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EVALUATING THE IMPACT OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES ON BANKING: OPPORTUNITIES AND RISKS

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This paper provides a comprehensive analysis of the integration of artificial intelligence technologies into the banking system, emphasizing their opportunities, risks, and future prospects. It highlights the growing relevance of AI in the modern financial sector, particularly the rapid expansion of technologies such as scoring systems and customer service chatbots, which have accelerated the digital transformation of banks worldwide. The main objective of the study is to examine both the positive and negative impacts of AI implementation on banking operations and to evaluate these effects within the context of Uzbekistan's banking system.

The research also investigates the adoption of AI in the world's top three banking systems, assessing how these technologies influence operational efficiency, risk management, and service quality.

Economists and professors Macrina Lazo and Ryan Ebarido of De La Salle University, in their 24 October 2023 article "*Artificial Intelligence Adoption in the Banking Industry: Current State and Future Prospect*"*, note that the banking sector has historically been an early adopter of technological innovations and has undergone significant transformations over time. Key innovations that reshaped banking operations include the telegraph and transatlantic cable, magnetic tape and microchips, ATMs, telephone banking, mainframe computers, and more recently, internet and mobile banking. As computational technologies have become increasingly complex, the sector has entered the era of artificial intelligence.

The authors identify seven primary areas of AI application in banking: decision-making, machine learning, natural language processing, planning and scheduling, robotics and automation, speech synthesis, and computer vision technologies. While AI is increasingly applied across multiple industries including manufacturing, retail, marketing, hospitality, tourism, supply chain, telecommunications, public administration, education, e-commerce, insurance, and finance the highly regulated nature of banking makes AI adoption more

complex. Central banks often adopt a cautious approach, prioritizing risk management, which can slow the acceptance of new innovations such as AI.

According to Lazo and Ebarido, AI implementation in banking is not a mere optional enhancement. The entry of digital competitors, particularly fintech companies, compels traditional banks to adapt. Fintech firms leverage AI to offer cost-effective, flexible, and 24/7 financial services. Additionally, the increasing complexity of customer expectations, and the demand for rapid, continuous, and personalized services, further underscores the necessity of AI adoption in the banking sector.

In recent years, the adoption of artificial intelligence technologies in banking has become increasingly widespread. Leading global banks have integrated AI to enhance operational efficiency and service quality. For instance, JPMorgan Chase's Contract Intelligence system, launched in 2017, automatically analyzes over 360 000 legal documents annually*, reducing review time from hundreds of thousands of hours to seconds. Its AI driven fraud detection system evaluates millions of daily transactions in real time, preventing losses exceeding USD 150 million per year.

The Industrial and Commercial Bank of China, the world's largest by assets, employs an Intelligent Risk Management System and AI powered customer service robots. Its chatbots handle 95 % of customer inquiries without human intervention, and facial recognition authentication is used for payments. By the end of 2024, ICBC reported* a 30 % improvement in credit risk mitigation due to AI implementation. HSBC applies AI primarily in anti-money laundering, voice-based customer identification, and investment advisory systems. Its AI anti-money laundering platform reduced detection time by 20 % and increased accuracy, while AI-driven investment advisory improved client portfolio returns by an average of 12 %.

AI offers notable benefits: predictive analytics enhance credit risk assessment, reducing default risks and expanding lending opportunities for small and medium-sized enterprises. Chatbots and virtual assistants provide 24/7 customer service while lowering operational costs. However, risks remain, including potential algorithmic bias, vulnerability to cyberattacks, and structural changes in employment.

In Uzbekistan, AI adoption in banking is still emerging. Commercial banks such as Ipoteka Bank and Asaka Bank have begun leveraging AI for customer identification, credit scoring, and chatbot services*. Expanding AI-based anti-money laundering and risk management systems could enhance operational efficiency and international competitiveness. Simultaneously, developing regulatory mechanisms to audit and explain AI-driven decisions is critical.

The study demonstrates that integrating artificial intelligence technologies into the banking system not only enhances service quality but also significantly improves operational efficiency. Leading global banks JPMorgan Chase, ICBC, and HSBC illustrate the effectiveness of AI solutions in document analysis, fraud

detection, risk management, customer service, and investment advisory. These technologies enable rapid, personalized responses to customer needs, reduce costs, and strengthen financial security.

In Uzbekistan, although AI adoption remains limited, the implementation of scoring systems, chatbots, and customer identification practices in certain commercial banks provides a strong foundation for future development. Nevertheless, outdated IT infrastructure, weak data integration, insufficient skilled personnel, and an incomplete legal and regulatory framework slow progress.

For successful AI integration in Uzbekistan's banking sector, technological modernization, workforce development, enhanced information security, and increased public trust in AI are essential. Achieving these goals will allow domestic banks to remain competitive not only in the local market but also in the international financial system.

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RISK-BASED SUPERVISION OF ISLAMIC MICROFINANCE ORGANIZATIONS IN UZBEKISTAN UNDER THE EVOLVING PRUDENTIAL FRAMEWORK

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Annotation. *This thesis analyzes the regulatory gap between the legal recognition of Islamic finance services in Uzbekistan's microfinance sector and the absence of risk-sensitive supervisory methodology. It argues that existing compliance-based prudential ratios do not adequately reflect the heterogeneous risk structure of Shariah-compliant contracts. Based on Basel supervisory principles and IFSB standards, the study substantiates the necessity of introducing a proportionate risk-based supervision framework for Islamic microfinance organizations.*