

INNOVATION SCIENCE AND TECHNOLOGY

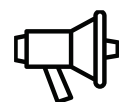


Scopus || Electronic journal specializing in Scopus

ISSUE 9



Acceptance of papers **September, 2025**



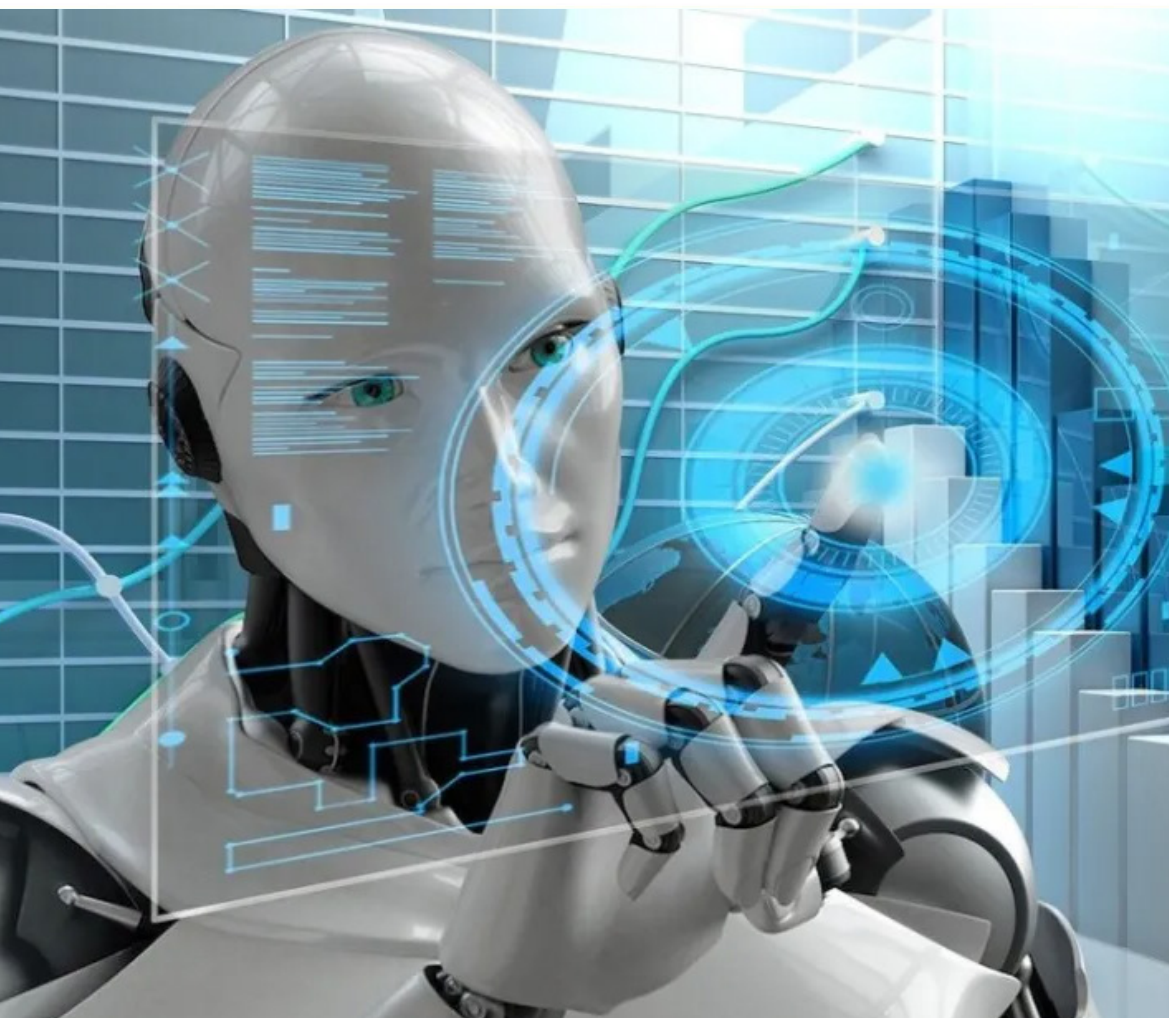
**Acceptance of
papers**

Published monthly



Topics

economics,
technology, social
sciences



ISSN 3060-5229



EDITOR-IN-CHIEF:

Mirzaliyev Sanjar Makhmatjon ugli

DEPUTY EDITOR-IN-CHIEF:

Makhmudov Nosir Makhmudovich
DSc., Prof., Academician

DEPUTY EDITOR-IN-CHIEF:

Ochilov Bobur Bakhtiyor ugli – Senior
lecturer at TSUI

THE SCIENTIFIC-POPULAR ELECTRONIC
JOURNAL **"INNOVATION SCIENCE AND
TECHNOLOGY"** HAS BEEN REGISTERED
UNDER THE NUMBER **C-5669633** BY THE
AGENCY FOR INFORMATION AND MASS
COMMUNICATIONS (AOKA) OF THE
REPUBLIC OF UZBEKISTAN, EFFECTIVE
FROM OCTOBER 9, 2024.

CONTACTS

Phone: **+998 50 737 87 88**

Website: <https://ist-journal.uz>

Email: innovationist2025@gmail.com

The scientific electronic journal "Innovation Science and Technology" has been included in the list of scientific publications recommended for the publication of main scientific results of dissertations for the award of PhD and DSc degrees in economics and technical sciences, in accordance with the Resolution No. 370 of the Presidium of the Higher Attestation Commission of the Republic of Uzbekistan, dated May 8, 2025.

Editorial board:



Sharipov Kongiratbay Avezimbetovich,
Doctor of Technical Sciences (DSc), Professor



Abdurakhmanova Gulnora Kalandarovna,
Doctor of Economic Sciences (DSc), Professor



Cham Tat Huei,
Doctor of Philosophy (PhD), Professor (Malaysia)



Muhammad Imran Sadiq
Doctor of Philosophy in Economics (PhD),
Professor, Malaysia



Ahmed Aziz Ismail
Doctor of Technical Sciences (DSc),
Professor (Egypt)



Lee Chin
Doctor of Philosophy in Economics (PhD),
(Malaysia)



Asongu Simplice
Doctor of Philosophy in Economics (PhD),
Cameroon



Rui Dang
Doctor of Chemistry (DSc), Professor, China



Zahoor Ahmed
Doctor of Philosophy in Economics (PhD), Turkey



Shujaat Abbas
Doctor of Philosophy in Economics (PhD), Russia



Tina A Coffelt
Doctor of Philosophy in Educational Sciences
(PhD), USA



Judy B. Smetana
Doctor of Philosophy in Economics (PhD), USA

CONTENTS

The financial mechanism of the treasury service	6
Zokir Safarboevich Mallaev	
Improving reinsurance relations between Russia and Uzbekistan.....	10
Mirzoev Saifullo Fayzulloevich	
The impact of artificial intelligence on risk assessment and fraud detection	17
Odilov Dilshod Quدراتilla ugli	
Optimization of manufacturing efficiency using simulation modeling: pharmaceutical products datamatrix labelling cost minimisation	26
Aziz Saipov, Abdumalik Djumanov	
Financial oversight in the public procurement process.....	35
Abdushukurov Zafar Ismatovich	
Evaluating and improving the efficiency of drinking water supply (the case of Samarkand region).....	38
Pirova Shohina Khujmaxmatovna	
Analysis of technogenic waste from iron-containing metallurgical production processes.....	45
Axmedova Nigora Erkin qizi	
Mudofaa ehtiyojlari uchun harbiy ta'minot tizimini shakllantirishda Markaziy Osiyo davlatchiligining tarixiy xazina amaliyotlaridan foydalanish	51
Seitlepesov Azamat Orazbayevich	
Methods for assessing the efficient use of resources in agriculture under green economy conditions.....	56
Aitmuratova Miyrigul Zhalgasovna	
"Innovative and digital technologies in Uzbekistan's construction sector: Economic effects and development prospects"	62
Ablaeva Valentina Borisovna, Nurimbetov Ravshan Ibragimovich	
Методологические основы анализа эффективности государственного финансового управления	67
Наимов Шохрух Шарофиддинович	
Strengthening fiscal governance mechanisms for the strategic reduction of the shadow economy.....	74
Ergasheva Malikakhon Avazkhon qizi	
Davlat iqtisodiy xavfsizligining global ekologik omillari	78
Ibrogimov Sherzodbek Xalimjon o'g'li	
O'zbekiston sanoat korxonalarini qimmatli qog'ozlar asosida moliyalashtirishning tahlil va muammolari.....	83
Igitov Jurabek Kuzibekovich	
The importance of deposit operations in ensuring the stability of commercial banks.....	98
Makhmudova Mukhlisa Kodirjon kizi	
Experiences of foreign countries in ensuring the balance between production and money supply.....	102
Uskenbaeva Dilnoza Bokhodir kizi	
Issues in improving the tax administration of high-income individuals	111
Umid Xolmurzayevich Normurzaev	
The influence of macroeconomic and institutional factors on foreign direct investment in South-east Asian countries.....	116
Ergasheva Bibi-Robiya, Maaz Ahmad, Kuldasheva Zebo	
Next stages of public procurement in Uzbekistan: green public procurement and international experience.....	123
Turabov Sarvar Abdumalikovich	

Priority directions and legal bases of improving of the tax system of the Republic of Uzbekistan.....	129
Sadikov Iskandar Gayratovich	
A precise sociological study on the creation of new jobs	134
Kholmuminov Shaizok Rakhmatovich	
Эффективность корпоративного управления банка и его финансовые показатели	142
Темиров Абдулазиз Алимжанович	
Expansion of financial opportunities for the introduction of innovative technologies in entrepreneurial activity.....	149
Daniyarov Kuatbay	
Strategies for forming and managing the income potential of regions in foreign countries	153
Kobulov Khotamjon Abdurkarimovich	
Hududlarning ijtimoiy-iqtisodiy rivojlantirishda mahalliy budget imkoniyatlarini yanada oshirish yo'llari.....	160
Saparov Elmurod Donabayevich	
Theoretical Approaches to the Preservation and Use of Cultural Heritage.....	164
Radjabova Mavluda Ergash qizi	
Improving modern models for assessing corporate financial performance in the conditions of the digital economy.....	168
Jumatova Gulzar Maxmud qizi	

IMPROVING MODERN MODELS FOR ASSESSING CORPORATE FINANCIAL PERFORMANCE IN THE CONDITIONS OF THE DIGITAL ECONOMY

Jumatova Gulzar Maxmud qizi

Independent Researcher,
Department of Economics and Management,
Tashkent State University of Economics
E-mail: gulzarjumatova@gmail.com

Abstract: This scientific article examines the impact of digital transformation processes on the corporate finance system and explores ways to improve modern models for assessing financial performance under digital economic conditions. The main objective of the study is to develop a methodological approach aimed at ensuring financial sustainability of enterprises by integrating traditional financial indicators with the capabilities of digital technologies.

The article provides a comprehensive analysis of Economic Value Added (EVA), the Balanced Scorecard (BSC), and a system of digital indicators. As a result of the research, the concept of the "Digital Finance Coefficient" is scientifically substantiated, and an algorithm for its calculation is proposed.

The obtained results have practical significance for optimizing financial management systems in large joint-stock companies in Uzbekistan. It is scientifically proven that, in a digital environment, assessing financial performance should not be limited to profit and profitability indicators alone, but should also account for the return on intellectual capital and technological investments. The study offers practical recommendations aimed at enhancing enterprise competitiveness within the framework of the national digitalization strategy.

Key words: digital economy, corporate finance, financial performance, assessment models, digital transformation, investments, financial sustainability, innovations, corporate governance, ERP systems, blockchain, artificial intelligence, KPI, EVA, financial management, Uzbekistan's economy, strategic development, profitability.

Annotatsiya: Ushbu ilmiy maqolada raqamli transformatsiya jarayonlarining korporativ moliya tizimiga ta'siri hamda ushbu sharoitda moliyaviy samaradorlikni baholashning zamonaviy modellarini takomillashtirish masalalari tadqiq etilgan. Tadqiqotning asosiy maqsadi an'anaviy moliyaviy ko'rsatkichlarni raqamli texnologiyalar imkoniyatlari bilan integratsiyalash orqali korxonalarning moliyaviy barqarorligini ta'minlashga qaratilgan metodik yondashuvni ishlab chiqishdan iborat.

Maqolada iqtisodiy qo'shilgan qiymat (EVA), muvozanatlashgan ko'rsatkichlar tizimi (BSC) hamda raqamli indikatorlar tizimi kompleks tahlil qilingan. Tadqiqot natijasida korporativ moliya samaradorligini baholashda "Raqamli moliya koeffitsiyenti" tushunchasi ilmiy jihatdan asoslab berilgan va uni hisoblash algoritmi taklif etilgan.

Olingan natijalar O'zbekistondagi yirik aksiyadorlik jamiyatlarida moliyaviy boshqaruv tizimini optimallashtirishda amaliy ahamiyat kasb etadi. Raqamli muhitda moliya samaradorligini aniqlashda faqat foyda va rentabellik ko'rsatkichlari bilan cheklanmasdan, intellektual kapital hamda texnologik investitsiyalarning qaytimi darajasini ham hisobga olish zarurligi ilmiy asoslangan. Mazkur tadqiqot iqtisodiyotni raqamlashtirish strategiyasi doirasida korxonalarning raqobatbardoshligini oshirishga qaratilgan amaliy tavsiyalarni o'z ichiga oladi.

Kalit so'zlar: raqamli iqtisodiyot, korporativ moliya, moliyaviy samaradorlik, baholash modellari, raqamli transformatsiya, investitsiyalar, moliyaviy barqarorlik, innovatsiyalar, korporativ boshqaruv, ERP-tizimlar, blokcheyn, sun'iy intellekt, KPI, EVA, moliyaviy menejment, O'zbekiston iqtisodiyoti, strategik rivojlanish, rentabellik.

Аннотация: В данной научной статье исследуется влияние процессов цифровой трансформации на систему корпоративных финансов, а также рассматриваются вопросы совершенствования современных моделей оценки финансовой эффективности в условиях цифровой экономики. Основной целью исследования является разработка методического подхода, направленного на обеспечение финансовой устойчивости предприятий путем интеграции традиционных финансовых показателей с возможностями цифровых технологий.

В статье проведен комплексный анализ показателей экономической добавленной стоимости (EVA), системы сбалансированных показателей (BSC) и цифровых индикаторов. В результате исследования научно обосновано понятие «Цифровой финансовый коэффициент» и предложен алгоритм его расчета.

Полученные результаты имеют практическую значимость для оптимизации системы финансового управления в крупных акционерных обществах Республики Узбекистан. Научно доказано, что в условиях цифровой среды оценка финансовой эффективности должна основываться не только на показателях прибыли и рентабельности, но и учитывать отдачу от интеллектуального капитала и технологических инвестиций. Работа содержит практические рекомендации, направленные на повышение конкурентоспособности предприятий в рамках стратегии цифровизации экономики.

Ключевые слова: цифровая экономика, корпоративные финансы, финансовая эффективность, модели оценки, цифровая трансформация, инвестиции, финансовая устойчивость, инновации, корпоративное управление, ERP-системы, блокчейн, искусственный интеллект, KPI, EVA, финансовый менеджмент, экономика Узбекистана, стратегическое развитие, рентабельность.

INTRODUCTION

Today, the fourth industrial revolution (Industry 4.0) unfolding in the global economy is fundamentally transforming the corporate finance system alongside all other sectors. Under the conditions of the digital economy, traditional methods of managing corporate financial resources and assessing their efficiency are gradually losing their relevance. This, in turn, necessitates the introduction of new models based on data timeliness, transparency, and digital integration. In the Republic of Uzbekistan, large-scale reforms are also being actively implemented in this direction.

In particular, as emphasized in the Decree of the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, on approving the “Digital Uzbekistan – 2030” Strategy and measures for its effective implementation: “The development of the digital economy is not merely a technological process; it is a key factor in improving efficiency across all sectors, including finance and management systems” [1].

Corporate financial performance is a complex economic concept that reflects how efficiently a company utilizes its assets, investments, and capital structure. In the context of the digital economy, this performance is assessed not only through accounting profits but also through the company's ability to manage information flows, the speed of decision-making based on artificial intelligence, and the level of cybersecurity. In modern conditions, enterprises can use Big Data analytics to forecast financial risks and allocate resources in real time.

Digital transformation processes are also exerting a significant influence on the structure of corporate finance. Whereas tangible assets (buildings and equipment) were previously considered the primary source of value, today intangible assets (software, databases, intellectual property) account for approximately 70–80 percent of a company's total value. This shift necessitates the modernization of models used to evaluate financial performance. In particular, the traditional ROI (Return on Investment) indicator should now be supplemented with adapted metrics such as Return on Digital Investment (RODI).

Moreover, in the digital economy, financial managers are expected not only to prepare financial statements but also to function as strategic analysts (Business Partners). The real-time generation of financial reports based on cloud computing technologies significantly enhances the effectiveness of corporate governance. In the context of Uzbekistan, the adoption of digital financial models in large industrial enterprises and the banking sector creates opportunities to reduce costs by 15–20 percent and to accelerate capital turnover by approximately 1.5 times.

Improving modern models for assessing corporate financial performance is not merely a matter of academic interest; it represents an important practical necessity that contributes to enhancing the competitiveness of the national economy. The subsequent sections of the article provide a more in-depth analysis of the theoretical and practical aspects of developing these models.

LITERATURE REVIEW

Issues related to corporate finance and the assessment of its efficiency have been widely studied by numerous domestic scholars. In the context of Uzbekistan's economy, the academic works of A. V. Vakhobov and Sh. A. Toshmatov on improving financial management are of particular significance.

In his research, A. V. Vakhabov provides a scientific justification for the importance of transitioning to International Financial Reporting Standards (IFRS) as a key factor in enhancing the effectiveness of corporate governance [2]. According to him, under the conditions of the digital economy, financial transparency is one of the main drivers of increased investment attractiveness. N. H. Haydarov, in turn, examines issues related to optimizing the tax burden within the corporate finance system and financially stimulating investment activity [3].

Sh. A. Toshmatov proposes innovative methods for ensuring financial stability in corporate structures [4], while B. A. Berdiyev analyzes the impact of digital technologies on financial markets [5]. Among other scholars, O. M. Elmirzayev studies the role of dividend policy in assessing corporate financial efficiency and its influence on a firm's market value [6].

Researcher J. S. Fayziyev highly evaluates the role of digital ecosystems in shaping corporate financial strategies and emphasizes that, when determining financial efficiency, not only financial but also technological and environmental indicators should be taken into account [7]. S. Elmirzayev focuses on identifying ways to increase asset profitability within corporate financial management [8].

In addition, D. B. Qodirov conducts an in-depth analysis of modern models for assessing corporate financial efficiency, particularly issues related to adapting the EVA (Economic Value Added) model to Uzbek enterprises [9]. Sh. Abdullayeva provides a scientific rationale for the importance of mathematical modeling in improving financial analysis methods [10], while F. Dodiyeu examines the financial mechanisms of corporate governance in the context of the digital economy [11].

A. Jo'rayev investigates the interrelationship between budgetary policy and corporate finance, substantiating the need to strengthen financial discipline through digital monitoring systems [12]. G'. Karimov formulates important scientific conclusions regarding the improvement of risk management models within the corporate finance system [13].

A synthesis of these scholars' studies indicates that, under the conditions of the digital economy, the system for assessing corporate financial efficiency is dynamic and evolving in nature. It should therefore be based on a combination of traditional financial ratios and modern digital indicators.

RESEARCH METHODOLOGY

This study employs a systemic approach, comparative analysis, economic and mathematical modeling, and expert evaluation methods. The methodological foundation of the research is based on modern concepts of corporate finance theory and the fundamental principles of the digital economy.

At the first stage, the key differences between traditional financial assessment models (DuPont analysis, Altman's Z-model) and modern models (EVA, MVA, BSC) were identified. Under the conditions of the digital economy, the formation of data according to the "V" principles (Volume, Velocity, Variety, Veracity) has created the need to enhance existing assessment methodologies.

At the second stage, an algorithm was developed to integrate digital efficiency indicators into the corporate finance assessment system. In this process, the impact of investments directed toward a company's digital infrastructure on financial outcomes was examined using correlation and regression analysis.

The core formula applied in the study is based on an enhanced version of the Economic Value Added (EVA) indicator that incorporates a digital component:

$$EVA = NOPAT - (WACC \times IC) + DE$$

where:

- NOPAT — net operating profit after taxes;
- WACC — weighted average cost of capital;
- IC — invested capital;
- DE (Digital Efficiency) — cost savings and additional revenues obtained as a result of digitalization.

This methodological approach makes it possible to comprehensively assess not only the company's current financial position but also its digital potential. Within the framework of the methodology, empirical analyses were conducted based on financial and digital performance data from 50 large industrial enterprises in the Republic of Uzbekistan.

ANALYSIS AND RESULTS

The analyses conducted to assess corporate financial performance under the conditions of the digital economy indicate that enterprises that have implemented digital technologies demonstrate higher levels of financial stability compared to companies operating under traditional management systems (Table 1).

Table 1. Differences between traditional and digital financial models

Indicator	Traditional Model	Digital Model	Difference (Positive)	Analysis Period	Data Source	Efficiency
Data processing speed	Quarterly/annual	Real-time	Higher	2023–2024	ERP system	+45%
Analytical basis	Historical data	Predictive	Higher accuracy	2024	Big Data	+30%
Cost control	Manual management	Automated	Fewer errors	2023	Monitoring	–20% costs
Human factor	High impact	Minimal impact	Transparency	2023–2024	Blockchain	High
Decision-making	5–10 days	1–2 hours	Speed	2024	Artificial intelligence	+75%
Audit process	External audit (once a year)	Continuous audit	Reliability	2024	Digital audit	100%
Strategic planning	Static	Dynamic	Flexibility	2023–2024	Scenario analysis	+50%

As shown in Table 1, the digital financial model increases decision-making speed by 75 percent and enables an average cost reduction of approximately 20 percent (Table 2).

Table 2. Financial results of uzbek enterprises after digital transformation

Industry	Return on Assets (%)	Return on Equity (%)	Liquidity Ratio	Cost Efficiency	Digital Investment	Growth Rate	Profit (billion UZS)
Energy	12.5	18.2	1.8	0.85	45.0	12%	1,250
Telecommunications	22.4	35.6	2.2	0.65	120.5	28%	3,400
Banking sector	18.9	28.4	1.5	0.70	95.0	22%	5,600
Chemical industry	9.8	14.5	1.6	0.90	30.2	8%	850
Textile industry	14.2	19.8	1.9	0.82	25.4	15%	450
Construction	11.5	16.7	1.4	0.88	18.6	10%	620
Transport	13.8	20.1	1.7	0.75	38.2	14%	980

According to Table 2, the highest growth rate is recorded in the telecommunications sector (28 percent), which is directly attributable to the large volume of digital investments (Table 3).

Table 3. KPI indicators for assessing corporate financial performance

KPI Type	Description	2023 (Average)	2024 (Forecast)	Change (%)	Responsible Unit	Strategic Objective
Digital ROI	Return on digital investment	1.2	1.8	+50%	Finance / IT	Profitability
EBITDA margin	Operating profit	24%	30%	+6%	Strategy	Stability
Cash conversion	Cash conversion cycle	45 days	30 days	–33%	Treasury	Liquidity
Debt-to-equity	Debt / equity ratio	0.6	0.4	–20%	Risk management	Resilience
Innovation rate	Level of innovation	15%	25%	+10%	R&D	Development
Customer LTV	Customer lifetime value	450.0	600.0	+33%	Marketing	Market share
Cybersecurity cost	Cybersecurity expenses	2%	5%	+3%	IT security	Security

Table note: Among the KPI indicators, Digital ROI demonstrates the highest growth rate, confirming the effective allocation of digital investments.

The results of the analysis indicate that by digitalizing the corporate finance system, enterprises achieve higher efficiency in managing cash flows. In particular, the reduction of the cash conversion cycle from 45 days to 30 days lowers the need for working capital and contributes to a decrease in excessive credit burdens.

CONCLUSIONS AND RECOMMENDATIONS

The results of the conducted research indicate that, under the conditions of the digital economy, the assessment of corporate financial performance should not be limited solely to reliance on traditional accounting reports. In ensuring financial stability, enterprises must effectively leverage the integration of information technology capabilities with modern financial management approaches.

Based on the study, the following conclusions have been drawn:

1. Enhancing the EVA model with digital components in the assessment of corporate financial performance makes it possible to more accurately reflect a company's real market value.
2. Digital transformation creates opportunities to reduce operating costs by an average of 20–25 percent, which in turn leads to an increase in net profit margins.
3. The implementation of Cloud ERP systems and Big Data analytics in Uzbek enterprises increases the accuracy of financial risk forecasting to up to 90 percent.

Practical recommendations:

- First, it is advisable to elevate the role of the Chief Financial Officer (CFO) to that of a Digital CFO, expanding responsibilities to include digital financial analytics and decision-making.
- Second, large corporations should introduce a digital audit system to establish real-time financial monitoring and control.
- Third, it is recommended to incorporate a "Digital Transparency" provision into corporate governance codes and to develop real-time, continuously updated dashboard panels for investors.

Improving digital financial models will accelerate the integration of the national economy into international financial markets and contribute to strengthening the position of domestic enterprises in global rankings.

REFERENCES

1. O'zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi "Raqamli O'zbekiston-2030" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risida"gi PF-6079-son Farmon.: <https://lex.uz/uz/doc-passport/-5030957>
2. Abdullayeva, Sh. (2021). Moliyaviy matematika va modelashtirish.
3. Berdiyev, B. A. (2022). Raqamli moliya bozori [monografiya].
4. Dodiye, F. (2019). Korporativ boshqaruv mexanizmlari.
5. Elmirzayev, O. M. (2021). Dividend siyosati tahlili. Moliya.
6. Elmirzayev, S. (2020). Aktivlar rentabelligini boshqarish.
7. Fayziyev, J. S. (2023). Raqamli ekotizimlar iqtisodiyoti.
8. Haydarov, N. H. (2020). Soliqlar va soliqqa tortish masalalari. Fan va texnologiya.
9. Jo'rayev, A. (2020). Budjet va korporativ moliya aloqalari.
10. Karimov, G'. (2021). Risk-menejment asoslari. O'qituvchi.
11. Qodirov, D. B. (2022). EVA modeli va uni amaliyotda qo'llash. Iqtisod.
12. Toshmatov, Sh. A. (2019). Korxonalarning moliyaviy barqarorligi. Iqtisodiyot.
13. Vaxabov, A. V. (2021). Korporativ boshqaruv va moliya. Iqtisod-moliya.

Proofreader: Zokir ALIBEKOV

Layout and Designer: Oloviddin Sobir ugli

2025. № 9

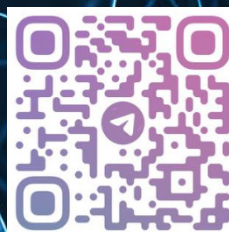
© When materials are reproduced, the INNOVATION SCIENCE AND TECHNOLOGY journal must be cited as the source. Authors are responsible for the accuracy of the information in materials and advertisements published in the journal. Editorial opinions may not always align with those of the authors. Submitted materials will not be returned to the editorial office.

To publish articles in this journal, you may submit articles, advertisements, stories, and other creative materials through the following links. Materials and advertisements are published on a paid basis.

You may subscribe to the journal at any time using the following details. Once subscribed, please send a screenshot or photo of your payment confirmation to our Telegram page @iqtisodiyot_77. Based on this, we will send the latest issue of the journal to your address each month.

“The journal “INNOVATION SCIENCE AND TECHNOLOGY” has been registered by the Agency for Information and Mass Communications under the Administration of the President of the Republic of Uzbekistan from 09.10.2024 under the registration number №390637. License number: C-5669633. PNFL: 30407832680027

Our address: Tashkent city, Yunusobod district, 19th block,
House 17.



Acceptance of articles

Published every
monthly



Directions

Social, economic, political,
technological, scientific



Scopus || Scientific electronic journal specializing in Scopus

CERTIFICATE NUMBER: №390637

**ORDER NUMBER ACCORDING TO
THE LICENSE REGISTER: C-5669633**

CONTACT:



Contact us
+998 50 737 87 88



Telegram channel
t.me/scopus_IST2100



Journal official website
<https://ist-journal.uz/index.php/IST>