(Online) ISSN 2712-0562
Review Article

Sustainable Engineering and Innovation
Vol. 7, No. 1, 2025, pp.175-192
https://doi.org/10.37868/sei.v7i1.id489

Integration of cloud computing and artificial intelligence to optimize economic management processes: a systematic review

Olena Zhuravel[1*], Mykola Prokopenko[2], Oleh Kramar[3], Larysa Yankovska[4], Serhii Lopatka[4]

[1] Department of Management, Finance and Business Technologies, Institute of Public Service and Administration, Odessa Polytechnic National University, Ukraine

[2] Department of Economics and Entrepreneurship, Faculty of Management and Business, Kharkiv National Automobile and Highway University, Ukraine

[3] Department of Management and Administration, Zhytomyr Institute of the Private Joint-Stock Company "Higher Educational Institution "Interregional Academy of Personnel Management", Ukraine

[4] Department of Enterprise Economics and Information Technologies, Institution of Higher Education "Lviv University of Business and Law", Ukraine

*Corresponding author E-mail: elena23zhuravel@gmail.com

Received Mar. 29, 2025
Revised May 26, 2025
Accepted Jun 5, 2025
Online Jun. 13, 2025

Abstract

This systematic review examines existing literature on the role of AI-driven cloud computing in optimizing economic management processes, identifying key trends, benefits, challenges, and future research directions. The study uses the PRISMA framework to systematically collect and analyze research from academic databases, including Scopus, Web of Science, IEEE Xplore, and Google Scholar. Findings reveal that AI-powered cloud solutions offer scalability, real-time data analytics, cost reduction, and automation of business processes. However, data security risks, ethical concerns, and regulatory constraints hinder full-scale adoption. The study also highlights emerging trends, including AI-driven financial forecasting, intelligent automation, and Explainable AI (XAI) models, which facilitate transparent decision-making. Additionally, the research identifies gaps in the literature, particularly in the adoption of AI within public sector economic management and regulatory frameworks. The discussion compares these findings with existing studies, exploring theoretical and practical implications for businesses, policymakers, and researchers. Key recommendations include the need for robust cybersecurity frameworks, ethical AI governance, and industry-specific AI applications. Further study should focus on longitudinal studies, cross-sectoral analyses, and the role of AI in sustainable economic growth. The current assessment contributes to the emerging body of knowledge on Artificial Intelligence and cloud integration, posing insights to drive effective and responsible implementation in economic management.

Keywords: Cloud computing, Artificial intelligence, AI-driven decision-making, Economic management, Systematic review, PRISMA framework

1. Introduction

Cloud computing, which lets people use shared computing resources whenever they need them [1], and artificial intelligence (AI), which lets machines do things that usually require human intelligence [2], have become game-

changing technologies in many fields, including economic management. Cloud computing provides a scalable and cost-effective infrastructure for storing, processing, and analyzing vast amounts of data [3]. In contrast, it is argued that AI enhances decision-making through machine learning, predictive analytics, and automation. These technologies transform economic processes by enabling organizations to optimize resource allocation, streamline operations, and enhance data-driven decision-making [4]. Their incorporation presents an exclusive opportunity to improve accuracy, strategic planning and efficiency in economic management. Moreover, integrating cloud computing and AI transforms economic management by enhancing forecasting, automation, and real-time decision-making. Studies highlight AI's role in improving stock market accuracy, securing cloud networks, and optimizing supply chains. Edge computing further boosts responsiveness, while AI applications in oil, water, and entrepreneurship show broad industry relevance. Collectively, these advancements drive efficiency, sustainability, and innovation across economic systems, marking a pivotal shift in data-driven economic management [5].

The collaboration between AI and cloud computing presents a robust context for addressing complex economic challenges. When employed with AI infrastructure, cloud-driven analytics enable real-time financial prediction, fraud detection, risk assessment, and policy optimization. Financial institutions, Businesses, and Governments are progressively employing this integration to systematize procedures, cut expenses, and enhance economic resilience. By utilizing AI cloud-hosted models, institutions can process large datasets more efficiently, gain actionable insights, and respond more effectively to market changes. As a result, adopting AI cloud-based solutions is becoming a vital aspect of digital transformation in economic management. Despite these technologies' emerging importance and acceptance, existing studies often investigate AI and cloud computing independently or present separate case studies without comprehensively analyzing their combined application in economic management. This singular act creates a vacuum in understanding the complete prospects, problems, and best practices for joining these technologies. It is pertinent to mention that a methodical review is essential to evaluate the current literature, identify key findings, and assess both the merits and challenges of this integration. This study aims to identify the core benefits and challenges associated with integrating AI and cloud computing in economic management, examine how cloud-based AI solutions enhance decision-making and operational productivity, and explore future research directions and technological advancements that can further strengthen the integration of these technologies within the field.

1.1. Problem statement

Notwithstanding the increasing acceptance of cloud computing and AI in economic management, existing research has primarily focused on separate investigation and evaluation of these technologies; few investigations have examined their combined impact. While cloud computing enhances accessibility alongside computational efficiency, AI-driven algorithms further augment data analysis and computerization. Despite the growing potential of integrating AI and cloud computing in economic management, challenges such as data security, governance, and technical complexity persist. While AI and cloud technologies enhance efficiency across sectors, their combined application in economic management is limited and underexplored. However, the lack of a systematic approach to integrating these two technologies hinders their full potential in economic decision-making. Furthermore, concerns related to infrastructure costs, data security, and workforce readiness pose significant challenges to their adoption [6]. Given the swift improvements in AI-driven cloud solutions, there is a need for an inclusive evaluation of existing literature to identify challenges, key trends, and future research considerations. A systematic review is critical for synthesizing findings from different studies, providing a comprehensive understanding of how AI and cloud computing can be effectively integrated into economic management.

1.2. Research aim

This study aims to systematically analyze the existing literature on integrating AI and cloud computing in economic management. Similarly, it will identify challenges, key trends, and future directions.

1.3. Research questions

- What are the core benefits and challenges of integrating AI and cloud computing in economic management?
- How do cloud-based AI resolutions enhance decision-making and operational productivity in economic management?
- What future research directions and technological advancements can boost the integration of AI and cloud computing in this field?

1.4. Literature review

This section discusses the integration of cloud computing and AI in economic management, focusing on key concepts such as applications, benefits, challenges, and theoretical models. It highlights how AI and cloud computing enhance efficiency, scalability, and decision-making while addressing data security and ethical concerns. Additionally, it reviews current applications, including AI-driven analytics and cloud-based financial forecasting [7], and identifies gaps in the literature, outlining future research directions.

1.4.1. Foundations of cloud computing and artificial intelligence in economic management

Cloud computing refers to the on-demand availability of computing resources, including storage, processing power, and applications, over the Internet without direct active management by users [8]. It is categorized into three primary service models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) [9]. These models enable organizations and governments to reduce operational expenses, enhance resource distribution and improve data accessibility. In economic management, cloud computing has transformed purchasing and supply chain operations, public administration and fiscal systems. It simplifies real-time data scrutiny, enabling businesses and officials to make informed fiscal decisions [10, 11]. Furthermore, cloud-based solutions support monetary modeling, risk valuation, supervisory compliance, and restructuring economic governance procedures. A significant benefit is cost efficiency, as cloud computing reduces the need for expensive IT set-up while ensuring flexibility and scalability in data management [12]. However, challenges such as data confidentiality concerns, cybersecurity risks, and supervisory constraints remain significant barriers to adoption. Addressing these uncertainties is essential for constantly integrating cloud computing into economic management.

Artificial intelligence refers to imitating human intelligence in machines, allowing them to perform responsibilities such as decision-making, problem-solving, and learning. AI includes automation, deep learning, natural language processing and machine learning (ML), all of which have substantial economic applications. Via economic management, AI improves fraud detection, market trend examination, data-driven decision-making, automation, and predictive analytics. AI-driven algorithms improve financial forecasts. Moreover, AI-driven automation enhances supply chain and purchasing management by reducing inefficiencies in operational procedures and resource allocation [13]. Companies and governments use AI to reproduce strategies, make economic arrangements, and evaluate credit risk [14]. Nevertheless, experience problems with broad acceptance, which include issues like preference in AI models, interpretability disputes, and ethical predicaments. For AI frameworks to be successfully incorporated into economic management, their fairness and transparency must be assured.

Moreover, many conceptual frameworks and Transaction Cost Theory (TCT) have been put forward to clarify precisely how AI and cloud computing are integrated into economic management. The theory, which was first proposed by [15] and then advanced by [16], suggests that companies aim to reduce the costs of transactions when making financial decisions. By computerizing decision-making, lowering information processing expenses, rationalizing supply chains, cloud computing and AI lowering transaction costs [17, 18]. AI-driven cloud platforms improve economic efficiency by reducing human involvement in financial and operational processes [9, 14, 19]. Barney [20] established the Resource-Based View framework, emphasizing that companies attain modest advantages by leveraging their exclusive resources. Cloud computing offers scalable and flexible IT resources, while AI improves predictive competencies and decision-making, enhancing

competitiveness and economic optimization. Organizations that integrate AI and cloud computing can maximize productivity and innovation in their economic management.

Diffusion of Innovation (DOI) Theory: Rogers [21] proposed the DOI theory, which explains adopting new technologies over time. AI-powered cloud computing follows a diffusion pattern in economic management, with early adopters, such as financial institutions and multinational corporations, benefiting from increased efficiency and cost reductions [22]. The successful integration of AI and cloud computing depends on technological readiness, regulatory policies, and organizational adaptability.

Technology-Organization-Environment (TOE) Framework: The TOE framework [23] posits that technological adoption depends on technology, organizational readiness, and environmental influences. AI-cloud integration in economic management is driven by advancements in computing power, AI models, and cloud infrastructures, alongside government policies and competitive pressures.

1.4.2. Key trends in cloud computing and AI integration

The chart in Figure 1 presents key cloud computing and AI integration trends, highlighting the most discussed benefits (efficiency, scalability, cost reduction, automation) and challenges (data security risks, ethical concerns, regulatory issues) in the reviewed literature.

Figure 1. A chart showing key trends in cloud computing and AI integration

1.4.3. Benefits of integration

Efficiency and automation

Integrating cloud computing and AI enhances operational efficiency by automating complex processes. AI-driven cloud platforms enable real-time data processing, predictive analytics, and automated decision-making, reducing human intervention and enhancing accuracy [4]. For example, cloud-based AI models improve economic forecasting, financial risk management, and supply chain optimization by analyzing vast datasets with minimal delays [9].

Scalability and flexibility

Cloud computing provides a scalable infrastructure that enables organizations to dynamically adjust their computing resources according to demand. Combined with AI, companies and governments can efficiently handle large volumes of fiscal and monetary data. AI algorithms can gauge enthusiastically, refining the adaptability of decision-making models in evolving economic conditions [6].

Cost reduction and resource optimization

It is worth mentioning that one of the most significant benefits of cloud-based AI is its cost efficiency. Traditional on-premise AI solutions require exclusive computing hardware, whereas cloud computing provides on-demand access to AI models without requiring significant upfront assets. Institutions and Businesses reduce infrastructure expenses while leveraging AI-powered insights for pecuniary organization, resource allocation and policy planning [12].

Data-driven decision making

AI-driven cloud platforms enable cutting-edge data analytics to support the design of fiscal policy, the detection of scams, and market forecasting. Governments and financial institutions utilize cloud-based AI to categorize monetary inclinations, identify irregularities in financial transactions, and enhance regulatory oversight [24]. Additionally, AI models hosted on cloud platforms allow decision-makers to access real-time, accurate, and actionable insights.

1.5. Challenges and risks

Data security and privacy risks

Data security is a significant concern in AI-cloud integration. This gesture involves storing vital financial and economic information on remote servers, increasing the risk of data breaches, cyberattacks, and unauthorized access [25, 26]. AI models rely on large datasets, which can give rise to privacy concerns and regulatory challenges, particularly in light of the General Data Protection Regulation (GDPR) and other data protection laws.

Ethical and bias issues

AI models trained on biased datasets may perpetuate economic disparities and bias. Cloud-based AI solutions are increasingly utilized in recruitment, credit scoring, and economic planning, raising concerns about algorithmic bias and transparency. The lack of explainability in AI decisions significantly challenges regulatory compliance and public trust [15].

Technical limitations and reliability issues

Despite improvements, AI-powered cloud computing faces technical challenges, including system failures, latency, and data processing bottlenecks. Dependence on cloud infrastructure means that downtime, connectivity issues, and performance limitations can disrupt economic operations. Additionally, integrating legacy economic systems with cloud-based AI solutions remains challenging for many organizations [27].

High implementation costs and skill gaps

While cloud computing reduces infrastructure costs, implementing AI-driven cloud solutions requires significant investment in skilled personnel, data scientists, and IT infrastructure [13]. Many businesses and government institutions struggle with the shortage of AI experts and the complexity of deploying AI models in cloud environments.

1.6. Current applications in economic management

AI-powered data analytics and decision-making

Artificial intelligence enhances economic decision-making by processing large datasets with advanced analytics. ML algorithms identify economic data patterns, trends, and anomalies, supporting informed policy decisions, investment strategies, and risk assessments [10, 28]. Governments and businesses use AI-driven analytics for market trend prediction, inflation tracking, and fraud detection in financial transactions. AI-powered dashboards also provide real-time economic insights, improving policy formulation and strategic planning.

Cloud-based financial forecasting models

Cloud computing enables real-time economic forecasting and financial modeling by integrating AI-powered simulations and predictive analytics. Cloud-based platforms process macroeconomic indicators, trade patterns, and stock market trends to generate highly accurate financial predictions [29]. Organizations leverage these tools to optimize budgeting, resource allocation, and investment decisions. Financial institutions use cloud-based AI for credit risk assessment, currency exchange rate forecasting, and algorithmic trading [15].

Intelligent automation of business processes

AI and cloud computing streamline economic and business operations through automation. Intelligent robotic process automation (RPA) handles repetitive tasks such as data entry, financial reporting, and compliance tracking, reducing human errors and operational costs. AI-powered chatbots and virtual banking, taxation, and customer service assistants enhance efficiency and user experience. Additionally, AI-driven cloud ERP (Enterprise Resource Planning) systems integrate supply chain management, human resources, and finance, enhancing business productivity and strategic decision-making [12].

1.7. Gaps in the literature

Significant gaps remain despite the growing research on AI and cloud computing in economic management. One major limitation is the lack of industry-specific studies, as most existing research focuses on general benefits, such as efficiency and cost reduction [22, 26]. There is limited exploration of AI-cloud integration in taxation, regulatory compliance, and public sector economic planning – areas that could benefit significantly from automation and predictive analytics [7].

Furthermore, using AI and cloud computing in emerging markets remains underexplored, with most studies primarily focusing on developed nations [9]. Future research should report the infrastructural and supervisory challenges that hinder the implementation of AI in developing economies [4]. Another serious gap is the absence of research on ethical concerns and data security in AI-driven economic management. While scholars have highlighted algorithmic bias and transparency [6, 15], there are few tangible guidelines for justifying these risks in financial decision-making, economic forecasting, and labor market automation.

In addition, authorized and regulatory frameworks governing AI-driven financial models remain underdeveloped, raising concerns about data confidentiality, accessibility, and accountability. Further investigations are necessary to establish global ethics for AI-cloud adoption, particularly in the financial and government sectors, where decision-making must be transparent and ethical.

Finally, long-term studies are lacking in evaluating the economic impact of incorporating AI-cloud technology. Prevailing research primarily focuses on short-term proficiency gains, but little is known about how AI-driven cloud computing will impact economic sustainability, engagement, and disparities over time.

The likely risks, such as job supplanting due to automation and large corporations' monopolization of AI-driven economic insights, are largely unaddressed [22]. Addressing these lacunae will ensure that AI and cloud computing contribute to justifiable and inclusive economic growth rather than exacerbating existing disparities.

2. Research method

This section employs a systematic literature review (SLR) method to analyze current research on integrating artificial intelligence and cloud computing in economic management. This review employs the PRISMA framework to ensure an organized, transparent, and replicable selection process [30]. Related peer-reviewed studies were sourced from Scopus, Web of Science, IEEE Xplore, Google Scholar, Elsevier, and ScienceDirect, ensuring comprehensive coverage of high-impact research. The search strategy incorporated Boolean operators, with queries such as “cloud computing”, “artificial intelligence”, and “economic management”, alongside variations like “AI-powered decision-making” or “machine learning” and “economic policy” (see Figure 2).

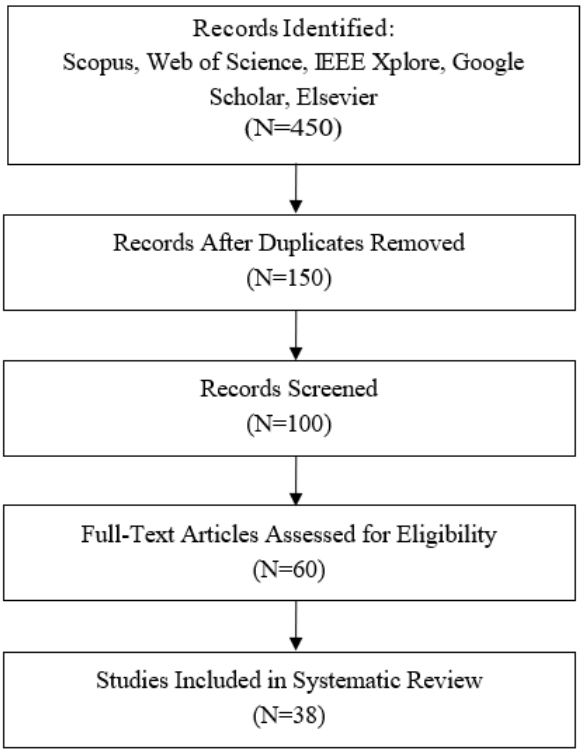

Figure 2. A PRISMA flow diagram showing the methodology employed

The PRISMA flow diagram illustrates the systematic review process, showing the number of studies identified, screened, assessed for eligibility, and ultimately included in the review. This picture helps clarify the procedure used in selecting suitable works.

2.1. Inclusion and exclusion criteria

The selection procedure employed in selecting data includes peer-reviewed status, publication date (2015–2025), and significance to AI-cloud integration in economic management, excluding studies unrelated to economic applications or lacking empirical evidence. Employing a thematic combination approach to analyze selected articles, classifying results under key themes: AI-driven decision-making, ethical concerns, automation, and cloud-based financial forecasting. The analysis revealed research gaps in the long-term economic effect, managerial challenges, and AI-cloud implementation in developing economies, aligning with the literature review findings. The current study stresses the need for industry-specific investigation, improved data security frameworks, and comprehensive AI models adapting to diverse economic environments. Addressing these lacunae, this review contributes to a deeper understanding of how AI-powered cloud computing can augment economic management while mitigating risks.

2.2. Screening and selection process

The current study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. This model is to ensure an ordered and transparent selection process. An inclusive search was conducted across Scopus, IEEE Xplore, Google Scholar, Elsevier, Web of Science and Science Direct, recovering works published between 2015 and 2025. After removing replicas, headings and abstracts were screened to exclude irrelevant materials, such as those concentrating exclusively on AI or cloud computing, without discussing their combination in economic management. Peer-reviewed status, relevance, empirical findings, and elimination criteria: lack of economic applications, opinion-based discussions) Were the criteria used to analyze the whole text? High-quality research covering AI-powered decision-making, cloud-based financial forecasting, automation, and regulatory challenges ensures a focused and systematic review that marks the conclusion selection.

2.3. Data extraction and analysis

The methodology employed in the current study is the thematic synthesis method, which intends to extract and categorize the findings from the selected studies. Four primary themes grouped was used in this study: (1) AI-powered decision-making in economic management, concentrating on predictive analytics and machine learning; (2) cloud-based fiscal estimating, investigating cost efficiency and real-time data processing and; (3) automation and operational efficiency, covering AI-driven business process optimization; and (4) ethical considerations and challenges, addressing data privacy, regulatory concerns and algorithmic bias. The analysis revealed the increasing implementation of AI-cloud integration but also highlighted research gaps, including the long-term financial impact, supervisory frameworks, and accessibility in evolving markets. The stated perceptions explain how AI-powered cloud computing can augment fiscal organization while alleviating ethics, scalability and security risks.

3. Results

This segment showcases the significant findings of the systematic review, concentrating on how AI-powered cloud computing increases economic management. The findings are systematized according to the research questions, summarizing the challenges, benefits and improvements AI-powered cloud resolutions bring to decision-making and functional productivity. A key study's summary table highlights methodologies, primary findings, and contributions. Additionally, emerging trends and recurring themes are analyzed to provide a broader perception of the existing state and prospects of AI-cloud integration in economic management.

3.1. Summary of key studies

Table 1 summarizes the key studies reviewed, including their authors, year of publication, methodology, and main findings.

Table 1. Summary of key studies

Authors	Year	Methodology	Main Findings
Brynjolfsson & McAfee [4]	2017	Theoretical analysis	AI's role in economic management is transformative, but job displacement remains risky.
Derevyanko et al. [7]	2017	Qualitative analysis	Internally displaced persons' monetary assets represent significant potential resources for commercial banks, highlighting the need for tailored financial services to integrate these funds effectively.
Mukhametzhanova et al. [19]	2019	Productivity evaluation	Demonstrates that innovation activities positively influence enterprise productivity, recommending that companies invest in innovative processes and technologies to achieve higher performance levels.
Gill et al. [27]	2019	Systematic literature review	Examines how IoT, blockchain, and AI transform cloud computing. Identifies emerging trends and open challenges in cloud-based AI integration.
Vitvitskiy et al. [25]	2021	Policy analysis	Emphasizes the necessity for a new paradigm in anti-money laundering efforts in Ukraine, advocating for enhanced regulatory frameworks and international cooperation to combat financial crimes effectively.
Belgaum et al. [26]	2021	Theoretical analysis & experimental evaluation	Investigate reliability and scalability issues in AI-integrated cloud computing, IoT, and SDN. Highlights key solutions to improve system dependability.
Duan et al. [17]	2022	Survey of existing AI-cloud architectures	Explores distributed AI across end devices, edge servers, and cloud platforms. Emphasizes reduced

Authors	Year	Methodology	Main Findings
			latency, improved efficiency, and challenges of decentralized AI.
Dobrovolska et al. [14]	2023	Comparative analysis	Increasing the share of R&D expenditure in GDP positively correlates with higher innovation development, suggesting that Ukraine should boost R&D investment to enhance its innovation capabilities, aligning with top GII countries.
Bickley, Macintyre, & Torgler [29]	2023	Empirical analysis & case studies	Extended discussion on AI and big data applications in sustainable business models. Provides empirical evidence of AI-driven business optimization for sustainability goals.
Mohammed, Fang, & Ramos [8]	2023	Special issue introduction & literature synthesis	Summarizes recent advancements in AI-cloud integration. Identifies research gaps and potential directions for future studies in AI-driven cloud computing.
Sotnyk et al. [11]	2024	Risk assessment	Identifies critical risks impacting defense resource management mechanisms and proposes strategies to mitigate these risks, aiming to improve the efficiency and sustainability of defense resources.
Smailov et al. [31]	2024	Technical development study	Proposes a streamlined approach to digital correlation-interferometric direction finding using spatial analytical signals, enhancing the accuracy and efficiency of direction-finding systems.
Tazhibekova & Shametova [32]	2024	Case study analysis	SMEs' adoption of "green" strategies enhances their competitiveness and sustainability, indicating that ecological initiatives can be a competitive advantage in the market.
Gasanov [28]	2024	Scoping review	Explores the use of artificial intelligence in forensic economics, highlighting its potential to improve accuracy and efficiency in economic investigations and legal proceedings.
Yurko & Riabtsev [10]	2024	Economic analysis	Concludes that strategic investment in innovation and efficient resource utilization are critical factors in ensuring long-term economic sustainability, emphasizing the need for policies that support these areas.
Bickley, Macintyre, & Torgler [24]	2024	Literature review and case study analysis	AI and big data enhance sustainable entrepreneurship by optimizing resource utilization and decision-making. AI-driven solutions support ecological sustainability in business operations.
Akinade et al. [33]	2024	Review	Addressed cloud security challenges; emphasized encryption and authentication best practices.
Alsabt et al. [34]	2024	Systematic Review	Proposed an AI-driven Smart City optimization model and discussed strategic implications.
Albshaier et al. [35]	2025	Systematic Review	Highlighted federated learning as key to enhancing cloud and edge security.
Dritsas & Trigka [36]	2025	Survey	Showed that cloud use in IoT improves efficiency and scalability.

Authors	Year	Methodology	Main Findings
Ennajeh et al. [37]	2025	Systematic Literature Review	Found AI drives digital transformation across various organizational contexts.
Haval [38]	2025	Case Study	Demonstrated cloud computing improves supply chain and retail analytics.
Kanumula & Nayini [39]	2025	Conceptual Framework	Suggested AI/ML to optimize cloud migration via automation and prediction.
Kumar & Ratten [40]	2025	Systematic Literature Review	Found AI uptake in family businesses linked to innovation and succession planning.
Lu [41]	2025	Experimental Study	Demonstrated AI and cloud tech lower manufacturing costs and optimize finances.

3.2. Main findings by research questions

RQ1: Benefits and challenges of AI-cloud integration in economic management

The benefits of AI-powered cloud computing in economic management include enhanced efficiency, scalability, cost reduction, and real-time decision-making [22, 26]. Cloud-based AI solutions enable organizations to analyze vast economic datasets and automate processes, reducing operational costs and improving productivity [6]. However, significant challenges include data security risks, ethical concerns, regulatory uncertainty, and infrastructure limitations in developing economies [10] (Figure 3). Algorithmic bias and lack of transparency in AI-driven economic models also pose risks, necessitating robust regulatory frameworks [2].

Figure 3. Depict the challenges of AI – cloud integration in economic

RQ2: AI-Driven improvements in economic management

AI-powered cloud solutions enhance financial forecasting, risk management, and business process automation, leading to data-driven decision-making. Machine learning models aid in predicting economic trends, optimizing supply chain operations, and facilitating intelligent tax compliance. Cloud computing provides on-demand access to computational resources, improving the scalability of AI applications. AI enhances scam detection and cybersecurity procedures, mitigating financial risks [9]. However, successful AI-cloud integration requires investment in infrastructure, a skilled workforce, and regulatory policies to ensure fairness and transparency.

RQ3: Future research directions and technological advancements

The review highlights gaps in industry-specific research, primarily in public sector economic management, taxation, and regulatory compliance [9]. Future research should focus on developing AI models with built-in ethical guidelines to reduce algorithmic bias in financial decision-making [42]. Advancements in edge computing could enhance data security, data mining [43], and real-time processing [44], reducing dependence on centralized

cloud storage. Moreover, AI-driven economic forecasting models must incorporate global economic shifts, inflation dynamics, and financial crises to enhance accuracy [45, 46]. Research into the socioeconomic impacts of AI-cloud automation, including employment shifts and income inequality, is also necessary.

3.3. Emerging trends and patterns

The reviewed studies reveal several emerging trends in AI-cloud integration for economic management. One major trend is the implementation of hybrid cloud solutions, where organizations combine private and public cloud infrastructure to strike a balance between data security and cost efficiency [22].

Another trend is the rise of XAI, which aims to enhance transparency and accountability in AI-driven economic decision-making [8]. Additionally, there is an increasing awareness of AI-driven regulatory compliance systems, which can automate risk assessment and scam detection in financial transactions.

Moreover, real-time AI-powered economic prediction models are becoming increasingly sophisticated, integrating machine learning, big data analytics, and cloud computing to provide more precise predictions. However, a lack of standardized principles across different economies continues to hamper widespread implementation, underscoring the need for global AI governance frameworks. Imminent edge computing and quantum AI growth are expected to further transform economic management by enhancing processing speeds and reducing cloud reliance.

4. Discussion

This segment relates the results to extant literature, recognizing similarities, unexpected insights and discrepancies. Moreover, the practical and theoretical implications are examined, highlighting how the current findings can help in emerging academic knowledge, advising strategy development, and appraising business policies [47, 48]. Lastly, the study's boundaries were debated, acknowledging the boundaries in data collection, methodological preferences, and the need for additional empirical exploration in this emerging field.

4.1. Comparison with previous research and unexpected findings

The results of this examination validate the development gained in previous studies, underscoring the scalability, efficiency, and cost benefits of the artificial intelligence cloud combination in economic management [21]. Similar to previous studies, this review affirms that AI-driven cloud computing boosts real-time decision-making, automation and financial predicting [6]. Conversely, a remarkable inconsistency emerged concerning data security. Even though some researches highlight cloud computing as a secure and scalable infrastructure, others highlight data privacy risks and cybersecurity vulnerabilities [49]. Furthermore, the review exposed an unexpected study gap: even though AI is extensively applied in organizational financial management, its implementation in public sector economic strategies and compliance with regulation remains underexplored [9]. This discrepancy recommends that whereas AI-cloud integration increases efficiency, its effectiveness depends on specific context, ethical considerations and regulatory frameworks.

4.2. Theoretical and practical implications

The current investigation adds to the theoretical discourse by harmonizing AI and cloud computing ideas with economic management models. The study outcomes underpin resource-based and scientific determinism philosophies, which advocate that access to innovative technologies, such as cloud-based AI, augments the competitive advantage of organizations. The study also reveals the need for XAI frameworks to increase accountability and transparency in economic decision-making. The study provides commendable insights for regulators and business leaders based on practical perception. Policy makers can adopt AI-powered economic predicting models to control inflation, formulation, and taxation. In contrast, businesses can exploit cloud-based AI results for price savings, fraud detection, purchasing, and supply chain optimization [50, 51]. In addition, the study findings highlight the significance of cybersecurity investments and ethical AI regulations to avert algorithmic partiality and data misapplication in fiscal decision-making.

4.3. Limitations of the study

This study has various limitations. First, the research depends on secondary data from academic catalogs, which may introduce selection bias by excluding unpublished studies or industry reports. Second, the study primarily focused on literature written in English, potentially overlooking relevant research published in other indigenous languages. Furthermore, although the PRISMA background ensured a systematic review, the lack of longitudinal studies limited the ability to assess the long-term impact of AI-cloud integration on economic management. Lastly, although wide-ranging trends were identified, the study did not provide contextual differentiation of findings across industries or economic sectors, which may impact the generalizability of the conclusions. Future investigations should collect primary data and integrate cross-industry comparisons and regional AI adoption case studies to address these gaps.

5. Conclusions

This systematic review explains the significant role of AI-powered cloud computing in enhancing economic management processes. The findings confirm that cloud-based AI solutions enhance financial forecasting, decision-making, and business automation by offering scalability, cost reduction, and real-time data processing [52, 53]. Yet, the study also identifies key challenges, including data security risks, ethical concerns, regulatory uncertainties, and infrastructure limitations, that hamper widespread implementation [4, 5].

Furthermore, the review highlights a research gap in public sector economic management and regulatory compliance, particularly in applying AI-cloud solutions [9, 54]. While private businesses are swiftly adopting AI-driven cloud solutions, governments and policymakers face legal and ethical constraints in their implementation. However, the current study highlights the need for more rigorous regulatory frameworks, cybersecurity advancements, and ethical AI development to ensure accountable AI-cloud integration in economic management [55]. This research offers valuable insights for businesses, policymakers, and academics by identifying current trends, challenges, and future research directions in AI-cloud integration. The findings underscore the need for interdisciplinary collaborations between economists, technologists and regulators to achieve the benefits of AI and cloud computing while addressing ethical, security and regulatory challenges.

Finally, the current evaluation offers actionable perceptions for policymakers, business owners, and academic investigators, registering current trends, identifying technological and policy-related challenges, and suggesting viable future directions [56, 57]. The study findings highlight the prominence of interdisciplinary partnerships bringing together economists, scientists, and policymakers to harness the potential of AI-cloud integration fully. Future research should focus on longitudinal studies, cross-industry comparisons, and region-specific models of AI adoption to provide a more comprehensive understanding of AI-cloud incorporation in economic management.

5.1. Practical recommendations

It is advised that commercial enterprises focus on AI-driven data analytics and intellectual robotics, with strong cybersecurity, to enhance the prospects of AI-powered cloud computing in economic management. Overall operational productivity will be upgraded by integrating cloud-based AI technologies into supply chain optimization, risk assessment, and financial forecasting. Data-powered decision-making will be made possible.

Additionally, implementing strong cybersecurity methodologies such as fraud recognition using AI and advanced encryption is essential to safeguard data confidentiality. Companies should also establish clear AI governance frameworks that uphold automated decisions' transparency, fairness, and accountability. Likewise, investing in workforce development by upskilling employees and offering AI and cloud skills training to support a smooth digital revolution. Creating a comprehensive regulatory framework is vital for policymakers to ensure ethical and secure integration of AI in economic management. This includes implementing data protection regulation, establishing mechanisms for algorithmic accountability and enforcing AI transparency standards, to ensure regulatory compliance and build public trust in AI-powered economic systems.

Furthermore, AI can be quickly incorporated into taxation, fiscal guidelines, and economic policy planning through public-private partnerships (PPPs), which in turn will facilitate more effective governance. The scalability and accessibility of AI across numerous industries will also be improved by cloud infrastructure investment, such as 5G and edge computing [58]. Giving people and organizations advice on using AI in the public sector can greatly enhance compliance with regulations, budget allocation, and economic prediction, all of which contribute to more successful economic management techniques.

Future studies should examine the lasting economic consequences of AI-cloud integration, including changes in production, job displacement, and career transformations. Comparative studies of governments and industries are also required to comprehend how AI-driven cloud computing helps various economic sectors. Additionally, studies want to concentrate on new XAI models that promote openness and confidence in financial judgment. Further research is required to assess the prospects and difficulties for digital transformation in developing nations and the adoption of AI in emerging economies. Finally, future research should examine how AI-powered cloud computing can contribute to sustainable economic growth, specifically in green finance, resource optimization, and climate risk management.

5.2. Future research directions

Further investigation should examine the security risks associated with AI-driven cloud computing, particularly in data privacy, cyber threats, and regulatory compliance. As economic organizations progressively rely on cloud-based AI solutions, addressing liabilities related to data encryption, unauthorized access, and AI-driven scam detection becomes vital. To mitigate probable threats, researchers should examine advanced cybersecurity frameworks, such as zero-trust architecture and AI-enhanced intrusion detection systems. Moreover, researchers should concentrate on the impact of evolving global data protection regulations, such as GDPR and AI governance laws, on AI-cloud adoption in economic management [59]. An alternative critical area for exploration is the ethical considerations of AI-driven decision-making in monetary transactions. Although AI enhances efficiency and precision, concerns about prejudice, fairness, and algorithmic transparency remain underexplored. Researchers should investigate how biased AI models may impact financial decision-making, credit scoring, and economic forecasting, potentially leading to systemic disparities. Developing XAI models that ensure accountability and interpretability is essential for promoting dependable AI integration. Additionally, interdisciplinary research on AI ethics, legal frameworks, and human oversight mechanisms will be crucial in shaping the implementation of accountable AI.

Additional investigation is needed on industry-specific applications of AI-cloud computing in economic management. While studies have primarily focused on corporate financial management, there is a notable lack of research on AI adoption in public sector economic policies, taxation systems, and small business financial planning. Future research should analyze sector-specific challenges and benefits, including AI-driven automation in healthcare finance, manufacturing supply chains, and digital banking [60]. Moreover, comparative studies across developed and emerging economies can provide valuable insights into regional adoption barriers, digital infrastructure gaps, and policy-driven advancements in AI. Investigating how AI-powered cloud computing contributes to sustainable economic growth, climate finance, and resource optimization will further expand the scope of AI-driven economic management research.

Declaration of competing interest

The authors declare that they have no known competing interests, financial or otherwise, in any material discussed in this paper.

Funding information

No funding was received from any financial organization to conduct this research.

Author contribution

The contribution to the paper is as follows: O. Zhuravel, M. Prokopenko: study conception and design; O. Kramar: data collection; M. Prokopenko, L. Yankovska, S. Lopatka: analysis and interpretation of results; S. Lopatka: draft preparation. All authors approved the final version of the manuscript.

References

[1] P. M. Mell, and T. Grance, "The NIST definition of cloud computing", *National Institute of Standards and Technology*, 2011. https://doi.org/10.6028/nist.sp.800-145

[2] S. Russell, and P. Norvig, *Artificial intelligence: A modern approach*, 4th ed. UK: Pearson, 2021. https://aima.cs.berkeley.edu/newchap00.pdf

[3] V. Akhmetov, S. Khlamov, V. Savanevych, and E. Dikov, "Cloud computing analysis of Indian ASAT test on March 27, 2019", In *Proceedings of IEEE International Scientific-Practical Conference: PICST*, pp. 315-318, 9061243, 2019. https://doi.org/10.1109/PICST47496.2019.9061243

[4] E. Brynjolfsson and A. McAfee, *The second machine age: work, progress, and prosperity in a time of brilliant technologies*, NY: W.W. Norton & Company, 2014. https://wwnorton.com/books/9780393239355

[5] S. Mondal, and S. S. Goswami, "A narrative literature review on the economic impact of cloud computing: Opportunities and challenges", *Computing and Artificial Intelligence*, vol. 3, no. 1, Article 1934, 2024. https://doi.org/10.59400/cai1934

[6] S. K. Pellikoduku, "Challenges and Solutions for AI in Cloud Computing: A Technical Analysis", *International Journal of Scientific Research in Computer Science, Engineering and Information Technology*, vol. 11, no. 2, pp. 399-404, 2025. https://doi.org/10.32628/CSEIT25112372

[7] B. Derevyanko, Y. Zozulia, and L. Rudenko, "Money assets of internally displaced persons as financial resources of commercial banks", *Banks and Bank System*, vol. 12, no. 4, 2017. https://doi.org/10.21511/bbs.12(4-1).2017.09

[8] S. Mohammed, W. C. Fang, and C. Ramos, "Special issue on "artificial intelligence in cloud computing", *Computing*, vol. 105, no. 3, pp. 507-511, 2021. https://doi.org/10.1007/s00607-021-00985-z

[9] M. Armbrust, A. Fox, R. Griffith, A. D. Joseph, R. Katz, A. Konwinski, ..., and M. Zaharia, "A view of cloud computing", *Communications of the ACM*, vol. 53, no. 4, pp. 50-58, Mar. 2010. https://doi.org/10.1145/1721654.1721672

[10] I. Yurko and D. Riabtsev, "The Role of Investment, Innovation and Efficient Use of Resources in Ensuring Long-Term Economic Sustainability", *LBSHerald*, vol. 4, no. 1, pp. 4-20, 2024. https://lbsherald.org/index.php/journal/article/view/62

[11] V. Sotnyk, V. Sotnyk, Y. Kosaretskyi, V. Mogylevska, O. Nikolaichuk, and S. Kutsak, "The Influence of Critical Risks on The Mechanism of Defence Resource Management", *Financial and Credit Activity Problems of Theory and Practice*, vol. 4, no. 57, pp. 244-261, 2024. https://doi.org/10.55643/fcaptp.4.57.2024.4436

[12] S. Marston, Z. Li, S. Bandyopadhyay, J. Zhang, and A. Ghalsasi, "Cloud computing - The business perspective", *Decision Support Systems*, vol. 51, no. 1, pp. 176–189, 2010. https://doi.org/10.1016/j.dss.2010.12.006

[13] D. R. Heath, "Prediction machines: the simple economics of artificial intelligence", *Journal of Information Technology Case and Application Research*, vol. 21, no. 3–4, pp. 163–166, 2019. https://doi.org/10.1080/15228053.2019.1673511

[14] O. Dobrovolska, R. Sonntag, Y. Masiuk, M. Bahorka, and N. Yurchenko, "Is increasing a share of R&D expenditure in GDP a factor in strengthening the level of innovation development in Ukraine compared

with GII's top countries?", *Problems and Perspectives in Management*, vol. 21, no. 4, pp. 713-723, 2023. https://doi.org/10.21511/ppm.21(4).2023.53

[15] R. H. Coase, "The nature of the firm", *Economica*, vol. 4, no. 16, pp. 386-405, 1937. https://doi.org/10.1111/j.1468-0335.1937.tb00002.x

[16] O. E. Williamson, "The Economics of Organization: The Transaction Cost approach", *American Journal of Sociology*, vol. 87, no. 3, pp. 548–577, Nov. 1981. https://doi.org/10.1086/227496

[17] S. Duan, D. Wang, J. Ren, F. Lyu, Y. Zhang, H. Wu, and X. Shen, "Distributed Artificial Intelligence empowered by End-Edge-Cloud Computing: a survey," *IEEE Communications Surveys & Tutorials*, vol. 25, no. 1, pp. 591-624, 2022. https://doi.org/10.1109/comst.2022.3218527

[18] J. Y. Bakos and E. Brynjolfsson, "Information technology, incentives, and the optimal number of suppliers," *Journal of Management Information Systems*, vol. 10, no. 2, pp. 37-53, 1993. https://doi.org/10.1080/07421222.1993.11517999

[19] Z. S. Mukhametzhanova, A. N. Daurenbekova, G. K. Zhanibekova, K. S. Syzdykova, and G. Kaliakparova, "Evaluation of influence of innovation on enterprise productivity", *Space and Culture India*, vol. 7, no. 1, 2019. https://doi.org/10.20896/saci.v7i1.527

[20] J. Barney, "Firm resources and sustained competitive advantage", *Journal of Management*, vol. 17, no. 1, pp. 99-120, 1991. https://doi.org/10.1177/014920639101700108

[21] E. *Rogers, Diffusion of Innovations*, *Fourth edition*. 1982. [Online]. Available: https://www.amazon.com/Diffusion-Innovations-Fourth-Everett-Rogers/dp/0029266718

[22] N. Venkatesh, N. Morris, N. Davis, and N. Davis, "User acceptance of information Technology: toward a unified view", *MIS Quarterly*, vol. 27, no. 3, p. 425-478, 2003. https://doi.org/10.2307/30036540

[23] R. Drazin, "The processes of technological innovation", *The Journal of Technology Transfer*, vol. 16, no. 1, pp. 45-46, 1991. https://doi.org/10.1007/bf02371446

[24] S. J. Bickley, A. Macintyre, and B. Torgler, "Artificial intelligence and big data in sustainable entrepreneurship", *Journal of Economic Surveys*, 2024. https://doi.org/10.1111/joes.12611

[25] S. S. Vitvitskiy, O. N. Kurakin, P. S. Pokataev, O. M. Skriabin, and D. B. Sanakoiev, "Formation of a new paradigm of anti-money laundering: The experience of Ukraine", *Problems and Perspectives in Management*, vol. 19, no. 1, pp. 354-363, 2021. https://doi.org/10.21511/ppm.19(1).2021.30

[26] M. Belgaum, Z. Alansari, S. Musa, M. Alam, and M. Mazliham, "Role of artificial intelligence in cloud computing, IoT and SDN: Reliability and scalability issues," *International Journal of Electrical and Computer Engineering*, vol. 11, no. 5, p. 4458-4470, 2021. https://doi.org/10.11591/ijece.v11i5.pp4458-4470

[27] S. S. Gill, S. Tuli, M. Xu, I. Singh, K. V. Singh, D. Lindsay, ..., and P. Garraghan, "Transformative effects of IoT, Blockchain and Artificial Intelligence on cloud computing: Evolution, vision, trends and open challenges," *Internet of Things*, vol. 8, p. 100118, 2019. https://doi.org/10.1016/j.iot.2019.100118

[28] E. I. Gasanov, "The Experience of Using AI in the Forensic Economics: A scoping review", *Futurity Economics & Law*, vol. 4, no. 3, pp. 261–277, Aug. 2024. https://doi.org/10.57125/fel.2024.09.25.16

[29] S. Bickley, A. Macintyre, and B. Torgler, "Artificial Intelligence and Big Data in Sustainable Entrepreneurship (Extended Version with Applications)", *SSRN Electronic Journal*, 2024. https://doi.org/10.2139/ssrn.4686881

[30] D. Moher, A. Liberati, J. Tetzlaff, and D. G. Altman, "Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement", *International Journal of Surgery*, vol. 8, no. 5, pp. 336-341, 2010. https://doi.org/10.1016/j.ijsu.2010.02.007

[31] N. Smailov, V. Tsyporenko, A. Sabibolda, V. Tsyporenko, A. Abdykadyrov, A. Kabdoldina, ..., and R. Kadyrova, "Streamlining digital correlation-interferometric direction finding with spatial analytical signal", *Informatyka Automatyka Pomiary W Gospodarce I Ochronie Środowiska*, vol. 14, no. 3, pp. 43-48, Sep. 2024. https://doi.org/10.35784/iapgos.6177

[32] K. Tazhibekova, and A. Shametova, "Ecological initiatives and their influence on the competitiveness and sustainability of companies: 'Green' Strategies of SMEs", *Journal of the Knowledge Economy*, 2024. https://doi.org/10.1007/s13132-024-02062-0

[33] A. O. Akinade, P. A. Adepoju, A. B. Ige, and A. I. Afolabi, "Cloud Security Challenges and Solutions: A review of current best practices", *International Journal of Multidisciplinary Research and Growth Evaluation*, vol. 6, no. 1, pp. 26-35, 2024. https://doi.org/10.54660/.IJMRGE.2025.6.1.26-35

[34] R. Alsabt, Y. A. Adenle, and H. M. Alshuwaikhat, "Exploring the roles, future impacts, and strategic integration of artificial intelligence in the optimization of Smart City-From systematic literature review to Conceptual model", *Sustainability*, vol. 16, no. 8, Article 3389, 2024. https://doi.org/10.3390/su16083389

[35] L. Albshaier, S. Almarri, and A. Albuali, "Federated Learning for Cloud and Edge Security: A Systematic Review of Challenges and AI opportunities", *Electronics*, vol. 14, no. 5, Article 1019, 2025. https://doi.org/10.3390/electronics14051019

[36] E. Dritsas, and M. Trigka, "A survey on the applications of cloud computing in the industrial internet of things", *Big Data and Cognitive Computing*, vol. 9, no. 2, Article 44, 2025. https://doi.org/10.3390/bdcc9020044

[37] L. Ennajeh, T. Najjar, and A. Aloui, "Digital Transformation through Artificial Intelligence in Organizations: A Systematic Literature Review", *Journal of Information Technology Management*, vol. 17, pp. 55-80. https://doi.org/10.22059/jitm.2025.100697

[38] A. M. Haval, and N. Afzal, "Deploying cloud computing and data warehousing to optimize supply chain management and retail analytics", in *Applications of Mathematics in Science and Technology*, pp. 810-816, 2025. https://doi.org/10.1201/9781003606659-156

[39] S. S. Kanumula, and S. Nayini, "Enhancing Cloud Migration with AI and Machine Learning", *SSRN Electronic Journal*, vol. 10, no. 2, 2025. https://doi.org/10.2139/ssrn.5126193

[40] D. Kumar, and V. Ratten, "Artificial intelligence and family businesses: a systematic literature review", *Journal of Family Business Management*, vol. 15, no. 2, pp. 373-392, 2025. https://doi.org/10.1108/jfbm-08-2024-0160

[41] M. Lu, "Hybrid manufacturing thermal cost testing and enterprise financial optimization based on artificial intelligence and cloud computing", Thermal Science and Engineering Progress, vol. 57, Article 103117, 2025. https://doi.org/10.1016/j.tsep.2024.103117

[42] A. Bondar, H. Tolchieva, M. Bilyk, O. Slavkova, and V. Symonov, "The role of digitization in management and strategic decision-making in modern management", *Financial and Credit Activity Problems of Theory and Practice*, vol. 2, no. 55, pp. 214-227, 2024. https://doi.org/10.55643/fcaptp.2.55.2024.4349

[43] S. Khlamov, V. Savanevych, T. Trunova, Zh. Deineko, O. Vovk, and R. Gerasimenko, "Automated Data Mining of the Reference Stars from Astronomical CCD Frames", *CEUR Workshop Proceedings*, vol. 3668, pp. 83-97, 2024. https://ceur-ws.org/Vol-3668/paper7.pdf

[44] Y. Yin, Z. Wei, Q. Meng, and F. Zhang, "A review on intelligent water injection control systems: Real-time optimization technologies based on big data and artificial intelligence and prospects", *Advances in Resources Research*, vol. 5, no. 2, pp. 569-594, 2025. https://doi.org/10.50908/arr.5.2_569

[45] S. Stender, O. Bulkot, O. Iastremska, V. Saienko, and Y. Pereguda, "Digital transformation of the national economy of Ukraine: challenges and opportunities", *Financial and Credit Activity Problems of Theory and Practice*, vol. 2, no. 55, pp. 333-345, 2024. https://doi.org/10.55643/fcaptp.2.55.2024.4328

[46] M. Potwora, O. Vdovichena, D. Semchuk, L. Lipych, and V. Saienko, "The use of artificial intelligence in marketing strategies: Automation, personalization and forecasting", *Journal of Management World*, vol. 2024, no. 2, pp. 41-49, 2024. https://doi.org/10.53935/jomw.v2024i2.275

[47] O. Roieva, S. Oneshko, N. Sulima, V. Saienko, and A. Makurin, "Identification of digitalization as a direction of innovative development of modern enterprise", *Financial and Credit Activity Problems of Theory and Practice*, vol. 1, no. 48, pp. 312-325, 2023. https://doi.org/10.55643/fcaptp.1.48.2023.3968

[48] I. Kryvovyazyuk, I. Britchenko, S. Smerichevskyi, L. Kovalska, V. Dorosh, and P. Kravchuk, "Digital transformation and innovation in business: the impact of strategic alliances and their success factors", *Economic Studies (Ikonomicheski Izsledvania)*, vol. 32, no. 1, pp. 3-17, 2023. https://doi.org/10.5281/zenodo.7733942

[49] A. T. Olutimehin, "Advancing cloud security in digital finance: AI-Driven threat detection, cryptographic solutions, and privacy challenges", *Journal of Engineering Research and Reports*, vol. 27, no. 3, pp. 35–55, 2025. https://doi.org/10.9734/jerr/2025/v27i31416

[50] T. Riabova, I. Riabov, O. Vovchanska, T. Li, and V. Saienko, "Peculiarities of digital marketing in the era of globalization: an analysis of the challenges", *Financial and Credit Activity Problems of Theory and Practice*, vol. 6, no. 47, pp. 160-171, 2022. https://doi.org/10.55643/fcaptp.6.47.2022.3940

[51] S. Smerichevskyi, Z. Poberezhna, I. Kryvovyazyuk, L. Ivanenko, and D. Malnov, "Formation of principles of a customer-oriented approach by transport enterprises in conditions of sustainable development", *E3S Web of Conferences*, vol. 534, Article 01022, 2024. https://doi.org/10.1051/e3sconf/202453401022

[52] I. Perevozova, A. Piasta, O. Dedelyuk, A. Babala, and A. Chaikovskyi, "Social network data as a tool for engineering consumer behavior analysis", *Periodicals of Engineering and Natural Sciences*, vol. 12, no. 2, pp. 444-456, 2024. https://doi.org/10.21533/pen.v12.i2.48

[53] S. Khlamov, V. Savanevych, I. Tabakova, V. Kartashov, T. Trunova, and M. Kolendovska, "Machine Vision for Astronomical Images using The Modern Image Processing Algorithms Implemented in the CoLiTec Software", *Measurements and Instrumentation for Machine Vision*, Chapter 12, pp. 269-310, 2024. https://doi.org/10.1201/9781003343783-12

[54] S. Uriarte, H. Baier-Fuentes, J. Espinoza-Benavides, and W. Inzunza-Mendoza, "Artificial intelligence technologies and entrepreneurship: a hybrid literature review", *Review of Managerial Science*, 2025. https://doi.org/10.1007/s11846-025-00839-4

[55] A. Rezaei, I. Abdellatif, and A. Umar, "Towards Economic Sustainability: A comprehensive review of artificial intelligence and machine learning techniques in improving the accuracy of stock market movements", *International Journal of Financial Studies*, vol. 13, no. 1, Article 28, 2025. https://doi.org/10.3390/ijfs13010028

[56] M. S. Sagar, S. Srivastava, R. Kumar, and A. Saxena, "The evolution of industry 5.0: Harnessing artificial intelligence and communication technology", *AIP Conference Proceedings*, vol. 3224, Article 020064, 2025. https://doi.org/10.1063/5.0246747

[57] A. Samuels, "Examining the integration of artificial intelligence in supply chain management from Industry 4.0 to 6.0: a systematic literature review", *Frontiers in Artificial Intelligence*, vol. 7, 2025. https://doi.org/10.3389/frai.2024.1477044

[58] S. Tuli, F. Mirhakimi, S. Pallewatta, S. Zawad, G. Casale, B. Javadi, F. Yan, R. Buyya, and N. R. Jennings, "AI augmented Edge and Fog computing: Trends and challenges", *Journal of Network and Computer Applications*, vol. 216, Article 103648, 2023. https://doi.org/10.1016/j.jnca.2023.103648

[59] R. A. Oppong, "Integration of IoT-based, sprinklers, embedded systems, data and cloud computing for smart irrigation management", *World Journal of Advanced Research and Reviews*, vol. 25, no. 3, pp. 126-151, 2025. https://doi.org/10.30574/wjarr.2025.25.3.0695

[60] L. Qudus, "Leveraging artificial intelligence to enhance process control and improve efficiency in manufacturing industries", *International Journal of Computer Applications Technology and Research*, vol. 14, no. 2, pp. 18-38, 2025. https://doi.org/10.7753/ijcatr1402.1002