Social Studies & Humanities Journal (SOSHUM)
Vol 2 (1) 2025 : 177-188

BLOCKCHAIN TECHNOLOGY IN BUSINESS ADMINISTRATION: OPPORTUNITIES AND RISKS

TEKNOLOGI BLOCKCHAIN DALAM ADMINISTRASI BISNIS: PELUANG DAN RISIKO

Farikhul Muafiq
ITSNU PEKALONGAN
*farikhul@gmail.com

**Corresponding Author*

ABSTRACT
The rapid development of blockchain technology has attracted attention across various sectors due to the need for secure and transparent transactions. Despite increasing adoption, most studies focus on technical aspects, resulting in a lack of understanding of its impact on organizational performance and strategic decision-making. This study uses a narrative review of peer-reviewed literature from the past 10 years, analyzing blockchain applications, outcomes, risks, and opportunities. The findings indicate that blockchain improves operational efficiency, transparency, trust, and governance, while supporting rapid, data-driven strategic decision-making and business model innovation. Implementation challenges include cybersecurity, interoperability, scalability, organizational resistance, high costs, and regulatory ambiguity. Blockchain integration offers significant transformational potential but requires effective risk management, capability development, and change management strategies. This review fills this literature gap and provides guidance for further research and managerial practice.
Keywords:Blockchain; Business Administration; Organizational Performance; Strategic Decision Making; Risk; Opportunity

ABSTRAK
Perkembangan pesat teknologi blockchain telah menarik perhatian di berbagai sektor karena kebutuhan akan transaksi yang aman dan transparan. Meskipun adopsi semakin meningkat, sebagian besar studi fokus pada aspek teknis, sehingga masih kurang pemahaman mengenai dampaknya terhadap kinerja organisasi dan pengambilan keputusan strategis. Penelitian ini menggunakan tinjauan naratif terhadap literatur peer-reviewed dalam 10 tahun terakhir, menganalisis aplikasi blockchain, hasil, risiko, dan peluang. Temuan menunjukkan bahwa blockchain meningkatkan efisiensi operasional, transparansi, kepercayaan, dan tata kelola, serta mendukung pengambilan keputusan strategis yang cepat berbasis data dan inovasi model bisnis. Tantangan implementasi meliputi keamanan siber, interoperabilitas, skalabilitas, resistensi organisasi, biaya tinggi, dan ketidakjelasan regulasi. Integrasi blockchain menawarkan potensi transformasi yang signifikan, tetapi memerlukan manajemen risiko, pengembangan kapabilitas, dan strategi manajemen perubahan yang efektif. Tinjauan ini mengisi kesenjangan literatur dan memberikan panduan bagi penelitian lanjutan serta praktik manajerial.
Kata Kunci: Blockchain; Administrasi Bisnis; Kinerja Organisasi; Pengambilan Keputusan Strategis; Risiko; Peluang

1. INTRODUCTION

The development of blockchain technology has seen a significant surge in recent years, reflecting its increasingly widespread adoption across various industrial sectors. According to a Grand View Research report, the global blockchain technology market is expected to reach USD 1,431.54 billion by 2030, growing at a compound annual growth rate (CAGR) of 90.1% from 2025 to 2030 (Grand View Research, 2025). This growth is driven by the need for secure and transparent transactions in sectors such as finance, healthcare, and supply chain management.In the context of business administration, the concepts of performance, efficiency, transparency, and strategic decision-making are becoming increasingly important. Blockchain offers solutions to improve operational efficiency and transparency through process

automation and the use of smart contracts. For example, Figure Technology, a blockchain-based lending platform, reported a 22.4% increase in revenue to USD 191 million in the first half of 2025, reflecting blockchain's potential to improve business performance (Reuters, 2025).

The growing attention of academics and practitioners to the integration of blockchain into business management is increasingly evident. Approximately 81% of leading public companies now use blockchain technology, indicating its growing acceptance as an integral part of modern business strategy (Acropolium, 2025). However, despite this growing adoption, challenges related to implementation and a deeper understanding of its impact on performance and strategic decision-making remain areas requiring further research. The development of blockchain technology has attracted extensive attention in academic literature and business practice, particularly in technical contexts such as data security, transaction integrity, and decentralization. However, most existing research tends to focus on these technical aspects, while its direct implications for organizational performance and strategic decision making remains under-explored systematically. Consequently, there is a gap in understanding how blockchain can be effectively integrated into business administration processes to improve operational efficiency, transparency, and the quality of managerial decisions.

In addition, the current literature shows an imbalance between the discussion opportunity and riskBlockchain in a managerial context. Many studies highlight the potential for innovation, efficiency, and new business models that blockchain can generate, but few delve into the implementation risks, including regulatory constraints, organizational resistance, adoption costs, and security and interoperability issues. This gap indicates the need for more focused studies from a business administration perspective, so that organizations can understand trade-off between the benefits and risks of blockchain in strategic decision making.In other words, there is a clear need for research that not only analyzes blockchain from a technological perspective, but also assesses its impact on business performance and strategic management, including how organizations can balance the potential benefits and risks associated with implementing this technology.

This study aims to provide a comprehensive literature review regarding the role of blockchain in Business Administration, especially in relation toP performance management and strategic decision-makingThe first objective is to identify and analyze literature discussing the impact of blockchain on organizational performance, encompassing aspects of operational efficiency, transparency, and managerial decision quality. Thus, this study seeks to synthesize scattered findings across the technical and managerial literature to form a more holistic picture.The second objective is to identify opportunities and risks related to blockchain implementation, including factors influencing the success or failure of adopting this technology in an organizational context. By reviewing related literature, this study also seeks to explore the contextual conditions, management strategies, and organizational capabilities necessary to maximize blockchain benefits while minimizing emerging risks.Overall, this research is expected to provide a clearer understanding of blockchain mechanisms, challenges, and impacts in business administration, so that it can be the basis for further empirical research and strategic decision making in management practice.

Based on the problem statement and research objectives, the main research questions are formulated as follows:**How does blockchain technology impact business administration performance and strategic decision-making?.** This question is designed to delve deeper into the relationship between blockchain adoption and its impact on organizational performance, including managerial ability to make strategic decisions. This question is exploratory in nature.**investigative**, enabling the identification of opportunities, risks, and contextual factors that influence the success of blockchain implementation across different types of organizations and industries.

This research has significance from both academic and practical perspectives. Theoretically, this study contributes to the development of business administration theory related to the adoption of new technologies, particularly blockchain. By reviewing the existing literature, this study can broaden our understanding of the mechanisms by which innovative technologies influence organizational performance and strategic decision-making processes, while also filling the existing research gap between the technical and managerial literature.Practically, this research provides insights for managers and decision makers regarding blockchain implementation. By understanding the opportunities, risks, and enabling factors, organizations can design more effective adoption strategies, optimize operational efficiency, increase transparency, and make more informed strategic decisions. Thus, this research is not only relevant for theory development but also has real-world implications for modern management practice.

2. METHODS

2.1 Study Design

This research usesnarrative reviewas the primary method, namely a narrative-based literature approach that allows researchers to integrate, analyze, and synthesize findings from various relevant studies. This approach was chosen because the focus of the research is to review the literature on the impact of blockchain on business administration performance and strategic decision-making, and identify emerging opportunities and risks. Narrative reviews allow for a broad literature mapping and provide in-depth analysis of the context and managerial implications of blockchain, unlike systematic reviews, which are more structured around quantitative methods or meta-analyses.

2.2 Search Strategy

The literature search strategy was conducted through leading academic databases to ensure comprehensive and relevant coverage. The databases used included:Scopus, Web of Science, Google Scholar, dan ScienceDirect. The keywords used are designed to capture literature that connects blockchain with business administration and strategic decisions, namely:

- “Blockchain”
- “Business Administration”
- “Performance”
- “Strategic Decision-Making”
- “Risk”
- “Opportunity”

Inclusion criteria:

1. Peer-reviewed article.
2. Published within the last 10 years to ensure relevance to the latest technology trends.
3. Relevant to the topic of blockchain's impact on organizational performance and strategic decision making.
4. Written in English.

Exclusion criteria:

1. Articles that only discuss the technical aspects of blockchain without relating it to business administration.
2. Non-peer-reviewed articles, white papers, or popular materials that lack academic validity.

This strategy ensures that the literature reviewed is of high academic quality, relevant to the research topic, and broad enough in scope to form a comprehensive understanding.

2.3 Data Extraction

Once relevant articles were identified, the next stage was systematic data extraction. Key information recorded included:

- Author / Year: identify the source and context of publication.
- Context: the industrial sector or organization where blockchain is applied.
- Blockchain Application: forms of blockchain application, for example smart contracts, supply chain management, or finance operations.
- Outcomes: impact on business administration performance and strategic decision making.
- Risks: challenges and obstacles in blockchain implementation, both technical and managerial.
- Opportunities: opportunities and benefits resulting from blockchain adoption.

2.4 Synthesis Approach

The synthesis approach used is narrative synthesis, namely qualitative literature analysis by grouping findings based on main themes:

1. Performance Impact: how blockchain affects operational efficiency, transparency, and quality of organizational management.
2. Strategic Decision-Making: blockchain's contribution in supporting data-driven and real-time decision-making, as well as innovation in organizational strategy.
3. Risks: operational, technical, organizational, and regulatory risks arising from blockchain implementation.
4. Opportunities: strategic and innovative opportunities resulting from blockchain adoption.

Narrative synthesis allows for the identification of patterns, trends, and research gaps, allowing this research to provide a more comprehensive understanding of blockchain integration in business administration and its impact on strategic decision-making.

3. RESULTS

3.1 Overview of Literature

Literature analysis shows a significant increase in research on blockchain in business and administrative contexts over the past decade. Most of the analyzed studies were published between 2015 and 2025, with a higher concentration after 2018, as blockchain implementations across various industrial sectors increased.The study's distribution demonstrates a diversity of industry sectors, including finance, supply chain, healthcare, manufacturing, and information technology. This indicates that blockchain is not only relevant to the fintech or technology sectors but also has broad implications for operational and strategic management across various business contexts. The research methodologies used in this literature vary, including case studies, empirical surveys, literature reviews, and quantitative analysis of organizational data. Most studies tend to combine qualitative and quantitative approaches, allowing for a more comprehensive understanding of blockchain's impact on business administration.

3.2 Impact on Business Administration Performance

The integration of blockchain technology into business administration profoundly influences operational efficiency, transparency, and governance. This multifaceted impact stems from blockchain's capacity to streamline processes and enhance trust among stakeholders, thus promoting overall business performance.

Operational Efficiency and Cost Reduction: Blockchain significantly improves operational efficiency through smart contracts, which automate various business processes. These self-executing contracts can enforce predefined rules without human intervention, leading to reduced transaction costs and minimized human errors. For example, Guo discusses how smart contracts in supply chain management streamline compliance verification, thereby reducing administrative burdens and enhancing overall process efficiency (Guo, 2023). Additionally, Khan et al. emphasize that smart contracts can significantly contribute to lowering transaction costs and accelerating process speed by securely executing automated transactions (Khan et al., 2021). This automation of workflows directly impacts business activities by increasing productivity and allowing companies to focus on core operations instead of manual processing (Familoni et al., 2024).

Transparency and Trust-Building: Blockchain technology creates an immutable ledger that enhances transparency in business operations, fostering trust among stakeholders. N'Da et al. highlight that this transparency is crucial for regulatory compliance and improves relationships between management, employees, and business partners (N'Da et al., 2021). With a verified and tamper-proof record of transactions, blockchain eliminates the need for trust-based intermediaries, which enhances collaborative efforts across business ecosystems (Philipp et al., 2019). Moreover, the integration of smart contracts in digital governance allows organizations to establish transparent protocols that promote ethical practices and stakeholder accountability (Perrelet et al., 2022).

Governance, Compliance, and Audit Process: Blockchain's decentralized audit trail capabilities strengthen governance frameworks, facilitating regulatory compliance and improving audit accuracy. According to Alikhani and Hamidi, the integration of blockchain into compliance processes encourages data-driven decision-making by increasing the accuracy of transaction records and supporting better governance practices (Alikhani & Hamidi, 2021). Furthermore, Muneeb et al. discuss how Decentralized Autonomous Organizations (DAOs), which utilize smart contracts, enhance compliance with internal and external regulations by eliminating the need for centralized control (Muneeb et al., 2022). The ability of blockchain to provide a tamper-proof audit trail also aids companies in meeting regulatory requirements and improving their overall accountability (Nowiński & Kozma, 2017).

In conclusion, blockchain technology stands as a transformative force in business administration by enhancing operational efficiency through automation, fostering transparency among stakeholders, and bolstering governance and compliance mechanisms. This synthesis of smart contracts and decentralized ledgers presents firms with a strategic opportunity to optimize performance and innovate business models.

3.3 Impact on Strategic Decision-Making

Blockchain technology has emerged as a transformative force in strategic decision-making across various sectors by providing real-time, accurate, and verifiable information. One major impact of blockchain on decision-making is its ability to accelerate data-driven actions. Access to transparent and verifiable transaction data empowers management to make quicker and more informed decisions, mitigating the risks associated with partial or delayed information. This notion aligns with the findings of Al-Moghrabi and Al-Ghonmein, who highlight how blockchain enhances decision-making in e-commerce processes by offering heightened security, transparency, and efficiency in data handling (Al-Moghrabi & Al-Ghonmein, 2024). Furthermore, Lan asserts that blockchain effectively avoids information tampering and facilitates reliable traceability in supply chain management contexts, thereby streamlining operational decision-making (Lan, 2024).

Moreover, blockchain also supports innovation by allowing businesses to explore new models and processes that leverage its decentralized nature. For instance, the research by Kouhizadeh and Sarkis illustrates the potential of blockchain for fostering sustainable supply

chain management through innovative practices, enabling organizations to create more integrated digital ecosystems and collaborative frameworks (Kouhizadeh & Sarkis, 2018). This aligns with studies that identify blockchain as a catalyst for new business models and operational efficiencies (Xia et al., 2023).

In terms of investment decisions and resource allocation, blockchain's capacity for providing accurate and transparent information directly influences how organizations prioritize investments and manage resources. The role of blockchain in facilitating informed decision-making is particularly emphasized in the work of Wang et al., who discuss how blockchain's operational efficiencies bolster resource management and investment strategies (Wang et al., 2024). Additionally, Kshetri outlines blockchain's effectiveness in meeting key supply chain management objectives, which contributes to refined decision-making regarding resource allocation (Kshetri, 2018).

Lastly, the governance mechanisms surrounding blockchain technology are pivotal in shaping decision-making. The framework proposed by Vendette and Thundiyil illustrates how blockchain decentralizes authority and empowers participants, thereby reshaping traditional power dynamics in decision-making processes (Vendette & Thundiyil, 2023). This shift reflects a broader trend where organizations must adapt their governance models to accommodate the implications of blockchain technology, which fundamentally alters the nature of authority in strategic contexts (Beck et al., 2018; Schädler et al., 2023).

In summary, blockchain technology significantly influences strategic decision-making by enabling rapid data-driven actions, fostering innovative business models and processes, optimizing investment decisions and resource management, and altering governance dynamics.

3.4 Risks and Challenges

Blockchain technology, despite its considerable potential, faces a multitude of risks and challenges that could hinder its adoption across various sectors. These challenges arise from technological, organizational, and regulatory facets, which need comprehensive analysis to ensure effective implementation.

Technological Challenges: One of the primary technological challenges is related to cybersecurity. As blockchain technology becomes more prevalent, vulnerabilities in security measures may be exploited, exposing critical data to malicious attacks. This concern is echoed in various studies, emphasizing that a strong cybersecurity framework is essential for fostering blockchain adoption, particularly in public sector contexts where stakeholder trust is paramount (Reddick et al., 2019). Additionally, interoperability remains a considerable hurdle; current blockchain solutions often lack the ability to communicate seamlessly with legacy systems or among different blockchain networks. Research indicates that successful mass adoption hinges on the integration of blockchain platforms with existing IT applications, stressing the need for enhanced interoperability standards (Kaur et al., 2022)Khan et al., 2023). Furthermore, scalability issues persist, with existing blockchain platforms' transaction speeds often lagging behind traditional systems. For example, existing blockchain systems may process around 7 transactions per second in comparison to 500 to 2000 transactions per second processed by established financial services like Visa (Kaur et al., 2022). This discrepancy creates limitations on their practical utility in high-demand environments.

Organizational Challenges: At the organizational level, resistance to change poses a significant barrier. Many organizations exhibit hesitance towards adopting blockchain due to entrenched practices and corporate culture (Öz et al., 2025). The need for human resource capacity building is critical; organizations must invest in training their workforce to bridge the skill gaps inherent in blockchain technology. High implementation costs, including expenses related to technology deployment and employee education, further complicate the organizational landscape and deter small and medium enterprises (SMEs) from adopting

blockchain (Kumar et al., 2024). Research findings consistently indicate that these financial burdens impede wider acceptance of blockchain technology among SMEs, thereby stunting its overall growth in diverse sectors (Kumar et al., 2024).

Regulatory Challenges: On the regulatory front, ambiguity in laws and regulations remains a daunting obstacle for potential blockchain adopters. Companies must navigate complex local and international regulatory frameworks to avoid legal pitfalls that could arise from non-compliance (Prewett et al., 2019; (Batubara et al., 2018). The evolving nature of blockchain technology often outpaces regulatory development, leading to uncertainty that organizations must manage carefully to mitigate reputational and legal risks associated with blockchain initiatives (Prewett et al., 2019; Naseem et al., 2023). As highlighted in research focused on public sector adoption, a lack of supportive legal frameworks significantly hampers blockchain deployment efforts (Batubara et al., 2018).

In conclusion, the multifaceted risks and challenges surrounding blockchain technology adoption require a concerted effort from policymakers, industry leaders, and technology developers. By addressing the technological, organizational, and regulatory barriers identifiably, stakeholders can unlock the transformative potential of blockchain systems.

3.5 Opportunities

The advent of blockchain technology presents organizations with significant opportunities alongside inherent risks. One of the most prominent opportunities is the potential for new business models and revenue streams. Organizations can innovate in their product and service offerings by utilizing blockchain to facilitate data monetization. This aligns with the assertion that innovation is a critical source of competitive advantage, as organizations that adapt to emerging technologies can renew their products and business systems to effectively meet market demands and create additional revenue channels (Drljevic et al., 2022; , Maspul, 2023).

Moreover, blockchain can serve as a strategic differentiation tool that enhances overall efficiency and customer experience. Research indicates that organizations that effectively adopt such technologies can leverage them to improve operational processes and customer interactions, thus gaining a significant competitive edge (Clohessy & Acton, 2019; , (Kant, 2021). The ability of blockchain to streamline processes not only enhances speed but also permits a more efficient allocation of resources, making an organization more competitive in a rapidly evolving market landscape (Kant, 2021).

Another substantial opportunity arises from the implementation of smart contracts, which facilitate robust cross-organizational collaborations. Smart contracts enable organizations to engage in secure and transparent partnerships, particularly in sectors like supply chain management, where clear contractual terms must align among numerous stakeholders. This capability potentially enhances operational reliability and fosters trust among participating entities, as the terms of engagement are unalterable once established on the blockchain (Oriekhoe et al., 2024). The transparency provided by blockchain can significantly reduce costs associated with trust and verification among parties, thereby optimizing operations and enhancing value creation throughout the collaboration (Gupta et al., 2023).

In conclusion, blockchain technology stands as a transformative force that not only provides various opportunities for new business models and competitive advantages but also enhances the potential for seamless collaboration among organizations through smart contracts. As companies continue to navigate the complexities of the digital landscape, those that invest in and harness the capabilities of blockchain are likely to emerge as leaders in their respective fields.

4. DISCUSSION

4.1 Synthesis of Findings

The results of the literature review show that the integration of blockchain technology in business administration brings trade-off between opportunity and risk. On the one hand, blockchain encourages innovation, improving operational efficiency, transparency, and the quality of strategic decision-making. However, adopting this technology presents risks related to security, interoperability, implementation costs, and regulatory and organizational challenges. Therefore, organizations must balance the potential benefits with the inherent risks to ensure blockchain implementation has a sustainable positive impact.

From an administrative performance perspective, blockchain has been shown to improve operational efficiency, strengthening governance, and accelerating audit and compliance processes. Meanwhile, in strategic decision-making, blockchain provides accurate and transparent real-time data, enabling managers to make evidence-based decisions and identify new business opportunities. These findings demonstrate that blockchain serves not only as an operational support technology but also as a strategic tool that can enhance organizational competitiveness.

4.2 Theoretical Implications

This research contributes to the business administration literature through strengthening the theoretical framework relevant to technology adoption:

1. TOE Framework (Technology-Organization-Environment): Findings indicate that technological, organizational, and external environmental factors simultaneously influence the success of blockchain adoption. Organizations with adequate technological infrastructure, a culture of innovation, and regulatory support are more likely to implement blockchain effectively.
2. Diffusion of Innovations (DOI): Blockchain as a technological innovation follows the DOI principle, where characteristics such as relative advantage, compatibility, complexity, trialability, and observability influence the level of adoption across various industrial sectors.
3. Resource-Based View (RBV)Blockchain is seen as a unique, difficult-to-imitate strategic resource that provides a long-term competitive advantage. Organizations that develop internal capabilities to manage this technology can increase strategic value and operational efficiency.

Overall, this study extends the business administration literature on the adoption of new digital technologies by emphasizing the relationship between blockchain, organizational performance, and strategic decision-making, as well as highlighting contextual factors that influence implementation success.

4.3 Practical Implications

The findings of this study have a number of practical implications for managers and decision makers:

1. Risk ManagementOrganizations need to identify, assess, and mitigate the technological, regulatory, and organizational risks associated with blockchain implementation. Internal control mechanisms and security protocols are essential to maintain data integrity and stakeholder trust.
2. Capability Building: Improving employee skills and capacity is a priority, particularly regarding understanding blockchain technology, data analysis, and smart contract management. Continuous training and human resource development programs support successful implementation.

3. Resistance to change must be overcome through effective communication, visionary leadership, and stakeholder engagement at every stage of implementation. A sound change management strategy helps organizations maximize blockchain benefits while minimizing internal resistance.
4. Optimizing Decision-MakingBlockchain enables faster, more transparent, and evidence-based decision-making. Managers can leverage real-time data for performance evaluation, resource allocation, and strategic planning, improving decision quality and organizational competitiveness.

4.4 Research Gaps

Although current literature shows the great potential of blockchain in business administration, a number of research gaps remain:

1. Lack of quantitative research: There are not many studies that empirically measure the impact of blockchain onSpecific KPIs, such as cost efficiency, process cycle time, or decision-making quality.
2. Lack of longitudinal studiesLong-term evaluations of the effects of blockchain implementation on organizational performance and strategic decisions are still limited. Longitudinal studies can provide insights into the ongoing impact and organizational adaptation to this technology.
3. Limitations of sectoral or contextual studies: Research that focuses on specific contexts, such as supply chain, finance, manufacturing, or healthcare, is still rare. Contextual studies can reveal unique factors that influence adoption and effectiveness.blockchain activities in each sector.

Thus, further research is needed to close this gap, strengthen empirical evidence, and provide more specific practical guidance for organizations looking to adopt blockchain.

5. CONCLUSION

5.1 Summary of Key Findings

Based on the literature review conducted, blockchain shows significant potential in improving business administration performance and supporting strategic decision makingThis technology enables greater operational efficiency, robust transparency, data accuracy in audits and compliance, and accelerated decision-making based on real-time information. Furthermore, blockchain opens up opportunities for new business model innovation and cross-organizational collaboration through smart contracts.However, blockchain implementation also brings complex challengesTechnological risks such as cybersecurity, interoperability, and scalability need to be addressed. Organizational challenges, including resistance to change, skills gaps, and implementation costs, are also inhibiting factors. Furthermore, regulatory ambiguity and compliance with local and international laws add to the complexity of adopting this technology. These findings emphasize that successful blockchain implementation requires a holistic managerial strategy, including risk management, human resource development, and change management.

5.2 Limitations

This study has several limitations. First, this study is of a narrative review, thus not involving statistical analysis or meta-analysis to quantitatively measure blockchain's impact. Second, the research results are limited to literature available within the last 10 years and peer-reviewed articles, so some relevant studies may have been missed. Third, the research focuses more on managerial implications, so the in-depth technical aspects of blockchain are not analyzed in detail. These limitations need to be considered when interpreting the findings and generalizing the results.

5.3 Recommendations for Future Research

Based on the gaps found, some recommendations for future research are:

1. An empirical study to measure blockchain-related KPIs: Quantitative research is needed to evaluate the impact of blockchain implementation on organizational performance in measurable ways, including cost efficiency, process time, decision quality, and regulatory compliance.
2. Cross-sector research: Studies that focus on various industrial sectors, such as supply chain, finance, manufacturing, and healthcare, can reveal contextual factors that influence the adaptability and effectiveness of blockchain in business administration.
3. Blockchain integration with other technologies: Further research needs to explore the combination of blockchain with other digital technologies, such as AI, IoT, and Big Data Analytics, to improve operational efficiency, strategic innovation, and data-driven decision-making in the modern business context.

By following these recommendations, future research can broaden understanding of blockchain's potential and challenges, while providing practical guidance for organizations seeking to optimize the use of this technology to improve performance and strategic decisions.

6. REFERENCES

Acropolium. (2025). 10 Blockchain Use Cases in Key Industries | 2025 Guide. Accessed from https://acropolium.com/blog/use-cases-for-blockchain-technology-adoption-across-major-industries/

Alikhani, A. and Hamidi, H. (2021). Regulating smart contracts: an efficient integration approach. Intelligent Decision Technologies, 15(3), 397-404. https://doi.org/10.3233/idt-200180

Al-Moghrabi, K. and Al-Ghonmein, A. (2024). Harnessing the power of blockchain technology to support decision-making in e-commerce processes. Iaes International Journal of Artificial Intelligence (Ij-Ai), 13(2), 1380. https://doi.org/10.11591/ijai.v13.i2.pp1380-1387

Batubara, F., Ubacht, J., & Janssen, M. (2018). Challenges of blockchain technology adoption for e-government., 1-9. https://doi.org/10.1145/3209281.3209317

Beck, R., Müller-Bloch, C., & King, J. (2018). Governance in the blockchain economy: a framework and research agenda. Journal of the Association for Information Systems, 1020-1034. https://doi.org/10.17705/1jais.00518

Clohessy, T. and Acton, T. (2019). Investigating the influence of organizational factors on blockchain adoption. Industrial Management & Data Systems, 119(7), 1457-1491. https://doi.org/10.1108/imds-08-2018-0365

Drljevic, N., Aranda, D., & Stantchev, V. (2022). An integrated adoption model to manage blockchain-driven business innovation in a sustainable way. Sustainability, 14(5), 2873. https://doi.org/10.3390/su14052873

Familoni, B., Abaku, E., & Odimarha, A. (2024). Blockchain for enhancing small business security: a theoretical and practical exploration. Open Access Research Journal of Multidisciplinary Studies, 7(1), 149-162. https://doi.org/10.53022/oarjms.2024.7.1.0020

Grand View Research. (2025). Blockchain Technology Market Size | Industry Report, 2030. Accessed from https://www.grandviewresearch.com/industry-analysis/blockchain-technology-market

Guo, W. (2023). The impact of blockchain technology on integrated green supply chain management in china: a conceptual study. Journal of Digitainability Realism & Mastery (Dream), 2(02), 58-65. https://doi.org/10.56982/dream.v2i02.112

Gupta, C., Gupta, V., & Fernández-Crehuet, J. (2023). A blockchain-enabled solution to improve intra-inter organizational innovation processes in software small medium enterprises. Engineering Reports, 5(7). https://doi.org/10.1002/eng2.12674

Kant, N. (2021). Blockchain: a strategic resource to attain and sustain competitive advantage. International Journal of Innovation Science, 13(4), 520-538. https://doi.org/10.1108/ijis-07-2020-0094

Kaur, J., Kumar, S., Narkhede, B., Dabić, M., Rathore, A., & Joshi, R. (2022). Barriers to blockchain adoption for supply chain finance: the case of indian smes. Electronic Commerce Research, 24(1), 303-340. https://doi.org/10.1007/s10660-022-09566-4

Khan, K., Fahim, A., Saleem, D., & Jokhio, M. (2023). Empirical investigation on blockchain interoperability. Vfast Transactions on Software Engineering, 11(1), 25-36. https://doi.org/10.21015/vtse.v10i4.1315

Khan, S., Loukil, F., Ghédira, C., Benkhelifa, E., & Bani-Hani, A. (2021). Blockchain smart contracts: applications, challenges, and future trends. Peer-to-Peer Networking and Applications, 14(5), 2901-2925. https://doi.org/10.1007/s12083-021-01127-0

Kouhizadeh, M. and Sarkis, J. (2018). Blockchain practices, potentials, and perspectives in greening supply chains. Sustainability, 10(10), 3652. https://doi.org/10.3390/su10103652

Kshetri, N. (2018). 1 blockchain's roles in meeting key supply chain management objectives. International Journal of Information Management, 39, 80-89. https://doi.org/10.1016/j.ijinfomgt.2017.12.005

Kumar, J., Rani, G., Rani, M., & Rani, V. (2024). Blockchain technology adoption and its impact on sme performance: insights for entrepreneurs and policymakers. Journal of Enterprising Communities People and Places in the Global Economy, 18(5), 1147-1169. https://doi.org/10.1108/jec-02-2024-0034

Lan, B. (2024). Review of research on the impact of blockchain technology on supply chain operational decision making. Frontiers in Business Economics and Management, 15(1), 312-315. https://doi.org/10.54097/knswev73

Maspul, K. (2023). Digital innovation in the specialty coffee market: revolutionizing business and competitive advantage. Ekoma Journal of Economics and Management Accounting, 3(1), 323-335. https://doi.org/10.56799/ekoma.v3i1.2397

Muneeb, M., Raza, Z., Haq, I., & Shafiq, O. (2022). Smartcon: a blockchain-based framework for smart contracts and transaction management. Ieee Access, 10, 23687-23699. https://doi.org/10.1109/access.2021.3135562

Naseem, M., Yang, J., Zhang, T., & Alam, W. (2023). Utilizing fuzzy ahp in the evaluation of barriers to blockchain implementation in reverse logistics. Sustainability, 15(10), 7961. https://doi.org/10.3390/su15107961

Nowiński, W. and Kozma, M. (2017). How can blockchain technology disrupt the existing business models?. Entrepreneurial Business and Economics Review, 5(3), 173-188. https://doi.org/10.15678/eber.2017.050309

N'Da, A., Matalonga, S., & Dahal, K. (2021). Applicability of the software security code metrics for ethereum smart contract., 106-119. https://doi.org/10.1007/978-3-030-84337-3_9

Oriekhoe, O., Omotoye, G., Oyeyemi, O., Tula, S., Daraojimba, A., & Adefemi, A. (2024). Blockchain in supply chain management: a systematic review: evaluating the implementation, challenges, and future prospects of blockchain technology in supply chains. Engineering Science & Technology Journal, 5(1), 128-151. https://doi.org/10.51594/estj.v5i1.732

Öz, Y., Çakır, F., CEYHAN, İ., Zelka, A., & Akbulut, H. (2025). Barriers of blockchain in sustainability reporting: an application with fuzzy ahp. Business Strategy & Development, 8(1). https://doi.org/10.1002/bsd2.70077

Perrelet, S., Fill, H., & Dibbern, J. (2022). A modeling approach for blockchain-inspired business models: an extension of the e3 -value method.. https://doi.org/10.24251/hicss.2022.558

Philipp, R., Prause, G., & Gerlitz, L. (2019). Blockchain and smart contracts for entrepreneurial collaboration in maritime supply chains. Transport and Telecommunication Journal, 20(4), 365-378. https://doi.org/10.2478/ttj-2019-0030

Prewett, K., Prescott, G., & Phillips, K. (2019). Blockchain adoption is inevitable—barriers and risks remain. Journal of Corporate Accounting & Finance, 31(2), 21-28. https://doi.org/10.1002/jcaf.22415

Reddick, C., Purón-Cid, G., & Ganapati, S. (2019). Determinants of blockchain adoption in the public sector: an empirical examination. Information Polity, 24(4), 379-396. https://doi.org/10.3233/ip-190150

Reuters. (2025). Blockchain lender Figure Technology reveals revenue surge in US IPO filing. Accessed from https://www.reuters.com/business/blockchain-lender-figure-technology-reveals-revenue-surge-us-ipo-filing-2025-08-18/

Schädler, L., Lustenberger, M., & Spychiger, F. (2023). Analyzing decision-making in blockchain governance. Frontiers in Blockchain, 6. https://doi.org/10.3389/fbloc.2023.1256651

Vendette, S. and Thundiyil, T. (2023). Decentralization in blockchain: reconsidering change management theories. American Journal of Management, 23(3). https://doi.org/10.33423/ajm.v23i3.6376

Wang, S., Zhou, M., & Xiang, S. (2024). Blockchain-enabled utility optimization for supply chain finance: an evolutionary game and smart contract based approach. Mathematics, 12(8), 1243. https://doi.org/10.3390/math12081243

Xia, J., Li, H., & He, Z. (2023). The effect of blockchain technology on supply chain collaboration: a case study of lenovo. Systems, 11(6), 299. https://doi.org/10.3390/systems11060299