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POSSIBILITIES AND ADVANTAGES OF EFFECTIVE USE OF ARTIFICIAL INTELLIGENCE IN THE BANKING SYSTEM OF THE REPUBLIC OF UZBEKISTAN

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Abstract

The introduction of artificial intelligence into the banking system and its effective use, determining the negative and positive effects of artificial intelligence on banking activity, the advantages and disadvantages of banking activity, and the risks arising from them are the most important issues today. the effective use of artificial intelligence leads to an improvement in the financial situation in banks, allows to reduce costs and save time. In addition, it allows updating the general situation in banks, constantly updating the information base, and accelerates the process of international integration. This article analyzes the areas where artificial intelligence can be affected and where it can be used effectively.

Keywords: Artificial Intelligence, Information Technologies, Payment Systems, Automation, Detecting and Preventing, Automated Compliance Monitoring, Data Quality.

In recent years, a number of effective works have been carried out in the banking system of Uzbekistan to expand digital services. In particular, in 2020, the first national digital commercial bank - joint-stock commercial bank "Anorbank" was established. Later in the same year, joint-stock commercial bank "TBC Bank" specializing in digital services, "UZUM BANK" joint-stock company in 2021, "SMART BANK" joint-stock company in 2022, "APEX BANK" joint-stock company in 2023, "HAYOT BANK" joint-stock company, " A number of digital banks, such as "YANGI BANK" joint-stock company, have started their activities and are working successfully.

The digital economy operating on information technology platforms is rapidly developing, which necessitates the creation of new models of such platforms. The state is taking extensive measures to develop the digital sector of the economy, electronic document circulation systems are being introduced, electronic payments

are being developed, and the regulatory legal framework in the field of electronic commerce is being improved.

Distributed data registry technologies, "artificial intelligence", use of supercomputer capabilities, as well as activity on crypto-assets are one of the directions of digital economy development in many countries of the world. Distributed data registry technologies are gradually being introduced not only to many sectors of the economy, but also to the public administration system and other public relations.

Step-by-step introduction of digitization of economic entities in Uzbekistan, in this process, by using modern financial technology models, to harmonize the programs of introducing modern information technologies in enterprises with programs of technological re-equipment of these enterprises, to increase the volume of sales by introducing artificial intelligence technologies, to improve customer service and the implementation of comprehensive targeted measures in areas such as improving the mechanisms of interaction with customers (customers) is considered urgent.

Discover how AI is transforming the banking sector. From enhanced customer experiences to streamlined operations, AI is revolutionizing the way we bank.

Artificial Intelligence (AI) has emerged as a transformative force in various industries, and the banking sector is no exception. With its ability to process vast amounts of data, analyse patterns, and make intelligent decisions, AI is revolutionising banking services, enhancing customer experiences, and streamlining operations. Here are a few key areas where AI is making a substantial impact:

1. Enhancing customers' experience through AI-powered solutions

One of the main benefits of AI in banking is its ability to analyse vast amounts of data quickly and accurately. AI algorithms can analyse a customer's financial data, goals, risk tolerance, and market trends to provide tailored financial advice.

By analysing customer data, AI algorithms can identify potential products or services that best align with a customer's needs and preferences. This enables banks to provide personalised recommendations and offers to their customers, enhancing the customer experience and increasing revenue opportunities for banks.

Moreover, chatbots or virtual assistants have become a standard feature on banking websites and mobile apps. These chatbots enable quick and efficient customer interaction, providing instant responses to customer inquiries, helping with transactions, and guiding customers through various banking services.

AI-powered chatbots can provide round-the-clock customer support, ensuring that customers can access assistance at any time. This reduces wait times and enhances convenience for customers who may have inquiries or issues outside of regular banking hours.

2. Automating manual processes and improving operational efficiency

AI-driven automation, including robotic process automation (RPA), helps in reducing operational costs and risks by automating repetitive tasks, allowing human work force to focus on more complex and value-added operations. AI-powered automation can streamline and optimise various banking processes, such as customer onboarding, data entry, document verification, and compliance checks.

This can reduce manual errors, speed up processes, and free up human resources to focus on more complex tasks and customer interactions. This helps banks streamline operations, improve productivity, and enhance overall efficiency.

AI-based systems are also being used to make more informed, safer, and profitable loan and credit decisions by analysing customer behaviours and patterns, thereby improving the overall quality of lending decisions

Predictive analytics powered by AI enables banks to make data-driven decisions when it comes to resource allocation. By analysing customer behaviour patterns, transaction history, and market trends, banks can optimise their resources, offer personalised products and services to customers, and maximise profitability. AI-powered data analytics ensures that banks can respond quickly to market changes and customer demands. Predictive analytics also helps in identifying potential risks and opportunities for growth.

3. Detecting and preventing fraud in banking

AI can significantly assist in detecting and preventing fraud in banking. AI algorithms can analyse vast amounts of data to identify suspicious patterns and behaviours in real-time. This enables banks to intervene promptly, prevent fraudulent activities, and safeguard customer assets. Through AI-powered algorithms and predictive analytics, banks can identify potential risks, detect early warning signs, and make informed decisions to mitigate risks and minimise potential losses.

Behavioural biometrics, a form of AI-powered security, analyses unique patterns in customer behaviour such as keystroke dynamics and mouse movements. This technology adds an extra layer of security, making it more difficult for fraudsters to impersonate customers and access their accounts. Behavioural biometrics offer enhanced security without compromising the customer experience.

AI-assisted cybersecurity systems employ advanced algorithms to detect and prevent cyber attacks in real time. AI can strengthen cybersecurity measures by continuously monitoring and analysing network traffic, detecting potential threats, and preventing data breaches. This helps protect customer information, ensuring a safe and secure banking experience.

The integration of behavioural biometrics and AI-assisted cybersecurity measures strengthens the security infrastructure of banks, reducing the risk of fraud and enhancing customer trust.

4. Automated compliance monitoring and reporting

Compliance monitoring is a critical aspect of banking, and AI is making it more efficient than ever. AI-powered tools can analyse vast amounts of data, identify patterns, and detect anomalies that may indicate fraudulent activity or money laundering. By leveraging machine learning algorithms, AI can also improve over time as it learns from new data and adapts to changing trends.

Additionally, AI can help banks automate compliance tasks, such as Know Your Customer (KYC) and Anti-Money Laundering (AML) checks, reducing the risk of human error and freeing up resources for more strategic initiatives. Overall, AI can enhance the effectiveness and efficiency of banks' financial crime prevention efforts, helping to protect both the institution and its customers.

5. Challenges facing the adoption of AI in banking

While the adoption of AI in the banking sector offers numerous benefits, there are several challenges that banks may face:

- **Data quality and availability** – AI algorithms heavily rely on large volumes of high-quality data for accurate predictions and insights. Banks may face challenges in ensuring data quality, completeness, and accessibility. Legacy systems and scattered data across different systems can make it difficult to integrate and utilise data effectively.

- **Regulatory considerations** – The use of AI in banking requires compliance with various regulations, such as data privacy and security laws. Banks must ensure that AI systems and algorithms are transparent, explainable, and fair to customers. Striking a balance between innovation and compliance can be a challenge.
- **Integration with existing systems** – Banks often have complex and interconnected IT systems. Integrating AI technologies with existing infrastructure can be challenging and may require significant investments in technology upgrades and system integration.
- **Customer acceptance and trust** – Some customers may be hesitant or reluctant to interact with AI-powered systems, preferring human assistance. Building trust and ensuring customer acceptance of AI technologies require effective communication, transparency, and demonstrating the value and benefits of AI in enhancing customer experience.

The future of AI in banking holds immense potential. AI will continue to evolve, helping banks deliver superior services and transform the customer experience. By leveraging AI technologies, banks can enhance customer experiences, streamline operations, detect and prevent fraud, provide personalised financial advice, and gain valuable insights from data analytics.

However, along with its benefits, the adoption of AI in banking also poses challenges such as data privacy and ethical concerns. As the industry continues to embrace AI, it is crucial to strike a balance between innovation and responsible use.

In conclusion, the introduction of artificial intelligence into the banking system of the Republic of Uzbekistan has a number of positive results and also shows some negative aspects. However, the negative aspects can be eliminated by effective development of information technologies, improving the quality and security of payment systems. In general, due to what is happening in the world, their use in the commercial banks of Uzbekistan is one of the urgent issues of today. Moreover, the application of artificial intelligence in the banking system is the demand of the times, sooner or later it will be used anyway. Therefore, the application and integration of artificial intelligence in commercial banks operating in Uzbekistan should start today.

References:

1. Anderson, Ross, Barton, Chris, Bölme, Rainer, Clayton, Richard, Ganán, Carlos, Grasso, Tom, Levi, Michael, Moore, Tyler, & Vasek, Marie. (2019). Measuring the changing cost of cybercrime.
2. Bisht, Deepa, Singh, Rajesh, Gehlot, Anita, Akram, Shaik Vaseem, Singh, Aman, Montero, Elisabeth Caro, Priyadarshi, Neeraj, & Twala, Bhekisipho. (2022). Imperative role of integrating digitalization in the firms finance: A technological perspective. Electronics, 11(19), 3252.
3. Dzombo, Gift Kimonge, Kilika, James M., & Maingi, James. (2017). The effect of branchless banking strategy on the financial performance of commercial banks in Kenya. International Journal of Financial Research, 8(4), 167–183.
4. Xolmamatov, F. (2023). Bank tizimi barqarorligini oshirishda kredit risklarining ahamiyati va ularni kamaytirish yo‘llari. YASHIL IQTISODIYOT VA TARAQQIYOT, 1(9). Retrieved from https://yashil-iqtisodiyot-taraqqiyot.uz/journal/index.php/GED/article/view/953
5. George, A. Shaji, & George, A. S. Hovan. (2023). A review of ChatGPT AI’s impact on several business sectors. Partners Universal International Innovation Journal, 1(1), 9–23.
6. Goodell, John W., Kumar, Satish, Lim, Weng Marc, & Pattnaik, Debidutta. (2021). Artificial intelligence and machine learning in finance: Identifying foundations, themes, and research clusters from bibliometric analysis. Journal of Behavioral and Experimental Finance, 32, 100577.
7. Xolmamatov, F. (2024). Banklar moliyaviy barqarorligini ta’minlashda bank zaxiralaridan kompleks foydalanish zarurati va amaliyoti. YASHIL IQTISODIYOT VA TARAQQIYOT, 1(8). Retrieved from https://yashil-iqtisodiyot-taraqqiyot.uz/journal/index.php/GED/article/view/952
8. Hassoun, Abdo, Aït-Kaddour, Abderrahmane, Abu-Mahfouz, Adnan M., Rathod, Nikheel Bhojraj, Bader, Farah, Barba, Francisco J., Biancolillo, Alessandra, Cropotova, Janna, Galanakis, Charis M., & Jambrak, Anet Režek. (2022). The fourth industrial revolution in the food industry—Part I: Industry 4.0 technologies. Critical Reviews in Food Science and Nutrition, 1–17.
9. Kavitha, M., Gnaneswar, G., Dinesh, R., Sai, Y. Rohith, & Suraj, R. Sai. (2021). Heart disease prediction using hybrid machine learning model. 2021 6th

International Conference on Inventive Computation Technologies (ICICT), 1329–1333. IEEE.

10. Kubayevich, K. F. . (2024). Current Analysis and Current Issues of Ensuring the Financial Stability of the Banking System in Uzbekistan. EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY, 4(3), 169–176. Retrieved from https://inovatus.es/index.php/ejbsos/article/view/2681

11. Kholmamatov Farkhodjon Kubayevich, Rakhmatov Azizjon Jaloliddinovich, Maqsudov Bunyod Abdusamat ugli, Sayfullayev Sirojiddin Soli ugli,. (2020). Econometric Analysis of Factors Affecting Commercial Bank Lending. International Journal of Advanced Science and Technology, 29(9s), 2160 - 2166. Retrieved fromhttp://sersc.org/journals/index.php/IJAST/article/view/14550

12. ТИЖОРАТ БАНКЛАРИДА ЛИКВИДЛИЛИК РИСКИНИ БОШҚАРИШ АМАЛИЁТИНИ ТАКОМИЛЛАШТИРИШ ОРҚАЛИ МОЛИЯВИЙ БАРҚАРОРЛИГИНИ ТАЪМИНЛАШ: Yangi O’zbekiston taraqqiyotida tadqiqotlarni o’rni va rivojlanish omillari. (2024). Yangi O’zbekiston Taraqqiyotida Tadqiqotlarni o’rni Va Rivojlanish Omillari, 5(1), 375-382. http://pedagoglar.org/index.php/04/article/view/1120

13. www.cbu.uz- Official website of the Central Bank of Uzbekistan

14.https://www.worldfinance.com/banking/how-artificial-intelligence-is-changing-the-face-of-banking

15.https://thefinancialbrand.com/news/data-analytics-banking/artificial-intelligence-banking/

16.https://www.forbes.com/sites/forbesbusinesscouncil/2023/03/20/the-future-of-ai-in-banking/?sh=3e2e822a5ed5