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Threats of Implementing Artificial Intelligence for Employees' Daily Work and Training Strategies

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Abstract
In a dynamically changing technological context, the implementation of artificial intelligence (AI) in organizations is a key element of digital transformation, generating both innovative opportunities and complex challenges. This study focuses on multidimensional recognition of potential risks accompanying the implementation of AI. This study also includes issues related to the loss of jobs, changes in competency requirements and the impact of technology on the structure and culture of enterprises. Finally, this study indicates key threats and opportunities for the workers and their workplace related to AI implementation and proposes recommendations for companies under the process of digital transformation.

Keywords: AI, Artificial Intelligence, Staff Training, Workplace

1. Introduction

Opportunities related to the implementation of artificial intelligence and formulating practical recommendations for companies undertaking the process of digital transformation

1.1 Definition and characteristics of artificial intelligence

Artificial intelligence (AI) as a transformational technology is defined as the ability of machines to simulate human cognitive abilities, such as learning, understanding, and decision-making. In the context of implementation in companies, AI encompasses a variety of technologies, including machine learning, natural language processing, and recommendation systems (Czyżewska-Misztal, 2022) [4]. These technologies enable the automation of processes and data analysis on an unprecedented scale, which leads to significant improvements in operational efficiency. Zinkiewicz (2024) [26] emphasizes that AI-based process automation enables companies to make decisions in real time, which increases their ability to quickly adapt to changing market conditions. It is worth noting that natural language processing allows AI systems to understand and answer questions in a way that is close to humans, which is crucial in interacting with customers (Karski, 2023) [11]. This technology contributes to improving the quality of customer service and increasing user satisfaction through a more personalized approach to their needs.

AI-based recommendation technologies support decision-making processes by suggesting the best actions based on collected data, which increases precision and speed of response to changing market needs (Palka & Stecuła, 2018) [17]. The introduction of AI into an organization requires integration with existing systems and adaptation of IT infrastructure, which is a significant challenge for companies wishing to fully utilize the potential of this transformational technology (Augustyn, 2018) [2]. The use of AI requires a comprehensive analysis of the possibilities of integration with existing business processes, which is crucial to achieving the intended benefits. It is also necessary to take into account the variety of types of AI that can be implemented depending on specific organizational requirements.

Types of AI include both general intelligence, capable of performing a wide range of tasks, and specialized systems that focus on performing specific functions (Palka & Stecuła, 2018) [17]. Specialized systems allow for more effective adaptation to the specific needs of a given organization, which can bring tangible benefits in various areas of activity, such as supply chain management, customer service and the financial sector. Zinkiewicz (2024) [26] points out that in supply chain management, AI enables the optimization of logistics processes and demand prediction, which leads to cost reduction and increased efficiency.

In the financial sector, on the other hand, AI technologies are used to analyze credit risk and identify fraud, which increases the security and speed of financial services (Karski, 2023) [11].

Implementing artificial intelligence in organizations brings many benefits, including significant improvements in operational efficiency, cost reduction and increased productivity, which is the result of automating routine tasks (Zinkiewicz, 2024) [26]. Automating these tasks allows employees to focus on more complex and creative activities, which increases their job satisfaction and efficiency (Palka & Stecuła, 2018) [17]. However, to fully utilize the potential of AI, organizations must effectively integrate new technology with existing processes. It is also worth considering that while there are numerous benefits to implementing AI, there are also many risks associated with this technology.

One of the key threats is the possibility of algorithmic errors that can lead to unforeseen consequences, especially in critical areas such as healthcare or finance (Czyżewska-Misztal, 2022) [4]. Another important aspect are ethical issues resulting from decisions made by machines that may not take into account human values and the social context (Palka & Stecuła, 2018) [17]. In the context of personal data protection, AI generates challenges related to data privacy, requiring strict compliance with applicable legal regulations (Zinkiewicz, 2024) [26]. In addition, there is a risk of dehumanization of workplaces as a result of excessive automation, which can lead to a drop in employee morale (Karski, 2023) [11]. Augustyn (2018) [2] also notes that the implementation of AI can increase the distance between employees and technology, which can limit their engagement and effectiveness of cooperation.

The impact of artificial intelligence on the organizational structure and work culture is an inherent element of its implementation. This process often requires organizational restructuring, which leads to changes in professional roles and hierarchy in the company (Augustyn, 2018) [2]. The introduction of AI requires adapting to new management models and decision-making processes based on AI analyses, which may result in a change in the organizational hierarchy (Zinkiewicz, 2024) [26]. The implementation of this technology changes the way teams communicate and collaborate, promoting a more open work culture (Karski, 2023) [11]. Employees must also adapt to the dynamically changing technological environment, which requires continuous learning and flexibility (Palka & Stecuła, 2018) [17]. In order for organizations to effectively implement AI, it is necessary to implement a change management strategy and properly prepare the IT infrastructure. This complex task can give organizations a significant competitive advantage, enabling better adaptation to market needs and increasing their innovativeness.

1.2 The process of AI implementation

The process of implementing artificial intelligence in companies is a complex and multi-stage undertaking that requires precise planning and implementation. The first key stage is the analysis of the organization's needs, which determines the areas in which artificial intelligence can bring the greatest benefits. Identifying these areas allows companies to focus on optimizing processes that are most important to their business, as emphasized by Palka and Stecuła (2018) [17]. Proper identification of needs is essential to avoid unnecessary expenses and direct resources to projects with the greatest potential to improve efficiency.

The next stage of implementation is the identification of appropriate artificial intelligence technologies that will best meet the identified needs of the organization. Adamczak *et al*. (2024) [1] emphasize the need for a thorough analysis of the capabilities of available technologies to ensure their compatibility with existing systems and business goals. The decision on the choice of technology should be supported by solid analyses that take into account both the current and future needs of the company.

Developing an implementation schedule is a key element of planning the artificial intelligence implementation process. This schedule must be flexible, allowing companies to adapt to potential changes and unforeseen circumstances during technology implementation. Palka and Stecuła (2018) [17] indicate that a well-thought-out schedule helps avoid costly mistakes and maximize implementation efficiency. It is worth noting that flexibility in planning also allows for a faster response to changing market conditions.

Analysis of the risk associated with the implementation of artificial intelligence is an essential step that allows for the identification of potential difficulties and the development of strategies to minimize them. Łochnicka *et al*. (2022) [15] emphasize that risk assessment is essential to avoid serious problems in the future. Understanding potential threats allows companies to properly prepare to mitigate them and ensure a smooth implementation process.

The involvement of all levels of employees in the process of planning the implementation of artificial intelligence is crucial to its success. Włoch and Śledziewska (2018) [23] emphasize that employee involvement ensures full understanding and support for the implementation of new technologies, which contributes to better acceptance of changes. In addition, the integration of employees with the implementation process helps build a positive work environment and promotes a culture of innovation.

Implementing artificial intelligence requires adapting the IT infrastructure and training employees so that they can effectively use the opportunities offered by the new technology. Adamczak *et al*. (2024) [1] point to the need to update IT systems and introduce data security to ensure the proper functioning of AI and the protection of personal data. Employee training, as Dobosz *et al*. (2022) note, is essential to adapting them to new roles and processes, which increases the effectiveness of the entire implementation.

Technical and educational modifications, such as ongoing support for employees, facilitate adaptation to new work methods. Magruk (2022) emphasizes that cooperation with external experts can speed up the implementation process by providing access to the best industry practices. Monitoring the progress of the implementation is crucial to quickly respond to potential problems and correct irregularities, as confirmed by Starosta (2024).

Monitoring the use of artificial intelligence in companies is essential to ensure that the technology works as expected and is used effectively. Łochnicka *et al*. (2022) [15] point to the importance of continuous analysis of results generated by AI systems, which allows for the identification of possible errors and their rapid correction. The introduction of data quality control mechanisms affects the quality of decisions made by AI systems. Regular testing and evaluation of algorithms, as noted by Schuler (2019) [21], allows for the optimization of their operation and

maintaining the efficiency of the technology. Integration of monitoring systems with decision-making processes allows for automatic generation of reports and warnings, which allows for a quick response to irregularities.

Post-implementation optimization requires regular analysis of results and adaptation of operational processes. Schuler (2019) [21] points to the need for ongoing improvements in the management of technological resources to maximize the benefits of AI implementation. Adjusting procedures and strategies, as noted by other studies, requires flexibility on the part of the organization and its employees, which allows for the full use of the possibilities offered by artificial intelligence. Companies should invest in the development of their employees' competences to ensure the effective use of modern technologies and collect feedback on the functionality of the systems. Ethical issues and compliance with legal regulations are an integral part of every stage of AI implementation. Derfert-Wolf *et al*. (2024) discuss in detail the need to comply with personal data protection regulations and responsibility for decisions made by algorithms. Companies should develop codes of ethics regarding the use of technology, which will allow to build trust among employees and customers. Implementing practices that comply with legal regulations, as well as educating employees on the ethical aspects of working with AI, is crucial to understand the responsibility and potential consequences of decisions.

Implementing AI also involves the need to change professional roles and internal hierarchy in companies. Włoch and Śledziewska (2018) [23] note that this often leads to the transformation of traditional professional roles and the creation of new specializations. Decentralization of decisions allows for faster and more flexible response to market changes and better adaptation to a dynamic environment. Companies must implement effective change management strategies to facilitate employee adaptation to new roles and organizational structure, which is important for maintaining operational consistency and efficiency.

2. The impact of artificial intelligence on the daily work of employees

This chapter will discuss key aspects of the impact of artificial intelligence on the daily work of employees. It focuses on two main areas: Process automation, which changes the scope of duties and requires new skills, and the need to develop competencies in the face of increasing technological transformations. Analyzing these phenomena will allow us to understand how organizations can effectively adapt to the changing work environment, while providing support for their employees in the process of adapting to new challenges.

2.1 Automation and task shifting

Automation and task change are processes that significantly affect the structure and nature of work in organizations. Automation, by reducing routine and repetitive tasks, leads to a change in the scope of employees' responsibilities. As Zaorski-Sikora (2023) [24] notes, automation frees up employees' time, allowing them to focus on more complex and creative tasks. Although such changes can increase efficiency and reduce monotony, they also raise concerns about job losses. In the manufacturing industry, for example, automation can include activities such as sorting or packaging, allowing employees to focus on planning or quality control. However, as Protsenko *et al*. (2017) [19] point out, there is a risk that some roles will no longer be needed, which can lead to employment restructuring and potential layoffs. Automation also affects changes in the labor market, which requires the development of new skills, such as data analysis and management of automated systems. Szumowska and Bagieńska (2024) [22] emphasize that these new competencies are key in adapting to a changing work environment that requires greater flexibility. The introduction of new technological systems involves the need to train employees with skills in the operation and maintenance of these systems. Martyna Jurkowska-Gruba (2024) [10] points out that the development of data analysis skills has become one of the main requirements in many industries, which is necessary for making informed business decisions.

One of the main threats of automation is the increase in unemployment among employees performing repetitive tasks. Jurkowska-Gruba (2024) [10] emphasizes that the need to retrain employees is one of the main challenges related to the implementation of artificial intelligence. Automation poses a threat to jobs related to performing simple tasks, where AI-based systems can effectively replace people. Companies must adapt their HR strategies, investing in retraining and education programs to support employees in moving to new positions (Pielas *et al*., 2017). There is also a need to introduce government policies supporting employee retraining to minimize the social and economic effects of rising unemployment (Protsenko *et al*., 2017) [19].

Automation also contributes to the dehumanization of work, limiting interpersonal interactions and negatively affecting employee morale. Protsenko *et al*. (2017) [19] note that despite increased efficiency, automation can reduce job satisfaction due to limited contact with other people. The introduction of automated systems reduces the need for direct communication between employees, which leads to lower social engagement and employee bonds (Tadeusiewicz *et al*., 2017). Companies must therefore counteract the dehumanization of work by creating initiatives that support interpersonal bonds, such as integration meetings (Wesołowski, 2017). Implementing automation in companies also requires a thoughtful approach to task restructuring and appropriate training for employees. Pielas *et al*. (2017) emphasize that companies must invest in employee development to enable them to effectively coexist with new technologies. It is crucial that training covers both the technical aspects of implementing new systems and soft skills, such as change management (Bakalarska, 2017). Setting clear goals for automation can help reduce resistance to technological change (Karbownik, 2017).

A company implementing automation is required to monitor its impact on human resources and adjust management strategies to minimize negative consequences. Tadeusiewicz *et al*. (2017) emphasize the importance of continuous monitoring to identify potential problems related to technology adaptation. Developing analytical tools allows companies to assess the effectiveness of new systems and their impact on work efficiency, which is crucial for making adjustments to management strategies (Wesołowski, 2017). In maintaining open communication with employees about the impact of automation on their professional roles, fostering trust is also key (Karbownik, 2017).

In connection with the above issues, automation brings both benefits and challenges that companies must consider to effectively develop their human and technical resources.

2.2 New competencies and skills

With the dynamic development of artificial intelligence in the labor market, the requirements for employee competences and skills are changing. AI-related technologies are affecting the way employees must adapt to new working conditions, which requires them to develop a wider range of technical skills. This primarily concerns knowledge of programming and the use of advanced IT systems. In the context of implementing AI in companies, employees must learn programming languages and understand the operation of AI-related systems, which not only increases their value in the organization, but also strengthens its position on the global market (Cichy *et al*., 2024) [3]. It is important for companies to invest in appropriate training structures and provide access to educational resources, which will enable employees to acquire the necessary skills (Lange, 2019) [14]. Another important aspect is analytical competences, which are becoming indispensable in the context of the increase in the amount of data processed using artificial intelligence. The ability to analyze and interpret this data allows for the effective use of the potential of AI systems in practice. The modern employee must be an advanced user of data analysis tools, which play a key role in the decision-making process (Kieroński, 2024). Companies should therefore place special emphasis on the development of analytical competences through appropriate training programs and workshops that enable employees to understand and use data (McKinsey & Company, 2017) [16].

In the face of increasing automation and technological transformations, interpersonal skills are also becoming essential. Although artificial intelligence is changing the way of working, it does not eliminate the need for effective interpersonal cooperation, which is crucial for integrating new tools into everyday work (Konopczyński, 2024). Employees must work in interdisciplinary teams that combine various technical competences with the ability to cooperate and communicate (Gniazdowski, 2023) [8]. Companies must promote the importance of interpersonal skills in their development programs to effectively support interpersonal cooperation in the era of digitalization (Ładna *et al*., 2019).

Adaptation and flexibility are key competences that employees must develop in the context of dynamically changing technologies. This requires continuous learning and readiness to adapt to new technological solutions. Flexibility and quick response to new challenges are becoming the basis of a professional career in a modern work environment (Czapluk *et al*., 2024). Companies should support a culture based on openness and continuous learning, in which employees are actively engaged in the process of adapting to new technologies (Cichy *et al*., 2024) [3]. Last but not least, change management is becoming extremely important in the process of implementing AI, which often involves restructuring and changing professional roles. Employees must be aware of the impact that artificial intelligence can have on their professional roles and how to effectively deal with these changes through appropriate management strategies (Kiebzak *et al*., 2024). Companies should develop competences related to change management through dedicated training programs that will allow employees to better prepare for the new technological reality (McKinsey & Company, 2017) [16].

In summary, changes in the nature of work related to the implementation of artificial intelligence require employees to develop a number of new competencies, including technical, analytical, interpersonal, adaptive, and change management. These skills are essential for effective functioning in a dynamically changing technological environment.

3. The biggest changes related to the implementation of AI

This chapter will discuss the key changes that AI implementation brings to organizations. It will focus on two main areas: Structural organizational changes that affect hierarchy and human resource management, and changes in organizational culture that are necessary for effective technology integration. These suggestions provide important context for understanding how organizations can adapt to the challenges of implementing technological innovation.

3.1 Structural organizational change

The integration of artificial intelligence in enterprises is causing a number of significant structural changes that affect traditional organizational hierarchies. The implementation of systems based on artificial intelligence leads to the restructuring of departments, which often requires the identification of areas that can be automated and the creation of new professional roles, such as data analysis specialists or engineers responsible for the development and maintenance of AI systems (Stasikiewicz & Gabor, 2024). This process may involve the reduction of certain positions, especially where it is possible to automate repetitive tasks. These changes lead to greater flexibility and operational efficiency, as noted by Krystian and Zaskórski (2023) [13], which promotes better information flow and decision-making. New change management processes introduced along with the integration of artificial intelligence force not only the modification of decision-making systems, but also an increase in employee participation in these processes. Ręgorowicz and Szczygieł (2024) emphasize the importance of engaging all levels of the organization in order to effectively implement new technologies. Transparency and constant communication are key to building trust among employees, which is essential for accepting change (Kobosko, 2021) [12]. The introduction of more decentralized organizational models can facilitate the use of AI in decision-making, which also improves the understanding of technology and its impact on everyday work (Gniazdowski, 2023) [8].

The integration of AI also affects the way organizations manage human resources, especially in the context of career development and employee performance assessment. As Zaskórski and Kaczkowski (2023) point out, it is necessary to develop new motivational strategies and career paths that take into account technological realities. The introduction of AI requires modification of current work evaluation systems, which must take into account the effectiveness of human cooperation with technology, and not only individual achievements (Kobosko, 2021) [12]. Organizations must promote continuous learning and expanding competences as key elements of adaptation in a dynamic technological environment (Szumowska & Bagieńska, 2024) [22].

Structural changes caused by the implementation of artificial intelligence also contribute to increased innovation by promoting an organizational culture focused on cooperation and openness to experimentation. Kobosko (2021) [12] emphasizes that appropriate structural transformations can increase the ability of an organization to adapt in a dynamically changing market environment. Adopting more collaborative organizational structures promotes the exchange of knowledge and experience between departments, which leads to greater innovation (Gniazdowski, 2023) [8]. Promoting openness to experimentation as an element of organizational culture allows testing new solutions and adaptation to changing market conditions (Święcicki *et al*., 2020). Centralization of data management, resulting from the implementation of artificial intelligence, strengthens the role of IT departments and changes the dynamics in companies. As noted by Drzewiński and Konieczny (2024), digital asset management systems are becoming crucial for maintaining a competitive advantage. Centralization requires strengthening the IT infrastructure, which enables effective collection, processing and analysis of data on a large scale (Konieczny & Drzewiński, 2024). This change also leads to the introduction of new control processes that ensure data protection and integrity (Rafało, 2021) [20].

In summary, the implementation of artificial intelligence in companies leads to significant structural changes that affect organizational hierarchies, human resource management and organizational culture. These changes are crucial for effective functioning in a dynamically changing market environment.

3.2 Changes in organizational culture

Adapting organizational culture to the introduction of artificial intelligence is a key element that allows companies to effectively implement new technologies. This process involves redefining roles and relationships at work, which is essential for maintaining organizational coherence and effectiveness. Companies must change their approach to management to effectively integrate technological innovations into everyday operations (Dębkowska *et al*., 2020) [5]. Modern organizations face the challenge of transferring tasks and responsibilities from traditional departments to new, more technologically oriented teams, which requires the introduction of flexible organizational structures that will allow for dynamic response to changing market needs (Święcicki *et al*., 2020). The introduction of transparent communication processes is another important element of adapting organizational culture. Transparency of communication allows employees to understand and accept new roles and relationships in the work environment, which minimizes resistance and uncertainty related to the implementation of new technologies (Rafało, 2021) [20]. Companies should strive to clearly communicate the goals and expectations related to the implementation of artificial intelligence, which will help build trust and commitment among employees. Organizational culture must take into account the continuous improvement of employees in the field of new technologies, which requires the implementation of comprehensive training and development programs. Such activities are necessary for employees to effectively adapt to new tools and work methods and fully use the potential offered by artificial intelligence (Dębkowska *et al*., 2020) [5]. Companies must invest in the development of their employees' skills, which not only increases their efficiency, but also strengthens the organization's competitiveness on the market.

The changing relationship between employees and technology requires redefining these interactions, with an emphasis on human and artificial intelligence cooperation to support the company's efficiency and innovation (Kłosiewicz-Górecka *et al*., 2020). A key aspect is to understand that technology should be perceived as a tool supporting decision-making and operational processes, and not as a substitute for human work. Cooperation between employees and AI can lead to more effective and creative solutions, which is beneficial for both the organization and its employees.

Maintaining efficiency in the context of implementing artificial intelligence requires supporting an organizational culture open to change and experimenting with new technologies. Święcicki *et al*. (2020) emphasize that creating an environment conducive to innovation is crucial for the long-term success of an organization in the digital era. Companies should promote a culture that encourages employees to take risks and seek innovative solutions, which can significantly contribute to their adaptability in the changing technological environment.

Artificial intelligence also affects internal communication in companies by introducing new communication tools and platforms. They can improve the efficiency of cooperation, but also generate challenges related to the integration of employees with different levels of digital competence (Dźwiarek, 2022) [7]. The introduction of modern communication technologies requires offering training tailored to the level of advancement of employees, which ensures the effective use of these tools in everyday work.

New communication platforms enable faster information exchange and increased data availability, which can lead to more effective decision-making within the company (Dźwiarek, 2022) [7]. However, the integration of these tools requires taking into account the diverse digital skills of employees. Therefore, it is necessary to offer training that will help staff adapt to new technologies and fully use their potential (Rafało, 2021) [20].

The implementation of artificial intelligence poses new ethical challenges related to data privacy and transparency, which requires companies to develop new codes of ethics and compliance policies (Rafało, 2021) [20]. Transparency in data management is key to preventing potential abuses and strengthening employee trust. Companies must therefore not only comply with applicable legal regulations, but also engage employees in the decision-making process regarding data policies, which allows for a better understanding and acceptance of these regulations (Rafało, 2021) [20].

Cultural changes resulting from the implementation of artificial intelligence can lead to greater employee participation in decision-making processes, which promotes an organizational culture based on shared responsibility and trust. According to research conducted by PARP (2024) [18], increasing employee participation in creating the company's strategy can lead to increased engagement and loyalty. Organizations should therefore create mechanisms that enable employees to express their opinions and participate in making strategic decisions, which supports the achievement of long-term goals (PARP, 2024) [18].

Ultimately, adopting a culture of openness to change and experimentation is essential in companies implementing

artificial intelligence, which promotes the development of the organization's innovation and adaptability (Święcicki *et al*., 2020). Such a culture allows for testing new solutions and adaptation to changing market conditions, and also promotes the development of employee competences in the field of modern technologies. In this way, companies can effectively use the potential of artificial intelligence, which is crucial for their long-term success in the digital era.

To sum up, adapting the organizational culture to the challenges related to the implementation of artificial intelligence is a complex process that requires a flexible approach to management and continuous improvement of employee skills.

4. Strategies for anticipating change and training employees

This chapter will discuss key strategies for anticipating technological changes and employee training methods in the context of implementing AI. It will focus on the analysis of technological trends and predictive modeling as tools that allow companies to flexibly adapt to the dynamic environment, as well as the importance of training in developing employee competencies. Understanding these aspects is essential for organizations that want to effectively integrate AI into their daily operations and support their employees in the process of adapting to new challenges.

4.1 Methods of predicting technological change

Predicting technological changes is a key element of business strategies of companies, especially in the context of the dynamic development of artificial intelligence. Analysis of technological trends is one of the basic methods that allows companies to identify and understand future directions of AI development. Digital Poland (2018) [6] emphasizes that such analyses are based on collecting and processing data from numerous sources, which allows for the identification of patterns and trends in technology development. Understanding which artificial intelligence technologies will gain importance allows companies to focus their resources on the most important directions of development, which is necessary to adapt business strategies to changing market expectations. At the same time, trend analysis supports the process of making strategic decisions, allowing for earlier preparation for potential changes and avoiding unforeseen complications. Forecast modeling, which uses artificial intelligence algorithms, allows for more precise prediction of future changes and their potential effects. Szumowska and Bagieńska (2024) [22] emphasize that this allows companies to analyze "what-if" scenarios, which is invaluable when making strategic decisions in different market conditions. Thanks to such analysis, companies can predict the impact of new technologies on their operational processes, which leads to better resource and risk management. These algorithms also allow for the detection of even subtle changes in the market, which supports a faster response and adaptation of business strategies, as well as a better understanding of market dynamics and competition.

Future scenarios as a strategic planning tool are extremely important in the context of uncertainty related to the development of artificial intelligence. Kobosko (2021) [12] notes that they enable companies to flexibly plan and prepare for various technological changes. Creating such scenarios allows for the identification of potential threats and opportunities, which allows for the implementation of preventive measures and the use of market opportunities. Future scenarios contribute to preparing companies for sudden changes and innovations in the technology sector, increasing their flexibility and ability to adapt to dynamic market conditions.

Integrating the prediction of technological changes with decision-making processes increases the efficiency and effectiveness of companies. Szumowska and Bagieńska (2024) [22] emphasize that the inclusion of predictions in decision-making processes allows for faster and more precise reactions to changes, which minimizes the risk associated with the implementation of new technologies. Effective integration of predictions requires cooperation between different departments of the organization, which improves communication and a common understanding of goals. This approach also allows for flexible adjustment of the strategy to the changing market, which is crucial for maintaining the competitiveness of companies in the long term.

An organizational culture focused on openness and readiness for change is crucial for the effective use of technological predictions in companies. Zinczuk (2021) [25] indicates that supporting innovation and engaging employees in the processes of predicting technological changes increases their commitment and co-responsibility for the success of the organization. A culture of openness to change promotes experimentation and testing of new technological solutions, which increases the creativity and adaptability of the organization. Companies promoting this approach are able to identify and implement new technologies faster, which allows them to maintain a competitive advantage in a dynamically changing market.

To sum up, methods of predicting technological changes are an indispensable element of the strategy of companies that want to effectively respond to dynamic changes caused by the development of artificial intelligence.

4.2 Training strategies for employees

Developing training strategies for employees in the context of implementing artificial intelligence in companies is a key element of adaptation to the dynamically changing technological environment. This process requires careful planning and understanding of what technical, analytical and interpersonal skills are necessary for the effective integration of AI in everyday work. As Krystian and Zaskórski (2023) [13] note, training should include both theoretical foundations and practical applications, which allows employees to effectively prepare for new challenges. In the context of dynamic technological changes, the integration of theoretical knowledge with practice becomes indispensable for employees to smoothly adapt to new tools and methods of work (Krystian & Zaskórski, 2023) [13]. Effective training strategies must take into account the diversity of employee needs, offering the opportunity to develop technical skills, such as programming or operating advanced IT systems. Krystian and Zaskórski (2023) [13] emphasize that such skills are crucial for employees to be able to effectively cooperate with AI systems and automation processes. The development of analytical competences is equally important, especially in the face of the growing amount of data generated by AI technologies. The ability to analyze and interpret this data is the basis for making good business decisions (Krystian & Zaskórski, 2023) [13].

Interpersonal skills, such as effective communication and cooperation in diverse teams, are essential for integrating AI into everyday work. Krystian and Zaskórski (2023) [13] point out that in a modern work environment, composed of various specialists, the ability to effectively cooperate and exchange information is crucial for fully utilizing the potential offered by artificial intelligence.

Another aspect is the flexibility of training programs, which should be adapted to the various levels of employee competences. As suggested by Gumkowska *et al*. (2024) [9], effective programs integrate various forms of learning, such as e-learning and traditional training, which allows for the individualization of the knowledge acquisition process. Such flexibility allows for the adjustment of the pace and method of learning to the needs of each employee, which increases the effectiveness of acquiring new skills.

One of the key elements of training programs are practical workshops that use simulations and case study exercises. Dębkowska *et al*. (2020) [5] recommend organizing such workshops in small groups, which promotes active exchange of experiences and better understanding of the context of AI implementation. Participants can analyze real problems and apply acquired skills to solve them, which is important for integrating AI into everyday work.

Continuous improvement of employee skills should be included in the career development strategy, which encourages regular updating of knowledge. Stasikiewicz and Gabor (2024) propose introducing mentoring and coaching programs as methods of supporting individual employee development. Such programs can serve to transfer knowledge and build an organizational culture based on continuous learning.

Assessing the effectiveness of training programs must be based on the analysis of business results and employee satisfaction levels. McKinsey & Company (2017) [16] emphasize that regular evaluation allows for the identification of areas requiring improvement and adjustment of training strategies to changing market conditions. Measuring the impact of training on business results is crucial for understanding the return on investment in employee education.

Creating a supportive learning environment that promotes innovation and openness to change is fundamental to the successful implementation of training strategies. As Konieczny and Drzewiński (2024) point out, organizations should support a culture of lifelong learning, which allows for the effective integration of new technologies and the development of employee creativity. Such a culture increases the flexibility of the organization in adapting to the changing technological environment. In summary, the training strategy in the context of AI implementation must be multidimensional, flexible and tailored to the needs of employees so that organizations can effectively adapt to new technological challenges.

5. Conclusion

In the context of the dynamically developing artificial intelligence (AI) technology, the presented scientific work focused on a comprehensive analysis of the threats and consequences of implementing AI in companies. The main research goal was to understand the impact of this technological transformation on the daily work of employees and to develop strategic methods of adaptation and training.

The conducted research showed that the implementation of AI leads to fundamental changes in the organizational structure and culture of enterprises. Process automation generates significant transformations in the nature of professional work, forcing employees to constantly improve their skills and adapt to new technological challenges. The key finding is the observation that the development of employee competences is becoming a strategic necessity in the face of advancing digitization.

The analysis identified a number of threats related to the implementation of AI in companies, including the risk of disintegration of the organizational structure, potential loss of jobs and ethical challenges related to decision-making by algorithmic systems. At the same time, the research indicates significant opportunities offered by AI in terms of optimizing business processes, increasing efficiency and supporting innovation.

The developed training strategies emphasize the need for a holistic approach to technological transformation. The key conclusion is the need for continuous employee education, encompassing not only technical skills, but also interpersonal, analytical and adaptive competencies. Companies must invest in flexible development programs that will enable employees to function effectively in a dynamically changing technological environment.

The research revealed the complexity of the AI implementation process, indicating the need for conscious and ethical management of technological change. It is crucial to understand that the success of the transformation depends not only on advanced technological solutions, but above all on the organization's ability to build a culture of openness, continuous learning and adaptation.

The limitations of the conducted research result from the dynamic nature of technological changes, which make long-term forecasts difficult. The industry diversity in the processes of AI implementation and the speed of its development constitute a methodological challenge for future research. It is recommended to conduct further interdisciplinary studies that would combine technological, social and organizational aspects.

The research perspective indicates the need to develop advanced tools for predicting technological changes and improve human resource management strategies in the context of the growing role of AI. Future research should focus on the long-term impact of AI on the labor market, taking into account both its positive potential and potential threats. Personally, as a social scientist, I see the enormous potential and complexity of implementing AI. It is crucial to be aware that despite potential risks, this technology offers extraordinary development opportunities. Human creativity, flexibility, and adaptability remain fundamental factors for success in the era of digital transformation.

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