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Evaluation of the Implementation of Blockchain Technology in Financial Transactions in the Public Sector: Systematic Literature Review

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Abstract

Blockchain technology is increasingly seen as a disruptive instrument in strengthening transparency and accountability in public financial management, especially in the midst of increasing demands for clean and responsive governance, but its implementation still faces conceptual and empirical gaps related to effectiveness and institutional readiness. This study aims to systematically evaluate the application of blockchain in the context of public finance by identifying key benefits, structural challenges, and best practices that are developing in the global literature. The method used is a Systematic Literature Review (SLR) based on the PRISMA protocol with the main data source from the Scopus database, resulting in 30 selected articles that were analyzed through a bibliometric approach and qualitative content analysis to map research trends and dominant themes. The results show that blockchain significantly increases transparency through a distributed and immutable system of record, as well as strengthens accountability through automated verification mechanisms, although its implementation is constrained by regulatory complexity, digital infrastructure limitations, and organizational resistance. In addition, the literature review is still dominated by the issue of transparency and technological innovation, while the audit and corruption prevention dimensions are relatively underexplored. This study concludes that blockchain has strategic potential in transforming public financial governance, but its success is highly dependent on the readiness of the regulatory ecosystem, technological capacity, and stakeholder acceptance. The implications of this study include strengthening integration between governance theory and technology adoption, as well as providing a strategic framework for policymakers in optimizing blockchain implementation.

INTRODUCTION

In recent years, blockchain technology has emerged as a promising innovation in improving transparency and accountability in various sectors, including the government sector. Blockchain, which was originally known as the technology behind cryptocurrencies such as Bitcoin, offers a decentralized and immutable data storage mechanism, thus providing great potential to address the problem of corruption and non-transparency in the management of public finances. According to a report from the World Economic Forum (2020), about 10% of global gross domestic product can be lost each year due to corruption, and blockchain technology is considered one of the solutions to reduce this figure. Digital transformation in the government sector has prompted the search for technological solutions that can improve transparency,

efficiency, and public accountability. One of the technologies that has received great attention is blockchain, which is a distributed and immutable blockchain-based data recording system (Nakamoto, 2008). Originally developed to support cryptocurrencies such as bitcoin, this technology has now been expanded to various sectors, including the government sector (Almadadha, 2024). In the context of public finance, blockchain offers a record-keeping system that allows stakeholders to access data openly and uniformly, thereby minimizing the potential for manipulation and increasing efficiency and accountability.

The main advantages of blockchain are transparency, security, and decentralization. Blockchain is able to create a transaction system that is resistant to manipulation, increase trust between stakeholders, and prevent fraud and cyberattacks (Ahmed, 2025). In addition, blockchain can improve the quality of services in the digital finance (FinTech) sector, especially in terms of security, efficiency, and transparency (Kukman & Gričar, 2025). According to the World Economic Forum (2020), the application of blockchain in the government sector can even reduce administrative costs by up to 30%. A successful example of the implementation of this technology can be seen in Estonia through the KSI Blockchain system which guarantees the integrity of public data (Semenzin et al., 2022).

Financial transparency is a crucial component of good governance. According to the United Nations Development Programme (2019), transparency in government plays an important role in increasing accountability and reducing the risk of corruption, as it allows access to public information that can strengthen public oversight by the public. Blockchain technology plays a significant role in making this happen. Based on a World Bank report entitled Digital Tools to Promote Integrity in the Public Sector, the Global Experience (2022) states that the use of digital technologies such as blockchain has the potential to increase transparency, accountability, and effectiveness in detecting corrupt practices in the public sector. For example, the application of blockchain in Georgia can be seen in its implementation of a land registration system that aims to increase transparency and rebuild public trust in government institutions (Shang & Price, 2018). Transparency International (2020) also notes that countries with high transparency tend to have lower levels of corruption. In a study by Ibrahimy et al., (2024) blockchain is categorized as a distributed ledger technology that is able to strengthen accountability and transparency in the management of public finances.

Despite its great benefits, the implementation of blockchain in government faces a number of challenges. Regulatory and policy aspects are the main obstacles, considering that not many countries have a clear legal framework regarding this technology (Zhuk, 2025). On the other hand, the issue of data privacy and the need for adequate technological infrastructure are obstacles in itself, especially for developing countries (Catalini & Gans, 2016). In addition, resistance from government employees to technological changes can also slow down adoption (Elgohary & Abdelazyz, 2020).

Several case studies show that the adoption of blockchain in the government sector has had a real positive impact. Singapore, for example, has used blockchain for public asset management and budget oversight to improve transparency and efficiency (Alotaibi et al., 2025). In the country of Dubai, the "Dubai Blockchain Strategy" strategy has made the city a pioneer in the comprehensive application of blockchain in government services (Khan et al., 2022). Meanwhile, several states in the United States have piloted blockchain-based e-voting systems, which aim to improve security and transparency in elections (Vladucu et al., 2023). These

applications demonstrate the broad potential of blockchain in various aspects of modern governance.

Taking into account the importance of financial transparency and the potential of blockchain, this study will explore the various existing literature to identify the benefits, challenges, and best practices in the implementation of blockchain technology in the government sector. The study will adopt a systematic literature review approach, which will allow researchers to collect, analyze, and synthesize information from various relevant sources. Thus, it is hoped that the results of this research can provide valuable insights for policymakers and practitioners in formulating effective blockchain implementation strategies in the government sector.

Although various studies have addressed the application of blockchain technology in the public sector, there is still a gap in the literature that in-depth evaluates the effectiveness as well as barriers faced in its implementation, particularly in the context of financial transparency in government. To this end, this study asks three main questions:
RQ: How the application of blockchain technology can improve financial transparency and accountability in the government sector

This study aims to compile a systematic literature review that evaluates the extent to which blockchain technology has been applied in the government's financial system, with a focus on identifying benefits, barriers, as well as implementation strategies that can strengthen the transparency and effectiveness of state financial management.

METHODS

In this study, *the Systematic Literature Review* (SLR) approach is used to identify and evaluate relevant studies on the implementation of *blockchain* technology in improving financial transparency in the government sector. The *Systematic Literature Review* (SLR) approach was chosen in this study because it provides a systematic, transparent, and replicable framework to review relevant scientific literature related to the implementation of *blockchain* technology in the financial transparency of the government sector. This method allows researchers to compile a comprehensive and structured understanding of the conceptual and empirical developments that have been carried out over a certain period of time. Furthermore, SLR allows the identification of general patterns, important findings, and inconsistencies in the existing literature, thereby revealing research *gaps* that are still open to be explored in future studies. Thus, this approach not only strengthens the validity of theoretical studies, but also makes a strategic contribution to mapping the direction of further research in the field of blockchain-based public financial governance.

In order for the literature review to remain systematic, relevant, and in line with the research objectives, it is necessary to establish clear and measurable selection criteria in the study identification process. This step is intended to screen and select publications that are truly in line with the focus of the study, namely an empirical study of the application and impact *of blockchain* technology on financial transparency and accountability in the government environment. The establishment of specific inclusion and exclusion criteria will help ensure that the literature

analyzed has thematic relevance, adequate methodological quality, and appropriate institutional context, so that the results of this SLR can provide a solid foundation for further research and evidence-based policymaking.

Table 1

Inclusion and Exclusion Criteria

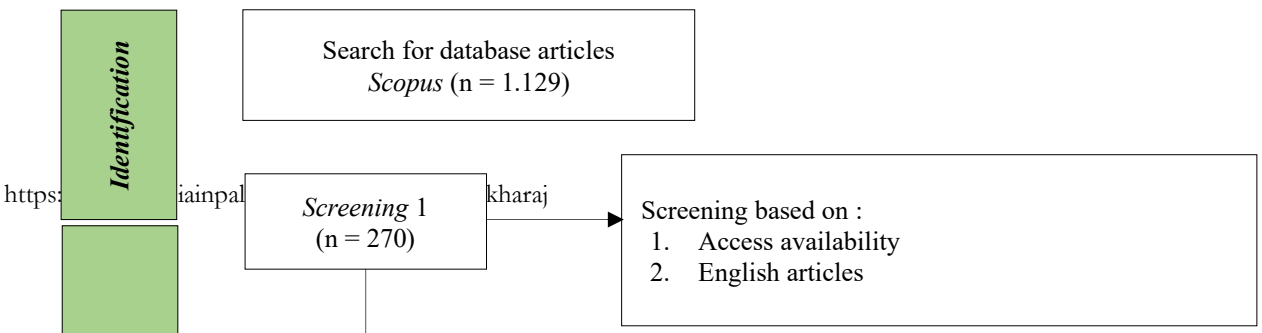
Criteria	Inclusions	Exclusion
Database	*Scopus*	Other than *Scopus*
Language	Speaks English	Not in English
Access	Full-text accessible research articles	Research articles that are not accessible *full text*
Article Type	*Research article*	In addition to *research articles*
Term	Last 10 years (2015-2025)	Articles less than 2015
Main Topics	Discussing *blockchain* with transparency, accountability, efficiency,	Articles that are not relevant to the research problem
Area	*Business, management and accounting*	In addition to *business, management and accounting*

The main data source used in this study is the Scopus database, as it has the coverage of internationally reputable and widely indexed journals. The literature search was conducted using a combination of Boolean logic-based keywords in the columns (TITLE-ABS-KEY (*blockchain*) AND TITLE-ABS-KEY (PUBLIC AND SECTOR)) AND (LIMIT-TO (SUBJAREA , "SPARK PLUG")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "ENGLISH")) AND (LIMIT-TO (OA , "all")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final")).

After collecting data through Scopus, the researcher applied the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta Analyses*) method which consisted of three stages.

Figure 1

PRISMA Flow Diagram



RESULTS AND DISCUSSION

This section reviews the development of the literature regarding the implementation of *blockchain* technology in financial transparency in the public sector. The review begins with a bibliometric analysis to identify trends in the publication and distribution of articles from year to year. This bibliometric approach is used as a quantitative method to systematically evaluate the dynamics of research developments in a particular field. Bibliometric data is obtained from the Scopus database with search keywords focused on *blockchain topics*, *public sector*, and *transparency* in the subject area *of Business, Management and Accounting*. The analysis was carried out in the period from 2017 to 2025 with a total of 30 documents identified.

The results of the analysis of publication trends per year as shown in Figure 1 show that interest in this topic has fluctuated significantly. In 2017, the number of documents was still very low (1 document), and there were no documents identified in 2018. However, from 2019 to 2021 there was a fairly significant gradual increase, from 1 document (2019) to 2 documents (2020), then jumped to 5 documents in 2021. Although there was a slight decrease in 2022 to 4 documents, the trend increased sharply again in 2023 and 2024 which recorded 6 documents each—indicating a peak in productivity during that period. The year 2025 shows a slight decrease back to 5 documents, but this figure remains above average.

This analysis indicates that the issue of transparency and accountability in the management of public finances through the application of technology *Blockchain* becoming increasingly relevant as the need for a more open and efficient governance system increases. These findings also serve

as the basis for continuing a qualitative analysis of the content of the selected articles to identify the research focus, approaches used, and further research opportunities in this field. In the next stage, the author conducts an in-depth review of each article by reading the entire content to find patterns, differences, and similarities both in terms of research objectives, frameworks, and theoretical and practical contributions offered.

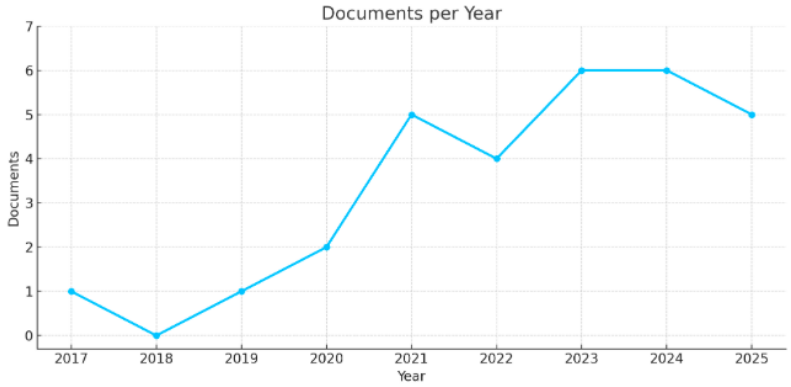


Figure 1. Annual Publication Trends

Table 1. Distribution of article publication based on journal ranking

Journal Ranking	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Q1	1			1	4	1	2	2	4	15
Q2			1	1		3	2	2	1	10
Q3					1		2	1		4
Q4								1		1
Total	1		1	2	5	4	6	6	5	30

The distribution of articles based on journal rankings in Table 1 provides a significant overview of research trends related to the implementation of *blockchain* technology in public sector financial transparency. Of the total 30 articles analyzed, most were published in Q1 (15 articles) and Q2 (10 articles) ranked journals. This shows that this topic has received high attention from the academic community, and is considered to have strong theoretical and practical contributions. Articles in the Q1 journal generally discuss *the blockchain implementation framework* comprehensively, including policy challenges and system security aspects, while articles in the Q2 journal tend to focus on institutional evaluation and the effectiveness of the application of the technology in the management of public finances.

Temporally, research publications show an increasing trend from 2017 to 2025, with the highest number of publications occurring in 2023 and 2024, as many as six articles each. This reflects the growing interest and urgency in examining *blockchain* as a tool to improve transparency, accountability, and efficiency in public financial governance. Although the number of publications

in Q3 and Q4 journals is relatively small, it indicates that the quality standards for publications on this topic are quite high, and the relevance *of blockchain* in the public sector is considered important by highly reputable journals.

Table 2. Distribution theme of article publications based on journal ranking

Theme	Q1	Q2	Q3	Q4	Total	%
Transparency and Accountability	7	6			13	43.3
Financial Reporting Quality	2		2		4	13.3
Emerging / Innovation	4	4	2	1	11	36.6
Audit Quality & Control	1				1	3.3
Fraud & Anti-Corruption	1				1	3.3
Total					30	100%

Based on Table 2, the theme of Transparency and Accountability is the main focus in publications related to the implementation of *blockchain* technology in the public sector, with a total of 13 articles or 43.3% of the total publications. This dominance reflects that *blockchain* technology is most studied from the perspective of transparency and public financial accountability. The theme of Emerging / Innovation is second with 11 articles (36.6%), indicating that *blockchain* is positioned as a potential new innovation in public sector governance. Meanwhile, the theme of Financial Reporting Quality included 4 articles (13.3%), followed by Audit Quality & Control and *Fraud* & Anti-Corruption which each included only 1 article (3.3%). This shows that although *blockchain* has high relevance to improving audit quality and preventing corruption, studies in these two areas are still limited and open up opportunities for further research.

Table 3. Distribution of Articles Based on Research Background

Background	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Internal							2	1		3
External					2			1		3
Internal and External	1		1	2	3	4	4	4	5	24
Total	1		1	2	6	4	6	6	5	30

Based on Table 3, a total of 30 articles reviewed in this study are classified based on the research background into three main categories: internal, external, and internal and external combinations. The majority of articles, which are 24 articles, use a combined background of internal and external factors, showing that a holistic approach in evaluating public financial transparency through *blockchain* technology is the main focus of the researchers. Meanwhile, each of the other 3 articles focuses on internal and external aspects separately. The year-on-year distribution trend also shows a significant increase, especially since 2020, indicating a growing interest in *blockchain evaluation* in the context of public sector financial transparency involving various organizational factors and the external environment simultaneously.

Table 4. Distribution of Articles Based on Research Method

Method	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Survey					1	1		1	1	4
Archival								1	1	2
Literature Review	1		1	1	2	2	3	3		13
Experiment				1					1	2
Action Research							2			2
Interview & Document review					2		1	1	2	6
Exploratory Conceptual Study						1				1
Total	1		1	2	5	4	6	6	5	30

Based on Table 4, the research methods used in the 30 articles studied in this study show a variety of approaches in evaluating the implementation of *blockchain* technology in public sector financial transparency. The most dominant method used was the literature review of 13 articles, reflecting a strong conceptual approach in summarizing previous findings. The survey method was used in 4 articles, while the *interview & document review* method was used in 6 articles, showing the tendency of researchers to dig up primary data from real practice. In addition, there is also the use of *archival* methods (2 articles), *experiments* (2 articles), *action research* (2 articles), and *exploratory conceptual studies* (1 article), which show a diversity of approaches in understanding the dynamics and challenges of *blockchain* implementation in the public sector. The increase in the number of articles since 2020 also reflects the increasing academic attention to this issue in recent years.

Recent Developments from Previous Studies

Transparency and Accountability

Based on the table that presents the development of studies related to *transparency* and *accountability*, it can be identified that research on the implementation of *blockchain* technology in the public sector generally uses a qualitative approach, with various methods such as *literature review, experiment, interview & document review, archival,* and *exploratory conceptual study*. The dominant theme of the entire article is transparency and accountability in the context of public accounting, which reflects the main focus of recent studies in exploring the impact of the use of *blockchain* technology on state financial management. Some of the theories used are also diverse, such as *Unified Theory of Acceptance, Trust Theory, Resources Events Agents Framework, Public Value Theory, Task Technology Fit Theory*, and *Cybernetic Theory,* showing that this issue is analyzed from various conceptual perspectives.

Interestingly, a number of articles do not include specific theories (N/A), which may indicate a more exploratory or phenomenon-based approach in the field. The use of theories such as *Trust Theory* and *Public Value Theory* shows that aspects of public trust and public service value are the main concerns in examining technology-based transparency. These studies are also spread over the period 2019 to 2025, showing an increasing trend towards the adoption of *blockchain* technology in governance. Overall, these results show that academic studies not only focus on technological efficiency, but also consider social, ethical, and institutional aspects in an effort to build more transparent and accountable public governance.

Table 5. Articles on Transparency and Accountability

Author and Year	Theory	Method	Theme
Baudet & Medina, (2023)	Unified Theory of Acceptance	Qualitative - Action Research	Transparency & Accounting
D'Hauwers et al (2020)	Trust Theory	Qualitative - Literature Review	Transparency & Accounting
Alotaibi et al., (2025)	Resources Events Agents Framework	Qualitative - Experiment	Transparency & Accounting
Farnaghi & Mansourian, 2020)	N/A	Qualitative - Experiment	Transparency & Accounting
Sedlmeir et al., (2022)	N/A	Qualitative – Literature Review	Transparency & Accounting
Müller et al., 2024)	Public Value Theory	Qualitative - Archival	Transparency & Accounting

Llano et al., (2024)	N/A	Qualitative – Interview & Document Review	Transparency & Accounting
Shah & Raj, (2025)	N/A	Quantitative - Survey	Transparency & Accounting
Roth et al., (2023)	Task Technology Fit Theory	Qualitative - Interview & Document Review	Transparency & Accounting
Verma & Sheel, (2022)	N/A	Qualitative - Literature Review	Transparency & Accounting
Sung & Park, (2021)	N/A	Qualitative - Literature Review	Transparency & Accounting
Aristidou & Marcou, (2019)	N/A	Qualitative - Literature Review	Transparency & Accounting
Shao et al., (2022)	Cybernetic Theory	Qualitative - Exploratory Conceptual Study	Transparency & Accounting

Financial Reporting Quality

Based on Table 6, there are four articles that discuss the theme *Financial Reporting Quality* in the context of technology implementation *Blockchain* in the public sector. The majority of studies used a qualitative approach with the literature review method (2 articles), which showed that these studies are still at the conceptual and exploratory stages. One article uses the *Mix Method* through surveys, while the other applies a more empirical quantitative-archival method. Only one article explicitly links this study to theory, namely *Information Asymmetry* and *Financial Reporting Theory*, while the other three articles do not provide a clear theoretical basis. These findings indicate that the quality of financial reporting is one of the important concerns in related academic discourse *Blockchain*, although the approach is still limited and varied, and requires a stronger theoretical foundation to support the validity of the findings.

Table 6. Articles on Financial Reporting Quality

Author and Year	Theory	Method	Theme
Prux et al., (2021)	N/A	Mix Method - Survey	Financial Reporting Quality

Larikova et al., (2023)	N/A	Qualitative - Literature Review	Financial Reporting Quality
Yoo, (2017)	N/A	Qualitative - Literature Review	Financial Reporting Quality
Liao et al., (2025)	Information Asymmetry & Financial Reporting Theory	Quantitative - Archival	Financial Reporting Quality

Emerging Themes / Innovation

Based on Table 7, the theme *Emerging Themes* or new issues that arise in the context of technology implementation *Blockchain* in the public sector reflects the development of increasingly complex and multidimensional studies. Of the total articles analyzed, themes such as *Smart City*, government digitalization, technology adoption, legal system, and local government finance are the main concerns. The approach of the research methods used is quite diverse, ranging from qualitative*Literature Review, Interview & Document Review, Action Research, and Mixed Method* and *Survey*. This variety of methods suggests that these new topics are being explored extensively both conceptually and empirically in order to understand the implications of their application *Blockchain* to public sector governance.

From the theoretical side, a number of articles adopt theories such as *Agency Theory, Technology Organization Environment Framework, Technology Maturity Models, Diffusion of Innovation Theory, Institutional Theory*, and *Decentralization Theory*. The use of these theories strengthens the argument that the integration of technologies such as *Blockchain* requires not only technical readiness, but also organizational readiness, regulatory structure, and social acceptance. Some articles do not include explicit theories, which may indicate an inductive approach to studying phenomena in the field, especially in relatively new contexts such as *Blockchain* for the public sector.

These findings show that innovations in financial management and public administration through *Blockchain* is closely related to issues of governance, transparency, and efficiency of public services. Implementation *Blockchain* in context *Smart City* or *Digital Governance* It requires not only technological infrastructure, but also a deep understanding of local needs, regulatory readiness, and capacity of public institutions. Thus, the research on this theme also provides insight into the supporting and inhibiting factors in the application of innovative technologies to strengthen public sector accountability and transparency in the digital era.

Table 7. Articles on Emerging Themes / Innovation

Author and Year	Theory	Method	Theme
Tafuro et al., (2023)	Agency Theory	Qualitative – literature review	Emerging Themes / PPP
Benchis et al., (2025)	Technology Organization Environment Framework	Qualitative - Interview & Document Review	Emerging Themes / Adoption Models
Tan et al., (2023)	N/A	Qualitative - Action Research	Emerging Themes / Innovation
Djuraev et al., (2025)	N/A	Mix Method - Interview & Document Review	Emerging Themes / Legal Systems
Dunayev et al., (2023)	N/A	Qualitative – literature review	Emerging Themes / *Smart city*
Kalenyuk et al., (2024)	N/A	Qualitative – literature review	Emerging Themes / *Smart city*
Radynskyy et al., (2024)	N/A	Qualitative – literature review	Emerging Themes / Local Government Finance
Yang et al., (2022)	Technology Maturity Models	Quantitative – literature review	Emerging Themes / Gov Digitalization
Akman & Turhan, (2022)	Diffusion of Innovation Theory	Quantitative - Survey	Emerging Themes / Tech Adoption
Xiao et al., (2024)	Diffusion of Innovations (DOI) Theory and Institutional Theory	Mix Method - Survey	Emerging Themes / Innovation
Fiorentino, (2021)	Decentralization Theory	Mix Method - Interview & Document Review - Survey	Emerging Themes / PPP

Audit Quality & Control

Based on Table 8, the topic of Quality & Control Audit in the context of blockchain technology implementation in the public sector is still relatively minimal. Only one article explicitly raises this theme, namely research by Herold et al. (2021). The research uses a qualitative approach through interview and document *review* methods, with the theoretical framework used being Transaction Cost Theory. This theory is used to explain how the use of *blockchain* can reduce transaction costs in the audit process and improve the efficiency and effectiveness of internal controls.

The lack of research addressing aspects of quality and control audits indicates that this topic is still a potential research gap to be explored further. In fact, with *blockchain*'s immutable and transparent nature, this technology is theoretically very relevant in strengthening audit quality and financial control in the public sector. Further research is needed to understand how *blockchain* can change the traditional paradigm in auditing, as well as how it affects increased accountability and public oversight in modern governance systems.

Table 8. Articles on Audit Quality & Control

Author and Year	Theory	Method	Theme
Herold et al., (2022)	Transaction Cost Theory	Qualitative - Interview & Document Review	Audit Quality & Control

***Fraud* & Anti-Corruption**

Based on Table 9 showing related articles *Fraud* and Anti-*Corruption*, a study by Thommandru et al. (2024) shows that technology *Blockchain* is being studied as a potential tool in increasing transparency and preventing corruption in the public sector. With a qualitative approach through *Literature Review*, the study highlights how the characteristics of *Blockchain* (*immutability, traceability,* and *Disintermediation*) is able to strengthen financial reporting systems to make them more accountable and difficult to manipulate. Although formal theories were not explicitly used in the study, these findings nonetheless support the idea that *Blockchain* can play a significant role in anti-corruption reform through greater transparency.

These results are in line with the focus of this research which evaluates the implementation of the technology *Blockchain* in improving financial transparency in the public sector. By reviewing the relevant literature, the study identified that despite the adoption of *Blockchain* In the public sector, the potential for its use in reducing the chances of financial misappropriation is quite

promising. This discussion shows that the use of technology *Blockchain* It is not only technical, but also strategic in encouraging public integrity and trust in government institutions.

Table 9. Articles on *Fraud* & Anti-Corruption

Author and Year	Theory	Method	Theme
Thommandru et al., (2024)	N/A	Qualitative – literature review	*Fraud* & Anti-Corruption

Future Research Agenda

First, although the themes of transparency and accountability dominate the related literature *Blockchain* In the public sector, there is still room for a deeper exploration of the long-term effects of the application of this technology on bureaucratic culture, fiscal decision-making, and public trust. Future research may evaluate how public perceptions of transparency change after implementation *Blockchain*, as well as whether these technologies actually reduce the level of corruption in real practice, not just at the system level.

Second, studies on the quality of financial reporting are still relatively limited, both in terms of the number and the theoretical framework used. Further research should integrate more comprehensive theories, such as *stakeholder theory* or *Institutional Theory*, to understand how *Blockchain* affect the quality of financial reporting in diverse regulatory contexts. In addition, quantitative and longitudinal approaches are indispensable to empirically measure the changes that occur after adoption *Blockchain*.

Third, the theme of audit and internal control is one of the areas that is very minimally discussed, even though theoretically *Blockchain* has great potential in supporting real-time audit systems and automation of internal controls. Therefore, the future research agenda can test the effectiveness *Blockchain* in supporting the quality of government audits and strengthening budget oversight, especially in large-scale projects and public procurement that are vulnerable to manipulation.

Fourth, the study of adoption *Blockchain* as part of digital governance innovation (*E-Government*, *Smart City*) needs to be expanded with a cross-disciplinary approach. Future research could explore synergies between technological readiness, government organizational structures, and existing legal frameworks. Special focus is also needed for the context of developing countries, where digital infrastructure and institutional resistance are still challenges. Here, technology adoption theory and institutional theory could be an important foundation for understanding implementation barriers and opportunities *Blockchain* comprehensively.

Finally, the issue *Fraud* and anti-corruption in literature *Blockchain* The public sector is still conceptual and very limited. Future research should lead to in-depth case studies in different countries or regions that have implemented a financial system based on *Blockchain* to see its effectiveness in fraud prevention. With mixed methods (*Mix-Method*) and comparative approaches, researchers can evaluate the differences in impacts between countries with high and low transparency systems, as well as provide more precise policy recommendations.

CONCLUSION

Based on the results of a systematic literature review, it can be concluded that blockchain technology has significant potential in increasing financial transparency and accountability in the government sector. The main characteristics of blockchain such as decentralization, transparency, and the immutable nature of data recording make it an effective tool to minimize information manipulation and strengthen the integrity of public financial reporting. In various case studies such as in Estonia, Georgia, and Dubai, the application of blockchain has been proven to improve financial management systems, open data access to the public in real-time, and increase stakeholder trust in the performance of government institutions.

The application of blockchain also encourages the creation of a more efficient, transparent, and automated audit system, which contributes to increasing the accountability of state apparatus. Through integration with digital financial monitoring and reporting systems, blockchain allows for an immutable audit trail, thereby reducing the loophole for corruption and unethical practices. In addition, this technology supports more timely and accurate financial reporting, as well as accelerating the verification process by external auditors and public oversight agencies.

However, the effectiveness of blockchain implementation is highly dependent on the readiness of technological infrastructure, regulatory support, and institutional acceptance. Challenges such as resistance from government employees, data privacy issues, and the lack of an adequate legal framework are obstacles that need to be overcome to realize the full benefits of this technology. Therefore, the success of blockchain adoption in increasing transparency and public financial accountability demands an integrated approach between technical, legal, and social aspects. Further research is expected to provide more in-depth insights into effective implementation strategies according to the context of each country.

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