

algorithms that lead to incorrect forecasts and making wrong decisions, job reductions, and therefore social instability and deterioration of corporate culture, problems with liability for errors, as well as problems with the protection of personal data, which are needed for analyzing the work of the enterprise and making decisions.

So the introduction of artificial intelligence in the economy has a number of advantages as well as a number of disadvantages. There is no definite decision whether artificial intelligence is "good" or "evil", that is why each enterprise assesses the benefits and risks for itself and makes a decision regarding the introduction or alienation of artificial intelligence in its enterprise.

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**Hrabariev A. V.**,  
candidate of economic sciences, associate professor,  
**Baraniuk M. R.**,  
postgraduate student,  
Kyiv National University of Economics named after Vadym Hetman

### PROSPECTS AND CHALLENGES OF AI IMPLEMENTATION IN BANKING

Modern artificial intelligence is demonstrating significant progress in natural language processing, computer vision, and decision-making. Its applications are transforming numerous industries, including finance [1].

The banking sector has undergone significant transformations over the past few decades, driven largely by advances in technology. Among the most impactful of these technological advancements is the advent of Artificial Intelligence (AI). Integration of AI into banking processes promises to increase operational efficiency, elevate customer experience, and offer innovative solutions to traditional banking challenges [2-3].

The utilization of AI in banking is not a novel concept. Banks have long been using automated systems for transaction processing and fraud detection. What sets the current wave of AI adoption apart is the sophistication and complexity of the algorithms now in use. Modern AI systems can analyze vast amounts of data in real-time, providing insights and making decisions that were previously unimaginable.

Despite these advancements, the deployment of AI in banking is fraught with significant challenges [4]. Data privacy and security concerns are at the forefront, as banks handle sensitive personal and financial information. Additionally, the ethical implications of AI use, including biases in algorithmic decision-making and the potential for discrimination, raise critical concerns that require careful consideration to maintain public trust and regulatory approval.

Lastly, the ethical implications of AI in banking extend beyond issues of bias and fairness. Questions about the appropriate use of AI in financial decision-making, the potential for AI to exacerbate economic inequalities, and AI's implications for employment in the banking sector represent pressing issues. Banks must grapple with these ethical dilemmas while striving to innovate and remain competitive in an increasingly digital financial landscape.

The summarized perspectives and challenges are presented in Table 1.

The adoption of AI in the banking sector has seen significant growth, with many prominent financial institutions implementing AI-driven solutions to enhance their operations, improve customer service, and gain competitive advantages. Here are several notable examples of how famous banks have applied AI in their business processes [3-6]:

Table 1

## Prospects and Challenges of AI Implementation in Banking

Prospects of using AI in banking	Challenges
Enhanced customer experience through hyper-personalized services	Data privacy and security concerns
Improved operational efficiency and cost reduction	Regulatory compliance and lack of clear AI-specific guidelines
Advanced fraud detection and prevention	Algorithmic bias and fairness issues
More accurate credit scoring and risk assessment	Integration with legacy banking infrastructure
Sophisticated algorithmic trading and investment management	Explainability and interpretability of AI decisions ("black box" problem)
Automated compliance and regulatory reporting	Talent acquisition and retention in AI
Process automation for back-office operations	Ethical implications of AI in financial decision-making
Advanced customer behavior analysis for marketing	Potential exacerbation of economic inequalities
Integration with emerging technologies (blockchain, IoT)	Impact on employment in the banking sector
Development of new AI-driven financial products and services	Keeping pace with rapidly evolving AI technologies

*Compiled by the authors based on [3-10].*

JPMorgan Chase has been at the forefront of AI adoption in banking. They developed and implemented COIN (Contract Intelligence), an AI-powered system that interprets commercial loan agreements. This system can accomplish in seconds what previously took lawyers and loan officers 360,000 hours annually. JPMorgan has also introduced an AI-driven tool called Emerging Opportunities Engine, which identifies clients best positioned for follow-on equity offerings, demonstrating AI's potential in investment banking.

Bank of America has made significant strides with its AI-powered virtual assistant, Erica. Launched in 2018, Erica uses natural language processing and predictive analytics to provide personalized financial guidance to customers.

Goldman Sachs has leveraged AI extensively in its trading operations. They've developed machine learning algorithms that can parse through vast amounts of data to

identify trading opportunities and manage risk. In their investment banking division, Goldman Sachs uses AI to assist in M&A deal-making, helping to identify potential acquisition targets and analyze market trends.

Wells Fargo has implemented AI in its fraud detection systems. Their AI models analyze transaction patterns in real-time, flagging suspicious activities for further investigation. This has significantly improved the bank's ability to prevent fraudulent transactions while reducing false positives.

Citigroup has applied AI in various aspects of its operations, including risk management and compliance. They've developed AI systems that can analyze regulatory documents and flag potential compliance issues, significantly reducing the manual workload for compliance officers.

HSBC has implemented AI in its anti-money laundering (AML) efforts. Their AI system, developed in partnership with Quantexa, uses advanced analytics to identify potentially suspicious activities across HSBC's global network. This has greatly enhanced the bank's ability to detect and prevent financial crimes.

UBS has leveraged AI to enhance its wealth management services. They've developed an AI-driven system that can analyze vast amounts of financial data to provide personalized investment advice to clients. UBS has also used AI in its back-office operations, automating routine tasks and improving operational efficiency.

These examples demonstrate the wide-ranging applications of AI in the banking sector, from customer-facing services to back-office operations and risk management. As AI technologies continue to evolve, we can expect to see even more innovative applications in the future, further transforming the banking landscape.

The integration of Artificial Intelligence in the banking sector represents a paradigm shift in how financial services are delivered and managed. This comprehensive analysis has revealed both significant challenges and promising prospects associated with AI adoption in banking.

In conclusion, AI holds immense potential to transform the banking industry, offering unprecedented opportunities for efficiency, personalization, and innovation. While challenges remain, particularly in areas of ethics, regulation, and data

management, the trajectory of AI in banking is undeniably positive. As AI technologies continue to evolve, we can expect to see even more revolutionary applications that will reshape the financial landscape. The banks that successfully navigate the complexities of AI adoption, balancing innovation with responsibility, will likely emerge as the leaders in this new era of AI-driven banking.

Future research should focus on developing more transparent and interpretable AI models, exploring the long-term economic impacts of AI in banking, and investigating novel applications of emerging technologies like quantum computing in financial services.

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**Parkhomenko N.**,  
Prof., Dr. Sc., PhD,  
**Štarchoň P.**,  
Prof., PhD,  
**Gubíniová K.**,  
Assoc. Prof., JUDr., PhD,  
Comenius University in Bratislava, Slovakia

## **RISKS AND OPPORTUNITIES OF USING AI IN HUMAN RESOURCE MANAGEMENT**

In today's world of rapid digital development, artificial intelligence (AI) is increasingly being integrated into management processes in various fields, including human resources management. The use of AI in the HR field opens up significant opportunities for optimizing the processes of recruitment, training, assessment and retention of personnel. At the same time, it is accompanied by a number of risks related to ethics, confidentiality and discrimination. Table 1 shows the level of implementation of artificial intelligence in HR functions.