YASHIL

IQTISODIYOT&TARAQQIYOT

Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

№3

ISSN: 2992-8982

https://yashil-iqtisodiyot-taraqqiyot.uz/

2025

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Elektron nashr. 1068 sahifa.
E'lon qilishga 2025-yil 11-martda ruxsat etildi.

YASHIL
IQTISODIYOT&TARAQQIYOT
Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

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

Muassis: "Ma'rifat-print-media" MChJ
Hamkorlarimiz: Toshkent davlat iqtisodiyot universiteti, O'zR Tabiat resurslari vazirligi, O'zR Bosh prokuraturasi huzuridagi IJQK departamenti.

Jurnalning ilmiyligi:
""Yashil" iqtisodiyot va taraqqiyot" jurnali

O'zbekiston Respublikasi Oliy ta'lim, fan va innovatsiyalar vazirligi huzuridagi Oliy attestatsiya komissiyasi rayosatining 2023-yil 28-fevraldagi 333/5-sonli qarori bilan ro'yxatdan o'tkazilgan.

MUNDARIJA

MUNDARIJA СОДЕРЖАНИЕ CONTENTS

MUNDARIJA СОДЕРЖАНИЕ CONTENTS

MUNDARIJA СОДЕРЖАНИЕ CONTENTS

MUNDARIJA СОДЕРЖАНИЕ CONTENTS

MUNDARIJA СОДЕРЖАНИЕ CONTENTS

MUNDARIJA СОДЕРЖАНИЕ CONTENTS

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ENSURING CORPORATE FINANCIAL STABILITY THROUGH THE USE OF DIGITAL TECHNOLOGIES

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Abstract: This article explores the role of information technologies in ensuring the financial security of organizations. In the context of digitalization, financial security implies the organization's ability to resist financial threats and fraud through technological solutions. The study applies a conceptual analysis of modern digital tools such as distributed ledger technology (DLT) to identify their significance in protecting customer funds and maintaining operational resilience. Results show that the integration of advanced IT systems significantly enhances organizational transparency, fraud prevention, and financial stability. The discussion highlights the benefits and risks of digitalization, emphasizing the importance of cybersecurity strategies and regulatory compliance in securing corporate assets.

Key words: Financial security, organization, information technology, digital tools, distributed ledger, customer protection, cybersecurity.

Annotatsiya: Maqolada tashkilotlarda moliyaviy xavfsizlikni ta'minlashda axborot texnologiyalarining o'rni tahlil qilinadi. Raqamlashtirish sharoitida moliyaviy xavfsizlik – bu tashkilotning ichki va tashqi moliyaviy tahdidlar hamda firibgarliklarga qarshi turish imkoniyatini anglatadi. Tadqiqotda innovatsion yechim sifatida taqsimlangan reyestr texnologiyasi (DLT)ning moliyaviy barqarorlik va mijoz mablag'larini himoyalashdagi roli yoritiladi. Natijalar axborot texnologiyalarining joriy etilishi tashkilot faoliyatining shaffofligini, firibgarliklarning oldini olishni va moliyaviy barqarorlikni kuchaytirishini ko'rsatadi. Muhokamada raqamli texnologiyalarning afzalliklari va xavflari hamda axborot xavfsizligi siyosatining dolzarbligi ko'rib chiqiladi.

Kalit so'zlar: Moliyaviy xavfsizlik, tashkilot, axborot texnologiyalari, raqamli vositalar, taqsimlangan reyestr, mijoz mablag'lari, kiberxavfsizlik.

Аннотация: В статье рассматривается роль информационных технологий в обеспечении финансовой безопасности организаций. В условиях цифровизации финансовая безопасность означает способность организации противостоять внутренним и внешним угрозам с использованием технологических решений. В исследовании анализируются современные цифровые инструменты, включая технологию распределённого реестра (DLT), для выявления их значимости в защите средств клиентов и обеспечении устойчивости бизнеса. Полученные результаты свидетельствуют о том, что внедрение ИТ значительно повышает прозрачность, снижает риски мошенничества и укрепляет финансовую стабильность. В разделе обсуждения акцент сделан на преимуществах и рисках цифровизации, а также на важности кибербезопасности и соблюдения нормативных требований.

Ключевые слова: Финансовая безопасность, организация, информационные технологии, цифровые инструменты, распределённый реестр, защита клиентов, кибербезопасность.

INTRODUCTION

Global trends have driven a profound transition from physical to digital formats in the organisation of various processes, significantly accelerating the pace of natural progress. The unique circumstances of 2020 further amplified the role of digitalisation, as users increasingly shifted towards remote formats for accessing services. This shift has transformed lifestyles and habits, with technology becoming more accessible and deeply integrated into daily life. Financial technologies have been no exception in this process of transformation.

The events of 2020 radically reshaped customer expectations, particularly in favour of remote interaction. This compelled financial institutions to rethink outdated operational models and invest in digital transformation. According to Salesforce, during the height of the pandemic, 88% of customers expected companies to expand their digital initiatives, while 68% stated that COVID-19 had increased their expectations regarding the digital capabilities of financial tools [1,2].

The new digital paradigm in the financial sector is characterised by two primary trends:

Expansion of the digital perspective: The global shift to digital has opened up new possibilities, with nearly 70% of customers now expecting banks to deliver both traditional and innovative services through new digital channels. However, despite the growing demand, the pandemic revealed the financial industry's lack of preparedness for the digital era. As futurist Brett King notes, “The number one bank in the world will be a technology company” [3]. Successful digital firms lead the market by actively monitoring customer behaviour and continuously adapting their services to meet evolving expectations.

Customer-centric mindset: At the core of digital transformation is the adoption of a customer-centric approach, which must be embedded at all organisational levels–both operational and strategic. The focus is on aligning financial solutions with users' real needs and expectations, ensuring relevance, accessibility, and satisfaction.

These trends highlight the urgency for financial organisations to embrace digital tools and strategies to remain competitive and resilient in the evolving economic environment.

REVIEW OF LITERATURE ON THE TOPIC

Key performance indicators must evolve as the digital paradigm continues to shift towards customer centricity. This transformation requires not only a reconsideration of organisational culture and strategic approaches but also a fundamental change in how performance is measured. One of the most significant contributions of digital technologies to financial stability is the automation of financial processes.

Technologies such as cloud computing, artificial intelligence (AI), and blockchain provide robust platforms for managing financial data with high levels of accuracy and efficiency (Smith, 2021). These systems automate routine operations–such as invoicing, payroll, and budgeting–thereby reducing human error and saving valuable resources. In particular, cloud-based platforms offer both scalability and flexibility, allowing enterprises to adapt their financial management systems in line with operational growth (Jones & Miller, 2020).

Moreover, digital tools enable real-time financial monitoring. Dashboards and data analytics platforms allow organisations to track key financial indicators, assess performance metrics, and forecast future financial trends (Harrison, 2022). This continuous oversight is vital for detecting early signs of financial instability. By identifying potential issues promptly, companies can implement corrective measures before such issues escalate (Brown & Taylor, 2019).

In summary, the integration of digital technologies is reshaping the financial architecture of organisations, making performance measurement more dynamic, predictive, and aligned with long-term strategic goals.

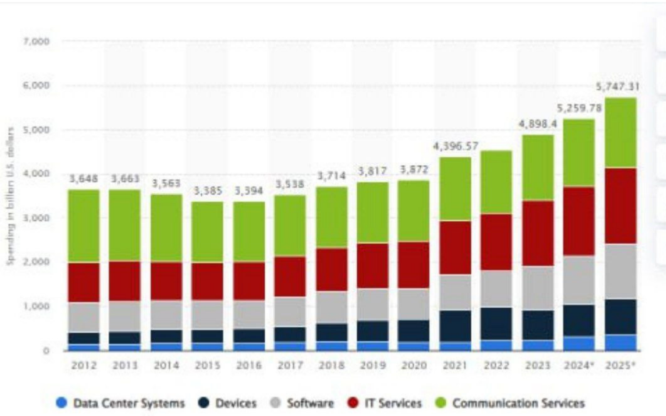
RESEARCH METHODOLOGY

The research methodology is based on a qualitative analysis of academic literature, industry reports, and case studies related to the use of digital technologies in corporate financial management. Data were obtained from open-access databases, company reports, and fintech publications, and analysed using comparative and content analysis to identify patterns, practical implications, and performance indicators.

RESULTS AND DISCUSSION

For decades, key performance indicators in the financial industry have included metrics such as sales volumes, conversion rates, and customer acquisition figures. However, in the digital era, success increasingly depends on broader criteria such as user feedback, service perception, technological innovation, and financial architecture. In this context, financial technologies have become integral across various segments of the financial sector.

Financial technology, or FinTech, can be categorised into several core service areas. These include digital banking, alternative funding mechanisms, platform-based services such as crowdfunding and crowdinvesting, robo-advisory tools, electronic money institutions, digital payment systems, insurtech solutions, and financial services related to crypto-assets, among others [4, 5].



Picture 1. Information technology (IT) spending worldwide from 2012 to 2025, by segment[1]

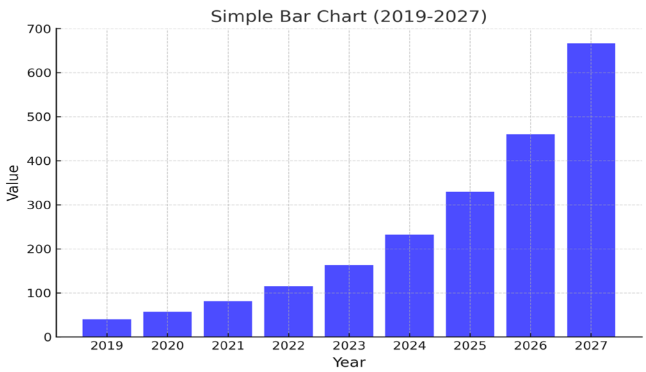
The chart illustrates the steady growth of global Information Technology (IT) spending from 2012 to 2025, segmented into Data Center Systems, Devices, Software, IT Services, and Communication Services. Total spending increases from $3.65 trillion in 2012 to an estimated $5.75 trillion by 2025, reflecting the growing reliance on IT across sectors and economies. Throughout the period, Communication Services consistently hold the largest share, underscoring their fundamental role in enabling global connectivity and digital infrastructure.

IT Services and Software demonstrate substantial and sustained growth, primarily driven by the widespread adoption of cloud computing, enterprise resource planning (ERP) solutions, and digital transformation initiatives. The Devices segment displays a more fluctuating trend–marked by temporary declines and subsequent recoveries–largely reflecting cyclical consumer demand and supply chain disruptions. Data Center Systems, while remaining the smallest segment, show consistent, incremental growth, signifying ongoing efforts in infrastructure modernization and data management.

The sharp increase in IT spending observed after 2021 highlights the accelerated pace of digital adoption in response to global disruptions. Organizations have significantly increased their technology investments to enhance operational resilience, enable remote work, and meet the rising expectations of digital consumers.

In the context of corporate financial stability, the integration of digital technologies has become indispensable. Digital transformation is no longer a strategic option but a necessity–streamlining operations, enhancing service quality, and improving both internal and external communications. Modern digital tools support data management, workflow automation, market analysis, and competitive strategy development [6]. Their role has expanded rapidly over the past few decades and continues to evolve.

Technologies such as data analytics, process automation, cloud solutions, and the Internet of Things (IoT) empower companies to manage operations efficiently, make evidence-based decisions, and swiftly adapt to dynamic market environments. As a result, digitalisation enhances corporate adaptability and resilience, ultimately contributing to long-term stability and sustainable growth.



Picture 2. The size of the global AI market, billion US dollars

1 https://www.statista.com/statistics/268938/global-it-spending-by-segment/

The chart presents a comprehensive overview of innovation management practices in the digital age, illustrating how organizations increasingly leverage emerging technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), and big data analytics to gain competitive advantage and improve operational flexibility. One of the most notable trends is the significant increase in AI adoption–from 20% in 2015 to 60% in 2023–highlighting its growing role in strategic innovation. Despite this progress, organizations continue to face challenges such as resistance to change and complexities in managing intellectual property within open innovation frameworks. The chart also underscores the importance of balancing radical and incremental innovation, while integrating sustainability and ethical considerations into the innovation process.

In the current business landscape, process automation has become an essential component of ensuring operational stability. It increases efficiency, reduces human error, lowers operational costs, and enhances productivity. By analysing large volumes of data and developing predictive models, automation improves the quality and speed of decision-making [7, 8]. These capabilities help organizations remain resilient and competitive in uncertain economic conditions. Furthermore, the adoption of digital technologies enhances flexibility and adaptability to external changes, ultimately supporting sustainable development and long-term growth.

The emergence of innovative management approaches through digital technologies has transformed business operations. One such approach is the use of digital collaboration and project management platforms, which create a unified digital workspace enabling real-time information sharing, task management, and progress monitoring. These platforms improve process transparency, accelerate decision-making, and enhance responsiveness to market dynamics. Routine tasks are increasingly automated, allowing companies to redirect focus towards strategic development. The application of big data analytics enables accurate forecasting of market trends and real-time strategy adjustments, thereby strengthening competitiveness and business continuity [9].

The modern development of banking activities requires a reconfiguration of traditional business models through the integration of FinTech solutions. Given the conservative nature of the banking industry, success in this transformation depends on the effective incorporation of innovation. Among disruptive technologies, AI has had the most profound impact on banking operations over the past decade. From a technical perspective, AI applications fall into two categories: basic AI (e.g., facial and speech recognition) and industry-specific AI (e.g., anti-fraud systems, robo-advisors). The most critical technological advancement lies in data-driven machine learning models [10].

The application of AI in banking can be divided into three levels:

Business Automation – This initial stage involves automating repetitive tasks and enhancing operational efficiency through AI tools such as smart contracts, robotic advisory services, and biometric authentication in mobile banking. These applications help resolve critical challenges in customer verification and process execution.

Big Data Analytics – The second stage is characterised by the integration of AI with big data to enable advanced applications. While big data initiatives in banking predate widespread AI adoption, their convergence now allows for more intelligent systems that support customer service, product development, and operational optimisation [11, 12].

Intelligent Decision-Making – The final stage focuses on dynamic, real-time decision-making across all channels. This involves seamless integration of customer identification, behavioural predictions, and adaptive strategy updates based on feedback. For banks to succeed, internal consensus and collaboration mechanisms must be established–from business process design to product development, marketing, and advanced data mining strategies.

In recent years, big data has found applications in a wide range of banking functions, including financial reporting, transaction analysis, and product data mining [13]. By independently developing key technologies such as customer profiling, behavioural analytics, and personalised recommendation engines, financial institutions can unlock greater value and maintain stability in a rapidly evolving digital ecosystem.

CONCLUSION AND SUGGESTIONS

In conclusion, the transformation of the financial sector's architecture is primarily driven by the development of advanced financial technologies, enabling banks and financial institutions to create integrated digital ecosystems. The shift from traditional financial services to digital platforms offers significant opportunities for both large financial institutions and FinTech startups to collaborate, innovate, and expand their services.

As more core financial infrastructure projects move into active implementation, an increasing number of market participants will become involved in deploying digital financial technologies. This trend is expected to intensify over the next five years. Artificial Intelligence (AI) will play a foundational role in enhancing key banking processes and revolutionising the financial services industry. AI not only optimises and simplifies traditionally time-consuming operations but also significantly strengthens fraud detection capabilities.

A notable example is the anti-money laundering solution co-developed by OCBC Bank and FinTech company ThetaRay, which resulted in a substantial reduction in the number of transactions reviewed by analysts and improved the accuracy of detecting suspicious transactions by more than four times. Beyond operational efficiency, AI enables the creation of more personalised customer offerings, predicting user needs and transforming client interaction into a more natural and seamless experience. For instance, OCBC's voice-assisted mobile banking application represents the future of banking by delivering intuitive and tailored financial services.

To fully realise the benefits of the digital economy, both financial institutions and government agencies should enhance their digital infrastructure and services through the following strategic initiatives:

Digital identification systems that provide citizens with secure access to public, commercial, and financial digital services;

Data protection frameworks that clearly define the rights and responsibilities related to consumer data access and exchange;

Cybersecurity strategies aimed at reducing risks, strengthening resilience, and ensuring rapid response and recovery from cyber incidents;

Open banking initiatives that permit banks to share customer data with authorised third parties under strict consent protocols;

Innovation support programmes that foster the development of competitive and market-relevant digital financial solutions.

By advancing these initiatives, the financial sector can ensure not only operational resilience but also inclusive and sustainable digital growth aligned with global innovation trends.

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Ijtimoiy, iqtisodiy, texnologik, ilmiy, ommabop jurnal

Ingliz tili muharriri: Feruz Hakimov

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2025. № 3

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““Yashil” iqtisodiyot va taraqqiyot” jurnali 03.11.2022-yildan
O‘zbekiston Respublikasi Prezidenti Adminstratsiyasi huzuridagi
Axborot va ommaviy kommunikatsiyalar agentligi tomonidan
№566955 reyestr raqami tartibi bo‘yicha ro‘yxatdan o‘tkazilgan.
Litsenziya raqami: №046523. PNFL: 30407832680027

Manzilimiz: Toshkent shahar, Mirzo Ulug‘bek tumani
Kumushkon ko‘chasi, 26-uy.

Jurnal sayti: https://yashil-iqtisodiyot-taraqqiyot.uz