integration of different activities. The first of these types of innovations in workplace organization is exemplified by the introduction of an organizational model that grants employees more autonomy and encourages them to make their own decisions. This can be achieved through decentralizing activities and management or through establishing formal or informal teams where scopes of responsibilities are more flexible. Another example of this kind of innovation can also be an action contrary to the above-mentioned effort, i.e. the introduction of a more centralized system. New concepts of the organizational structure of business activity

include such examples as the first introduction of a system integrating sales and production or a system integrating the design and development and production departments (OECD, 2008, p. 54).

Innovations in external relations involve implementing new forms of organizing relations with the institutional and business environment, for example with suppliers, customers, business-support and public institutions (Pawłowski, 2013, p. 17). Such innovations may consist in outsourcing, integration with suppliers or participation in cluster initiatives. Examples also comprise the introduction of new ways of cooperation with research institutions or customers (OECD, 2008, p. 55).

In implementing organizational innovations, enterprises aim to increase the efficiency of their operations by reducing administrative and/or transaction costs, improve employee satisfaction with the workplace organization and thus increase labour productivity, gain access to non-tradable assets such as non-codified external knowledge, and reduce supply costs (Pawłowski, 2013, p. 17).

According to Pawłowski (2014, p. 598), organizational innovations may be essentially divided into two types: structural innovations and procedural innovations, where each type can be considered as an intra- or inter-organizational innovation. Structural innovations are based on changes in organizational structures such as flattening of hierarchies, changes in responsibilities, improvements to decision-making processes. Procedural innovations, in turn, cover changes in organizational procedures such as continuous improvement of processes. Each of the two innovation types may bring about effects within the organization or create new structures and links with entities in the enterprise environment, e.g. outsourcing, strategic alliances.

Another classification of organizational innovations was suggested by Czekaj (2013, p. 30). According to his division, organizational innovations are classified into two categories: static and dynamic, with both types having the potential to be applied in such resource management areas as human and information resources. Examples of static innovations in human resources are qualification scales and forms of employment. Static innovations in information resources include, for example: carriers of information or the information system in an enterprise. Dynamic innovations in human resources cover, for instance: processes of professional development, and in information resources: information and communication networks.

Organizational innovations contribute to an intensified exchange of information within a company and with its external environment and to its improved capacity to learn and use new knowledge and technologies. The increasingly important role of such innovations in the modern economy is highlighted by a number of researchers. Their significance in building companies' competitiveness has been confirmed in numerous empirical studies (Armbruster, Bikfalvi, Kinkel and Lay, 2008, p. 651). Organizational innovations are often, in fact, a necessary condition for implementing technical innovations.

2.2. Organizational innovations in small and medium-sized enterprises in the light of empirical research

In analysing the empirical research conducted by the Department of Management of Łódź University of Technology in 2012-2013¹, it can be concluded that SME organizational innovations usually cover innovations in relations with the external environment. The small scale of innovations in workplace organization may stem from the fact that those companies concentrate on product and process innovations, which largely improve efficiency. It is assumed that organizational innovations lead in this case to the adaptation of technological innovations. The core activities of SMEs may be another reason for the small scale of their organizational innovations. Their trade or services activities may not require such innovations to be introduced. Only manufacturing, construction and logistics companies are in need of them because of their serial production, specialization level or external links. Slightly more weight is attributed to innovations bringing about structural changes in medium-sized enterprises, in particular changes in the entire organizational structure. However, simple structural solutions, the dominant position of the owner or manager and limited decentralization possibilities mean that structural organizational innovations play a minor role. The companies studied saw the need for improvements in the information flow, customer service and distribution, and changes in staff responsibilities (Lachiewicz, 2014, p. 156-157).

Organizational innovations that are implemented in SMEs principally cover the forms of relations with external partners. They concern links with both business (competitors in the sector, suppliers, customers) and business-related environment (business support institutions, R&D, public authorities, etc.). The solutions that are most frequently indicated in this area include: participation in cluster initiatives, implementation of joint projects and contracts, outsourcing, joint ventures based on equity relationships. Considering R&D, the activities mentioned covered the purchase of new technologies and licenses and commissioning studies or audits. As for business environment institutions, various organizational forms were reported, for example regarding contacts with universities and creation of spin-off or academic companies.

Basically, the willingness to implement organizational innovations depends on the degree of technological advancement, industry and the scope of business activity. The age, size and nature of the business play a role too. Also companies operating in a highly competitive environment and those going through the crisis stages of their life cycles are keener to introduce organizational innovations, in particular in external relations (Lachiewicz, 2014, p. 157).

¹ Research carried out in 300 small and medium-sized enterprises in the Łódź Province, mainly through surveys under Research Project No. N N115364839.

From the point of view of SME innovation, the results of the author's own qualitative studies conducted by means of in-depth interviews in the Leszno subregion on a random sample of 24 micro-enterprises and SMEs in 2015 are also interesting. Those results were confronted with the findings from other surveys carried out in Poland by the Central Statistical Office (Innovative Activity of Enterprises in 2004-2006, CSO (GUS) 2008, and Innovative Activity of Enterprises in 2010-2012, CSO (GUS) 2013), the Ranking of the Most Innovative Companies in Poland "Kamerton Innowacyjności 2008" and the Polish Confederation of Private Employers Lewiatan in 2011.

SMEs in the Leszno subregion generally do not have contacts with the institutions that transfer knowledge and technology; neither do they cooperate with the research and development sector. Although 15% of them state that they cooperate with consulting firms, such cooperation involves only legal and tax advice. A positive aspect is outsourcing of some tasks in that subregion.

According to the Ranking of the Most Innovative Companies, those enterprises also undertake only small-scale cooperation with universities and other entities in the science sector. The vast majority of innovative projects is based on the closed innovation model, i.e. projects are developed by the companies' own R&D departments and staff (Starczewska-Krzysztozek, 2008). Similar information is provided by the Polish Central Statistical Office. As suggested by statistical surveys on the cooperation of innovative enterprises with their environment, approximately 33% of industrial enterprises and approximately 27% of service-providing companies undertook such cooperation in 2010-2012. The most frequent partners in innovative projects were: suppliers of materials, components and software, other companies with a similar business profile, universities and research entities, recipients, consulting companies and competitors. The CSO surveys also point to an increase in the share of the surveyed enterprises in cluster initiatives. Such cooperation was undertaken by about 13% of industrial enterprises and about 18% of service providers (Rojek, 2014, p. 215). Also the so-called innovative enterprises establish only small-scale cooperation with consulting firms. The Lewiatan Confederation's research results provide comparable data showing that cooperation with external companies generally comprises legal assistance and accounting tasks (PKPP Lewiatan, 2011).

According to the 2008 CSO report, organizational and marketing innovations were the major types of innovations implemented in 2004-2006. The Ranking of the Most Innovative Companies in 2007-2008 indicates, on the other hand, that product and process innovations were most prevalent (68% of enterprises). Only 40% of companies introduced marketing and organizational innovations. The shares of companies' own funding for process, product and organizational innovations are 79%, 80% and more than 90%, respectively. The following barriers to the implementation of innovations are considered to be most serious: ineffective policy

of public authorities, a lack of cooperation and interest on the part of universities and few opportunities to obtain funding for innovative activity in the capital market. This is corroborated by both the research in the Leszno subregion and the Ranking of the Most Innovative Companies (Starczewska-Krzysztozek, 2008).

Interesting data in this respect is provided by the results of studies conducted by Ernst & Young under the project *Innowacyjność sektora MSP w Polsce 2009* (SME Innovation in Poland 2009) (Ernst & Young, 2009). First, their findings clearly demonstrate a modest interest in innovative activities in the SME sector. About 58% of companies had introduced an average of one innovative product a year within the three years preceding the study. In other areas, innovative activities had been undertaken by 65% of the companies less than twice within the three years before the study. Second, according to the study outcomes, there is a significant liquidity gap that prevents the financing of SME innovative activities, and the knowledge of innovation support programmes is limited in that group of companies.

3. CONCLUSION

SMEs play a considerable role in the economies of all European countries, including Poland. Innovations in these enterprises, including organizational innovations, require overcoming many barriers despite SMEs flexibility and ability to adapt to changing conditions. Such barriers are similar in most countries. An important role in this respect is played by business environment institutions and universities whose offer for innovation support aimed at Polish SMEs is still in the stage of development.

Organizational innovations that involve changes in workplace organization, organizational structures and external relations are an essential source of improvement for SMEs. In view of the increased competition and the growing importance of these enterprises in economies, it is becoming key to implement not only product and process, but also organizational, innovations. With less capital needed, the latter may be applied on a larger scale and more often financed from companies' own funds than process and product innovations requiring higher capital. This is reflected in the results of the Ranking of the Most Innovative Companies in Poland – "Kamerton Innowacyjności 2008". Studies conducted in the Łódź Province imply that the SME sector implements small-scale internal organizational innovations. This is determined by a greater need for product quality improvement and modernization of production methods, as also confirmed by studies in the Leszno subregion. Furthermore, the low complexity of organizational structures significantly reduces the possibility of structural improvements. However, the need for innovations in customer service departments and information flow is noticeable.

SMEs indicate that the crucial sphere of organizational innovations comprises relations with the business and business-related environment. Joint projects, outsourcing and participation in organizational networks and cluster initiatives are the main forms of organizational innovations pointed out by SMEs in the Łódź Province. They have the most valuable effects on the development of the examined enterprises. Although companies in the Leszno subregion generally do not cooperate with the institutional environment and are not interested in collaboration with the R&D sector, it is worth noting that they regularly outsource some of their tasks to subcontractors.

The author's own study results clearly indicate that SMEs build their competitive position on the basis of product and service quality, and continuous improvement and modernization of production processes forms the foundation for their development. It may therefore be assumed that their innovative activities and organizational innovations will develop with appropriate support as well as cooperation with the environment and the financial market. Similar data is provided by the CSO surveys conducted among a representative group of SMEs and by the Lewiatan Confederation's studies. Although the Ranking of the Most Innovative Companies offers different data on the implementation of innovations, including organizational ones, innovations essentially follow a closed model, and those companies rarely cooperate with R&D institutions, capital market institutions and other business environment entities.

LITERATURE

1. Armbruster, H., Bikfalvi, A., Kinkel, S., Lay, G. (2008). Organizational Innovation: The challenge of measuring non-technical innovation in large-scale surveys, *Technovation*, 28, 644-657.
2. Buganza, T., Verganti, R. (2009). Open Innovation Process to Inbound Knowledge. Collaboration with Universities in Four Leading Firms. *European Journal of Innovation Management*, 12 (3), 306-325.
3. Chesbrough, H. (2003). *Open Innovation. The New Imperative for Creating and Profiting from Technology*. Boston: Harvard Business School Press.
4. Chesbrough, H. (2006). *Open Business Models: How to Thrive in the New Innovation Landscape*. Boston: Harvard Business School Press.
5. Czekaj, J. (2013). *Metody organizatorskie w doskonaleniu systemu zarządzania*. Warszawa: WNT.
6. Ernst & Young (2009). *Innowacyjność sektora MSP w Polsce. Rządowe programy wsparcia a luka finansowa*. Retrieved from https://www.web.gov.pl/g2/big/2009_10/b26a58f133078e5210511a0a68d42cb1.pdf.
7. Kałkowska, J., Pawłowski, E., Włodarkiewicz-Klimek, H. (2013). *Zarządzanie organizacjami w gospodarce opartej na wiedzy*. Poznań: Wydawnictwo Politechniki Poznańskiej.

8. Komisja Europejska (2013). *Przewodnik po innowacjach społecznych*. Retrieved from <http://www.innovacional.com/european-commission-guide-to-social-innovation-2013.html#sthash.vPQfyLGM.dpbs>.
9. Lachiewicz, S. (2014). *Innowacje organizacyjne w małych i średnich przedsiębiorstwach*. In: H. Bieniok (Ed.). *Innowacyjność współczesnych organizacji. Cz. 1. Koncepcje i modele*, seria *Zeszyty Naukowe Wydziałowe Uniwersytetu Ekonomicznego w Katowicach. Studia Ekonomiczne*. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, 153-161.
10. Narodowe Centrum Badań i Rozwoju (2012). *Program Innowacje Społeczne 2012*. Retrieved from http://www.ncbir.pl/gfx/ncbir/userfiles/_public/programy_krajowe/innowacje_spoleczne/opis_programu_is_1.pdf.
11. OECD, EUROSTAT (2008). *Oslo Manual. Guidelines for Collecting and Interpreting Innovation Data*. Warszawa: Ministerstwo Nauki i Szkolnictwa Wyższego.
12. Olejniczak, K. (2014). Wspieranie innowacyjności małych i średnich przedsiębiorstw w Szwajcarii. In: A. Bielawska (Ed.). *Uwarunkowania rynkowe rozwoju mikro, małych i średnich przedsiębiorstw. Mikrofirma 2014*. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, 286-296.
13. Olejniczuk-Merta, A. (2013). *Innowacje społeczne. Konsumpcja i rozwój*, 1/2013, 21-34.
14. Pawłowski, E. (2014). Size of an Enterprise and Organizational Innovation. In: Ahram, T., Karwowski, W., Marek T. (Eds.), *Proceedings of the 5th International Conference on Applied Human Factors and Ergonomics AHFE*, 597-604.
15. PKPP Lewiatan (2011). *Słabe i mocne strony sektora MSP w Polsce. Szanse i zagrożenia rozwojowe*. Retrieved from http://konfederacjalewiatan.pl/_files/2011_12/Raport_MSP.pdf.
16. Rojek, D. (2014). Otwarte innowacje jako model interaktywnego zarządzania innowacjami. *Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach*, seria *Administracja i Zarządzanie*, 101 (28), 2014, 207-219.
17. Schumpeter, J.A. (1960). *Teoria rozwoju gospodarczego*. Warszawa: PWN.
18. Starczewska-Krzysztozek, M. (2008). *Ranking Najbardziej Innowacyjnych Firm w Polsce. Kamerton Innowacyjności*. Retrieved from http://konfederacjalewiatan.pl/_files/publikacje/Ranking_firm%20innowacyjnych.pdf.
19. Urbanova, H. (2013). Competitive Advantage Achievement through Innovation and Knowledge. *Journal of Competitiveness*, 5, 1, 82-96.

INNOWACJE ORGANIZACYJNE W MAŁYCH I ŚREDNICH PRZEDSIĘBIORSTWACH

Projekty innowacyjne i osiągnięcie przewagi konkurencyjnej małych i średnich przedsiębiorstw w sposób szczególny zależy od dzielenia się zasobami i wiedzą. Innowacje organizacyjne, które polegają na zmianach w organizacji stanowisk pracy, zmianach w strukturach organizacyjnych przedsiębiorstw oraz zmianach w relacjach z otoczeniem zewnętrznym, są istotnym źródłem usprawnień w funkcjonowaniu MSP. W tym kontekście szczególną rolę odgrywają innowacje organizacyjne w sferze relacji zewnętrznych.

W niniejszym artykule skoncentrowano się na wdrażaniu innowacji organizacyjnych. Jego celem jest ukazanie znaczenia tego typu innowacji w przedsiębiorstwach małych i średnich. Wychodząc od definicji pojęć innowacji, a w szczególności innowacji organizacyjnych, odniesiono się do wyników badań dotyczących stosowania innowacji organizacyjnych w MSP w zestawieniu z wynikami badań własnych dotyczących subregionu leszczyńskiego. Rozważania te posłużyły do sformułowania wniosków dotyczących innowacyjności organizacyjnej MSP.

Słowa kluczowe: innowacje, organizacyjny, MSP, otoczenie, subregion

