The Impact of Block chain Technology on Administrative Processes with emphasized on Transparency, Efficiency, and Trust[1]

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Extended Abstract

Block chain technology has attracted significant attention due to its potential to revolutionize administrative processes by increasing transparency, efficiency and trust. This systematic literature review (SLR) aims to provide insight into the impact of block chain technology on administrative processes, as well as the challenges and risks associated with its implementation. Through comprehensive literature review, this study explores the main challenges faced by organizations is adopting block chain technology in their administrative processes and investigates strategies and solutions to reduce security, privacy, and governance risks. Additionally, practical recommendations are offered for organizations considering or currently undergoing block chain implementation in their administrative processes. n general, features such as decentralization, security, and transparency of block chain technology make this technology used as a transformational tool in many sectors, which includes benefits such as enhancing efficiency, security, and trust in transactions and data management processes. As organizations continue to explore and adopt block chain technology, it is poised to move toward further improvements and reforms in traditional operations. The findings highlight the transformative potential of blockchain technology in improving administrative processes across a wide range of sectors, while also emphasizing the need to address technical, security, governance and regulatory challenges. Additionally, a framework and guidelines for effective block chain implementation are proposed, with a focus on secure design principles, best practices in maintaining data security and privacy, and the establishment of a governance model and regulatory framework. However, it is acknowledged that this study has limitations, including the scope of the available literature and the possibility of new developments in block chain technology that have not been uncovered in this review. Future research is needed to address these limitations and further explore the implications

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of blockchain implementation in an administrative context. Overall, this study provides valuable insights to our understanding of the potential and challenges associated with the use of blockchain technology in improving efficiency and transparency in administrative processes

Theoretical Framework

In 2019, extensive studies have been conducted on the impact of block chain technology in various sectors. For example, a study conducted by Alahmadi & Line (2019) outlined how blockchain can enhance the transparency and credibility of supply chain management and ensure fair exchange of goods. Truong, Sun, & Guo (2019) In their research on the potential of blockchain in personal data management, highlighted its features such as transparency and consistency to illustrate the challenges that exist in this field. In a study (2019) highlighted the numerous applications and benefits of block chain technology in enhancing administrative processes across a range of sectors. From supply chain management to data security and governance of government services, blockchain touts its potential for transparency, efficiency and trust-building in administrative activities.

Blockchain technology has high traction in various sectors, including finance, health, logistics, and public administration, which initially became famous with crypto currencies such as Bitcoin, and today blockchain, is recognized as an innovative solution that can enhance transparency, security, and efficiency within systems (Steenmans et al;2021). The adoption of block chain technology in various sectors presents opportunities for transforming traditional activities and enhancing service quality (Mia, A., Rahout, 2022). The main question of this research is what are the main challenges that organizations face when implementing blockchain technology in administrative processes? How can organizations mitigate the risks associated with security, privacy, and blockchain technology?

Methodology

This research uses a systematic review of theoretical foundations to examine the effects of blockchain on administrative processes, as well as the challenges and risks that arise in its implementation. In the process of collecting articles, strict entry criteria were used to ensure that the selected articles were highly relevant to the topic and of high quality, and articles that did not meet these criteria were excluded from the analysis process. The article selection process was carried out systematically using the PRISMA method to ensure the authenticity and accuracy of the theoretical foundations selected for this study. Therefore, in this study, once relevant articles were selected, data analysis was conducted using a quantitative approach to identify key themes and patterns that emerged from the theoretical foundations of the research. The results of the analysis were then combined to integrate frameworks and guidelines that can help organizations effectively manage blockchain implementation.

Discussion and Results

Blockchain technology has a great impact on administrative processes, especially in enhancing transparency, efficiency, and trust. Blockchain technology can be transparent in terms of transparency and accountability through secure, decentralized ledgers that can be accessed and updated by all parties involved in transactions (Zhang, 2023). Implementing blockchain in administrative processes faces major challenges and risks that require careful consideration. First, there are significant infrastructural and technical challenges that require careful analysis of infrastructure constraints and requirements (Alimohammadi, 2023) & Alinejad). Issues such as scalability, privacy, and security can prevent the successful adoption of blockchain technology (Bao&Wang, et.al, 2020). Effective implementation of blockchain requires attention to several important aspects of the technology. First, organizations must ensure that the blockchain design and architecture are secure and scalable. These design principles should prioritize decentralized data, transparency, security, consistency, and privacy. In addition, it is important to take better measures to maintain data security and privacy. Implementing access control systems such as government channels can improve security for public blockchain networks.

Conclusion

Blockchain technology, by increasing freedom, creates a secure and decentralized ledger that can be accessed and updated by the parties involved in the transaction, which is considered a major milestone. This technology face with challenges and risks in implementing blockchain have also been observed, including technical barriers, data security, and challenges related to legality and technology acceptance. Therefore should pay attention to the barriers to adoption and the behavioral changes required to implement these new technologies. The results showed that blockchain technology has a great impact on administrative processes, especially on enhancing transparency, efficiency, and trust and this technology should be used to advance administrative processes that the level of trust among users can be increased and electronic services can be provided to citizens in a more favorable manner through data security and data presentation to ensure user satisfaction.

Contribution of authors

Author has participated in this research in equal proportion.

Ethical approval

This research was conducted by ethical principles. All participants in the study voluntarily provided their consent to participate with full awareness of the research objectives.

Conflict of interest

No conflicts of interest are declared by the author.