

Creating Knowledge of the Competitiveness of Enterprises in the Context of Changes in Management Processes

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Abstract: The unpredictable conditions of the competitive environment of modern enterprises force managers to look for new ways of managing enterprises. Furthermore, the diversity of the competitive environment requires the introduction of changes in the management processes of the company, which will enable building a competitive advantage and will allow for its sustainability. Therefore, the study raises the research question: how to create knowledge of the competitiveness of enterprises in the context of changes in management processes. The study presents the concept according to which the introduction of changes in management processes requires the creation of knowledge, which will enable distinguishing the company against its competitors. Therefore, the objective of the study has been the in-depth understanding of the creation of knowledge of the competitiveness of enterprises in the context of changes that can be introduced in management processes. Moreover, the publication deepens the understanding of the relationship between competitiveness factors determining the company's capabilities, its prospects, and the projection of changes in the environment. The research methods applied to accomplish the assumed objective are critical analysis of literature, a survey questionnaire carried out in 2022 and Pearson's correlation analysis. The empirical research was conducted on the basis of data obtained from one hundred enterprises from Poland. The conclusions from the research suggest that managers' attention ought to be focused on identifying the factors of competitiveness of enterprises that enable them to achieve a competitive advantage.

Keywords: Creating knowledge, Enterprise management

1. Introduction

The dynamics of the competitive environment of modern enterprises is a characteristic that constitutes changes in management processes. Therefore, ensuring the sustainability of the company's competitive advantage requires managers not only to have the ability to recognize market opportunities and threats, but also to identify factors that create knowledge of the competitiveness of enterprises, allowing for introducing changes in management processes to create new value. The proper selection of factors creating knowledge of the competitiveness of enterprises should correspond to changes in markets (Fischer, 2011), management trends, and technologies, as they determine the achievement and maintenance of competitive advantages (Bojar, Freitag-Mika 2008). Furthermore, the selection of factors that create knowledge of the competitiveness of enterprises requires the identification of customer needs satisfied by products manufactured, determination of groups of customers whose needs are satisfied, and indication the way to satisfy those needs, as well as determination of functions fulfilled by the enterprise in its activities undertaken with the intention of achieving market objectives.

Due to the fact that it is currently believed that the main challenge faced by management teams of companies is changes in management processes (Hamel, 2007), the research interest in this article focuses on identifying the factors for creating knowledge of the competitiveness of enterprises and the possibilities of introducing changes in management processes to implement the acquired knowledge (Borgatti, Everett, Freeman, 2002). The objective of this article is to fill the gap by deepening the understanding of creating knowledge of the competitiveness of enterprises in the context of changes that can be introduced in management processes (Torres, dos Santos Ferraz, Santos-Rodrigues, Matos, 2016). Additionally, the article develops the subject literature by seeking relationships between the factors for creating knowledge of competitiveness.

The key research question is: how to create knowledge of the competitiveness of enterprises in the context of changes in management processes? Based on the literature review, the factors for creating knowledge of the competitiveness of enterprises were identified, taking into account changes in management processes. To achieve the adopted objective and answer the formulated research question, the structure of the article consists of three main parts. In the first part of the article, the competitiveness of enterprises in terms of changes in management processes is presented. The second part of the article is the presentation of the research methodology used to achieve the research objective. In the third part, the results of the empirical research are presented and discussed, depicting some theoretical conclusions along with practical implications.

2. Competitiveness of Enterprises and Changes in Management Processes

Creating the competitiveness of companies enables distinguishing the company against its competitors and allows for sustainable functioning in variable market conditions. This means that the competitiveness of enterprises has strategic importance in the management process, as a properly developed strategy should enable the creation of a competitive advantage in the market, perceived as the company's operations that include all of its functional areas together with the entire value chain (Porter, 2003). Building a strategy based on the potential of competitiveness can be a source of a competitive advantage for the company if it considers the utilization of key resources and skills (Soo, Devinney, 2002).

Referring to management theory, it is important to emphasize that the concept of the competitiveness of companies has many definitions. In the subject literature, the competitiveness of enterprises combines certain product characteristics (packaging, advertising, delivery conditions) and key resources (financial, human, material, intellectual), (Nikolova, Rodionov, Afanaseyeva, 2017). The competitiveness of the company depends on its opportunities, as well as other enterprises competing in the market (Pralad, Krishnan, 2008). In the context of the competitiveness of enterprises (Cyfert Krzakiewicz 2016), the company's reputation is very important, which results from the brand, as well as knowledge acquired from relationships with customers and knowledge resulting from research in terms of services and products provided (Brandenburger, Nalebuff 1996). Companies seeking to stand out from competitors search for new sources of revenue, rationalize cost structure and improve products manufactured through changes in production technologies and accessibility for customers (Bumane, 2018). Competitiveness can be analyzed in terms of a company, product, industry, region, or country (Cherep, 2014).

The basis for obtaining benefits from the gained competitive advantage is the ability to generate increased value-added, associated with the transformation of the traditional value chain (Porter, 2000). M.E. Porter, the creator of the value chain, emphasized that it is an inherent part of the theory of competitive advantage (Porter 1979). He stated that the value chain is a general conceptual framework that allows for the consideration of any actions relevant to the company's activity from a strategic perspective. The concept of the value chain enables conducting the analysis of operating costs and evaluation of their significance in terms of the possibility of differentiation (Porter, 1990). M.E. Porter is known as the creator of the positioning school, but he also appreciated the importance of the resource-based school, writing that "actions are the essence of the company's functioning and determine the character of necessary resources and skills, and the selection of strategy determines whether individual resources and skills will be valuable for the company or not" (Porter, 2000). The concept of building a competitive advantage by M.E. Porter combines, on the one hand, the positioning theory of the strategic management school with the resource-based theory on the other hand (McGahan, Porter, 1997). The basis for building a competitive advantage is the crucial role of valuable actions and the value chain. According to M.E. Porter, the concept of building a competitive advantage harmoniously combines both theories because resources and competencies are the elements of concrete actions that are not detached from costs or value generated for the customer (Porter, Kramer, 2006).

A tool enabling changes in management processes in the conditions of market competition of enterprises is the business model. It presents the logic of the company's operations in a specific field, including a set of elements, factors, and relationships between them (Afuah, A. 2004). The business model can be treated as an advanced, contemporary form of the organizational model of enterprise management, which plays a key role in achieving the primary objective of every enterprise, which is to increase the value offered to the customer, which is to ensure that the company remains competitive (Afuah, Tucci, 2003). The business model articulates the value proposition, identifies market segments, defines value chain structures, calculates cost structures and potential revenue sources, describes the company's position in the value chain connecting the supplier (Stępień, 2022), the company, and customers, and formulates the competitive strategy that allows for retaining profits (Chesbrough, Rosenbloom 2002). To sum up, it should be noted that the definitions referred to are the result of the scientific discourse conducted by researchers in the field of management (Kramer, Porter 2011). Attempting to synthesize a multidimensional approach to creating knowledge of the competitiveness of enterprises in variable market conditions (Chluska, 2022), it can be indicated that the factors constituting changes in enterprise management processes emerge from the presented definitions, and these are:

- new sources of revenue (Osterwalder, Pigneur, 2010),
- cost structure rationalization (Morris, Schindehutte, Allen, 2005),
- changes in the set of key resources (Hamel, 2002),

- changes in customer relationships (Osterwalder, Pigneur, 2002),
- changes in the area of services provided (Casadesus-Masanell, Ricart, 2011).

The presented factors for creating knowledge of the competitiveness of enterprises, considered in the context of changes in management processes, constitute a spectrum of functions that new knowledge is to provide. Proposing the factors for creating knowledge of competitiveness serves as a starting point for conducting empirical research and becomes a conventional, abstract carrier of innovation about creating knowledge of the competitiveness of companies.

3. Research Methodology

The study of the phenomenon of creating knowledge of the competitiveness of enterprises in the context of changes possible to introduce in management processes, an extract of which is presented here, was conducted in 2022 as part of the author's own research. In the first stage of the study, based on the analysis of the literature, the most important conclusions of which are presented in the previous part of the article, the factors for creating knowledge of the competitiveness of companies were identified, taking into account changes in management processes. Based on this, a survey questionnaire was prepared to deepen the understanding of creating knowledge of the competitiveness of enterprises in the context of changes that can be introduced in management processes.

The second main part of the study was conducted using the CATI method (Hair, 2014) on a sample of 100 Polish companies running business in the Silesian Voivodeship. The choice of the region was determined by the fact of constant changes in its economic profile. The Silesian voivodeship is undergoing intensive transformation from a region once dominated by the mining industry to an area related to services and creative industries (Department of Regional Development 2022). Moreover, the requirement to achieve the objectives related to achieving climate neutrality goals causes that companies operating in the Silesian voivodeship choose a business activity model directed to innovation development and knowledge management. The population of the surveyed companies consists of micro, small and medium-sized private sector service companies with a European territorial scope of activity. The selection of the population was based on the assumption that micro, small and medium-sized private sector service companies undergo strong competition and cannot benefit from economies of scale, therefore they should create knowledge of competitiveness and introduce changes in management processes. The initial population accepted for the study included approximately 300 companies (micro, small, and medium-sized), and during the study, it was possible to reach 100 respondents from such companies.

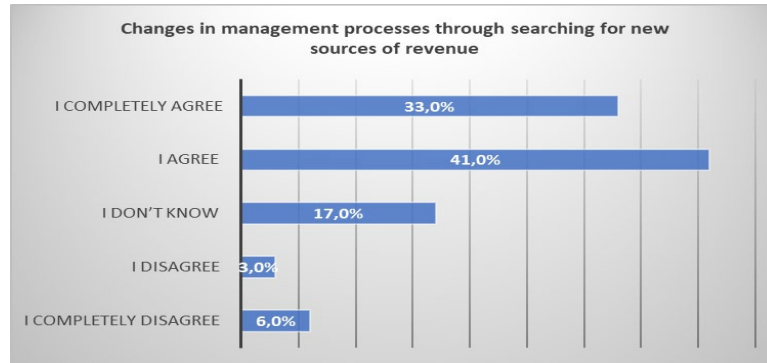
The research was conducted using a survey questionnaire. The respondents were the senior managers of the surveyed companies. The research tool was verified for reliability. The survey questionnaire used in the study covered five main issues of creating knowledge of the competitiveness of the surveyed companies in the context of changes in management processes: seeking new sources of revenue, cost structure rationalization, changes in the set of key resources, changes in customer relationships, and changes in the area of services provided. The statements describing the theoretically identified factors for creating knowledge of the competitiveness of the surveyed companies were rated by the respondents on a Likert scale, from 1 to 5, where the response of 1 indicated "I completely disagree" and 5 indicated "I completely agree" (Vogel, Koutsombogera, Costello, 2020).

To analyze the relationship between the factors for creating knowledge of the competitiveness of the surveyed companies, the linear Pearson correlation was applied in the second part of the study. The ranges of the strength and direction of the linear relationship in the conducted analysis were as follows: from 0 to 0.4 - weak relationship, from 0.4 to 0.6 - moderate relationship, from 0.6 to 0.9 - strong relationship, from 0.9 to 1.0 - very strong relationship (Sucheck, 2013). In the statistical analysis, the significance level of $p = 0.05$ was assumed. The analyses were performed using SPSS software.

This article focuses on deepening the understanding of creating knowledge of the competitiveness of enterprises in the context of changes possible to introduce in management processes. Therefore, in the subsequent part of the article, the attention will be focused on the identification of factors for the competitiveness of enterprises and the relationships between these factors, which should contribute to achieving a competitive advantage through the projection of changes in management processes.

4. Results of the conducted Empirical Research

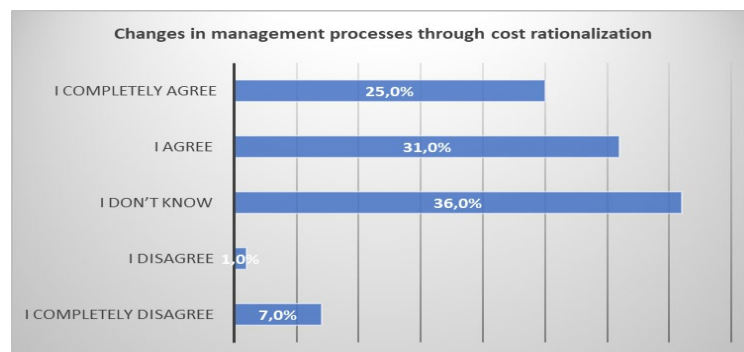
In the first stage of the research procedure, the factors for creating knowledge of competitiveness were identified and evaluated in the opinion of the respondents. Among the factors for creating knowledge of the competitiveness of the surveyed companies, the following were distinguished: searching for new sources of revenue, cost structure rationalization, changes in the set of key resources, changes in customer relationships, and changes in the area of services provided. Figure 1 shows new sources of revenue as the factors for creating knowledge of the competitiveness of the surveyed companies.



Source: Own study.

Figure 1: Searching for new Sources of Revenue as a Factor for Creating Knowledge of the Competitiveness of Enterprises

According to Figure 1, as much as 74% of the respondents declared that they completely agreed or agreed with the statement that their company introduces changes in management processes to seek new sources of revenue. Therefore, it can be concluded that the surveyed companies aim at expanding their knowledge of new sources of revenue of the conducted activity through offering new products and services, which may result in increased competitiveness. In turn, 17% of the respondents declared that they did not know whether their company searched for new sources of revenue, which may indicate the lack of the respondents' interest in expanding their offer. Additionally, 9% of the respondents completely disagreed or disagreed that their company searched for new sources of revenue. The presented research indicates that the vast majority of the respondents are interested in seeking new sources of revenue in their activities, which suggests that this is an important factor for creating knowledge of the competitiveness of the surveyed companies. Figure 2 presents cost structure rationalization as the factor for creating knowledge of the competitiveness of the surveyed companies.

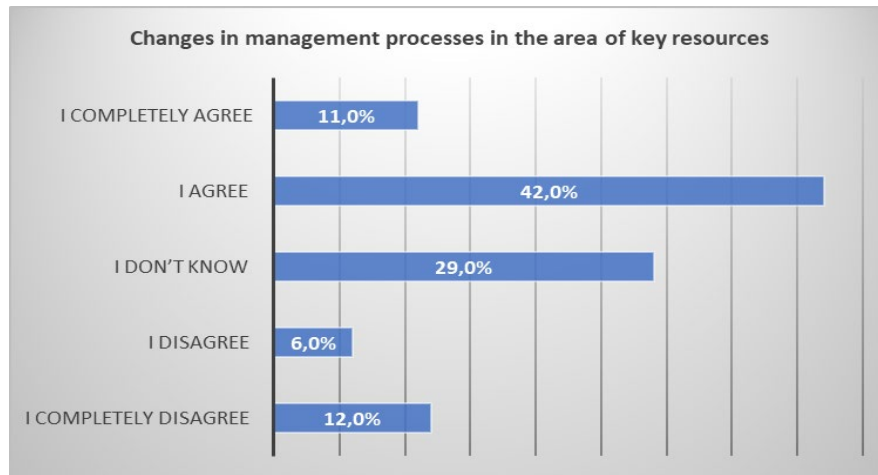


Source: Own study.

Figure 2: Cost rationalization as a Factor for Creating Knowledge of the Competitiveness Of Enterprise

According to the obtained research presented in Figure 2, 56% of the respondents declared that, in their companies, there were introduced changes in management processes through cost structure rationalization. This may suggest that these companies strive to reduce costs by identifying the areas of potential changes. In turn, 36% of the respondents do not have knowledge of cost structure rationalization in their company. Additionally, 8% of the respondents completely disagree or disagree that cost rationalization occurs in their company. The obtained results suggest that introducing changes in management processes in terms of cost structure rationalization is an important factor for creating knowledge of the competitiveness of the surveyed companies for the majority of the respondents. It informs how cost reduction affects the financial result and

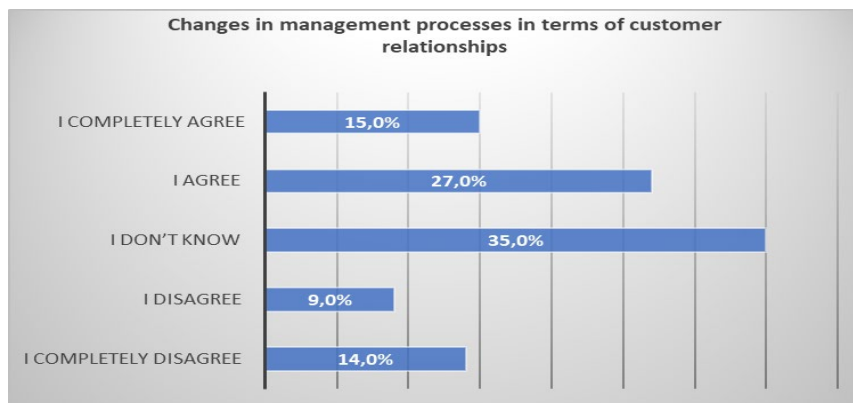
efficiency of the conducted activity. Figure 3 presents key resources as a factor for creating knowledge of the competitiveness of the surveyed companies.



Source: Own study.

Figure 3: The set of key Resources as a Factor for Creating Knowledge of the Competitiveness of Enterprises

Based on Figure 3, it can be concluded that 53% of the respondents declared that they completely agreed or agreed with the statement that their companies introduced changes in management processes in the set of key resources. In the surveyed companies, operating in the competitive environment, it is important to carefully utilize the resources possessed. Therefore, making changes to the set of key resources is an important factor for creating knowledge of the competitiveness of the surveyed companies. In turn, 29% of the respondents stated that they did not know whether changes were made to the set of key resources. Additionally, 18% of the respondents declared that they completely disagreed or disagreed with the above statement, which may indicate that, in these companies, no changes are made to the set of key resources in search for an increase in competitiveness. Figure 4 presents changes in customer relationships as a factor for creating knowledge of the competitiveness of the surveyed companies.

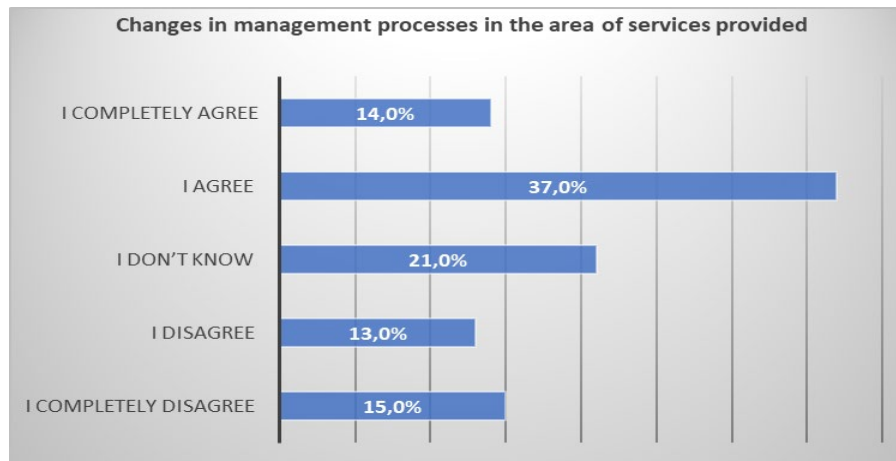


Source: Own study

Figure 4: Customer Relationships as a Factor for Creating Knowledge of the Competitiveness of Enterprises

Based on the research results presented in Figure 4, it can be concluded that 42% of the respondents declared that they completely agreed or agreed with the statement that their company implemented changes in management processes in terms of customer relationships. This may indicate that, in these companies, changes in the area of customer relationships, may translate into gaining and maintaining a competitive advantage in the market, making changes in this area an important factor for creating knowledge of the competitiveness of the surveyed enterprises. It should be noted that 35% of the respondents declared "I don't know", so it is possible that the respondents are not focused on changes in customer relationships. In turn, 23% of the respondents disagreed or completely disagreed with the statement that, in their companies, there were changes in customer relationships. This may be due to the stability of customer relationships, without

the need for changes in the relationships. Figure 5 presents changes in the area of services provided as a factor for creating knowledge of the competitiveness of the surveyed enterprises.



Source: Own study.

Figure 5: Changes in the area of Services Provided as a Factor for Creating Knowledge of the Competitiveness of Enterprises

The results presented in Figure 5 indicate that 51% of the respondents declared that they completely agreed or agreed with the statement that their company implemented changes in management processes in the area of services provided. This may mean that these companies modify their services by introducing a wider package of additional services within the basic service, which positively affects their level of competitiveness, thus constituting a factor for creating knowledge of competitiveness. From the opinions of 21% of the respondents, it can be concluded that they do not know whether changes in the area of services provided are made in their company, which may indicate that this group of the respondents lacks knowledge on this subject. In turn, 28% of the respondents declared that there were no changes in the area of service provision in their company.

In the second stage of the research procedure, the relationships between the factors for creating knowledge of the competitiveness of the surveyed enterprises were examined. This should contribute to a deeper understanding of the creation of knowledge of competitiveness in the context of changes that can be introduced in management processes. When examining the factors for creating knowledge of the competitiveness of the surveyed enterprises, the strength and direction of the linear relationship between the input variables were examined in the second part of the research procedure. The investigated relationships were additionally confirmed by a significance test (at the level of $\alpha = 0.05$).

As shown in Figure 6, in the case of the companies examined, there is a strong positive relationship between introducing changes in management processes through changes in customer relationships and changes in the area of provided services (0.74). The surveyed companies make changes in customer relationships by introducing a package of additional services enabling an improvement in their competitiveness. Additionally, positive changes in customer relationships may bring favorable effects in the form of loyal customers and acquiring new ones. Furthermore, introducing changes in the area of services provided should contribute to an increase in the company's revenues, which can translate into a higher financial result.

Cost structure rationalization	0.50
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Changes in the set of key resources	0.44	0.53		
Changes in customer relationships	0.43	0.35	0.63	
Changes in the area of service provided	0.45	0.35	0.66	0.74
	New sources of revenue	Cost structure rationalization	Changes in the set of key resources	Changes in customer relationships

Source: Own study.

Figure 6: Matrix of the Correlation of Factors for Creating Knowledge of the Competitiveness of Enterprises

When examining the relationships between introducing changes in management processes through changes in the set of key resources and in the area of services provided, a strong positive relationship (0.66) is observed. Companies, which introduce changes in the set of key resources, are more attractive to potential customers. Additionally, companies that make changes in the area of services provided stand out in the market, which has a positive effect on the process of building the competitiveness of the surveyed companies. Customers are more willing to use the services of companies which offer them a wider range of services compared to their competitors. The results of the research obtained using the Pearson correlation matrix show that, in the case of the surveyed companies, there is a strong positive relationship between introducing changes in management processes through implementing changes in the set of key resources and introducing changes in customer relationships (0.63). This may mean that the examined companies are interested in knowledge of the competitiveness of enterprises and introduce changes in the set of key resources to improve customer relationships. This is another action that makes the examined companies more attractive to their customers. A moderate positive relationship is observed between introducing changes in management processes through changes in the set of key resources and changes in cost structure rationalization (0.53). It follows that the examined companies are interested in changes in the set of key resources so as to enable the rationalization of operating costs, which is favorable for building a competitive advantage.

In the case of the surveyed companies, there is a moderate positive relationship between changes in management processes in terms of cost structure rationalization and seeking new sources of revenue (0.50). This may mean that the examined companies, when rationalizing costs, are oriented to new customers who will generate new sources of revenue, which are a chance to increase the competitiveness of enterprises.

Based on the results presented in Figure 7, it can be concluded that, in the case of the studied companies, there is a moderate positive relationship between introducing changes in management processes through seeking new sources of revenue and changes in the area of services provided (0.45), changes in the set of key resources (0.44), and changes in customer relationships (0.43). The source of new revenue for companies operating in the competitive market can be changes introduced in the area of services provided, implemented through changing the configuration of the key resources, which should translate into the emergence of relationships with new customers.

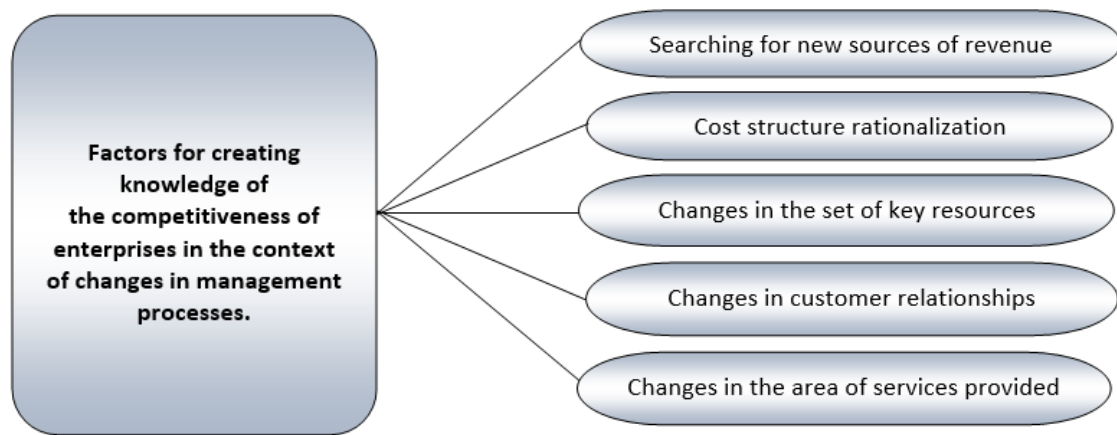
On the basis of the obtained results, it can be stated that there is a weak positive relationship between introducing changes in management processes through cost structure rationalization and changes in customer relationships (0.35) and changes in the area of services provided. This may mean that the studied companies rationalize cost structure, but the quality of customer relationships and provided services is crucial in the process of gaining and maintaining a competitive advantage, which is mainly reflected in the achieved sales revenue and not in cost reduction.

Summing up the results of the research procedure regarding the study of relationships between the factors for creating knowledge of the competitiveness of enterprises, it should be pinpointed that all the relationships

show a positive correlation. This may be due to the fact that the surveyed companies are aware of the potential of knowledge they possess and use opportunities to build their competitiveness.

5. Discussion

The knowledge of the factors that trigger changes in management processes determines the building of the competitiveness of the surveyed companies. Seeking new sources of revenue, cost structure rationalization, and changes in the set of key resources, provided services, and customer relationships (Figure 7) are the factors that trigger changes in management processes due to changes in the environment of the examined companies. Their task is to coordinate actions focused on recognizing customer preferences, acquiring, and retaining them, which allows for building competitiveness by the studied companies. This means that the examined entities build a competitive advantage by considering changes aimed at rapid adaptation to new conditions and are willing to notice positive aspects in their business activities, which contribute to their competitiveness.



Source: Own study.

Figure 7: Summary of Factors Creating Knowledge of the Competitiveness of Companies in the Context of Changes in Management Processes

It is worth noting that the strong positive relationship between changes in the area of services provided and changes in the set of key resources, as well as introducing changes in customer relationships, is a response to the question of how to create knowledge of the competitiveness of companies in the context of changes in management processes. This confirms the previously adopted assumption of the occurrence of the relationship between the examined variables. Furthermore, in the case of the set of key resources and changes in customer relationships, the observed relationships may indicate an increase in awareness among the management staff of the studied companies regarding the potential which is associated with possessing knowledge.

In this context, some new aspects of "meta" factors in management processes emerge, such as: focus on employees, implementation of models for exploiting internal and external sources of knowledge, and flexibility and agility of response to changes in the environment. By creating knowledge about competitiveness in the context of changes in management processes, enterprises should redefine their relations with employees. Employees should not be reduced to the level of the company's resources, since they bring not only knowledge, but also experience, both to and from customers. Moreover, as part of Future-of-Work, relations with employees in the long term become a generator of the company's competitive advantage, built through their work potential and knowledge. This leads to the conclusion that the further direction of research should aim at explaining what role the staff will play in value creation processes in the situation of rapid development of Artificial Intelligence. Research in the field of management science should take into account interrelationships between the acquisition and use of employee knowledge and its processing and transformation by AI into valuable results.

To sum up the above considerations, it can be assumed that the identification of factors that create knowledge of the competitiveness of the studied companies in the context of changes in management processes enables gaining and maintaining a competitive advantage.

6. Conclusions and Summary

When concluding the considerations presented in this paper, it is worth emphasizing that the factors for creating knowledge of the competitiveness of companies should secure the sustainability of a competitive advantage. However, the identification of factors that create knowledge of competitiveness requires taking into account current and future sources of revenue, which are generated due to key resources offered to customers, as well as a competitive approach to the market, which, combined with appropriate cost structure, provides new value to the customer. The considerations presented in this study allow for confirming the assumption of the research objective related to the in-depth understanding of creating knowledge of the competitiveness of companies in the context of changes possible to introduce in management processes. The conducted literature review and empirical research results allowed the formulation of the following conclusions:

- the object of the analysis in terms of creating knowledge of the competitiveness of companies is the identification of factors that determine the introduction of changes in management processes to increase a competitive advantage.
- understanding the factors for creating knowledge of the competitiveness of enterprises becomes a manifestation of strategic behavior of companies, enabling them the achievement and maintenance of a competitive advantage.

This paper supports the current view that there is no single universal model for creating knowledge of the competitiveness of companies. Moreover, the multifaceted nature of the issue of creating knowledge of the competitiveness of enterprises and interdisciplinary character of the considerations create the premises for shaping the factors for creating knowledge of the competitiveness of companies in generating new knowledge necessary for decision-making by the management staff of modern enterprises.

The further direction of research in this area should take into account the new perspectives of enterprise management processes under Future-of-Work, by redefining relations with employees in the context of the development of Artificial Intelligence

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