

securities trading applications, focusing on blockchain's role in enhancing authenticity, security, and risk management in financial services.

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This systematic literature review explores the evolution of AI applications in banking, highlighting technological advancements, implementation challenges, and future directions.

KORXONALAR NOCHORLIGINING OLDINI OLISHDA INNOVATSIYALARNING O‘RNI: O‘ZBEKISTONDA RAQAMLI TRANSFORMATSIYA VA BIZNES BARQARORLIGI

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Annotatsiya: Ushbu tadqiqot O‘zbekistonda korporativ to‘lovga layoqatsizlikning oldini olish va biznes barqarorligini oshirishda raqamli transformatsiyaning rolini o‘rganadi. Natijalar shuni ko‘rsatadiki, raqamli transformatsiya moliyaviy boshqaruv, ichki nazorat va xavflarni baholashni takomillashtirish orqali biznes barqarorligini oshirishi mumkin.

Kalit so‘zlar: iqtisodiy nochorlik, kichik va o‘rta korxonalar, raqamli transformatsiya, bulutli buxgalteriya hisobi, avtomatlashtirish, sun‘iy intellekt audit vositalari.

Аннотация: Исследование изучает, как цифровая трансформация помогает предотвратить корпоратную несостоятельность и улучшить устойчивость бизнеса в Узбекистане через финансовое управление и оценку рисков.

Ключевые слова: несостоятельность, МСП, цифровая трансформация, облачный учет, анализ данных, автоматизация, инструменты ИИ для аудита.

Abstract: The study explores the role of digital transformation in preventing corporate insolvency and enhancing business resilience in Uzbekistan. Findings suggest that digital transformation can enhance financial management, internal controls, and risk assessment, thereby increasing resilience.

Key words: insolvency, SME, digital transformation, cloud accounting, business resilience, data analytics, automation, AI auditing tools.

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The landscape of corporate insolvency in Uzbekistan does not show considerably high rates of failure, however, still, the country’s insolvency resolution process faces challenges. In terms of recovery rate, it has shown a relatively lower rate compared to some other countries at 34.4 cents on the dollar and an average duration of 2.0 years, according to the documents by the World Bank Group in 2020.¹¹² The outcome often involves asset sales rather than business continuation. Data prepared earlier in 2017 showed lengthy procedures, for instance, 246 days, 17 procedures, and costs at 10.0% of the estate's value, whereas forecasts in January 2023 indicated decreasing bankruptcy risks. However, surges in consumer debt post-COVID-19, with increasing non-performing loan ratios by 2021 before decreasing¹¹³, suggest potential economic vulnerabilities.

Uzbekistan’s insolvency framework yields modest recoveries – only about **34.4¢ on the dollar** according to World Bank data – and is slow (around **2.0 years** on average). These lengthy resolutions often culminate in liquidation rather than rehabilitation and points to the need for preventive measures. Common causes of business failure in Uzbekistan have been observed to be poor operations and financial management, lack of experience, over-investment, weak credit practices, insufficient planning, unsuitable location, and ineffective inventory control. SMEs (small and medium-sized enterprises) face additional obstacles like underdeveloped infrastructure, a shortage of skilled specialists, limited access to credit, and high-interest rates as well. Not just the issues related to business performance, but corruption and institutional constraints, including weak frameworks and bureaucratic impediments, also contribute to business closures. The lengthy insolvency process highlights the need for effective preventative measures, where digital transformation can play a significant role in building resilience. Uzbekistan has experienced rapid digital transformation in recent years, such as:

- The COVID-19 pandemic accelerated digital adoption, with 51.2% of firms increasing their use of digital platforms in 2021¹¹⁴;
- Online banking users reaching 34 million;
- The IT sector has seen remarkable growth, with IT service exports increasing 20-fold from 2020 to \$344 million in 2023¹¹⁵;

¹¹² Uzbekistan - Doing Business

<https://archive.doingbusiness.org/content/dam/doingBusiness/country/u/uzbekistan/UZB.pdf>

¹¹³ New beginnings: Resolving consumer insolvencies in Central Asia - World Bank Blogs

<https://blogs.worldbank.org/en/psd/new-beginnings-resolving-consumer-insolvencies-central-asia>

¹¹⁴ Abdumalik Abdurashidovich, A. (2025). Macroeconomic Determinants of Digital Technology Adoption in Uzbekistan. American Journal of Economics and Business Management, 8(4), 1593–1604.

<https://doi.org/10.31150/ajebm.v8i4.3472>

¹¹⁵ Digital Transformation Scoreboard,

https://ecesbf.uz/f/16042024_digital_transformation_scoreboard_in_uzbekistan_chapter_2.pdf

- the number of IT companies growing 1.8 times in the last five years to over 12,000.

Regarding the accountant and auditor's lens asking how digital transformation enhances financial management and control in Uzbekistan, there are several key advantages. Digital transformation revolutionizes financial management and control, plus several digital technologies offer significant potential for preventing corporate insolvency. For example, cloud accounting can reduce transaction costs and streamline processes for businesses of all sizes.¹¹⁶ It provides scalable, accessible, and cost-efficient infrastructure for financial management, with government services already utilizing it. Digital integration leads to faster, more reliable financial reporting and enhanced efficiency.¹¹⁷ Real-time reporting allows for close monitoring of cash flow and proactive identification of potential insolvency issues. Automation of routine tasks frees accounting professionals for strategic activities. Automation, including RPA and AI, can assist in providing more efficiency and accuracy in financial operations. Auditing has also been improved with AI-driven auditing tools, as they improve the detection of anomalies and fraud, enhancing financial security and transparency.

Available evidence in terms of financial data linking digital transformation investments suggests a positive relationship. In this context, digital innovation offers concrete tools to detect distress early and improve performance. For example, a tool that can provide immediate, accurate insight into cash positions can be cloud-based accounting and analytics platforms, as they give firms real-time financial visibility – over **77%** of SMEs report such result.

Table 1. Potential Correlation between Digital Transformation Investments and Financial Indicators (Hypothetical)

Digital Transformation Initiative	Investment Cost, annually (Estimated)	Expected Impact on Profitability	Expected Impact on Liquidity	Expected Impact on Solvency
Cloud Accounting Software	\$500 - \$5,000	Increased efficiency, reduced operational costs	Improved cash flow through faster invoicing	Enhanced financial oversight and planning

¹¹⁶ Urakova Maksad Hakimovna. (2023). Conditions and Requirements for the Formation of Cloud Accounting in Uzbekistan. EUROPEAN JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY, 3(12), 67–71. Retrieved from <https://inovatus.es/index.php/ejbsos/article/view/2152>

¹¹⁷ Begalov, B. A., Odilov, S. G., & Rozimatov, F. N. (2024). Implementation of digital technologies into accounting in statistical activities. In Development of International Entrepreneurship Based on Corporate Accounting and Reporting According to IFRS (Vol. 33, pp. 185-192). Emerald Publishing Limited.

Data Analytics Tools	\$1,000 - \$10,000	Better informed decisions, optimized resource allocation	Improved forecasting, better working capital management	Proactive risk management, improved debt management
Automation of Invoice Processing	\$500 - \$3,000	Reduced labor costs, faster processing cycles	Faster payment collection, improved cash flow	Improved financial record-keeping and accuracy
E-commerce Platform	\$1,000 - \$10,000 one-time + annual maintenance	Increased sales revenue, expanded market reach	Faster sales cycles, potentially quicker payments	Diversified revenue streams, reduced reliance on traditional channels

Some findings suggest that positive correlations exist between digital transformation and job creation and public service efficiency.¹¹⁸ In financial services, technology adoption correlates with increased consumer engagement and digital payment expansion and likely leads to higher revenue and profitability as well. Banks using AI systems report faster processing times and reduced errors.¹¹⁹ According to Table 1, the hypothetical findings illustrates the potential positive financial impacts of digital transformation, although specific data for all sectors in Uzbekistan requires further research.

Uzbekistan’s industrial policy has explicitly targeted digitalization in manufacturing, mining, oil & gas, automotive, and chemical sectors. Under a presidential directive, key industries are to be fully digitized (Industry 4.0). In practice, major projects like the Ustyurt Gas Chemical Complex and the Kandym Gas Processing Plant have implemented big data, industrial IoT, robotics and digital twins into their operations. The Almalyk Mining & Metallurgical Company, the biggest producer of copper and gold in Uzbekistan, for instance, implemented a five-year digital strategy. It implemented a Plant Information System (PI), introduced electronic document management and business intelligence dashboards, and

¹¹⁸ Ogunmola, G. A. (2024). Exploring the Impact of Digital Transformation on Economic Sustainability in Uzbekistan: Opportunities and Implications. *Journal of Business and Econometrics Studies*, 1(5), 1-14.

¹¹⁹ Abdinazar, K., & Hairong, C. Impact of technology adoption on the financial services performance in Uzbekistan.

digitized mineral-resource databases.¹²⁰ By doubling decision-making speed and efficiency in a year, these actions enhanced transport management and saved 16,800 tons of diesel fuel (about 151 billion UZS).

However, there are still challenges Uzbekistan faces in fully leveraging digital transformation for insolvency prevention. Historically, private-sector technology adoption has lagged, and digital infrastructure disparities exist, particularly in rural areas.¹²¹ In most conditions, limited digital literacy and workforce readiness prevent effective utilization. Corruption somehow remains to be a significant issue, but policies implemented are showing their positive results as well. Lack of economic transparency and potential inconsistencies in government agreements can create uncertainty. Despite the challenges, significant opportunities exist.

The Uzbek government is implementing strategic measures to promote digital transformation and corporate resilience. The "Digital Uzbekistan 2030" Strategy focuses on digital infrastructure, e-government, digital economy expansion, national digital technology market, and IT education. It complements the Development Strategy of New Uzbekistan for 2022-2026¹²² and emphasizes emerging technologies like artificial intelligence. International partnerships like the World Bank's Uzbekistan Digital Inclusion Project demonstrate the government's commitment to digital transformation.

It is advised that businesses invest in important technology and have a clear digital strategy. To automate bookkeeping and offer real-time financial monitoring, for instance, use cloud accounting and ERP systems. Optimize production and sales projections by utilizing AI-driven technologies and data analytics. Automate repetitive tasks (such as inventory control and invoicing) to cut expenses and expedite operations. Extend online channels: to reach clients outside of local marketplaces, build up mobile payment methods and e-commerce platforms. To prevent fraud, bolster cybersecurity defenses (firewalls, encrypted payments, staff training). Invest in personnel upskilling by sending them to digital skills classes or collaborating with training programs. To put it briefly, integrate ICT solutions into essential company operations to boost productivity, openness, and flexibility.

Innovation and development, particularly digital transformation, is representing its major benefits for preventing corporate insolvency and enhancing business resilience all around the world. While insolvency resolution needs improvement, digital technology adoption offers significant opportunities for businesses to strengthen financial management, controls, and risk assessment.

¹²⁰ <https://globalcio.com/articles/main/digital-transformation-of-uzbekistan/#:~:text=Let%20us%20consider%20the%20demanded,Plant%20Information%20System>

¹²¹ Bakhtiyarovich, M. F. (2024). Digital transformation in uzbekistan's public sector: pathway to an innovative economy. in uz conferences (Vol. 1, No. 1).

¹²² Uzbekistan on the path of digitalization: achievements and plans, <https://www.uzembassy.uk/news/820>

Strong government support for digitalization, indeed, provides a favorable environment.

Considering these challenges and opportunities, it is recommended for businesses to develop a digital transformation strategy focused on improving financial oversight, controls, and risk management; invest in cloud computing, data analytics, and automation (including AI); implement robust cybersecurity measures; invest in employee digital skills training; and explore and leverage the growing e-commerce market.

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QISHLOQ XO‘JALIGI MAHSULOTLARI EKSPORTINI RAQAMLI INNOVATSIYALAR VA BARQARORLIK TAMOIYILLARI ASOSIDA RIVOJLANTIRISH

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Annotatsiya. Ushbu tezisda O‘zbekistonda qishloq xo‘jaligi mahsulotlari eksporti dinamikasi, uning tarkibida eng yuqori ulushga ega bo‘lgan meva-sabzavotlar, xalqaro bozorda eng ko‘p talab mavjud bo‘lgan qishloq xo‘jaligi mahsulotlari, xususan mevalar haqida ma‘lumotlar tahlil qilinib, ushbu mevalarni yetkazishda raqamli texnologiyalarning o‘rni zarurligi to‘g‘risida amaliy taklif va tavsiyalar berilgan.

Kalit so‘zlar: raqamli iqtisodiyot, qishloq xo‘jaligi, meva-sabzavotlar eksporti, raqamli texnologiyalar, e-logistika

KIRISH

Qishloq xo‘jaligi har bir mamlakatning iqtisodiy barqarorligini ta‘minlovchi asosiy tarmoqlardan biri hisoblanadi. Qishloq xo‘jaligi mahsulotlari eksporti esa ko‘pgina mamlakatlar, ayniqsa qishloq xo‘jaligiga bog‘liq bo‘lgan rivojlanayotgan mamlakatlar uchun iqtisodiy o‘rishning muhim omili bo‘lib, u milliy valyuta barqarorligini ta‘minlash bilan birga import qilinadigan mahsulotlar uchun to‘lovlarni amalga oshirish imkoniyatini beradi. Hozirgi raqamli iqtisodiyot shiddat bilan rivojlanayotgan bir paytda raqamlashtirish jarayoni qishloq xo‘jaligi mahsulotlari eksportida samaradorlik va raqobatbardoshlikni oshirishda muhim rol o‘ynamoqda. Raqamli iqtisodiyotni qishloq xo‘jaligi eksportiga joriy etish O‘zbekistonning global bozordagi raqobatbardoshligini oshiradi va eksport hajmlarini barqaror oshirib borishga xizmat qiladi.

Ma‘lumki, xalqaro savdoda qishloq xo‘jaligi mahsulotlari asosiy ulushni tashkil etadi. Masalan, Xitoy, Meksika va Kanada AQSH qishloq xo‘jaligi

¹²³ Termiz iqtisodiyot va servis universiteti Iqtisodiyot kafedrasi o‘qituvchisi