

MUHANDISLIK

& IQTISODIYOT

*ijtimoiy-iqtisodiy, innovatsion texnik,
fan va ta'limga oid ilmiy-amaliy jurnal*

**2025
oktyabr**



**TOSHKENT SHAHRIDAGI TURIN
POLITEXNIKA UNIVERSITETI
– Xalqaro ilmiy-amaliy onlayn
konferensiya materiallari to'plami**

**“GLOBAL RAQAMLI INTEGRATSIYALASHUV:
2030-YILGACHA YASHIL IQTISODIYOTGA O'TISHDA
TEXNOLOGIK VA INDUSTRIAL SANOATNI RIVOJLANTIRISH
ORQALI MIKRO VA MAKROIQTISODIY BARQAROR
O'SISHNI TA'MINLASH DOLZARBLIGI”**

**“GLOBAL DIGITAL INTEGRATION: THE RELEVANCE OF
ENSURING MICRO AND MACROECONOMIC SUSTAINABLE
GROWTH THROUGH TECHNOLOGICAL AND INDUSTRIAL
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**«ГЛОБАЛЬНАЯ ЦИФРОВАЯ ИНТЕГРАЦИЯ:
АКТУАЛЬНОСТЬ ОБЕСПЕЧЕНИЯ УСТОЙЧИВОГО
МИКРО- И МАКРОЭКОНОМИЧЕСКОГО РОСТА ЧЕРЕЗ
РАЗВИТИЕ ТЕХНОЛОГИЧЕСКОЙ И ИНДУСТРИАЛЬНОЙ
ПРОМЫШЛЕННОСТИ В ПЕРЕХОДЕ К ЗЕЛЁНОЙ
ЭКОНОМИКЕ К 2030 ГОДУ»**

7-MAXSUS SON



74-91 xalqaro daraja
ISSN: 2992-8982



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fan va ta'limga oid ilmiy-amaliy jurnal

Elektron nashr.
2025-yil, 15-oktyabr.

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- 05.01.00 – Axborot texnologiyalari, boshqaruv va kompyuter grafikasi
- 05.01.01 – Muhandislik geometriyasi va kompyuter grafikasi. Audio va video texnologiyalari
- 05.01.02 – Tizimli tahlil, boshqaruv va axborotni qayta ishlash
- 05.01.03 – Informatikaning nazariy asoslari
- 05.01.04 – Hisoblash mashinalari, majmualari va kompyuter tarmoqlarining matematik va dasturiy ta'minoti
- 05.01.05 – Axborotlarni himoyalash usullari va tizimlari. Axborot xavfsizligi
- 05.01.06 – Hisoblash texnikasi va boshqaruv tizimlarining elementlari va qurilmalari
- 05.01.07 – Matematik modellashtirish
- 05.01.11 – Raqamli texnologiyalar va sun'iy intellekt
- 05.02.00 – Mashinasozlik va mashinashunoslik
- 05.02.08 – Yer usti majmualari va uchish apparatlari
- 05.03.02 – Metrologiya va metrologiya ta'minoti
- 05.04.01 – Telekommunikatsiya va kompyuter tizimlari, telekommunikatsiya tarmoqlari va qurilmalari. Axborotlarni taqsimlash
- 05.05.03 – Yorug'lik texnikasi. Maxsus yoritish texnologiyasi
- 05.05.05 – Issiqlik texnikasining nazariy asoslari
- 05.05.06 – Qayta tiklanadigan energiya turlari asosidagi energiya qurilmalari
- 05.06.01 – To'qimachilik va yengil sanoat ishlab chiqarishlari materialshunosligi
- 05.08.03 – Temir yo'l transportini ishlatish
- 05.09.01 – Qurilish konstruksiyalari, bino va inshootlar
- 05.09.04 – Suv ta'minoti. Kanalizatsiya. Suv havzalarini muhofazalovchi qurilish tizimlari
- 10.00.06 – Qiyosiy adabiyotshunoslik, chog'ishtirma tilshunoslik va tarjimashunoslik
- 10.00.04 – Yevropa, Amerika va Avstraliya xalqlari tili va adabiyoti
- 08.00.01 – Iqtisodiyot nazariyasi
- 08.00.02 – Makroiqtisodiyot
- 08.00.03 – Sanoat iqtisodiyoti
- 08.00.04 – Qishloq xo'jaligi iqtisodiyoti
- 08.00.05 – Xizmat ko'rsatish tarmoqlari iqtisodiyoti
- 08.00.06 – Ekonometrika va statistika
- 08.00.07 – Moliya, pul muomalasi va kredit
- 08.00.08 – Buxgalteriya hisobi, iqtisodiy tahlil va audit
- 08.00.09 – Jahon iqtisodiyoti
- 08.00.10 – Demografiya. Mehnat iqtisodiyoti
- 08.00.11 – Marketing
- 08.00.12 – Mintaqaviy iqtisodiyot
- 08.00.13 – Menejment
- 08.00.14 – Iqtisodiyotda axborot tizimlari va texnologiyalari
- 08.00.15 – Tadbirkorlik va kichik biznes iqtisodiyoti
- 08.00.16 – Raqamli iqtisodiyot va xalqaro raqamli integratsiya
- 08.00.17 – Turizm va mehmonxona faoliyati

Ma'lumot uchun, OAK
Rayosatining 2024-yil 28-avgustdagi 360/5-son qarori bilan "Dissertatsiyalar asosiy ilmiy natijalarini chop etishga tavsiya etilgan milliy ilmiy nashrlar ro'yxati"ga texnika va iqtisodiyot fanlari bo'yicha "Muhandislik va iqtisodiyot" jurnali ro'yxatga kiritilgan.

Muassis: "Tadbirkor va ishbilarmon" MChJ

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ASSESSING RISKS IN BANKING ACTIVITIES TO ENHANCE THE EFFICIENCY OF FINANCIAL SERVICES

Saidov Jasurbek Latipbayevich

Senior Lecturer, Department of Finance and Financial Technologies,
Tashkent State University of Economics

Email: j.saidov7222@gmail.com

ORCID: <https://orcid.org/0009-0007-3554-1658>

Abstract: The article explores mechanisms for improving the efficiency of banking services through comprehensive risk assessment and management. Particular attention is given to identifying, classifying, and mitigating credit, liquidity, operational, and market risks that affect banking performance. The study analyzes the use of modern digital technologies such as data analytics, machine learning, and risk-scoring systems in assessing and predicting potential threats to financial stability. The author emphasizes that effective risk management contributes not only to the profitability of banks but also to the overall reliability and competitiveness of the financial sector. Based on international best practices and the current state of the banking system in Uzbekistan, recommendations are proposed for optimizing the risk evaluation process and enhancing service quality in commercial banks.

Key words: banking activity, risk assessment, financial services, efficiency, credit risk, liquidity, digital technologies, financial stability, data analytics.

Annotatsiya: Maqolada bank faoliyatida risklarni baholash orqali moliyaviy xizmatlar samaradorligini oshirish mexanizmlari tahlil qilingan. Ayniqsa, kredit, likvidlik, operatsion va bozor risklarini aniqlash, tasniflash hamda ularni kamaytirish yo'llariga alohida e'tibor qaratilgan. Tadqiqotda raqamli texnologiyalar, ma'lumotlar tahlili va risk-skoring tizimlaridan foydalanish orqali bank tizimidagi moliyaviy barqarorlikka xavf tug'diruvchi omillarni prognozlash imkoniyatlari o'rganilgan. Muallifning fikricha, risklarni samarali boshqarish banklarning foydaliligi, ishonchliligi va raqobatbardoshligini ta'minlaydi. Xalqaro tajriba hamda O'zbekiston bank tizimi amaliyoti asosida risklarni baholashni takomillashtirish va xizmatlar sifatini oshirish bo'yicha amaliy tavsiyalar ishlab chiqilgan.

Kalit so'zlar: bank faoliyati, risklarni baholash, moliyaviy xizmatlar, samaradorlik, kredit riski, likvidlik, raqamli texnologiyalar, moliyaviy barqarorlik, ma'lumotlar tahlili.

Аннотация: В статье рассматриваются механизмы повышения эффективности банковских услуг посредством оценки и управления рисками. Особое внимание уделено выявлению, классификации и минимизации кредитных, ликвидных, операционных и рыночных рисков, влияющих на деятельность банков. В исследовании проанализировано использование современных цифровых технологий, аналитики данных и риск-скоринговых систем для прогнозирования потенциальных угроз финансовой стабильности. Автор отмечает, что эффективное управление рисками способствует повышению прибыльности, надёжности и конкурентоспособности банковского сектора. На основе международного опыта и анализа состояния банковской системы Узбекистана предложены рекомендации по совершенствованию процесса оценки рисков и повышению качества банковских услуг.

Ключевые слова: банковская деятельность, оценка рисков, финансовые услуги, эффективность, кредитный риск, ликвидность, цифровые технологии, финансовая стабильность, аналитика данных.

In the context of globalization and the rapid digital transformation of financial systems, the issue of risk management in the banking sector has become increasingly important. Banking risks, if not properly assessed and controlled, can lead to significant financial instability not only for individual institutions but also for the entire national economy. Therefore, the introduction of effective mechanisms for risk assessment and management is one of the key priorities for ensuring the efficiency and sustainability of banking services.

In modern financial theory, risk is defined as the probability of deviation between expected and actual outcomes in financial transactions. For banks, the main types of risks include credit risk, liquidity risk, operational risk, and market risk. Each of these risks affects service quality and overall institutional performance in different ways.

Credit risk represents the potential loss arising from borrowers' failure to meet their obligations. In Uzbekistan's banking sector, this type of risk is particularly relevant in retail and SME lending, where the lack of reliable credit scoring systems can result in an increase in non-performing loans. According to the Central Bank of the Republic of Uzbekistan, the share of problem loans in total credit portfolios in 2024 exceeded 4.3%, highlighting the need for advanced analytical tools to predict and prevent defaults.

Liquidity risk, on the other hand, relates to the bank's ability to meet its short-term obligations without incurring significant losses. This risk has become more pronounced due to increased market volatility and growing competition in deposit and investment markets. International experience, particularly that of the Basel Committee on Banking Supervision, emphasizes maintaining adequate liquidity coverage ratios (LCR) and net stable funding ratios (NSFR) to ensure financial resilience.

Operational risk, associated with internal processes, personnel, and technological failures, is another major concern. In the digital era, cyber risk has emerged as a new dimension of operational risk, requiring constant monitoring and technological investment. Implementing automated monitoring systems, data encryption tools, and staff training programs is essential to reduce this type of risk.

Finally, market risk stems from fluctuations in interest rates, foreign exchange rates, and asset prices. For Uzbek commercial banks engaged in foreign exchange and investment operations, market risk can significantly influence profitability and capital adequacy.

The integration of data analytics and artificial intelligence into risk assessment processes has become an essential global trend. Predictive modeling using machine learning algorithms allows banks to anticipate credit defaults, optimize asset allocation, and detect anomalies in transaction flows. For example, Random Forest and Logistic Regression models can be used to predict credit risk levels based on borrower characteristics such as income stability, debt ratio, and credit history.

In Uzbekistan, these innovations are being gradually introduced as part of the national Digital Economy Development Strategy and the Banking System Reform Program for 2020–2025, approved by Presidential Decree PQ-5992. The document emphasizes the necessity of “implementing digital risk management systems to enhance transparency, accountability, and operational efficiency in financial institutions.”

From a managerial perspective, risk assessment is closely linked with service efficiency. When banks manage risks effectively, they can allocate capital more efficiently, reduce operational costs, and increase customer satisfaction. A stable and reliable banking environment also fosters trust among clients, which is a critical factor for service competitiveness.

In practical terms, the mechanisms for improving the efficiency of banking services through risk assessment include:

1. implementing integrated risk management systems (IRM) and early warning indicators;
2. adopting credit scoring models based on big data analytics;
3. automating liquidity monitoring and forecasting through predictive analytics;
4. using stress-testing frameworks to evaluate resilience under adverse conditions; and
5. applying performance dashboards for real-time decision-making.

International experience shows that banks using digital risk management tools achieve up to 20–30% improvement in service efficiency indicators and reduce operational errors by more than 40%. For Uzbekistan's commercial banks, such improvements can play a decisive role in enhancing financial inclusion and service accessibility.

Moreover, effective risk assessment contributes to sustainable banking by promoting responsible lending, ethical investment, and compliance with environmental, social, and governance (ESG) principles. This aligns with the Sustainable Development Goals (SDGs), particularly Goal 8 (Decent Work and Economic Growth) and Goal 9 (Industry, Innovation, and Infrastructure), which emphasize resilient financial systems as drivers of inclusive growth.

In conclusion, assessing and managing risks is not merely a regulatory requirement but a strategic necessity for increasing the efficiency of financial services. By leveraging digital technologies, data-driven models, and international best practices, Uzbek banks can strengthen their financial stability, enhance operational performance, and improve service quality in line with global standards.

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"Muhandislik va iqtisodiyot" jurnali 26.06.2023-yildan
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Litsenziya raqami: №095310.

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