

ARTIFICIAL INTELLIGENCE IN MANAGEMENT AND MANAGEMENT DECISION MAKING: POSSIBILITIES AND LIMITS OF APPLICATION

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Formulation of the problem. The purpose of this article is to determine the prospects for using artificial intelligence technologies to improve management efficiency in general and assess the prospects for its use to solve problems of operational and strategic management. Currently, two paradigms have emerged that explore the prospects for using artificial intelligence in organizational research: a paradigm that considers artificial intelligence as a set of meta-algorithms capable of finding algorithms for solving specific problems of corporate governance, and a paradigm that considers artificial intelligence as a means of optimizing the behavior of people in an organization. The key area of application of artificial intelligence in management is the process of making management decisions at the level of the board of directors. The possibilities of artificial intelligence to improve the efficiency of management decision-making are identified and determined. Among them are: ensuring the required volume and variety of information with less resource consumption, rapid analysis of large amounts of data, development of reliable scenarios for the consequences of decisions, impartiality of decisions, and others. Artificial intelligence technologies are already a useful tool for increasing the efficiency of management decision-making. The difficulties and problems standing in the way of the widespread use of artificial intelligence technologies are analyzed. The use of artificial intelligence in management is limited by a number of ethical problems related to responsibility for the consequences of decisions made, the low level of legal support for its use and specific risks, the methodology for working with which requires further development. *The purpose of the study.* The purpose of this study is to identify the main stages of artificial intelligence development, its classification and analysis of examples of artificial intelligence application for effective enterprise management. The main objective of the study is a comprehensive approach to the study of artificial intelligence, which includes practical application in the context of enterprise management. This will create a methodological basis for optimizing management processes using AI, seeking to integrate modern technologies into their system. *The object of the study.* The object of the study is the analysis of the impact of artificial intelligence on the management methods of modern enterprises in the context of digitalization and global competition. The relevance of this topic is obvious, since the effectiveness of machine learning and big data processing tech-

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nologies helps in making management decisions, since in a competitive environment there is a need to improve business processes. *Research methods*: The research methodology is based on the following methods: comparison method, analytical method, method of studying information materials, tabular method. *The main hypothesis* of the follow-up. The author's hypothesis of the study is to systematize the stages of development of artificial intelligence, as well as analyze the possibilities of its application in enterprise management using specific examples, to identify both positive and negative key factors that contribute to improving management efficiency. *Present of the main material*. The increasing complexity of problems and the ever-increasing volume of information and knowledge that decision makers in organizations must master highlight the need for a decision support system based on advanced and modern technologies. An intelligent decision support system that makes extensive use of artificial intelligence techniques to support decision makers based on machine learning takes into account large volumes of data using artificial intelligence. Deep learning solutions enable machines to solve complex problems even when using highly diverse, unstructured and interconnected data sets. Major advances in computing and technology, coupled with society's trust in machine learning, have laid the foundation for using huge amounts of data to improve productivity and sustainability. The implementation of artificial intelligence (AI) as a means of improvement has been tried in several sectors over the past decade. However, it has only recently become clear that AI can be used to improve the decision-making process. In particular, the implementation of AI technologies can enable managers to make more effective decisions that improve production efficiency. *Conclusions and prospects for further research*. Overall, artificial intelligence can significantly improve the efficiency and effectiveness of an enterprise management system. It allows you to automate routine tasks, make more informed decisions based on data, predict future events and trends, and improve customer service. The conducted research shows that modern enterprises and businesses widely use the capabilities of artificial intelligence, but despite significant advances in technology development, there is a need for more research on the possibility of integrating AI. The examples of successful application of technologies identified in the study serve as a basis for further research and practical recommendations..

Keywords:

management, business processes, artificial intelligence, management decision-making process, board of directors, competitive advantage.

ШТУЧНИЙ ІНТЕЛЕКТ В МЕНЕДЖМЕНТІ ТА ПРИЙНЯТТІ УПРАВЛІНСЬКИХ РІШЕНЬ: МОЖЛИВОСТІ ТА МЕЖІ ЗАСТОСУВАННЯ

Постановка проблеми. Наразі сформувалися дві парадигми, що досліджують перспективи використання штучного інтелекту в організаційних дослідженнях: парадигма, що розглядає штучний інтелект як набір метаалгоритмів, здатних знаходити алгоритми для вирішення конкретних проблем корпоративного управління, та парадигма, що розглядає штучний інтелект як засіб оптимізації поведінки людей в організації. Ключовою сферою застосування штучного інтелекту в управлінні є процес прийняття управлінських рішень на рівні ради директорів. Визначено та визначено можливості штучного інтелекту для підвищення ефективності прийняття управлінських рішень. Серед них: забезпечення необхідного обсягу та різноманітності інформації з меншими витратами ресурсів, швидкий аналіз великих обсягів даних, розробка надійних сценаріїв наслідків рішень, неупередженість рішень та інші. Технології штучного інтелекту вже є корисним інструментом для підвищення ефективності прийняття управлінських рішень. Проаналізовано труднощі та проблеми, що стоять на шляху широкого використання технологій штучного інтелекту. Використання штучного інтелекту в управлінні обмежене низкою етичних проблем, пов'язаних з відповідальністю за наслідки прийнятих рішень, низьким рівнем правового забезпечення його використання та специфічними ризиками, методологія роботи з якими потребує подальшого розвитку. *Метою дослідження* є визначення основних етапів розвитку штучного інтелекту, його класифікація та аналіз прикладів застосування штучного інтелекту для ефективного управління підприємством. Головною метою дослідження є комплексний підхід до вивчення штучного інтелекту, який включає практичне застосування в контексті управління підприємством. Це створить методологічну основу для оптимізації управлінських процесів з використанням ШІ, прагнучи інтегрувати сучасні технології в їх систему. *Об'єктом дослідження* є аналіз впливу штучного інтелекту на методи управління сучасними підприємствами в умовах цифровізації та глобальної конкуренції. Актуальність даної теми очевидна, оскільки ефективність машинного навчання та технологій обробки великих даних допомагає у прийнятті управлінських рішень, оскільки в конкурентному середовищі існує потреба в удосконаленні бізнес-процесів. *Методологія дослідження* базується на таких методах: метод порівняння, аналітичний метод, метод вивчення інформаційних матеріалів, табличний метод. *Основна гіпотеза дослідження.* Авторська





гіпотеза дослідження полягає в систематизації етапів розвитку штучного інтелекту, а також у аналізі можливостей його застосування в управлінні підприємством на конкретних прикладах, виявленні як позитивних, так і негативних ключових факторів, що сприяють підвищенню ефективності управління. *Виклад основного матеріалу.* Зростаюча складність проблем та постійно зростаючий обсяг інформації та знань, які повинні опанувати особи, що приймають рішення в організаціях, підкреслюють необхідність системи підтримки рішень, що базується на передових та сучасних технологіях. Інтелектуальна система підтримки рішень, яка широко використовує методи штучного інтелекту для підтримки осіб, що приймають рішення, на основі машинного навчання, враховує великі обсяги даних за допомогою штучного інтелекту. Рішення глибокого навчання дозволяють машинам вирішувати складні проблеми навіть при використанні дуже різноманітних, неструктурованих та взаємопов'язаних наборів даних. Значні досягнення в обчислювальній техніці та технологіях, у поєднанні з довірою суспільства до машинного навчання, заклали основу для використання величезних обсягів даних для підвищення продуктивності та сталого розвитку. *Оригінальність та практичне значення дослідження.* Впровадження штучного інтелекту (ШІ) як засобу вдосконалення було випробувано в кількох секторах протягом останнього десятиліття. Однак лише нещодавно стало зрозуміло, що ШІ може бути використаний для покращення процесу прийняття рішень. Зокрема, впровадження технологій штучного інтелекту може дозволити менеджерам приймати ефективніші рішення, що підвищують ефективність виробництва. *Висновки та перспективи подальших досліджень.* Загалом, штучний інтелект може значно підвищити ефективність та результативність системи управління підприємством. Він дозволяє автоматизувати рутинні завдання, приймати більш обґрунтовані рішення на основі даних, прогнозувати майбутні події та тенденції, а також покращувати обслуговування клієнтів. Проведені дослідження показують, що сучасні підприємства та бізнес широко використовують можливості штучного інтелекту, але, незважаючи на значну рекламу з огляду на прогрес у розвитку технологій, існує потреба в додаткових дослідженнях щодо можливості інтеграції штучного інтелекту. Приклади успішного застосування технологій, визначені в дослідженні, слугують основою для подальших досліджень та практичних рекомендацій.

Ключові слова:

управління, бізнес-процеси, штучний інтелект, процес прийняття управлінських рішень, рада директорів, конкурентна перевага.

Formulation of the problem. One of the most important factors for the successful development of companies in the face of global challenges is effective management. But this field of activity has problems associated with the bureaucratization of management, the presence of conservative methods of company management, an excessive staff of managers and the low digitalization of the management process itself. These negative factors have an integral unfavorable effect, which leads to poor quality management business decisions. This negatively affects the development of the enterprise, which can lead to disruption of the implementation of the strategically important import substitution policy. The solution to the above problems can be the widespread introduction of artificial intelligence (AI) into management at all levels.

Artificial intelligence is becoming an essential element of management in many organizations, completely changing the functions and mechanisms of management activities, decision-making systems, human relations and communications in companies. Therefore, the issue of introducing artificial intelligence

systems into management is becoming particularly relevant today. Today, in the digital economy, many enterprises are transforming, growing and entering new markets. To maintain the pace of business development at a high level, a flexible and modern approach to management is required. In this regard, the introduction of new technologies in management services is becoming increasingly important. Artificial intelligence is the ability of digital computers and computer-controlled robots to perform tasks normally performed by intelligent life forms. The emergence of such technologies was facilitated by the active development of the industry and significant scientific achievements. Artificial intelligence systems have found application in many aspects of business management, from personnel management to the full cycle of document processing. Software leaders such as SAP, Microsoft, Veriato, IBM, Entelo and Blu Vision have developed artificial intelligence systems to optimize company management issues. One of the leaders in the field of digitalization of human resource management is SAP. To simplify these processes

and improve productivity, the software maker offers companies a range of solutions, including training and development programs, onboarding and selection, and planning and analysis processes. The software offered by this company can reduce staff turnover by a third. Thanks to the ability to model the composition of employees and labor costs, assessing the financial consequences of employee activities becomes a reality. In this case, paper reports will be reduced by 72%, and company income will increase by approximately 20%. In addition to software that works autonomously, there is an entire organization that can coordinate the management activities of any company and assume full responsibility for the implementation of artificial intelligence systems.

Artificial intelligence fully automates document processing processes, such as recognizing and classifying documents, collecting data on documents, entering them into registration cards, sending documents for review, entering and collecting information about new business partners. The work of artificial intelligence technology in electronic document management systems includes several stages:

Stage 1 - entering documents into the system from operators of electronic document management, e-mail and streaming scanners.

2nd stage: text recognition by artificial intelligence and the process of its extraction. As a result, a PDF document is generated containing the recognized text.

Stage 3, classification of documents in the system is carried out using artificial intelligence algorithms in various forms:

1) by document type (invoices, contracts, letters);

2) by place of registration, by category, by journal and by source.

The fourth stage is the document retrieval process. The use of artificial intelligence systems may soon replace humans and their management and negotiation skills. When analyzing the areas of application of artificial intelligence systems in enterprises, the following positive aspects of management based on these technologies can be identified:

1) Possibility of business expansion without increasing costs. Automatic processing of requests and selection of offers does not increase transaction costs even with a rapid increase in the number of clients;

2) individualization of products and services when serving a huge number of

customers. Intelligent management systems automatically personalize products based on previous orders and customer catalog viewing;

3) automation ensures the objectivity of management decision-making and reduces the number of subjective errors in human decision-making.

4) Monitoring of market conditions. Intelligent control technologies make it possible to monitor changes in any market process (for example, the emergence of new products, changes in consumer preferences) and evaluate its dynamics. However, it should be noted that, despite the obvious advantages of introducing artificial intelligence in their activities, companies face a number of problems in the process of digitizing their activities.

Analysis of recent research and publications. The works of Russian researchers are considered as an information base for the analysis of the historical development of artificial intelligence: Ustinov O.E. [3], Dvadtsatov R.V., Ivanova I.V. [4]. Current research in the field of application of artificial intelligence is presented in the works of scientists: Malygin I.G., Komashinsky V.I., Mikhalev O.A. in their work were engaged in the study of foreign state concepts of AI development, and also formulated proposals for the formation of the concept of development of AI technologies. Verbitskaya V.V., Sokolova Ya.A in their study were engaged in the analysis of the application of artificial intelligence systems in various areas of enterprise management, including the positive and negative aspects of the implementation of artificial intelligence. Despite the enormous contribution of these authors to the issue of studying the application of artificial intelligence, the use of AI in enterprise management practice requires an analysis of the possibilities of using AI, and this also creates a need for a systematic study and evaluation of examples and methods of integrating AI into enterprise management processes, which will identify both potential benefits and possible risks, ensuring more efficient use of technology in business.

Artificial intelligence has been the focus of attention of scientists and practitioners since the 1950s. It can be defined as “the ability of a system to correctly interpret external data, extract knowledge from such data, and use it to achieve specific goals and objectives through flexible adaptation.” In the following years, artificial intelligence has developed fragmented and unbalanced in different research areas. This is





facilitated by the availability of big data, the self-learning capabilities of algorithms, and the increasing power of computers. Systems based on artificial intelligence are becoming more efficient due to recent technological advances, less expensive, and often used to solve business problems. Research on the role of artificial intelligence in strategic management dates back to the 1980s. Many promises were made regarding its managerial usefulness, but early forms, in the form of expert systems, failed to achieve their goals at the strategic level. This led to a reduction in publications and a temporary loss of significance for this research area. Early works from 1979 to 2005 considered artificial intelligence as the core technology of rule-based expert systems to support and improve strategic decision-making. In more recent publications (2015–2019), artificial intelligence finds its technological foundation in machine learning algorithms. They recognize patterns in data sets using statistical inference and have the potential to act autonomously in the field of cognitive tasks and process automation [3].

Today, in the era of the digital economy, many companies are transforming, growing, and entering new markets. In order to maintain the pace of business development at a high level, a flexible and modern approach to management is required. Therefore, the introduction of new technologies into the management service is becoming relevant. [9]

The purpose of the article. The relevance of the work is justified by the need to improve the quality and efficiency of management decisions of company managers through the use of artificial intelligence and its components. In the conditions of big data and a constantly changing external environment, it is problematic for management to quickly and effectively make strategic and tactical decisions, which leads to a deterioration in the performance of the enterprise. Consequently, the issue of automating and intellectualizing the routine collection of intra-company management information from different divisions of the organization is relevant for managers at different levels to make operational and most effective decisions. The main solution here is the introduction of artificial intelligence, which will allow collecting information from all departments, generating reports, analyzing the business environment and generating various management advice and proposals based on an analysis of the company's activities. But at the

moment, the use of artificial intelligence is poorly developed, which requires searching for measures for its development and determining its further prospects for implementation in the management system of companies, taking into account the import substitution policy.

The purpose of the study is for the authors to identify promising areas and systemic problems in the use of AI in the management of companies, as well as to develop a new set of competencies for managers working with AI.

The following scientific methods were used in the research: comparison method, analytical method, method of studying information materials, tabular method.

Presentation of the main research results. Artificial intelligence should be understood as a set of technologies and methods that allow computer systems not only to imitate human thinking, but also give them the ability to self-learn, which allows an artificial intelligent system to create meta-algorithms that allow solving new problems that the system has not previously encountered. The development of AI was especially influenced by the methodology of neural networks, which imitates and copies the organization of the nervous systems of living organisms into a network of neurons, allowing it to learn, determine patterns and identify interdependencies [3]. This functionality allows the use of AI in all areas of the economy. Thus, artificial intelligence technologies are already having a tremendous impact on the economy. PricewaterhouseCoopers estimates that by 2030, the contribution of artificial intelligence technologies to global gross domestic product (GDP) will be \$15.7 trillion, which exceeds the current combined GDP of China and India [4]. GDP growth will be facilitated by the use of AI to reduce costs, ensure production growth, improve the quality and personalize products and services. Also, AI can be used not only to generate responses in chatbots or notify about deadlines for completing production tasks, it can be widely used in business management [4].

The use of AI in management is due to the fact that humans have a limit to the speed and volume of assimilation and processing of information. Exceeding it leads to the emergence of psychophysiological problems that negatively affect the quality of management decisions made by the manager. Here, the use of AI technologies for big data analysis makes it possible to quickly respond to the rapid growth of data and the high dynamism of environmental parameters in mod-

ern realities, thereby improving forecasting capabilities [5].

The use of artificial intelligence technologies to analyze large amounts of data allows us to respond to the rapid growth of data and the high dynamism of environmental parameters in modern realities. Thus, artificial intelligence can be used by managers to collect and analyze various kinds of big data, automate monotonous and routine functions, advise in decision making and other everyday tasks.

At the moment, it is possible to determine a list of promising areas of activity for managers in which the introduction of artificial intelligence is possible (Table 1).

Looking into the future, the applications of artificial intelligence may expand even further. If the short-term perspective of managers using this technology is associated with a predominantly consulting and support function, then in the future technologies may completely eliminate their physical participation in the management of an already “smart” enterprise.

The main problem for managers in the context of the development of artificial

intelligence and the unpredictability of the external environment is the need to master new competencies. For example, to work with BI and BPM systems with artificial intelligence, you must have certain technical and professional knowledge or hard skills. This is especially true for the creation of breakthrough and high-tech products as part of the implementation of the import substitution policy [8].

Artificial intelligence is a breakthrough. The potential applications of artificial intelligence are exciting forward-thinking managers who see the opportunities that AI will provide to advance their careers faster and achieve results. The applications of artificial intelligence are many: from improving relationships with employees and customers to finding patterns in extreme volumes of data and performing repetitive tasks [4]. Applying artificial intelligence to routine management work gives managers more opportunities to focus on important activities. AI helps improve team dynamics by providing more timely feedback and increasing team accountability.

Table 1 – Promising areas of application of artificial intelligence (AI) by managers

Area of activity of the manager	Areas of application
Logistics Process Management	Artificial intelligence can be used by managers to automate and optimize the transportation process, inventory and warehouse management to optimize inventory and reduce storage costs.
Supply chain management	Artificial intelligence can be used to analyze data about suppliers, determine the most reliable supplier, select organizational processes for outsourcing, and classify positive and negative reviews about suppliers.
Enterprise marketing strategy management	Artificial intelligence can be used to develop an optimal marketing strategy, select a competitive position, intellectualize the processes of developing new products and services, market analytics and customer segmentation.
Product Quality Management	Artificial intelligence can be used to automatically control product quality to ensure compliance with standards and requirements, as well as in the management system for equipment maintenance and repair.
Financial management	Artificial intelligence using the method of neural networks and ML can collect, process, register and accumulate primary input data (financial documents). They also conduct intelligent analysis of financial data, forecast budgetary risks and exercise control over them.
Manufacturing control	Artificial intelligence can be used to increase and optimize performance, reduce energy consumption, increase throughput, improve diagnostic procedures.
Human Resource Management	Artificial intelligence can be used to recruit and retain employees, monitor performance results, conduct online interviews, staff planning and motivate the most talented personnel, objectively evaluate employees, and identify personnel compliance with corporate culture.
Management of risks	Artificial intelligence can model risks and predict them, and conduct training simulations of the onset of risk.
Strategic management	Artificial intelligence can advise top management on issues of enterprise development, concluding contracts, mergers and acquisitions, choosing investors, assessing forecasts and subsequent decision-making.

Source: compiled by the authors based on [5]





Here it is necessary to note the importance of soft skills, which are necessary for managers to organize the work of the workforce as efficiently as possible. This is especially true for communication, emotional intelligence and creative thinking. These soft skills are most problematic to automate using artificial intelligence, which is best suited for solving simple problems and replacing monotonous work. Although the acclaimed ChatGPT is already capable of performing tasks that require creativity on demand. He can already write books and film scripts, conduct business

correspondence and blogs, develop business strategies and projects, and perform many other professional tasks. At the same time, the ChatGPT neural network is constantly self-learning, which only increases the accuracy and quality of the response. For a manager, this AI technology is a powerful aid in making effective business decisions. However, skills in competent query writing are required here. Thus, it is possible to create a set of competencies that are in demand in the context of digital transformation, divided into hard skills and soft skills necessary for a modern manager (Table 2).

Table 2 – Necessary competencies of managers who work with artificial intelligence

Hard skills	Soft skills
Ability to analyze results obtained using artificial intelligence	The ability to attract and make allies of creative people
Ability to make informed management decisions based on artificial intelligence data	Ability to attract creative employees using non-trivial motivational factors
Skills in training personnel in the basics of artificial intelligence	The ability to find individual ways to motivate a specific employee to creative activity, based on taking into account his individual characteristics
Ability to justify the feasibility of introducing artificial intelligence into specific business processes	The ability to identify the needs of society for any product or service
Ability to manage project risks using artificial intelligence	Skill in combining areas in need of modernization with existing resources and capabilities
Ability to analyze big data and visualize it	Ability to model modern business processes that are ahead of competitors, containing new, innovative methods and approaches
Knowledge of cybersecurity technologies, cloud computing, robotic process automation (RPA), Internet of Things (IoT)	Flexibility, that is, a high degree of adaptation of a modern employee to constantly changing conditions
Possession of digital HR management skills (human resources)	Interindustry communication, that is, understanding processes in different industries
Knowledge of digital marketing basics	Interest and ability for artistic creativity
Ability to make timely adjustments to optimize Artificial Intelligence and manage business processes	Operate freely in a fast-paced work environment

Source: compiled by the authors based on [6]

It is worth noting that managers need to pay more attention to creative and management functions, which are least susceptible to replacement with the help of Artificial Intelligence. Also, to work with artificial intelligence as efficiently as possible, a manager, in addition to working with artificial intelligence, needs to master other advanced digital technologies of Industry 4.0. These technologies are closely related, which requires additional study to improve the quality of digital control. For example, a manager's knowledge of

the basics of cybersecurity when working with artificial intelligence is necessary to protect against cyber attacks on the company. Therefore, a manager of the digital era must not only efficiently perform his managerial functions related to organizing the work of subordinates, but also possess advanced digital skills in working with artificial intelligence and other revolutionary technologies.

Thus, having studied the experience of introducing artificial intelligence in enterprises and considering its potential, we can state that

artificial intelligence in the field of management has both difficulties and great prospects for development. Modern software solutions create good opportunities for companies to grow and improve. The use of new technologies to optimize company management processes is completely justified. In addition to facilitating workflows by performing tasks based on algorithms, artificial intelligence can help employees use their time more efficiently and be aimed at solving global problems that only humans can do.

AI-based decision support systems can improve the outcome by predicting the likelihood of an outcome or risk, can analyze past, current, and new data, and identify or suggest safety issues to the user. Their ability to predict with high relevance and accuracy leads to new ways of optimization. Implementing AI is nothing less than implementing a change management project. In change management, the human dimension is central. Satisfying consumer needs and changing behavior has never been an easy task. But today, it is even more difficult. Using AI in decision making is one of the most useful. Fortunately, AI helps not only analyze but also predict customer behavior. Using a new AI solution may lead to changes in processes and protocols, which is a challenge in itself. AI support is a way to ensure understanding and support for the solution. Involving them in the development and delivery of AI solutions can also bring significant benefits to both the AI solution provider and the consumer. The process of creating an AI solution can lead to better AI use case design, improved performance and quality of AI algorithms, and better and more complete use of data. As most people know, data is not always stored in a standardized manner. Data inaccuracies and missing information are all too common, meaning that organizations need to take a close look at their data before they begin preparing for AI implementation. AI synergies are most effective when machine learning algorithms can be fed with sufficient and quality data. Fortunately, AI can also be used to improve data quality by ensuring that all necessary information is collected, standardized, and trusted [10]. Questions such as the explainability of AI in decision making can cause skepticism. This can arise from managers not understanding how data is processed, how algorithms can learn non-intuitive relationships, why an algorithm suggests a particular solution, etc. The use of AI is gradually becoming a

necessity. AI technologies can simultaneously track various aspects of user behavior and provide a complete overview of changing customer preferences. Marketers receive detailed information that allows them to create unique offers and decide how much budget to invest in different marketing channels, including TV, radio, and the Internet. AI algorithms are most effective in the online space. There seems to be no doubt that the use of AI technologies to support decision-making will continue to grow, but the challenges that arise from its use need to be addressed.

Conclusions and prospects for further research. Today, artificial intelligence technologies are of particular interest and, as noted, are the most promising. They carry both new opportunities and new threats that must be taken into account when implementing and using them. Artificial intelligence technologies are developing and finding their application in a variety of areas, including management. And one of the areas of application of artificial intelligence technologies in the field of management is the process of making management decisions. In connection with the stated goal of describing and assessing the prospects for the introduction and application of artificial intelligence technologies in management practice, and identifying their positive effects, the main emphasis was placed on determining the capabilities of artificial intelligence to improve the efficiency of management decisions and, above all, strategic decisions made by companies. The most important of these effects are a multiple increase in the volume of information used to develop alternative solutions, and a significant reduction in resource costs, rapid analysis of large amounts of data, the development of reliable scenarios for the consequences of decisions made, an increase in the quality of decisions, and a number of others. Understanding the possibility of achieving such positive effects, as well as the limitations in the use of artificial intelligence, makes the use of these technologies more productive and meaningful.

Artificial intelligence is a breakthrough technology that can solve conservative problems of the management system. Intelligent systems based on neural networks and ML have broad prospects for use by managers in the field of logistics, marketing, production, human resource management, business development strategy formation, etc. In these areas, the use of artificial



intelligence is capable of analyzing big data about the external and internal environment, automating routine operations, advising managers, managing finances and performing many other managerial functions. At the same time, the effectiveness of artificial intelligence increases when it is used in BPM and BI systems to automate the work of various departments of companies. It is worth noting that these systems with support for artificial intelligence are actively being replaced by imports.

To work with AI technologies and systems, a modern manager needs to master hard skills (digital competencies) and soft skills (competencies focused on the creative process) to quickly adapt to a changing external and internal environment.

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