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ARTIFICIAL INTELLIGENCE'S IMPACT ON THE LABOR MARKET IN BUSINESS

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ABSTRACT

This article examines the impact of artificial intelligence (AI) on the labor market within the business sphere. The assessment of AI effects includes both positive and negative aspects, such as increased efficiency and process automation, as well as threats to employment. Special attention is given to changes in management approaches, the emergence of new professions, and the transformation of educational programs. Predictions and trends supported by research data are discussed, as well as AI role in reshaping corporate structures and organizational processes.

Keywords: Artificial Intelligence (AI), Labor Market, Automation, Future Professions, Business Transformation, Management.

I. INTRODUCTION

Over the past few decades, artificial intelligence (AI) has become a driving force behind transformation in various sectors of the economy. Through its integration, businesses aim to boost productivity, reduce costs, and streamline operations. These changes are reshaping managerial structures and bringing both new challenges and opportunities for the workforce. AI influences business functions by automating tasks such as production, data management, and decision-making, which can lead to shifts in traditional job roles and workforce requirements.

The relevance of this study stems from the fact that the incorporation of AI into business practices is not only a technological matter but also a social one. The rise of AI is expected to reduce jobs in areas involving repetitive and manual tasks while creating an increased demand for professionals in IT, data analytics, and AI system development. However, this transition presents a paradox: while productivity and efficiency improve, social unrest may arise unless measures are taken to retrain and adapt workers to these new realities.

The goal of this research is to analyze the impact of AI on the workforce, focusing on automation, and to examine the broader implications of these changes on employment, management, and organizational structures.

II. MAIN PART THE ROLE OF AI IN BUSINESS PROCESS TRANSFORMATION

From the author's point of view, AI has become a technology that fundamentally changes approaches to business organization and management. Its implementation leads to the transformation of key processes, making them more efficient, adaptive and data-oriented. One of the central aspects of AI influence is the optimization of management processes, which allows companies to increase productivity and adapt to changing market conditions.

First of all, it is worth noting that AI is transforming the approach to processing data, which becomes the basis for decision-making. Machine learning-based (ML) systems allow analyzing large volumes of information with high speed and accuracy, identifying patterns and predicting market trends. For example, companies using deep learning algorithms can predict customer needs, optimize supply chains, and minimize costs [1]. This makes business processes not only more efficient, but also proactive.

Another important direction is **automation of routine operations.** AI can replace manual labor in areas such as accounting, document processing, and inventory management. Research suggests that AI-based automation can reduce operating costs in a number of industries (fig. 1).

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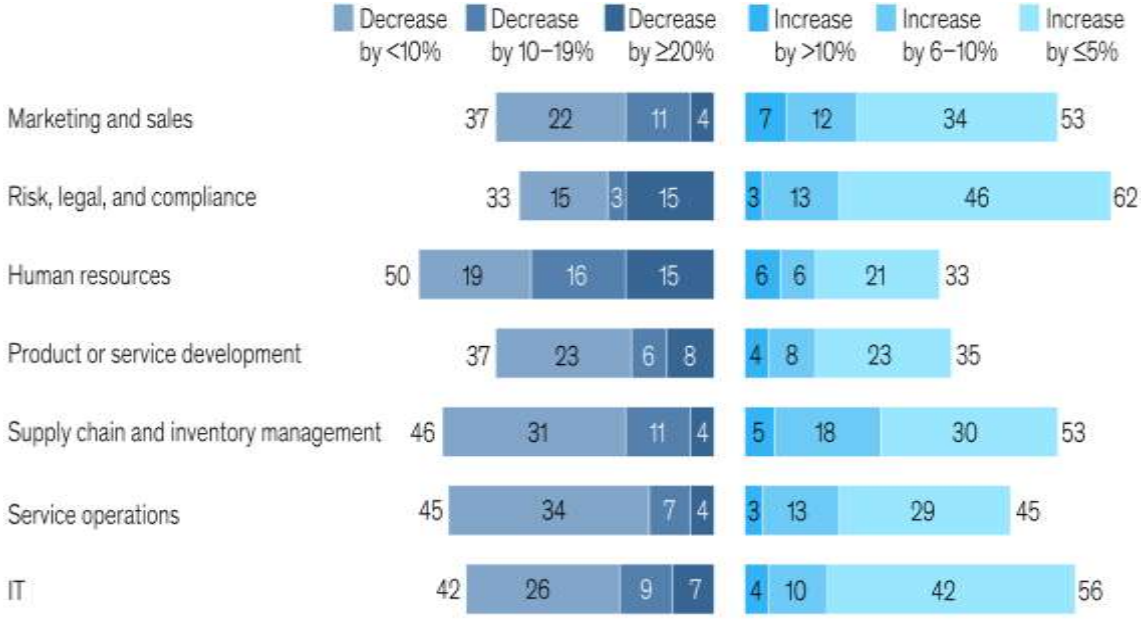

Figure 1: Cost decrease and revenue increase from generative AI adoption in 2023 [2].

Customer interactions are significantly changed by AI, automating support with chatbots and voice assistants based on natural language processing (NLP). These technologies provide 24/7 service, fast responses, and query analysis, which improves the quality of services. It is important to note the effectiveness of AI in reducing human errors, for example, when processing complex transport requests, where algorithms take into account many factors and optimize routes [3].

Integrating AI into strategic management enables predictive analytics to be used to select optimal strategies. Tools such as IBM Watson help analyze the market and minimize uncertainty, which increases the accuracy of decisions.

The use of AI is widespread in manufacturing, retail, and finance to improve quality, personalize offers, and prevent fraud. Hybrid models of work that combine algorithms and humans provide creative flexibility and analytical precision. In this way, AI transforms business processes by reducing costs, increasing efficiency, and minimizing errors.

III. THE IMPACT OF AUTOMATION ON THE LABOR MARKET

Automation based on AI technologies is having a significant impact on the labor market, changing both the nature of employment and the requirements for employee qualifications. The development of ML algorithms and process robotization leads to a decrease in demand for traditional professions, while new opportunities are created for specialists in high-tech fields. These changes create both opportunities and challenges for workers, businesses, and society as a whole.

First of all, automation leads to job losses in areas related to routine and repetitive tasks. In the manufacturing sector, which traditionally employs a large number of low-skilled workers, the introduction of industrial robots reduces the need for physical labor (table 1).

Table 1: Forecast of professions subject and not subject to various automation [4].

Occupation	Lowest automation risk	Occupation	Highest automation risk
Occupational therapist	0%	Food science technician	97%
Music therapist	0%	Procurement clerk	97%
Rehabilitation physician	0%	Library technician	97%
Physical education specialist	0%	Cargo and freight agent	97%

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Technical education teacher	0%	Tax preparer	97%
Exercise physiologist	0,02%	Real estate broker	96%
Neuropsychologist	0,02%	Counter and rental clerk	96%
Art therapist	0,17%	Agricultural inspector	96%
Nursing instructor	0,19%	Manicurist	96%

It is projected that 83 million jobs will be lost over the next five years, taking into account the creation of 69 million new ones, which means a reduction in employment of 14 million jobs [5]. However, at the same time, a new segment of professions is emerging related to the development, implementation and maintenance of AI technologies. The demand for data analysts, algorithm developers and robotics engineers is growing. For example, according to studies in all US sectors for which data are available (except agriculture, forestry, fishing and hunting), the number of vacancies related to AI increased on average from 1,7% in 2021 to 1,9% in 2022. However, in 2023, demand decreased to 1,6%, but employers in the US are more often looking for workers with skills related to AI [6]. This highlights the need to reorient the education and training system so that employees can adapt to changes.

Plays a special role **redistribution of employment between regions and industries.** In advanced economies, automation is boosting productivity but creating social pressures by eliminating jobs in traditional sectors. In developing countries, by contrast, automation is proceeding more slowly, allowing a larger share of the workforce to remain in agriculture and manufacturing. However, this gap could exacerbate inequality between economies if support measures are not put in place in a timely manner.

There are also changes in skills requirements. There is a growing demand for hybrid skills that combine technical expertise and creative thinking. For example, marketing professionals must not only develop strategies but also understand analytics based on AI data. This requires reskilling of existing staff, which poses a significant challenge for mature workers who are not ready to master new technologies. Many companies are already implementing employee training programs aimed at developing AI and robotics skills, but their coverage remains insufficient.

Automation also impacts working conditions and employment formats. The shift to flexible and remote work models is being accelerated by the introduction of AI tools that enable teams and projects to be managed regardless of location. For example, analytical systems help distribute tasks in real time, minimizing the loss of time and resources [7]. This, in turn, contributes to the growth of contract and project employment, but raises questions about the stability of income and social guarantees for workers.

Moreover, automation exacerbates inequality in the labor market by widening the gap between high-skilled and low-skilled workers. Those with specialized skills gain access to better opportunities and higher wages, while those in lower-skilled roles risk being displaced by automation. A clear example can be seen in the financial sector, where analysts and algorithm developers earn significantly more than employees whose tasks are limited to document processing or customer service. This trend underscores the need for businesses and governments to address the potential negative consequences by investing in retraining programs and ensuring adequate social security measures.

In this context, AI-driven automation is fundamentally reshaping the labor market, creating both challenges and opportunities. It leads to job losses in traditional sectors but simultaneously drives the demand for high-tech professions. Successful adaptation to these changes requires a comprehensive approach – one that includes educational reforms, retraining initiatives, and the adjustment of social systems to meet the evolving demands of the workforce. As studies indicate, addressing these shifts proactively through policy and support systems can mitigate potential disruptions and promote a more equitable distribution of the benefits that AI can offer.

IV. CHANGES IN THE MANAGEMENT PARADIGM

The introduction of AI has a significant impact on the management paradigm, changing approaches to decision-making, control structures, and leadership. AI not only automates routine processes, but also becomes an active participant in strategic management, which transforms traditional leadership roles and requires new approaches to organizational development.

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First of all, AI changes decision-making processes, making them faster and more accurate. Traditionally, management decisions were based on the experience and intuition of managers, while modern technologies allow the use of powerful analytical tools. ML-based systems process huge amounts of data, providing recommendations based on objective indicators. For example, predictive analytics algorithms help choose optimal strategies for entering new markets or managing operational risks. This reduces the likelihood of errors and increases business efficiency.

Another important change is **transition to decentralization of management.** Thanks to AI, companies are increasingly moving away from rigid hierarchies in favor of flat structures where decisions are made at the level of project teams or individuals. AI algorithms provide transparency of processes, giving every employee access to relevant information and analytics. This allows for faster task execution and increased organizational agility. For example, in tech companies, AI is used to coordinate distributed teams, minimizing the need for executives to mediate.

The changes also affect the roles of managers. AI is taking over many traditional management functions, such as planning, monitoring task execution, and risk management. This is leading to a redistribution of responsibilities: leaders are increasingly focusing on the strategic and creative aspects of management. Research shows that more than 60% of HR tasks can be automated using AI, including analyzing employee performance and predicting their career growth [8]. However, this also creates a challenge for managers, who need to develop new skills in interacting with technology.

The use of AI to personalize management is gaining attention due to its ability to analyze data on employee behavior and preferences, allowing for tailored approaches to motivation and training. Algorithms such as natural language processing systems can assess employees' emotional states and recommend actions to increase their engagement. This can improve the work environment, but raises questions about privacy and the ethics of data use.

The integration of AI also raises ethical and legal issues, especially in decision-making. Errors in algorithms can lead to discrimination or incorrect decisions, which requires the development of fair and transparent strategies. AI also opens up opportunities to predict changes in the economic environment, which helps organizations adapt to future challenges and minimize risks in unstable conditions, which is especially important for large companies.

V. CONCLUSION

The introduction of AI into business processes is an integral part of the modern transformation of labor markets and management. AI technologies are already actively influencing many industries, accelerating processes, increasing efficiency and creating new business opportunities. However, along with the positive consequences, such changes pose new challenges for society and business, including job cuts in traditional sectors and the need to retrain personnel. Particular attention should be paid to the training of specialists in the field of IT, data analytics and the development of AI systems, which has become especially relevant in light of the growing demand for these professions.

However, successfully adapting to the changes brought about by AI requires a comprehensive approach that includes educational reforms, improved training systems, and social support for workers at risk of job loss. It is also important to consider ethical issues such as privacy and transparency of algorithms. Ultimately, the future of the AI-driven labor market depends on how innovation, social responsibility, and support for workers as they adapt to the new reality are balanced.

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