

## FACTORS SUPPORTING THE DEVELOPMENT OF AN AGILE ORGANIZATION

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**Purpose:** The aim of the article is to identify key factors supporting the development of agile organizations, with particular emphasis on investments in modern technologies, process innovations and employee development opportunities.

**Design/methodology/approach:** The research is based on literature analysis and a survey conducted on a sample of 312 respondents. The data collected in the study were subjected to statistical analysis, including the calculation of correlations between key factors, which allowed for the identification of mutual dependencies.

**Findings:** The research results showed that investing in modern technologies and process innovations have the strongest impact on the agility of the organization. A significant correlation was also identified between the development opportunities of employees and the operational flexibility of the organization, which emphasizes the importance of investing in the development of team competences.

**Research limitations/implications:** The article provides practical guidance for managers and decision-makers, showing which areas of investment and action can significantly contribute to the growth of the organization's flexibility and effectiveness. The results can serve as a basis for making decisions on resource allocation in organizations striving for agility.

**Social implications:** The development of agile organizations improves working conditions, increases employee engagement and supports their competence development. An agile approach promotes open communication and cooperation, which positively affects job satisfaction and adaptation to changing market conditions.

**Originality/value:** The article contributes to the literature on agile organizations by combining theoretical considerations with empirical results that reveal specific relationships between key factors supporting agility.

**Keywords:** agile organization, modern technologies, innovations, employees, organization.

**Category of the paper:** research paper.

## **1. Introduction**

Modern organizations operate in a dynamically changing environment that requires them to constantly improve and be flexible. In these conditions, agility becomes one of the key elements ensuring effectiveness and competitiveness on the market (Abdmouleh, Alammari, Gastli, 2015). Organizations must not only respond to changes in the environment, but also actively adapt their structures, processes, and resources to meet new challenges. The development of agile organizations is therefore becoming an important research topic, because it is agility that allows organizations to quickly adapt to changing market conditions, as well as introduce innovations that become a key element of competitive advantage (Jones, Adam, 2023).

Taking up this topic is also justified by the growing importance of modern technologies, which directly affect the formation of an organization's agility. Investments in information technologies and innovative management processes play a significant role in improving the efficiency of an organization's operations and in building operational flexibility (Akkaya, 2021). It is also important to understand how these factors interpenetrate and how they can jointly support the development of organizational agility (Felipe, Leander, Roldan, Leal-Rodriguez, 2020).

Organizational agility is therefore becoming a necessary element of survival and development of organizations in today's highly competitive business environment. Research on which factors have a key impact on the development of agile organizations allows for a better understanding of how organizations can transform to better respond to market needs and develop dynamically.

## **2. Literature Review**

### **2.1. The essence and functioning of an agile organization**

An agile organization is characterized by its ability to quickly adapt to changing market conditions and customer requirements, which allows it to achieve better results in a dynamic environment. A key feature of such an organization is flexibility, which is reflected in the organizational structure, decision-making processes, and the way teams are managed. Instead of a rigid hierarchy, flat structures are preferred here, which enable quick decision-making and streamline the flow of information. In this way, unnecessary bureaucratic barriers are eliminated, which in traditional organizations can delay reactions to change (Luthra, Kumar, Kharb, Ansari, Shimmi, 2015).

Organizational agility is based on the principles of self-organization of teams that operate autonomously and are strongly goal-oriented (Borowski, 2021). This work model allows for more effective problem-solving because employees, being closer to specific tasks and projects, demonstrate a better understanding of challenges and can make decisions on an ongoing basis (Bukowska, 2023). These teams work in short cycles, which allows for regular delivery of value to the customer and quick implementation of corrections based on the feedback received. The iterative nature of work allows for continuous improvement of products and services, which is crucial in agile organizations (McNamee, Schoch, Oelschlaeger, Huskey, 2012).

Another important element of an agile organization is the culture of open communication and collaboration (Kurnia, Chien, 2020). It promotes an approach in which all team members have the opportunity to contribute their ideas and suggestions, which increases their engagement and motivation (Erdil, 2014). Another important aspect is the willingness to experiment and take risks, which allows the organization to quickly test new solutions and technologies without fear of failure (Bray et al., 2019). Therefore, agile organizations often use the "fail fast" approach, which allows for the quick detection of possible errors and their immediate correction (Harraf, Wanasika, Tate, Talbott, 2015).

The ability to learn organizationally is also important. Agile organizations attach great importance to the continuous improvement of employee competences and the introduction of innovations in processes (Doz, Kosonen, 2008). This creates a culture of development in which employees are constantly encouraged to improve their skills and share knowledge. Thanks to this, these organizations are able to quickly respond to new challenges, while maintaining a high level of competitiveness on the market (Joiner, 2019).

An agile organization also focuses on delivering value to the customer. This means that all activities and processes are designed to best meet the needs of customers (Brown, Jones, 2018). The customer is the focal point, and their satisfaction is the main measure of the organization's success. Regularly collecting customer feedback and taking it into account in decision-making processes allows for faster adjustment of the offer to their expectations (Rut, Meyer, Andrzejczyk, 2022).

In conclusion, the functioning of an agile organization is based on flexibility, decentralization of decision-making processes, self-organization of teams and continuous improvement and innovation. The key element is customer orientation, quick response to changes and continuous improvement of internal processes and employee competences. Such an organization, thanks to its agility, is able to effectively compete in a rapidly changing business environment.

## **2.2. Investments in modern information technologies as a determinant of an agile organization**

Investments in modern information technologies play a key role in shaping the agility of an organization, becoming one of the main determinants of its success in a dynamically

changing market environment. Modern organizations that strive for agility increasingly focus on implementing advanced IT tools, because they enable not only the optimization of processes, but also the acceleration of decision-making and increased efficiency of operations (Luo, Ren, Cao, Hong, 2020).

Modern IT technologies, such as ERP systems, CRM, project management platforms, and cloud solutions, allow organizations to better control and manage resources and monitor key performance indicators in real time (He, Harris, 2021). The use of such tools allows for a quick response to market changes, which is crucial for maintaining a competitive advantage. Organizations that invest in innovative technologies gain the ability to analyze data more precisely, which allows for better prediction of market trends and making better business decisions (Sherehiy, Karwowski, 2017).

These technologies also support collaboration between teams, enabling the integration of different departments of the organization and improving the flow of information. Teamwork platforms, such as internal and remote communication tools, allow for ongoing contact between team members regardless of their location (Cappelli, Tavis, 2018). Thanks to this, agile organizations can function effectively even in hybrid or completely remote models, which significantly increases their flexibility. Additionally, modern systems support the automation of many operational processes, eliminating manual and time-consuming tasks, which allows teams to focus on more strategic activities (Sedej, Justinek, 2021).

It is also worth noting that investments in IT technologies contribute to improving knowledge management in an organization. Data and documentation management systems enable effective collection, storage, and sharing of knowledge, which is particularly important in agile organizations that must quickly respond to changing conditions and develop new competencies (Capgemini, 2024). Thanks to such tools, organizations gain easy access to key information, which speeds up the decision-making process and increases the ability to quickly introduce innovations (Seifollahi, Shirazian, 2021).

One of the most important aspects of IT investments is also their impact on increasing operational flexibility. Technologies such as cloud computing, artificial intelligence (AI) or business process automation (RPA) allow organizations to quickly scale their operations depending on market needs. Instead of investing in expensive infrastructure, agile organizations can dynamically adjust their resources in response to growing or decreasing demand. An example of this is cloud solutions that enable flexible use of computing power and disk space depending on current needs, which reduces costs and increases efficiency (Rahimi, Mansouri, 2019).

Investing in modern IT technologies not only improves the operational efficiency of an organization, but also supports innovation. Organizations that implement advanced technologies have greater opportunities to experiment with new solutions and test prototypes or new products faster. These technologies also enable the collection and analysis of customer and market data, which allows for the creation of more personalized and tailored offers, as well as better response to changes in consumer behavior.

### **2.3. Factors determining the development of an agile organization**

The development of an agile organization depends on many interconnected factors that support flexibility and the ability to quickly adapt to a changing business environment. Investments in modern technologies, process innovations, as well as opportunities to develop and improve employee competences are of key importance here. These elements, when combined, create a complex network of activities that directly affect the organization's ability to function effectively and respond to changing market conditions (Seifollahi, Shirazian, 2021).

One of the most important factors supporting the development of an agile organization is investing in modern technologies. They enable the organization not only to streamline current processes, but also to introduce new, innovative solutions that can contribute to improving operational efficiency (Fiddler, 2017). Modern technologies support process automation, data analysis and improve communication, which has a direct impact on the organization's speed of response to changing conditions. The use of technology allows for better integration of processes and resources, which in turn enables more effective change management (Prieto, Talukder, 2023).

Another important factor determining the agility of an organization is the innovativeness of implemented processes. The introduction of innovative methods of work, project management or organizing teams allows for a faster response to market needs and a better adjustment of the offer to customer expectations (Liu, 2024). Organizations that effectively introduce process innovations are able to maintain competitiveness and increase their ability to create value. Organizational agility requires continuous improvement of processes and searching for new solutions that can accelerate the achievement of business goals (Munodawafa, Johl, 2019).

Tools based on modern technologies are another important element influencing the development of an agile organization (Alshehhi, Nobanee, Khare, 2018). The use of advanced technological solutions, such as artificial intelligence, analytical systems or platforms supporting team collaboration, allows organizations to make decisions faster and better coordinate activities. Thanks to these tools, it is also possible to better use resources and optimize operational processes, which directly affects the increase in the efficiency and flexibility of the organization (Masoud, Basahel, 2023).

Development opportunities offered to employees are another key factor determining an organization's agility. Employees who have the opportunity to develop and improve their skills are more engaged and better prepared to face new challenges (Mycka, 2023). Agile organizations attach great importance to building cultures that support professional development, which translates into the ability to better adapt to change. Providing employees with access to training, mentoring, or development programs allows them to increase their competences, which in turn affects the increase in the organization's innovation and effectiveness (Lambri, Sironi, Teti, 2024).

An equally important factor is the ability of employees to improve their skills (Attar, Almusharraf, Alfawaz, Hajli, 2022). Organizations that enable systematic improvement of their teams' skills gain greater flexibility in response to new market challenges. Continuous improvement of skills allows for better use of new technologies and process innovations, which in turn contributes to increasing the organization's ability to adapt and develop (Adan, Fuerst, 2016). As a result, employees are better prepared to cope with dynamic changes in the environment and perform tasks that support the long-term development of the organization faster and more effectively (Deloitte, 2024).

Certainly, investments in technology, process innovations, the use of modern tools, development opportunities and improving competences – create the foundation on which organizational agility is based. Their synergistic impact allows organizations to better adapt to changes, increase operational efficiency and achieve their business goals faster.

#### **2.4. Research Methodology**

The aim of the conducted research was to determine which factors have a key impact on the development of an agile organization. The study aimed to identify which elements, such as investing in modern technologies, process innovations, the use of tools based on modern technologies, development opportunities and the possibility of improving competences, play the most important role in building organizational flexibility. The research hypothesis assumed that the development of an agile organization is directly dependent on the synergy of these key factors. It was examined to what extent these factors are interconnected and how their mutual relations can support the flexibility and effectiveness of the organization.

The research method used in this project was a survey conducted between April and June 2024 on a sample of 312 respondents. This study allowed for collecting opinions on the perception of the impact of individual factors on the development of the organization. Based on the obtained data, correlation coefficients were calculated to determine the strength of the relationships between individual factors. The calculation of correlations was aimed at identifying which of these factors support each other and how their synergistic effect can contribute to increasing the agility of the organization. These correlations also helped to analyze whether some of the aspects studied are more crucial than others and how strongly they interact with each other, creating a system supporting the development of an agile organization.

During the research, sociodemographic data were obtained on the surveyed enterprises. Among the dominant types of activity, the largest percentage, as much as 65.1%, were service enterprises, while 25.6% of companies conducted commercial activities, and only 9.3% were engaged in production. In terms of the number of employees, the largest group (23.1%) were enterprises employing from 0 to 9 people. Companies employing from 10 to 49 employees constituted 20.5%, while companies employing from 50 to 249 people constituted 15.7%. Enterprises with the number of employees from 250 to 999 people comprised 21.8%, and companies employing more than 1000 people constituted 18.9%.

In terms of scope of operations, the largest number of companies, 36.2%, operated internationally. 30.4% of companies operated nationally, while 21.5% of companies operated locally. Regional scope covered 11.9% of surveyed companies. In terms of education level, 57.1% of respondents had a higher education, 9.3% had a higher vocational education, and 33.7% had a secondary education. In terms of age, the largest group of respondents, 48.4%, were between 20 and 30 years old. 12.8% of survey participants were between 31 and 40 years old, while 21.2% were between 41 and 50 years old. Respondents aged 51 to 60 made up 10.9%, and the oldest group, over 60, numbered 6.7%.

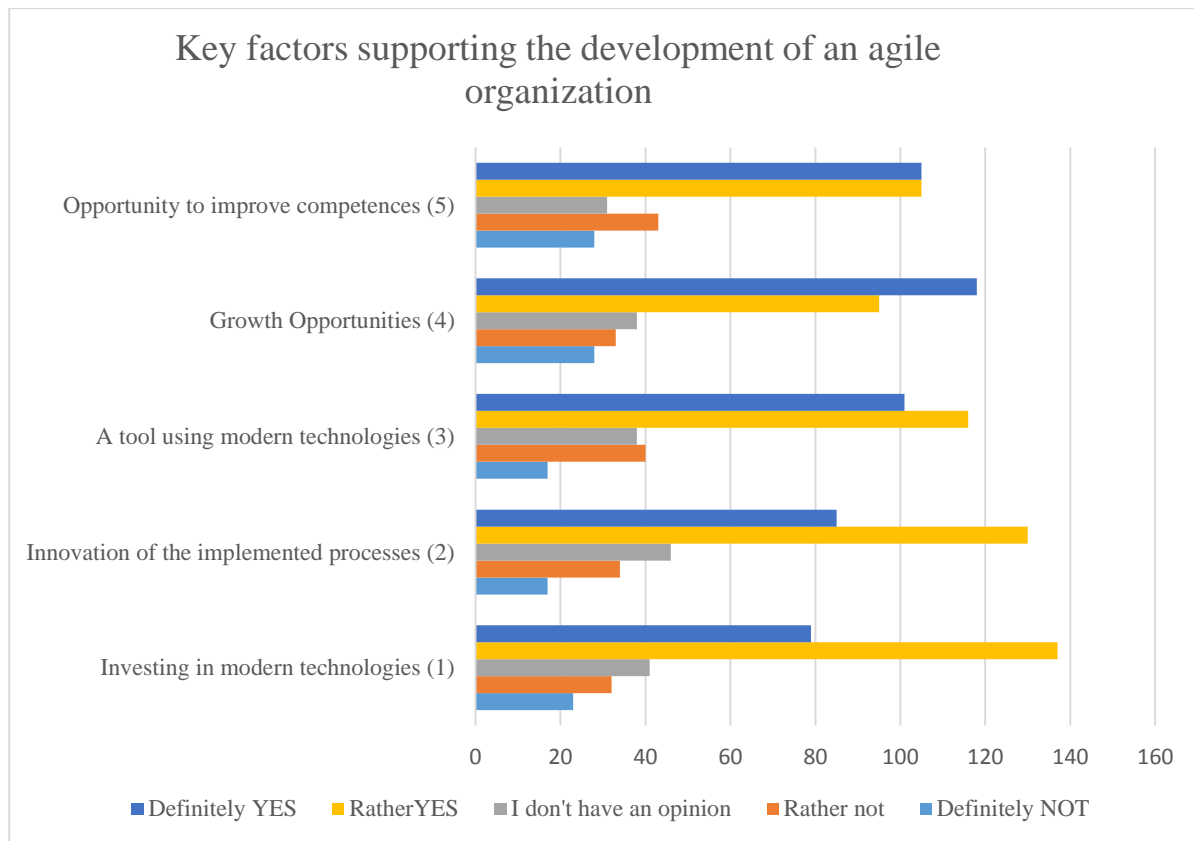
## **2.5. Presentation of Research Findings**

The research aimed to determine what factors influence the development of an agile organization by analyzing five key areas, the results of which are presented in Figure 1. The first of these areas is investing in modern technologies. In this category, 23 people stated that it definitely does not influence on the development of the organization, 32 people rather disagreed with this, and 41 respondents had no opinion. In turn, 137 people believed that investing in modern technologies rather favors development, and 79 people expressed strong support for this factor.

The next factor examined was the innovation of implemented processes. The results showed that 17 respondents definitely did not consider it a key element, 34 people rather disagreed, and 46 people remained indifferent. In this category, 130 respondents considered that process innovations rather support the development of the organization, while 85 people strongly confirmed it. The third analyzed category was the use of tools based on modern technologies. In this group, 17 people expressed a strong negative position, 40 people rather disagreed, and 38 people had no opinion. In turn, 116 respondents considered that such tools rather support development, and 101 people were definitely in favor of this.

Development opportunities in the organization were the fourth aspect examined. The results showed that 28 respondents definitely did not see this factor as having a significant impact on development, 33 people rather disagreed, and 38 people had no opinion. On the other hand, 95 respondents considered that development opportunities rather support the development of the organization, and 118 people were definitely convinced of their positive impact.

The last factor analyzed was the possibility of improving competences. In this category, 28 people expressed a strong negative position, 43 people rather disagreed, and 31 people had no opinion. In turn, 105 respondents considered that the possibility of improving competences rather favors the development of the organization, and the same number of people, i.e. 105, expressed strong support for this factor.



**Figure 1.** Key factors supporting the development of an agile organization.

Source: Own study based on research.

Table 2 presents a matrix of correlations between key factors supporting the development of an agile organization, which are presented in Figure 1. Each of the five factors: investment in modern technologies, process innovations, tools using modern technologies, development opportunities and the opportunity to improve competences, was compared in terms of correlation with the others. The highest correlation (0.99) can be seen between process innovations (2) and investment in modern technologies (1), which suggests that these two factors are closely related - organizations that invest in modern technologies often introduce innovations in their processes at the same time. This correlation may also mean that respondents perceive these two aspects as mutually supporting each other in the development of an agile organization.

An equally high correlation (0.98) was observed between the possibility of improving competences (5) and tools using modern technologies (3). This means that the ability of an organization to support the development of employee competences may be closely linked to the introduction of modern technologies in everyday work, which in turn has an impact on increasing the efficiency and flexibility of the organization. High correlations (above 0.9) are also visible between process innovations (2) and tools based on modern technologies (3) and the possibility of improving competences (5). This indicates that these three factors are strongly related and jointly affect the agility of the organization.



Slightly lower, but still strong correlations (from 0.79 to 0.96) were observed for the relationship between development opportunities (4) and the remaining factors. This may indicate that, although development opportunities are an important factor, they are less dependent on other technological and innovation aspects.

**Table 2.**  
*Correlation Table*

	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1	1				
2	0.99	1			
3	0.93	0.96	1		
4	0.79	0.83	0.93	1	
5	0.88	0.90	0.98	0.96	1

Source: Own study based on research.

Figure 2 shows that all factors show strong correlations between each other, suggesting that organizational agility is the result of a comprehensive approach that combines both technological and developmental aspects. It is worth noting, however, that these correlations are not perfect (they are not 1), indicating that each factor also has its specific role and they are not completely interchangeable.

### 3. Discussion

Based on the conducted research, a number of conclusions can be drawn that shed light on key factors influencing the development of an agile organization. The results clearly indicate that investing in modern technologies plays a significant role in building the flexibility of an organization. It is precisely technologies that largely support process innovations that are the foundation that allows companies to quickly adapt to changing market conditions and growing customer requirements. Organizations that decide to implement modern technologies demonstrate a greater ability to introduce innovations in their processes, which in turn increases their competitiveness and operational efficiency.

The second important factor is process innovation, which not only affects the development itself, but also supports other aspects of the organization's functioning. Enterprises that introduce changes to their processes are more open to adopting modern technological solutions, which allows them to better manage resources and increase efficiency. The introduction of process innovations becomes crucial in the context of the organization's agility, as it allows for faster adaptation to the dynamically changing market environment.

An important element influencing the development of an agile organization is also the use of tools based on modern technologies. These tools are perceived as significant support in everyday operational activities, as well as a factor increasing the organization's ability to

respond quickly to changes. These tools support employees in performing their duties more effectively, which translates into the overall flexibility of the organization. In addition, their use promotes better use of human potential, enabling the improvement of competences and professional development. Development opportunities within the organization have been identified as an important factor supporting its agility. Enterprises that provide employees with opportunities for development, including the improvement of their qualifications, are able to adapt to changes more effectively, which leads to an increase in their flexibility. In turn, the development of employee competences promotes better adaptation to modern technological tools and process innovations, which synergistically supports the development of the entire organization.

Correlations between individual factors indicate the existence of strong links between technological, process and development aspects of the organization's activity. This means that the development of an agile organization is not the result of the isolated action of one factor, but the effect of an integrated approach that includes both investments in modern technologies and the development of employee competences and process innovations. Each of these factors reinforces the action of the others, creating a complex mechanism that supports the flexibility of the organization and allows for a quick response to changing market conditions. Nevertheless, despite strong correlations between the areas studied, each of these factors has its own specific role and cannot be treated as completely interchangeable. This means that success in building an agile organization depends on a balanced approach, in which each element - technological, process and human - must be properly developed and integrated with the others. Otherwise, the organization may encounter difficulties in maintaining its agility, which may lead to a decrease in efficiency and competitiveness.

In summary, research confirms that a key factor in building organizational agility is a comprehensive approach encompassing investments in modern technologies, introducing process innovations, and providing employees with development opportunities. The strong links between these elements indicate the need for an integrated development strategy that allows organizations not only to operate effectively, but also to adapt to dynamic changes in the market environment.

Based on the research and conclusions, several important recommendations can be formulated for companies striving to increase their agility. First of all, it is crucial to regularly invest in modern technologies. These technologies not only support process innovations, but also enable faster adaptation to changing market conditions. Investing in technology should be considered not as a one-time action, but as a permanent element of the development strategy, integrating with other processes in the organization.

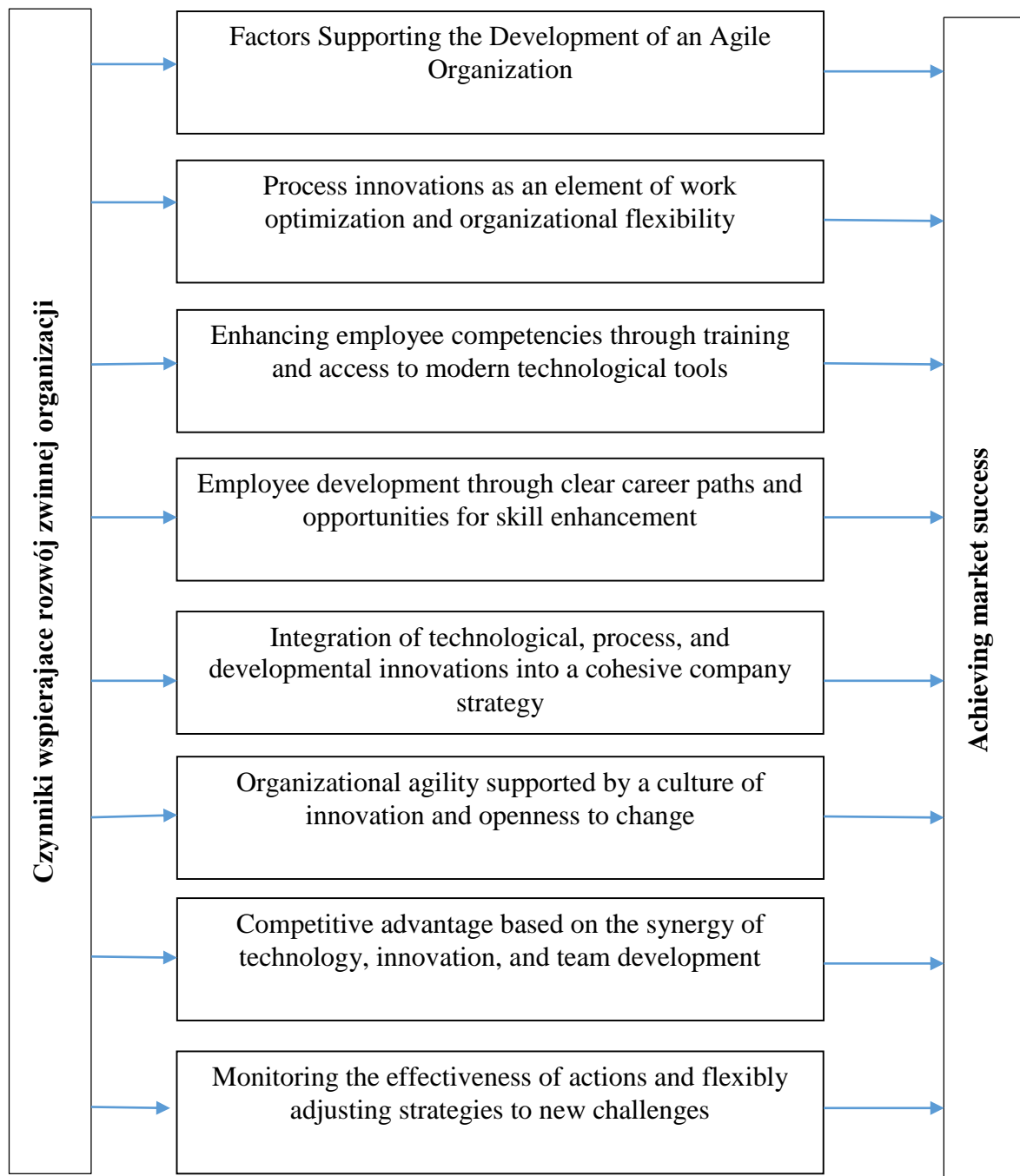
It is also worth putting a lot of emphasis on innovation in processes. Introducing changes in the way a company operates, improving procedures and eliminating outdated methods of operation allows organizations to optimize work and be more flexible in the face of challenges. These innovations should be part of the organizational culture, supported by appropriate technological tools and employees' openness to change.

One of the priorities should also be the constant improvement of employee competences. Companies should actively support the development of their teams through training programs, workshops and access to modern technological tools that will facilitate everyday work. The development of competences is closely related to the introduction of modern technologies - employees should have the opportunity to acquire new skills in areas related to technological innovations, which increases their efficiency and allows for better use of available tools.

Organizations must also create an environment that supports employees' continuous development, offering clear career paths and opportunities to improve their skills. This is not only beneficial for the employees themselves, but also for the company, because employees who develop their skills are more engaged and better prepared to support the agility of the organization.

An integrated approach that combines all these elements into a coherent strategy is extremely important. The company should strive to harmoniously combine process, technological and development innovations to create a strong foundation for its agility. Only through coordinated actions can long-term effects be achieved that will allow the company to better respond to changing market requirements and maintain its competitiveness.

Focusing on the cooperation of technology, process innovation and employee competence development creates a competitive advantage, which is crucial in a dynamically changing business environment. In order to fully use the potential resulting from these activities, it is necessary to regularly monitor their effectiveness and flexibly adapt the strategy to new challenges and opportunities. The mutual interactions between factors supporting the development of an agile organization and achieving market success are presented in Figure 2.



**Figure 2.** Model of interaction between factors supporting the development of an agile organization and achieving market success.

Source: Own study.

## 4. Conclusions

It is worth comparing the research results presented in this article with the research results of other researchers. The presented studies indicate that investments in modern technologies have a strong impact on the agility of the organization, which is also confirmed by the works of Sherehiy and Karwowski (2017), who emphasize that technologies such as ERP or CRM systems increase operational flexibility through process optimization. Similarly to this article, Sherehiy and Karwowski show that these technologies support better data and resource management.

In turn, process innovations, which according to the studies discussed in this article are of significant importance for organizational agility, have been widely discussed by Luthra et al. (2015), who point to the elimination of bureaucratic barriers and decentralization of decision-making processes as key aspects influencing organizational agility. Both studies agree on the role of team self-organization in the process of increasing organizational agility.

The development of employees and their competencies, which in this study correlates with the operational flexibility of the organization, is also an important factor according to the research of Felipe et al. (2020). Both works showed that investing in the development of team competencies allows organizations to adapt faster to market changes.

The presented research results also indicate the importance of synergy between technologies, process innovations and employee development, which confirms the high correlations between these factors. Similar conclusions appear in the literature on the subject (Akkaya, 2021), where it is emphasized that the success of agile organizations results from the integration of technologies and the development of competencies.

Future research directions could focus on deeper analysis of the impact of specific technologies on organizational agility, especially in the context of new digital tools such as artificial intelligence, big data, or process automation. Research could also include sector analysis to understand how industry specifics affect the implementation of innovations and technologies, and whether different sectors require different approaches to developing organizational agility.

Another important direction would be to examine how organizational culture and management style can support or limit agility. Research could focus on the role of leadership, employee motivation, and internal communication mechanisms, which are crucial for the effective implementation of innovations and technologies. It is also worth expanding research to include a global perspective, examining how different international markets, cultural differences, and legal regulations affect organizational agility. This would allow for a better understanding of the challenges faced by companies operating in different parts of the world and what strategies may be most effective in different geographical and cultural contexts. Additionally, an interesting direction could be to examine the long-term effects of

implementing organizational agility to determine how companies cope with challenges in the long term. This research could also include an analysis of the costs and benefits associated with implementing modern technologies and process innovations, which would allow for a more precise determination of which activities bring the greatest return on investment.

Another potential area of research could be understanding how changes in organizational structure, such as decentralization or greater team autonomy, can affect agility. It is also worth considering research on how the pandemic and other global crises have affected the acceleration of agility processes and what lessons from these experiences may be useful in the future.

The limitations of the study were related to several important aspects. First, the research sample included only 312 respondents, which may affect the generality of the conclusions and their representativeness in relation to the wider market. Although this number is sufficient for the analysis, a larger sample could have provided more detailed results and a better reflection of the diversity of opinions among the surveyed companies. Another limitation was the specificity of the survey, which focused on the respondents' self-assessment of the key factors supporting the development of an agile organization. Such an approach, although it allows for obtaining valuable information, may introduce subjective interpretations and limit the objectivity of the results. Respondents may have had different understandings of individual concepts, which could have influenced their answers.

Another limitation of the study was that it focused on five selected factors that, according to initial assumptions, were supposed to influence the development of an agile organization. It is possible that other, unexamined factors, such as cultural, geopolitical or economic aspects, also have a significant impact on the agility of the organization, but were not included in this study. The study covered companies operating in specific industries, which limits the possibility of generalizing the results to other sectors of the economy, which may be characterized by different challenges and needs in the development of organizational agility. Additionally, the data was collected in a specific time period (April-June 2024), which means that dynamic changes in the market or new technologies that appeared after this period may not have been included in the study, which could affect the validity of some conclusions.

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