BLOCKCHAIN TECHNOLOGY AND CORPORATE SOCIAL RESPONSIBILITY REPORTING: A SYMBIOTIC RELATIONSHIP FOR ENHANCED TRANSPARENCY, TRUST, AND GOVERNANCE

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Abstract

In a time of increased corporate accountability, the integration of blockchain technology into corporate social responsibility (CSR) reporting presents a revolutionary option. This paper examines the efficacy of blockchain in improving trust, transparency, and accountability in CSR reporting, while addressing the shortcomings of conventional techniques. By employing a structured decision-making framework and analyzing existing literature, we assess the potential of blockchain to revolutionize CSR reporting, focusing on its immutability, transparency, and decentralized nature. The findings indicate that blockchain technology, especially permissionless public blockchains, is particularly advantageous for CSR reporting, as it provides a shared, unchangeable database for various stakeholders with possible trust concerns. Recognizing the ongoing significance of current stakeholders such as governments and standard-setting bodies, we suggest that blockchain can function as an integrative platform, redefining their roles and alleviating their limitations. This research enhances the existing literature on blockchain applications in CSR reporting, emphasizing its capacity to cultivate trust, generate beneficial social and environmental outcomes, and encourage sustainable business practices.

Keywords: Blockchain Technology, CSR Reporting, Immutability, Transparency, Smart Contracts, Decentralized Autonomous Organization, DAO

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1. INTRODUCTION

In the current economic environment, where corporate responsibility and transparency are essential, integrating blockchain technology into corporate social responsibility (CSR) reporting offers a revolutionary alternative. Blockchain, with its decentralized and irreversible ledger, presents a unique opportunity to overcome the shortcomings of conventional CSR reporting techniques, thereby improving trust, transparency, and accountability. This paper explores the suitability of blockchain technology for enhancing CSR reporting, particularly focusing on permissionless public blockchains due

to their immutability, transparency, and decentralized nature, which address the limitations of traditional methods and foster trust among stakeholders.

While the potential of blockchain for enhancing CSR reporting has been acknowledged in the literature, there is still a lack of comprehensive research that systematically evaluates its suitability and addresses the practical challenges associated with its implementation. Existing studies have primarily focused on the theoretical benefits of blockchain for CSR reporting, such as increased transparency and traceability. However, there is a need for more empirical research that examines the actual impact of blockchain adoption on CSR reporting practices and explores the challenges and opportunities associated with its implementation. Additionally, there is a lack of clear guidelines and frameworks for companies seeking to integrate blockchain into their CSR reporting processes.

This research aims to address these gaps by conducting a comprehensive analysis of the suitability of blockchain technology for enhancing CSR reporting. The study is guided by the following research questions:

RQ1: Is blockchain technology suitable for CSR reporting?

RQ2: What are the potential benefits and challenges of using blockchain for CSR reporting?

RQ3: How can blockchain be integrated into existing CSR reporting frameworks and practices?

This study draws upon the theoretical framework of stakeholder theory, which emphasizes the importance of considering the needs and expectations of various stakeholders in corporate decision-making. In the context of CSR reporting, stakeholder theory suggests that companies should provide transparent and accountable information about their social and environmental performance to their stakeholders, including investors, consumers, employees, communities, and non-governmental organizations (NGOs). Blockchain technology, with its ability to enhance transparency, traceability, and trust, can play a crucial role in enabling companies to meet the information needs of their stakeholders and build stronger relationships with them.

This research is highly relevant and significant due to the growing importance of CSR reporting in today's business environment. Companies are facing increasing pressure from stakeholders to demonstrate their commitment to social and environmental responsibility. Blockchain technology has the potential to transform CSR reporting by enhancing its credibility, transparency, and efficiency. This study provides valuable insights for companies, policymakers, and other stakeholders seeking to understand and leverage the potential of blockchain for improving CSR reporting practices.

This study employs a qualitative research methodology, combining a comprehensive literature review with a structured decision-making framework. The literature review analyzes existing research on blockchain technology and CSR reporting to identify key themes, trends, and gaps in the literature. The ten-step decision path framework, developed by Pedersen et al. (2019), is used to systematically evaluate the suitability of blockchain for CSR reporting by considering various factors such as the need for a shared database, trust concerns, third-party roles, access rights, and immutability requirements.

The findings of this study indicate that blockchain technology is well-suited for enhancing CSR reporting due to its ability to address the limitations of traditional reporting methods and foster trust among stakeholders. The decentralized and immutable nature of blockchain provides a secure and transparent platform for recording and verifying CSR data, reducing the risk of manipulation and greenwashing. The study also highlights the potential of blockchain to streamline CSR reporting processes, improve data accuracy, and empower stakeholders with access to reliable and verifiable information.

This research makes several contributions to the existing literature on blockchain and CSR reporting. It provides a comprehensive analysis of the suitability of blockchain for CSR reporting, identifies key benefits and challenges associated with its adoption, and offers practical recommendations for companies seeking to integrate blockchain into their CSR reporting practices. The study also contributes to the development of a theoretical framework for understanding the role of blockchain in enhancing stakeholder engagement and trust in CSR reporting.

The remainder of this paper is structured as follows. Section 2 provides a comprehensive review of the relevant literature on CSR and blockchain technology, exploring their intersection and potential synergies. Section 3 outlines the research methodology employed in this study, detailing the ten-step decision path framework and the process of thematic analysis used to evaluate the suitability of blockchain for CSR reporting. Section 4 presents the results of the analysis, highlighting the key findings from applying the decision path to the context of CSR reporting. Section 5 delves into a discussion of the results, examining the implications of blockchain technology for CSR reporting and outlining potential challenges and opportunities. Section 6 concludes the paper, summarizing the main findings, discussing their implications for various stakeholders, and offering recommendations for future research and practice.

2. LITERATURE REVIEW

2.1. Corporate social responsibility and reporting

Corporate social responsibility is a complex notion that has evolved over time, reflecting a company's dedication to social and environmental issues beyond its legal requirements. Although the origins of CSR may be linked to Howard Bowen's foundational work in 1953, which highlighted the responsibilities of businesses to society, a widely recognized definition continues to be unattainable. The absence of consensus arises from multiple issues, including disputes over the definition of damage, the prioritization of specific ills, the responsibility for addressing them, and the authority to define CSR (Sheehy, 2015). Although a singular definition is absent, the significance of CSR has markedly increased in recent decades. This expansion is propelled by escalating stakeholder expectations for transparency and accountability regarding firms' social and environmental effects (Carroll & Shabana, 2010). Stakeholders, such as investors, consumers, employees, and communities, are increasingly concerned with how corporations handle their environmental impact, labor policies, and community involvement.

CSR reporting has become an essential instrument for firms to convey their CSR

performance to stakeholders. It entails revealing data regarding a company's influence on social and environmental matters, including carbon emissions, labor practices, and community development efforts (KPMG, 2020). Although CSR reporting is optional in several jurisdictions, certain countries have made it compulsory for specific corporations, especially publicly traded ones (Adams & Frost, 2008). Nonetheless, conventional CSR reporting encounters numerous constraints. A significant difficulty is the absence of uniformity, as organizations frequently select their preferred reporting standards and metrics (Michelon et al., 2015). The absence of comparability complicates stakeholders' ability to evaluate and contrast the CSR performance of various organizations, obstructing informed decision-making. Another concern is the risk of greenwashing, wherein firms may inflate their social and environmental initiatives to improve their brand image (Lyon & Montgomery, 2015). This may mislead stakeholders and compromise the integrity of CSR reporting. The voluntary aspect of CSR reporting often creates issues regarding the authenticity and completeness of the revealed information (Dhaliwal et al., 2011).

Researchers and practitioners have investigated creative methods, such as the implementation of blockchain technology, to tackle these difficulties. Blockchain, characterized by its decentralized and irreversible ledger, presents a prospective solution to improve openness, accountability, and confidence in CSR reporting (Tapscott & Tapscott, 2016).

2.2. Limitations of traditional corporate social responsibility reporting

Traditional CSR reporting methods face several limitations that hinder their effectiveness and credibility. One major challenge is the lack of standardization, as companies often choose their preferred reporting standards and metrics, making it difficult for stakeholders to compare and evaluate the CSR performance of different organizations. This lack of comparability can obstruct informed decision-making and hinder stakeholders' ability to hold companies accountable for their social and environmental impacts.

Another concern is the risk of greenwashing, where companies may exaggerate or misrepresent their CSR initiatives to enhance their public image. This can mislead stakeholders and undermine the integrity of CSR reporting. Additionally, the voluntary nature of CSR reporting in many jurisdictions raises questions about the completeness and accuracy of the information disclosed. Traditional CSR reports are often static documents that do not facilitate meaningful dialogue with stakeholders. There's often limited opportunity for stakeholders to provide input or feedback on the company's CSR performance. Measuring the social impact of CSR initiatives can be challenging due to the complex and multifaceted nature of social issues. It can be difficult to establish clear cause-and-effect relationships and quantify the impact on communities. Traditional reporting often focuses on what companies do (e.g., number of trees planted, amount of money donated) rather than the actual outcomes of those activities (e.g., impact on biodiversity, social benefits achieved). This makes it hard to assess the real impact of CSR initiatives. These limitations highlight the need for more standardized, transparent, and accountable CSR reporting practices. Emerging trends like integrated reporting, mandatory disclosure requirements, and the use of technology for data collection and verification are steps in the right direction.

2.3. Blockchain technology: A potential solution for corporate social responsibility reporting

Numerous studies have examined the possible advantages of blockchain in CSR reporting. Research indicates that blockchain can improve the traceability and transparency of supply chains, allowing organizations to monitor the origin and ethical sourcing of items (Saberi et al., 2019). This is especially pertinent for sectors with intricate supply chains, like the fashion industry, where issues about labor methods and environmental consequences are prominent. Smart contracts on the blockchain can automate and optimize CSR reporting processes. Smart contracts are autonomous agreements with the stipulations explicitly encoded. They can be utilized to autonomously initiate payments or other activities upon the fulfillment of certain circumstances, such as the attainment of designated sustainability objectives (Iberdrola, 2019). This can diminish the necessity for manual intervention and enhance the efficiency of CSR reporting.

Numerous case studies have illustrated the potential of blockchain in CSR reporting. Provenance, a blockchain-based technology, tracks the route of tuna from ocean to plate, offering consumers transparency on the sustainability of their seafood selections[1]. The Everledger platform employs blockchain technology to trace the provenance of diamonds, guaranteeing that they are not obtained from conflict zones[2].

Notwithstanding the prospective advantages, the implementation of blockchain in CSR reporting remains nascent. Issues including scalability, interoperability, and regulatory frameworks must be resolved for extensive deployment (Beck et al., 2018). The increasing interest from academia and industry indicates that blockchain technology could transform CSR reporting, enhancing its transparency, reliability, and effectiveness.

The incorporation of blockchain technology into CSR reporting is an emerging domain that has attracted growing interest in recent years. Numerous studies have investigated the potential advantages and obstacles of employing blockchain to improve openness, accountability, and confidence in CSR reporting. A primary benefit of blockchain in CSR reporting is its capacity to establish an immutable and transparent record of a company's social and environmental performance. This might mitigate the problem of greenwashing, wherein firms may amplify their CSR initiatives to improve their reputation. By documenting CSR data on the blockchain, firms may furnish stakeholders with reliable evidence of their actions, mitigating the danger of misrepresentation and bolstering confidence (Hileman & Rauchs, 2017).

The traceability aspect of blockchain is a notable advantage, especially in supply chain management. By monitoring the flow of goods and materials within the supply chain, organizations can guarantee that their products are procured ethically and sustainably. This is especially pertinent for

[1] https://www.provenance.org/
[2] https://www.everledger.io/

sectors with intricate supply chains, like the fashion industry, where issues regarding labor practices and environmental consequences are significant (Abeyratne & Monfared, 2016).

Nonetheless, the implementation of blockchain in CSR reporting has obstacles. A significant difficulty is the scalability of blockchain networks, which must manage a high volume of transactions to support widespread adoption. Moreover, interoperability among various blockchain platforms continues to pose a challenge, since organizations may employ disparate blockchain solutions for their CSR reporting. The regulatory frameworks for blockchain-based CSR reporting are still developing, resulting in uncertainty for firms.

Notwithstanding these obstacles, the prospective advantages of blockchain for CSR reporting are considerable. Through the augmentation of transparency, accountability, and trust, blockchain can enable firms to exhibit their dedication to social and environmental responsibility, thereby fostering a more sustainable and equitable future.

Kamilaris et al. (2019) conducted a comprehensive review of blockchain's potential to enhance supply chain traceability and sustainability, which are crucial aspects of CSR reporting. Their study highlighted blockchain's ability to provide an immutable record of product origin, ethical sourcing, and environmental impact, thereby increasing transparency and accountability in supply chains. The authors also discussed various challenges and future research directions for the implementation of blockchain in this context.

Ratna and Junaidi (2024) investigated the relationship between CSR disclosure and company value, considering the moderating effect of profitability. Their findings indicated that CSR disclosure positively influences company value, especially for profitable companies. This study underscores the growing importance of CSR reporting for businesses and how it can impact their financial performance.

Dewi et al. (2021) further explored the link between CSR reporting and firm value, focusing on the influence of company size and leverage. Their research revealed that CSR disclosure positively affects firm value, particularly for larger companies with lower leverage. This study reinforces the relevance of CSR reporting and its potential impact on a company's financial health.

Bakarich et al. (2023) specifically addressed the use of blockchain technology in CSR reporting and assurance. Their study highlighted blockchain's potential to enhance transparency, trust, and accountability in CSR reporting by providing an immutable and auditable record of social and environmental performance. The authors also discussed the challenges and opportunities associated with blockchain adoption in this domain.

Nikolakis et al. (2018) proposed an evidence, verifiability, and enforceability (EVE) framework for using blockchain to enhance sustainability in global value chains. This framework provides practical guidance for companies seeking to implement blockchain to improve their CSR performance. The authors emphasized the importance of considering environmental, social, and economic factors when designing and deploying blockchain solutions for sustainability.

Based on the literature review and the identified potential benefits of blockchain for CSR reporting, we propose the following hypotheses:

H1: The adoption of blockchain technology for CSR reporting will enhance the transparency and traceability of CSR information.

H2: The use of blockchain for CSR reporting will improve the efficiency and automation of CSR reporting processes.

H3: The integration of blockchain in CSR reporting will increase stakeholder trust and engagement in CSR initiatives.

3. RESEARCH METHODOLOGY

This study uses a qualitative research methodology to examine the appropriateness of blockchain technology for improving CSR reporting. Qualitative research is adept at examining intricate occurrences and acquiring a profound comprehension of fundamental processes, making it suitable for this study.

3.1. Data sources

The study utilizes various data sources, including academic databases like Scopus, Web of Science, JSTOR, IEEE Xplore, and ACM Digital Library to gather peer-reviewed articles, conference proceedings, and book chapters on blockchain technology, CSR reporting, and related topics. Additionally, grey literature such as reports, white papers, and case studies from reputable organizations like the World Economic Forum and the United Nations Global Compact are included. Google Scholar is also used to identify additional relevant publications and grey literature.

3.2. Selection criteria

The selection criteria for the literature review prioritize publications explicitly addressing the use of blockchain technology in CSR reporting or closely related areas. The focus is primarily on publications from the past five years (2019–2023) to capture the latest developments in the field. Peer-reviewed articles and reputable sources are preferred to ensure the quality of the information.

3.3. Thematic analysis

The collected literature is analyzed using thematic analysis, a qualitative research method that involves identifying, analyzing, and reporting patterns (themes) within data. This process includes familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. By using thematic analysis, researchers can gain a deeper understanding of how companies communicate their CSR activities, the underlying motivations and values, and the impact these activities have on stakeholders and society. This can inform policymaking, improve CSR practices, and promote greater transparency and accountability in the corporate sector.

3.4. Alternative research methods

While thematic analysis combined with the ten-step decision path framework is considered the most suitable methodology for this research, other methods, such as case study analysis, surveys or interviews, and quantitative analysis, could have been employed. Each method has its strengths and limitations, and the choice depends on the specific research objectives and available resources.

3.5. Data analysis

The gathered data undergoes thematic analysis, a qualitative technique that entails detecting, analyzing, and reporting patterns (themes) within the data. This method involves encoding the data, recognizing repeating themes and patterns, and structuring them into a cohesive framework.

3.6. Decision path framework

This research employs the ten-step decision path framework established by Pedersen et al. (2019), alongside the literature review and thematic analysis, to evaluate the appropriateness of blockchain technology for CSR reporting. This methodology offers a systematic method to assess the relevance of blockchain technology in diverse scenarios.

3.7. Ten-step decision framework

The ten-step decision process approach, established by Pedersen et al. (2019), is used to evaluate the appropriateness of blockchain technology for CSR reporting. This methodology offers a systematic method for assessing the appropriateness of blockchain technology. In the context of CSR reporting, the decision path highlights key relationships, such as the need for a shared common database, multiple parties engaging with the database, conflicts of interest and trust issues, the possibility and desirability of avoiding a trusted third party, different access rights for different parties, frequency of rule changes, benefits of immutability, public write eligibility, public read eligibility, and organizational decisions on read/write eligibility.

The ten-step decision process systematically addresses these issues, offering a complete framework for assessing the appropriateness of blockchain technology for many uses, including CSR reporting. It underscores the potential of blockchain to improve transparency, accountability, and confidence in CSR programs, fostering a more sustainable and responsible business environment. By following this decision path and considering the implications for CSR reporting, companies can effectively evaluate the suitability of blockchain technology for their specific needs and implement solutions that enhance transparency, trust, and accountability in their CSR initiatives.

4. RESEARCH RESULTS

4.1. Thematic analysis of blockchain's potential in corporate social responsibility reporting

A survey of the literature identified three principal topics concerning the advantages and obstacles of employing blockchain technology for CSR reporting. Themes are delineated below, accompanied by illustrative quotations from the examined works.

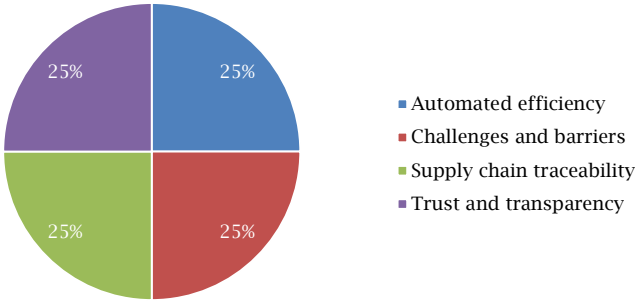
Table 1. Results of the thematic analysis

Theme	*Description*	*Illustrative expressions*
Trust and transparency	Blockchain increases openness and ensures truthful reporting.	Blockchain technology has the potential to revolutionize CSR reporting by providing an immutable and transparent record of companies' social and environmental performance.
Supply chain traceability	Products can be tracked to verify ethical sourcing.	The use of blockchain can enhance the traceability of supply chains, enabling consumers to verify the ethical sourcing of products.
Automated efficiency	Smart contracts streamline processes, reducing manual effort.	Smart contracts on the blockchain can automate the distribution of charitable donations, ensuring that funds are used for their intended purpose.
Challenges and barriers	Obstacles to overcome for successful implementation.	However, challenges such as scalability and regulatory uncertainty need to be addressed before widespread adoption of blockchain in CSR reporting can occur.

4.2. Distribution of themes

To further analyze the prevalence of these themes in the literature, a pie chart below was generated. The pie chart visually represents the proportion of text data dedicated to each theme, providing insights into the relative importance and focus of each area within the current research landscape.

Figure 1. Distribution of themes of blockchain and CSR reporting



4.3. Implementation of the ten-step decision path

The implementation of the ten-step decision process paradigm in CSR reporting produced the following principal findings:

- *Collaborative database.* CSR reporting necessitates a collaborative database accessible to several stakeholders. Blockchain technology can satisfy this requirement. The decentralized structure of blockchain enables numerous parties to interact with the database, facilitating data verification and validation.
- *Trust concerns.* The transparency and immutability of blockchain can alleviate trust difficulties and avert data manipulation.
- *Third-party role.* Although blockchain can diminish dependence on intermediaries, it can also incorporate and redefine their roles, potentially mitigating disadvantages.
- *Access rights.* Blockchain facilitates the configuration of varied access rights for distinct parties, thereby balancing transparency and control.
- *Modifications to regulations.* The architecture of smart contracts requires meticulous attention to incorporate any alterations in CSR reporting regulations. The immutability of blockchain guarantees the integrity of CSR data, precluding modifications and promoting accountability.
- *Public participation.* Granting public write access to the blockchain can improve openness and accountability by permitting stakeholders to input data. These findings underscore the appropriateness of blockchain technology for CSR reporting, tackling critical issues like trust, transparency, and accountability.

5. DISCUSSION

The analysis using the ten-step decision path framework indicates that blockchain technology is well-suited for CSR reporting. Its decentralized and immutable nature addresses the key challenges of traditional CSR reporting, such as lack of trust, transparency, and accountability. By providing a shared, tamper-proof ledger, blockchain can enhance the credibility of CSR data and empower stakeholders to verify the authenticity of corporate claims.

The integration of blockchain with other emerging technologies, such as the Internet of Things (IoT) and artificial intelligence (AI), can further amplify its impact on CSR reporting. IoT devices can gather real-time data on environmental effects, such as carbon emissions or water use, while AI can analyze this data to offer insights regarding CSR effectiveness. Blockchain can be utilized to securely document and disseminate this data to stakeholders, thereby establishing a thorough and transparent representation of a company's social and environmental effects. The amalgamation of technologies can enhance the precision, timeliness, and relevance of CSR reporting, empowering stakeholders to make educated decisions grounded in dependable facts.

Nonetheless, the implementation of blockchain in CSR reporting presents several problems. Scalability, interoperability, and regulatory frameworks necessitate additional advancement and standardization. The scalability of blockchain networks must be enhanced to accommodate the substantial transaction volume resulting from widespread implementation in CSR reporting. Moreover, interoperability among various blockchain platforms is crucial for facilitating seamless data sharing and preventing fragmentation in the CSR reporting domain. Moreover, the establishment of transparent and uniform legal frameworks is essential to offer direction and assurance for enterprises implementing blockchain in CSR reporting.

A further difficulty is the energy consumption linked to certain blockchain networks, especially those employing proof-of-work consensus mechanisms. However, alternative consensus mechanisms, such as proof-of-stake, provide more energy-efficient solutions and are being progressively embraced by blockchain platforms.

This study's findings are consistent with existing literature, which highlights the potential of blockchain technology to enhance transparency, accountability, and trust in various domains, including CSR reporting. For instance, Beck et al. (2018) emphasized the transformative potential of blockchain in supply chain management, enabling companies to track the origin and ethical sourcing of products, which is a crucial aspect of CSR reporting. Similarly, Kamilaris et al. (2019) conducted a comprehensive review of blockchain's potential to enhance supply chain traceability and sustainability, highlighting its ability to provide an immutable record of product origin, ethical sourcing, and environmental impact.

Furthermore, this study's focus on the integration of blockchain with other emerging technologies, such as IoT and AI, aligns with the growing trend of leveraging technology to improve the efficiency and effectiveness of CSR reporting. The use of IoT devices to gather real-time data on environmental performance and AI to analyze this data can provide valuable insights for companies and stakeholders, enabling more informed decision-making and promoting sustainable practices.

However, this study also acknowledges the challenges associated with blockchain implementation in CSR reporting, such as scalability, interoperability, and regulatory uncertainty. These challenges are consistent with those identified in previous research, which emphasizes the need for further technological advancements and the establishment of clear regulatory frameworks to support the widespread adoption of blockchain in this domain.

Overall, this study contributes to the growing body of literature on blockchain and CSR reporting by providing a comprehensive analysis of its suitability, benefits, and challenges.

The findings of this study support the potential of blockchain technology to transform CSR reporting, enhancing its credibility, transparency, and effectiveness. However, it also emphasizes the need for further research and development to address the challenges associated with blockchain implementation and ensure its successful integration into CSR reporting practices.

6. CONCLUSION

This study examined the suitability of blockchain technology for enhancing CSR reporting, using a qualitative research methodology that combined a literature review with the ten-step decision path

framework. The findings indicate that blockchain technology is well-suited for CSR reporting due to its decentralized, immutable, and transparent nature, which addresses key challenges of traditional CSR reporting, such as lack of trust, transparency, and accountability. Blockchain can enhance the credibility of CSR data by providing a shared, tamper-proof ledger, enabling stakeholders to verify the authenticity of corporate claims. The adoption of blockchain for CSR reporting has significant implications for various stakeholders, including companies, investors, consumers, regulators, and NGOs. It can lead to enhanced transparency, improved accountability, reduced risk of greenwashing accusations, and potential cost savings in CSR reporting. However, this research primarily relies on a qualitative analysis of existing literature and the application of a decision-making framework. Further empirical studies are needed to validate the findings and assess the actual impact of blockchain adoption on CSR reporting. The rapid evolution of blockchain technology and its applications may present new challenges and opportunities that require further investigation. Based on the findings and conclusions of this study, we recommend further empirical research, development of standards and frameworks, regulatory clarity, stakeholder education, technological advancements, integration with emerging technologies, and dissemination of best practices. By adopting these recommendations, companies, policymakers, and other stakeholders can collectively leverage the transformative potential of blockchain technology to enhance the credibility, transparency, and effectiveness of CSR reporting, contributing to a more sustainable and responsible future.

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