

INNOVATION SCIENCE AND TECHNOLOGY

ISSUE 9, PART I / SEPTEMBER 2026

 Acceptance of papers



**Acceptance of
papers**

Published monthly



Topics

economics,
technology, social
sciences



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



Abdikarimova Dinara Rustamxanovna
Doctor of Economic Sciences (DSc), Professor

Kurbonbekova Mohichehra Turobjonovna
Doctor of Economic Sciences (DSc), Professor

Alimardonov Ilkhom Muzrabshokovich
Doctor of Economic Sciences (DSc), Professor



Razakova Barno Sayfieva
Doctor of Philosophy in Economics (PhD)



Khasanov Sarvar Ulugbek ugli
Doctor of Philosophy in Economics (PhD)



Kholikova Rukhsora Sanjarovna
Associate Professor (PhD)

CONTENTS

ECONOMIC ESSENCE AND CLASSIFICATION OF FINANCIAL ERRORS AND IRREGULARITIES IN BUDGET ORGANIZATIONS AND CRITERIA FOR THEIR INTERNAL AUDIT ASSESSMENT.....	8
Mulayev Farxod Alisherovich	
THE IMPACT OF FISCAL DISCIPLINE AND PUBLIC DEBT ON NATIONAL CURRENCY STABILITY: THEORETICAL APPROACHES AND MODELING	14
G'afurov Olimjon G'olib o'g'li	
THE ROLE OF REMOTE BANKING SERVICES IN ENHANCING FINANCIAL INCLUSION IN UZBEKISTAN	20
Sharipov Tohir Mirakhimovich	
THE IMPORTANCE OF STANDARDIZATION REQUIREMENTS IN THE ACCREDITATION OF NON-DESTRUCTIVE TESTING LABORATORIES.....	26
Ahmedov G'ayratjon Mahmudjonovich	
THEORETICAL ASPECTS OF ASSESSING THE IMPACT OF CORPORATE GOVERNANCE ON ECONOMIC EFFICIENCY IN CONSTRUCTION ENTERPRISES.....	32
Giyosov Ilkhom Karimovich	
FOREIGN EXPERIENCE IN STATE REGULATION OF SUSTAINABLE TOURISM DEVELOPMENT AND THE POSSIBILITIES OF ITS APPLICATION IN UZBEKISTAN.....	39
O'sarov Abdulla Davronqulovich	
THE CURRENT STATE AND DEVELOPMENT TRENDS OF THE SMALL BUSINESS SECTOR IN THE REPUBLIC AND ITS IMPACT ON HUMAN CAPITAL.....	46
Ulugmuradova Nodira Berdimuradovna	
INCREASING ECONOMIC EFFICIENCY BASED ON DIGITAL PLATFORMS IN THE IMPLEMENTATION OF ALTERNATIVE ENERGY TECHNOLOGIES (THE CASE OF RURAL AREAS).....	53
Ashurov Azizbek Ergash ugli	
WAYS TO IMPROVE THE QUALITY OF ASSETS AND STABILITY OF THE CREDIT PORTFOLIO IN COMMERCIAL BANKS	58
Baymuratova Zina Aqilbekovna	
MEASURING GREEN EFFICIENCY IN THE MINING INDUSTRY THROUGH AN INTEGRATED INDICATOR-BASED APPROACH FROM NAVOI MINING AND METALLURGICAL COMPANY.....	63
Kurbanova Mehriniso, Ergashev Hamidulla	
CORRELATION BETWEEN MACROECONOMIC INDICATORS AND TAX REVENUES.....	69
Khakimov Ulugbek Abdullaevich	
ENHANCING ECONOMIC EFFICIENCY AND FORECAST INDICATORS OF SCALING BIG DATA SOLUTIONS IN THE TOURISM INDUSTRY	74
E. I. Temirov	
IMPROVING THE EFFICIENCY OF STATE FINANCIAL SUPPORT FOR FARMS: A RESULTS- AND RISK-ORIENTED APPROACH.....	81
Rashidov Baxadir Yusupovich	
THE ROLE OF REMOTE BANKING SERVICES IN ENHANCING FINANCIAL INCLUSION IN UZBEKISTAN	86
Sharipov Tohir Mirakhimovich	
ORGANIZATIONAL AND LEGAL FOUNDATIONS FOR ESTABLISHING A PERSONNEL RESERVE FOR LOCAL GOVERNMENT AUTHORITIES IN UZBEKISTAN.....	92
G'aniyev Elyor Sobirjonovich	
METAEXTRACT: A HYBRID METADATA EXTRACTION SYSTEM COMBINING RULE-BASED AND STATISTICAL APPROACHES	100
Rashid Muhtorovich Turgunbaev	
DIRECTIONS FOR USING FINANCIAL ANALYSIS RESULTS IN THE DEVELOPMENT OF E-COMMERCE PLATFORMS IN UZBEKISTAN.....	105
Amankulova Mukhlisa Narsafar kizi	

IMPROVING THE ORGANISATIONAL-ECONOMIC MECHANISMS FOR ENHANCING THE PROFITABILITY OF ENTREPRENEURIAL ACTIVITY	111
Inobatov Abror Boshlarovich	
THE CURRENT STATE AND DYNAMICS OF FINANCING ENTREPRENEURIAL ACTIVITIES THROUGH BANK LOANS.....	117
Ergashev Otamurod Tashtemirovich	
IMPROVING THE METHODOLOGY FOR ASSESSING THE EFFICIENCY OF LAND TAX ADMINISTRATION FOR INDIVIDUALS	123
Ramazonov Shamil Ulugbek ogli	
IMPROVING THE EFFICIENCY OF STRATEGIC RESOURCE ALLOCATION IN BANKING ACTIVITIES THROUGH ARTIFICIAL INTELLIGENCE.....	130
Shukhrat Komilovich Roziboyev	
STRATEGIC DIRECTIONS FOR ENHANCING THE COMPETITIVE POTENTIAL OF ENTERPRISES THROUGH INNOVATION-DRIVEN DEVELOPMENT	138
Karima Samatovna Tashmukhamedova	
FUNCTIONAL FEATURES OF SEMANTIC PHENOMENA IN ENGLISH AND UZBEK METALLURGICAL TERMINOLOGY	143
O'tkirova Shahlo Asqar qizi	
DECENTRALIZED TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE AS DRIVERS OF CROWDFUNDING EVOLUTION	151
Karimova Aziza A'zamiddin qizi	
THEORETICAL FOUNDATIONS FOR USING ARTIFICIAL INTELLIGENCE IN ASSESSING CORPORATE FINANCIAL STABILITY	159
Jokhongir Hasanovich Dagarov	
A MODEL FOR ASSESSING THE ECONOMIC EFFICIENCY OF INTRODUCING DIGITAL PLATFORMS	163
Nabiev Zafar Irkinovich	

A MODEL FOR ASSESSING THE ECONOMIC EFFICIENCY OF INTRODUCING DIGITAL PLATFORMS

Nabiev Zafar Irkinovich

Independent researcher at the Department of
“Digital Economy and Information Technologies”
Tashkent State University of Economics

Abstract: The article studies the theoretical and methodological foundations of assessing economic efficiency in the process of implementing digital platforms. It is argued that in the context of digital transformation, it is not enough to assess the efficiency of information systems and integrated digital platforms only by financial savings or cost reduction. In this regard, the article proposes a multi-criteria integral model for assessing the economic efficiency of digital platforms. The model includes indicators such as financial efficiency, process efficiency, service quality, data reliability, level of integration, and risk reduction. The proposed approach allows for a comprehensive assessment of economic results before, during, and after the implementation of a digital platform. The article develops evaluation formulas based on NPV, ROI, TCO, payback period, and an integral index. This model can be used to evaluate integrated digital platforms such as KasabaKIAT in the system of trade unions of Uzbekistan.

Keywords: digital platform, economic efficiency, digital transformation, integral index, ROI, NPV, TCO, KasabaKIAT, information system, digital management.

Annotatsiya: Maqolada raqamli platformalarni joriy etish jarayonida iqtisodiy samaradorlikni baholashning nazariy va metodologik asoslari tadqiq etilgan. Raqamli transformatsiya sharoitida axborot tizimlari va integratsiyalashgan raqamli platformalar samaradorligini faqat moliyaviy tejash yoki xarajatlarni kamaytirish asosida baholash yetarli emasligi asoslangan. Shu munosabat bilan maqolada raqamli platformalarning iqtisodiy samaradorligini baholash uchun ko'p mezonli integral model taklif etilgan. Model moliyaviy samaradorlik, jarayonlar samaradorligi, xizmatlar sifati, ma'lumotlarning ishonchiligi, integratsiya darajasi va risklarni kamaytirish kabi ko'rsatkichlarni o'z ichiga oladi. Taklif etilayotgan yondashuv raqamli platformani joriy etishdan oldin, joriy etish jarayonida va joriy etilgandan keyingi iqtisodiy natijalarni kompleks baholash imkonini beradi. Maqolada NPV, ROI, TCO, qoplash muddati va integral indeks asosida baholash formulalari ishlab chiqilgan. Mazkur model O'zbekiston kasaba uyushmalari tizimidagi KasabaKIAT kabi integratsiyalashgan raqamli platformalarni baholashda qo'llanilishi mumkin.

Kalit so'zlar: raqamli platforma, iqtisodiy samaradorlik, raqamli transformatsiya, integral indeks, ROI, NPV, TCO, KasabaKIAT, axborot tizimi, raqamli boshqaruv.

Аннотация: В статье исследуются теоретические и методологические основы оценки экономической эффективности в процессе внедрения цифровых платформ. Обосновывается, что в условиях цифровой трансформации недостаточно оценивать эффективность информационных систем и интегрированных цифровых платформ только по финансовой экономии или сокращению затрат. В связи с этим в статье предлагается многокритериальная интегральная модель оценки экономической эффективности цифровых платформ. Модель включает такие показатели, как финансовая эффективность, эффективность процессов, качество услуг, надежность данных, уровень интеграции и снижение рисков. Предлагаемый подход позволяет комплексно оценивать экономические результаты до, в процессе и после внедрения цифровой платформы. В статье разработаны оценочные формулы на основе NPV, ROI, TCO, периода окупаемости и интегрального индекса. Данная модель может быть использована для оценки интегрированных цифровых платформ, таких как KasabaKIAT, в системе профсоюзов Узбекистана.

Ключевые слова: цифровая платформа, экономическая эффективность, цифровая трансформация, интегральный индекс, ROI, NPV, TCO, KasabaKIAT, информационная система, цифровое управление.

INTRODUCTION

In the global economy, digital technologies, platform solutions, artificial intelligence, big data analytics, and cloud infrastructure are becoming important factors in increasing the efficiency of management processes. In particular, in the fields of public administration, social institutions, trade unions, education, healthcare, finance, and services, digital platforms offer opportunities to accelerate data exchange, automate reporting, reduce human

error, and provide analytical data for decision-making.

Uzbekistan is implementing systemic reforms to develop the digital economy, introduce information systems into the activities of state and public organizations, expand the scope of electronic services, and increase data openness and accountability. The Digital Uzbekistan - 2030 strategy sets the tasks of digital transformation of sectors and regions, integration of information systems, and improvement of the quality of digital services [1].

However, one of the most important problems in the process of implementing digital platforms is the issue of scientifically based assessment of their economic efficiency. In practice, the efficiency of a digital platform is often assessed by the launch of a software product, the number of users, or the number of automated functions. This approach does not fully reveal the true economic results of the platform.

The effectiveness of a digital platform is reflected in many factors, including financial savings, time savings, data reliability, management speed, quality of services, risk reduction, transparency, and improved quality of strategic decisions. From this point of view, it is urgent to develop a model based on complex, multi-criteria, and integrated indicators to assess the economic efficiency of implementing digital platforms.

REVIEW OF LITERATURE ON THE SUBJECT

The issue of implementing digital platforms and assessing their economic effectiveness is emerging as a separate direction in the scientific literature on the modern digital economy, information systems management, digitalization of public administration, and digital transformation processes in organizations. An analysis of existing scientific sources shows that there is no single universal approach to assessing the effectiveness of digital platforms. Various studies have examined this issue from the perspective of financial results, organizational process efficiency, information resource quality, user satisfaction, digital maturity level, and institutional transformation.

Early scientific approaches to assessing the economic efficiency of digital technologies and information systems focused on the return on investment, cost reduction, and productivity gains. In particular, E. Brynjolfsson and L. Hitt's research emphasized that investments in information technologies affect productivity and economic outcomes at the enterprise level [9]. In their approach, the benefits of digital technologies are not only related to the purchase of technical equipment, but also to the reorganization of business processes, changes in management culture, and the development of digital skills of employees.

K. Laudon and J. Laudon argue that information systems are one of the strategic resources of an organization and indicate that when assessing their effectiveness, it is necessary to take into account factors such as data quality, decision-making speed, automation of business processes, and competitive advantage [11]. This approach allows us to evaluate digital platforms not only as technical systems, but also as a complex mechanism that transforms organizational management.

In the literature on financial investment evaluation, indicators such as ROI, NPV, IRR, TCO, and payback period are widely used to determine the effectiveness of digital platforms. These indicators allow comparing the costs of developing, implementing, and operating a platform with financial results. However, digital platforms, especially information systems in government and public organizations, often do not generate direct commercial income. Therefore, relying solely on financial indicators does not fully reveal the true effectiveness of such platforms.

The TCO — Total Cost of Ownership approach allows for a more complete assessment of the costs of digital platforms. It takes into account, in addition to the costs of software development, the costs of server infrastructure, licenses, information security, technical support, integration, modernization and staff training. The advantage of this approach is that it shows the total costs of a digital platform over the entire life cycle. However, TCO mainly assesses the cost side, and does not fully reflect the organizational, social and management benefits obtained from the platform.

In studies by international organizations on digital transformation, the effectiveness of digital platforms is interpreted in a broader institutional and economic context. The "digital dividends" approach, promoted by the World Bank, views digital technologies as a means of economic growth, improving the quality of services, and increasing the efficiency of public administration [2]. An important aspect of this approach is that the effectiveness of digital technologies is assessed not only in terms of their presence, but also in relation to the regulatory environment, human capital, institutional readiness, and competitive environment.

OECD studies emphasize the importance of strategic alignment, user-centricity, data-driven governance, openness, transparency, and cross-platform integration when evaluating digital government and digital platforms [3]. The OECD's 2025 approach to digital government investment specifically emphasizes strategic planning, risk assessment, results-orientedness, and ensuring the effectiveness of public spending in managing digital investments [4].

The UN e-government studies assess the level of digital development through the quality of digital services, the online services index, the telecommunications infrastructure, and the human capital indices [5]. This approach is important for assessing the state of digital transformation at the macro and institutional levels. However, these

indices are not detailed enough to calculate economic efficiency at the level of individual organizations or specific digital platforms.

The Balanced Scorecard concept, developed by R. Kaplan and D. Norton, is one of the important theoretical foundations for multi-criteria evaluation of the effectiveness of digital platforms [10]. In this approach, the organization's activities are evaluated from the perspective of financial results, internal business processes, customer or user satisfaction, learning and development. By applying this approach to the evaluation of digital platforms, it is possible to take into account factors such as process speed, service quality, digital competence of employees and digital maturity of the organization in addition to financial efficiency.

The ISO/IEC 25010 standard on information systems quality assesses the functional compatibility, reliability, usability, efficiency, security, adaptability and maintainability of software products and systems [6]. This standard serves as an important methodological basis for assessing the technical and quality indicators of a digital platform. However, the standard focuses mainly on the quality of the software product and does not fully cover economic efficiency, return on investment and organizational results.

The issue of introducing digital platforms in the conditions of Uzbekistan is of particular importance within the framework of the "Digital Uzbekistan - 2030" strategy. This strategy sets the tasks of digital transformation of economic sectors, regions, public administration and social spheres, integration of information systems, expansion of the scope of digital services and improvement of data exchange [1]. This reinforces the need for scientifically based assessment of the effectiveness of introducing digital platforms in the country.

An analysis of research on the digitalization of the activities of trade unions, public organizations, and social institutions shows that there is a scientific and methodological gap in this area. Because the main effect of digital platforms in such organizations is not in the form of direct income, but in the accuracy of the membership register, automation of reports, monitoring of membership dues, control over the implementation of collective agreements, analysis of labor protection data, and prompt adoption of management decisions.

Based on the literature review, the following conclusions can be drawn. First, financial indicators are necessary, but not sufficient, to assess the effectiveness of digital platforms. Second, the economic effectiveness of the platform should be assessed in relation to the speed of processes, data reliability, quality of services, and the effectiveness of management decisions. Third, although international indices and standards provide an important basis for assessing digital development, they do not allow for a complete calculation of economic efficiency at the level of a particular organization or platform. Fourth, in the conditions of Uzbekistan, especially in the system of public organizations and trade unions, it is necessary to develop an integrated model that combines financial, organizational, technological, and social indicators to assess digital platforms.

So, summarizing the existing scientific and theoretical approaches, it can be said that it is appropriate to use a multi-criteria, dynamic and integrated approach in evaluating the economic efficiency of the introduction of digital platforms. The model proposed in this article aims to fill this scientific-methodological gap, that is, to reflect the financial, process, informational, integrative and social effects of digital platforms in a single evaluation system.

RESEARCH METHODOLOGY

Systematic analysis, comparative analysis, economic-mathematical modeling, multi-criteria evaluation, discounted cash flow analysis and integrated index methods were used in the article. The process of introducing digital platforms was defined as the object of research, and the mechanisms of evaluating their economic efficiency as the subject.

The research methodology is based on the principles of complexity, life cycle, dynamic assessment, integrated assessment and practical application. The principle of comprehensiveness implies evaluating the effectiveness of the digital platform through a set of financial, technological, organizational and social indicators. And the life cycle principle requires that the development, implementation, technical support, modernization and security costs of the platform be taken into account together.

The dynamic evaluation principle aims to assess the effectiveness of a digital platform not as a one-time result, but as a system of economic indicators that change over time. The integral evaluation principle allows for the normalization of indicators in different units of measurement and their combination into a single integral index.

ANALYSIS AND RESULTS

The effectiveness of digital platform implementation is evaluated through investment and operating costs, financial savings, process efficiency, service quality, data reliability, integration level, risk reduction and digital maturity level. On this basis, the following general functional relationship is proposed:

$$E_{dp} = f(FE, PE, SE, IE, RE, DM)$$

Here E_{dp} is the economic efficiency of the digital platform; FE is the financial efficiency; PE is the process

efficiency; SE is the service and social efficiency; IE is the information and integration efficiency; RE is the risk reduction efficiency; DM is the digital maturity level (Table 1).

Table 1. Building Blocks of the Digital Platform Performance Evaluation Model¹

Block	Main content	Expected result
Financial results	TCO, ROI, NPV, payback period	Return on investment and cost savings
Process efficiency	Time saving, share of automated operations	Increased labor productivity and speed
Quality of services	User satisfaction, ease of service	Social and institutional effectiveness
Data quality	Data completeness, accuracy and real-time updates	Reliability of analytical decisions
Level of integration	API, communication with external systems, single database	Information exchange and coordination
Reducing risks	Errors, Delays, Uncertainty, and Threats to Information Security	Increased oversight and transparency

The total cost of implementing a digital platform is calculated based on TCO, or Total Cost of Ownership. This approach covers the entire life cycle costs of the platform.

$$TCO = C_{dev} + C_{inf} + C_{lic} + C_{int} + C_{sec} + C_{tr} + C_{sup} + C_{upd}$$

Here, C_{dev} is the cost of platform development; C_{inf} is the cost of server, cloud or network infrastructure; C_{lic} is the cost of licenses and software; C_{int} is the cost of integration with other information systems; C_{sec} is the cost of information security; C_{tr} is the cost of employee training; C_{sup} is the cost of technical support; C_{upd} is the cost of modernization and updating.

In many organizations, the cost of a digital platform is estimated only by the cost of developing the application. This leads to an incorrect calculation of economic efficiency. Therefore, the TCO approach is the main methodological tool for determining the full economic burden of the platform.

The overall benefits of a digital platform are directly shaped by financial savings, quality of services, reduction of errors and risks, integration of information and an increase in the quality of management decisions.

$$B_t = S_t + Q_t + R_t + I_t + M_t$$

Here B_t is the total efficiency in year t ; S_t is the direct financial savings; Q_t is the efficiency from improving the quality of service; R_t is the efficiency from reducing errors, delays and risks; I_t is the efficiency from data integration and rapid analysis; M_t is the efficiency from improving the quality of management decisions.

Financial savings can be calculated as follows:

$$S_t = (T_0 - T_1) \times N_t \times C_{time} + (P_0 - P_1) \times N_t \times C_{paper} + (E_0 - E_1) \times C_{error}$$

Here, T_0 and T_1 represent the time taken to complete the process before and after digitization, N_t the number of operations, C_{time} the cost of one hour of work, P_0 and P_1 the number of paper documents, C_{paper} the cost of preparing one paper document, E_0 and E_1 the number of errors, and C_{error} the cost of correcting one error.

The economic efficiency of implementing a digital platform is financially assessed through NPV, ROI, and payback period indicators. These indicators are key in determining the economic feasibility of the platform.

Net Present Value — NPV

$$NPV = S[(B_t - C_t) / (1 + r)^t] - I_0$$

If $NPV > 0$, the implementation of a digital platform is considered economically feasible. The NPV indicator allows you to determine the present value of future economic benefits, taking into account the time factor.

Return on investment — ROI

$$ROI = [(SB_t - SC_t) / SC_t] \times 100\%$$

ROI reflects the economic return on each sum invested in a digital platform. This indicator is a convenient practical indicator for management to compare investment decisions.

Coverage period — PP

$$PP = I_0 / (B_{avg} - C_{avg})$$

The payback period indicates how many years it will take to pay off an investment in a digital platform. This indicator is especially important for projects financed from the budget or public funds.

Integral assessment index

When evaluating digital platforms, it is not enough to limit yourself to NPV, ROI, or payback period. Because

¹ Source: Author's own work.

platform effectiveness is multidimensional, the article proposes the Digital Platform Economic Effectiveness Integral Index — RPISEI.

$$RPISEI = w_1FE + w_2PE + w_3SE + w_4IE + w_5RE + w_6DM$$

$$\sum w_i = 1$$

The following formula is used to normalize indicators:

$$X_i^{norm} = (X_i - X_{min}) / (X_{max} - X_{min})$$

If a decrease in an indicator is considered a positive result, for example, cost, number of errors, or service time, then the following inverse normalization formula is used (Table 2):

$$X_i^{norm} = (X_{max} - X_i) / (X_{max} - X_{min})$$

Table 2. Interpretation scale for RPISEI integral index values²

Index value	Grade level	Explanation
0.00–0.30	Low efficiency	The platform is not economically viable or the costs are high
0.31–0.50	Satisfactory performance	Some processes have a positive result, but the overall effect is low
0.51–0.70	Average efficiency	Financial and organizational efficiency is formed
0.71–0.85	High efficiency	The platform is reducing costs and speeding up processes
0.86–1.00	Very high efficiency	The platform has become a strategic digital management tool

The proposed model can be put into practice on the example of the KasabaKIAT integrated digital platform implemented in the activities of the Federation of Trade Unions of Uzbekistan and its constituent organizations. Platforms like KasabaKIAT cover areas such as the register of members, reports, collective agreements, labor protection, appeals, financial control, analytical data, and integration with external information systems.

In assessing the effectiveness of such a platform, it is important to reduce the practice of submitting reports in paper form, reduce the time of data entry and verification, maintain the register of members and organizations' data in a single database, and create real-time analytical data for management decisions.

For example, if an average of 6 hours was spent preparing one report before the platform was implemented, if this time was reduced to 2 hours after the platform was implemented, 4 hours would be saved per report. If thousands of reports are generated in a year, the overall economic efficiency will increase significantly.

It also reduces the costs of paper document circulation, archiving, mailing, data re-entry, and error correction. This is a direct financial benefit of the platform. In addition to the direct financial benefits, there are also indirect benefits such as increased management speed, accountability, data reliability, and strategic control.

Scientific news:

- A multi-criteria model combining financial, process, information, integration, and social indicators was proposed to assess the economic efficiency of digital platforms.

- A life cycle approach based on TCO was used to estimate the costs of implementing a digital platform.

- A mechanism was developed to separate the benefits from the digital platform into direct and indirect economic results.

- The Digital Platform Economic Efficiency Integral Index — RPISEI — was proposed.

- The possibilities of using the model in integrated information systems such as KasabaKIAT have been scientifically substantiated.

The results of the study show that the economic efficiency of digital platforms is multifactorial. When evaluating such platforms, it is necessary to take into account not only direct financial effects, but also organizational, informational, technological, and social effects.

First, it is not always easy to monetize indirect effects. For example, increased data reliability or improved management decision-making may not yield tangible financial results in the short term. However, in the long term, these factors have a strong impact on the organization's performance.

Secondly, the effectiveness of a digital platform depends not only on the quality of the technology, but also on the digital skills of employees, organizational culture, data entry discipline, management's attitude towards digital governance, and the regulatory environment.

Third, a reliable database is needed for performance evaluation. If the information entered into the platform

² Source: Author's own work.

is not complete and accurate, the results of the economic analysis may also be incorrect. Therefore, the evaluation model of digital platforms should include data quality as a separate indicator.

Fourth, the efficiency of a digital platform changes over time. In the initial stage, costs may be high and efficiency may be low. In the later stages, economic efficiency increases as user skills increase, module integration increases, and the database is fully formed.

CONCLUSIONS AND SUGGESTIONS

Assessing the economic efficiency of implementing digital platforms is one of the important scientific and practical issues in the digital transformation process. The results of the study show that it is not enough to assess the efficiency of digital platforms only through financial savings or software costs. Such platforms provide a comprehensive economic result in the organization's activities by increasing the speed of processes, data reliability, service quality, the effectiveness of management decisions, and reducing risks.

The article develops a multi-criteria integral model for assessing the economic efficiency of a digital platform. The model includes indicators such as TCO, NPV, ROI, payback period, and integral index. This approach allows for a systematic assessment of the effectiveness of a digital platform before, during, and after implementation.

The proposed RPISEI index combines the financial, organizational, technological, and social performance of digital platforms into a single assessment system. Based on this index, it is possible to compare the effectiveness of using digital platforms across organizations, industries, and regions.

For each project to implement digital platforms, a cost passport based on TCO should be formed. When assessing the effectiveness of the platform, process efficiency, data quality, and level of integration should be taken into account, along with ROI and NPV. It is advisable to develop a system of KPI indicators for each digital platform and monitor them over the years.

It is advisable to introduce digital maturity ratings across regions, industries, and organizations on integrated platforms such as KasabaKIAT, as well as gradually introduce forecasting, automatic analysis, and risk detection modules based on artificial intelligence.

REFERENCES:

1. Decree of the President of the Republic of Uzbekistan No. DP-6079 dated October 5, 2020 "On approval of the Strategy "Digital Uzbekistan-2030" and measures for its effective implementation" // URL: <https://lex.uz/docs/7008256>
2. World Bank. World Development Report 2016: Digital Dividends. Washington, DC: World Bank, 2016.
3. OECD. The OECD Digital Government Policy Framework. Paris: OECD Publishing, 2020.
4. OECD. Effectively Managing Investments in Digital Government: An OECD Policy Framework. OECD Public Governance Policy Papers, No. 76. Paris: OECD Publishing, 2025.
5. United Nations. E-Government Survey 2024: Accelerating Digital Transformation for Sustainable Development. New York: UN DESA, 2024.
6. ISO/IEC 25010:2011. Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models.
7. ISO/IEC 25010:2023. Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — Product quality model.
8. Porter M. Competitive Advantage: Creating and Sustaining Superior Performance. New York: Free Press, 1985.
9. Brynjolfsson E., Hitt L. Computing Productivity: Firm-Level Evidence. Review of Economics and Statistics, 2003.
10. Kaplan R., Norton D. The Balanced Scorecard: Translating Strategy into Action. Harvard Business School Press, 1996.
11. Laudon K., Laudon J. Management Information Systems: Managing the Digital Firm. Pearson, 2022.
12. Schwab K. The Fourth Industrial Revolution. Geneva: World Economic Forum, 2016.
13. Tapscott D. The Digital Economy: Promise and Peril in the Age of Networked Intelligence. McGraw-Hill, 1996.
14. Bharadwaj A., El Sawy O., Pavlou P., Venkatraman N. Digital Business Strategy: Toward a Next Generation of Insights. MIS Quarterly, 2013.
15. DeLone W., McLean E. The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. Journal of Management Information Systems, 2003.

Proofreader: Zokir ALIBEKOV

Layout and Designer: Oloviddin Sobir ugli

2026. № 9

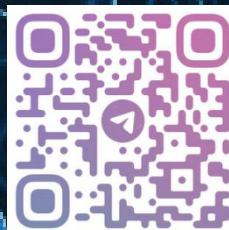
© When materials are reproduced, the INNOVATION SCIENCE AND TECHNOLOGY journal must be cited as the source. Authors are responsible for the accuracy of the information in materials and advertisements published in the journal. Editorial opinions may not always align with those of the authors. Submitted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