Athens Journal of Business & Economics 2026, 12: 1-18
https://doi.org/10.30958/ajbe.X-Y-Z

Communication adds Value to the Business. Prospects of Blockchain Technology

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In this paper we explore the role of blockchain technology as an opportunity to improve corporate communications within the overall process of digitalization. The manuscript builds on a literature review and the previous development of a theoretical background to the topic. The article then proceeds to present and justify a possible mechanism by which blockchain would allow for a greater dissemination of information to stakeholders through the creation of increased selectivity, timeliness and quality of the flow of communications. The proposed framework is based on the reasoning that the properties of blockchain: decentralization, encryption and immutability of the data hosted on the platform ensure secure and auditable communications of hard and soft information transacting value in corporate governance strategic credibility. The model depicts how installing distributed communications nodes within organizations may streamline operational procedures, facilitate greater openness and data integrity and help to synchronize consistency of information across business units and customers. The mechanism also realistically accounts for potential barriers of entry costs investment, technical complexity and significant changing regulatory work needed to gain initial adoption. Positioning blockchain technology within the wider subject area of business communications can help develop a general and holistic view of the potential impact of new technology on communication not just internally within firms, but also with external stakeholders (Oubaziz and Matmar 2021). The contribution of this paper is theoretical but lays out a conceptual model that can be used for empirical research in various organizations across different industries and settings to test and further the proposed theory.

Keywords: *blockchain technology, business communication, stakeholder engagement, information systems.*

Introduction

The contemporary business landscape is experiencing an unprecedented technological revolution that is fundamentally reshaping how organizations operate, communicate, and create value. As next generation information technologies such as big data analytics, cloud computing, artificial intelligence, machine learning, and mobile internet continue to gain widespread adoption and sophistication, society is undergoing a profound shift from traditional, centralized information systems to intelligent, distributed, and interconnected smart information systems (Bonsón and Bednárová 2019, Verhoef et al. 2021). Furthermore, recent academic research

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highlights that blockchain adoption is not confined to the financial sector; industries such as supply chain management, creative industries, healthcare, and public administration have begun to integrate blockchain into their communication strategies. Peer-reviewed studies (Apte and Petrovsky 2016, Wamba and Queiroz 2019) demonstrate how blockchain can ensure verifiable, immutable information flows, addressing the longstanding issue of information asymmetry in stakeholder relations. The integration of blockchain with AI-driven analytics offers further opportunities to personalise communication without compromising data security or compliance, setting new standards for transparency and accountability in the digital economy.

This transformation represents more than mere technological upgrading; it constitutes a fundamental reimagining of organizational structures, processes, and strategic orientations. Digital transformation, as conceptualized by leading scholars in the field, encompasses an all-encompassing, methodical redesign of organizational infrastructure and operations that strategically leverages data as the primary driving force and information technology as the foundational basis for competitive advantage.

Among the emerging technologies driving this digital revolution, blockchain technology (BT) has emerged as particularly significant, with scholars and practitioners increasingly recognizing its potential to play a critical role in the digital era, carrying profound implications for businesses, governments, and society as a whole (Tapscott and Tapscott 2016). The significance of blockchain extends far beyond its original application in cryptocurrency systems, demonstrating remarkable versatility and potential across multiple domains including supply chain management, healthcare, education, voting systems, and notably, corporate communication (Shahbazi and Byun 2022).

Supported by innovative technological advances encompassing blockchain, artificial intelligence, big data analytics, and Internet of Things (IoT) integration, the digital economy has emerged as a new frontier for global competitiveness and a primary source of economic growth for nations worldwide (Chowdhury et al. 2023, Goldfarb and Tucker 2019). This technological convergence is creating unprecedented opportunities for organizations to reimagine their communication strategies and stakeholder engagement approaches.

In this rapidly evolving digital landscape, the importance of effective communication has become more pronounced than ever before. Internal and external communication within modern organizations is increasingly integrated, forming complex networks of information exchange that span traditional organizational boundaries (Parker et al. 2016, Bharadwaj et al. 2013). The term "communication" in this context refers not merely to information transmission, but to the strategic, voluntary actions that businesses undertake to meet diverse stakeholder needs, often prioritizing stakeholder interests alongside organizational objectives.

Beyond enhancing organizational reputation, effective communication serves as a powerful mechanism for employer brand development, stakeholder trust building, and ultimately, value creation (Cornelissen 2020). Given the critical role that communication plays in determining business success, the demand for sophisticated, technologically enhanced communication strategies continues to grow exponentially. This growth is driven by the recognition that communication serves as the primary

vehicle through which organizational awareness, knowledge transfer, and stakeholder engagement are generated and sustained.

However, for modern organizations, effective communication represents an increasingly delicate and complex undertaking. If communication strategies are not carefully conceived, strategically planned, and expertly executed, stakeholders may quickly develop skepticism and subject organizational messages to intense critical scrutiny (Argenti 2015). Companies that excessively publicize their activities without demonstrating authentic commitment risk creating doubt regarding the genuine motivations behind their actions, potentially undermining stakeholder trust and organizational credibility.

Despite the extensive adoption of digital communication platforms, organizations still face persistent challenges such as information asymmetries, opportunistic behavior, and lack of traceability in internal reporting processes. Traditional centralized communication systems remain vulnerable to manipulation, human error, and authentication issues that undermine stakeholder trust and decision-making effectiveness (Mayer et al. 1995, Dhanesh 2017). In this context, blockchain-based systems offer a radically different paradigm for designing information flows and governance structures. By combining immutable records, programmable rules through smart contracts, and decentralized validation mechanisms, blockchain technology addresses critical gaps in current organizational communication architectures (Han et al. 2023). This study focuses on how these distinctive technical properties can be leveraged to redesign internal communication processes and improve transparency, accountability, and stakeholder trust in organizational decision-making (Cornelissen 2020). The integration of blockchain principles with organizational communication theory represents a significant theoretical and practical opportunity that remains underexplored in the contemporary literature, particularly regarding how organizations can operationalize immutable, decentralized communication systems while maintaining strategic control, regulatory compliance, and stakeholder engagement across diverse stakeholder groups.

Recent literature on digital transformation and corporate communication shows that new technologies significantly affect transparency, accountability and stakeholder engagement, yet current systems still suffer from information asymmetries and limited auditability. Blockchain-based architectures may address these limitations by providing immutable records, programmable rules and decentralised validation, thereby reshaping internal communication processes and governance mechanisms.

This research emerges from a critical need to understand how emerging technologies, particularly blockchain, can address these communication challenges while creating new opportunities for organizational value creation. The study aims to examine the role of information technology in communication diffusion by analyzing the innovation pathway and adoption potential of blockchain technology within organizational communication frameworks. To this end, this paper is designed as a conceptual ‘model’ paper in the sense of Jaakkola (2020), that is, it develops a theoretical framework specifying constructs, mechanisms, and boundary conditions, grounded in existing theories and empirical findings, rather than collecting new empirical data.

The primary research question guiding this investigation is: *In a fast-paced workplace environment where information technology utilization is becoming increasingly critical for competitive advantage, is it feasible that blockchain-enabled business models can make communication more appropriate and effective in providing sustainable value to organizations?*

This question encompasses several sub-dimensions including technological feasibility, organizational readiness, stakeholder acceptance, and value creation potential.

The paper is systematically structured to address these complex questions through the following sections: Section 2 provides an extensive literature review covering blockchain technology foundations, communication theory, and their intersection. Section 3 presents the comprehensive theoretical model developed through this research. Section 4 discusses practical implications and applications. Finally, conclusions are presented along with acknowledged limitations and detailed directions for future research.

The primary contribution of this research is demonstrating how blockchain technology can serve as a powerful driver of information flow within organizations while simultaneously functioning as a catalyst for business model innovation in the communication domain.

Literature Review

Blockchain is a concept first introduced along with a working definition of the Bitcoin protocol (Nakamoto, 2008). This was when the tenets and the technological infrastructure underlying the blockchain system were formalised in 2008. Blockchain technology has been said to work when data on transactions can be recorded cryptographically on consecutive blocks of data forming a distributed ledger (DL) maintained simultaneously at many nodes (Dol et al. 2019).

Theoretical grounding for blockchain adoption was provided in the recent literature using the Technology–Organization–Environment (TOE) model (Tornatzky and Fleischer 1990) and other contexts where blockchain adoption was seen to occur under the pressure of the environment, the desire to remain competitive and a technological readiness internal to the organisation (Almomani et al. 2020). Blockchain also in the post-COVID world has been seen to contribute to lessening the spread of fake news as information from blockchain streams can be verified (Dwivedi et al. 2022).

Relative to other methods of sending information in a secure way, such as permissioned databases and private or public key-encrypted cloud services, the blockchain might be seen to be of higher initial complexity in installation but the benefits relative to building trust over the longer term and for regulatory compliance are unmatched (Hallerbach et al. 2018). Research threads on the nature and direction of blockchain technology evolution point to the adoption of hybrid models where blockchains and IoT networks are integrated into single infrastructures to, for example, improve traceability in supply chains and automation in stakeholder engagement and agreement (Reyna et al. 2018, Latukefu and Agarwal 2019).

Recent contributions in peer-reviewed literature emphasize the strategic importance of digital transformation and technology adoption for improving

stakeholder engagement and transparency (Parker et al. 2016). Digital transformation has been shown to significantly reshape how organizations manage communication and coordinate stakeholder interactions across multiple channels and contexts (Kane et al. 2015). Furthermore, contemporary research highlights how modern information technologies can support corporate responsibility objectives and enhance organizational governance mechanisms (Brecht et al. 2022).

The blockchain technology at the time of its development in the early 2000s, was considerably simple in its range of applications as it was used almost exclusively for cryptocurrency transactions and financial ledger use cases. Over time the uses for blockchain technology have been discovered and demonstrated in practically every industry (Swan 2015, Mougayar 2016). This journey reveals how technology can be versatile and has been flexible to the core need of the times, to provide a solution to issues of trust, transparency and decentralised coordination. At the most basic level, blockchain can be said to be a new way of information processing and transaction validation.

Strictly defined, a blockchain is a DL that is maintained by each node of a decentralised system (Yermack 2017, Zheng et al. 2017). Such a system ensures that information is replicated in the ledger and stored at multiple independent nodes, with the integrity of information and the robustness of the system ensured by consensus algorithms. The term consensus in this regard refers to a set of processes by which a single system state can be guaranteed by multiple independent parties (Cachin and Vukolić 2017). There are different types of consensus algorithms; the most well-known among them being Proof of Work (PoW). There have however been other consensus mechanisms developed over time in attempts to address specific needs and increase efficiency. These include Proof of Stake (PoS), Delegated Proof of Stake (DPoS), and Practical Byzantine Fault Tolerance (PBFT) (Cachin and Vukolić 2017).

Blockchain networks can take different forms depending on the permissions accorded to participants and other factors. Public blockchains are also known as permissionless and can be used to send, receive and view any information on the network by any user (Buterin 2014). As nodes on the network, these users can also participate in the network consensus mechanism. This configuration allows for the maximum level of decentralisation and transparency; however, it may present the issue of scalability and energy consumption. Permissioned, also called private blockchains, are also managed by network operators who control access and decisions made on the network (Hyperledger 2018). Private or permissioned systems also sometimes come under the Distributed Ledger Technology (DLT) broad taxonomy, which they are part of, but which also has other members such as permissioned blockchains and IOTA (Kirilenko et al. 2018). These systems are much more streamlined and efficient but present a less decentralised state as compared to public blockchains.

Over the past several decades, there has been a significant shift in the theory of organisational communication. Communication models are no longer strictly linear or hierarchical but often acknowledge the complex networks through which information moves within organisations and beyond (Putnam and Mumby 2014). Even more traditional approaches to information exchange have put significant focus on the act of sending messages, following the lead of Shannon and Weaver's (1949) mathematical theory of communication.

However, more recent theories of organizational communication have recognized that communication is much more complex, involving multiple stakeholders, multiple channels, and complex feedback loops that give rise to dynamic information ecologies (Cornelissen 2020, Miller 2015).

Modern stakeholder theory, as first developed by Freeman (1984) and subsequently elaborated on by numerous other scholars, has placed particular emphasis on the importance of managing relationships with a wide range of stakeholder groups, including not only employees, customers, and suppliers, but also investors, regulatory bodies, and society as a whole (Harrison et al. 2010). Each of these stakeholder groups has its own information needs, communication preferences, and expected values.

This multiplicity of stakeholders presents significant challenges for organizations attempting to develop comprehensive communication strategies that can effectively meet the needs of various stakeholder groups without diluting message consistency and organizational authenticity (Cornelissen 2017).

The increasing digitization of organizational communication has fundamentally altered the nature of business communication with stakeholders. Digital media have created new opportunities for real-time, interactive communication, while also increasing expectations of transparency, responsiveness, and personalization (Bharadwaj et al. 2013, Kane et al. 2015). Social media platforms, mobile devices, and digital collaboration tools have democratized communication, enabled direct stakeholder engagement while also created new challenges related to message control, consistency, and authenticity (Kietzmann et al. 2011). This view of technological change is consistent with broader analyses of the "second machine age," which describe how advanced digital technologies structurally reshape work, productivity and value creation at the macro level (Brynjolfsson and McAfee 2017).

Building on unified conceptualizations of digital transformation that emphasize holistic organizational change (Gong and Ribière 2021), recent studies show how digital technologies reshape stakeholder communication, transparency and responsiveness. In understanding how organizations come to adopt and implement new technologies, it is worth looking to established technology acceptance models. For example, Davis's (1989) Technology Acceptance Model (TAM) posited that intention to adopt technology is influenced by perceived usefulness and perceived ease of use. Subsequent elaborations of TAM, such as TAM2 and the Unified Theory of Acceptance and Use of Technology (UTAUT), have added additional factors such as social influence, facilitating conditions, and individual differences (Venkatesh et al. 2003). These models can provide important insights into factors likely to influence blockchain adoption for communication, suggesting a need to clearly demonstrate value propositions while addressing potential implementation challenges.

Rogers' (2003) Diffusion of Innovations Theory provides another useful framework for considering blockchain adoption in the context of organizational communication. This theory proposes that there are five key characteristics that influence the rate of adoption for innovations: relative advantage, compatibility, complexity, trialability, and observability.

Blockchain technology presents interesting challenges and opportunities along each of these dimensions. Blockchain has already demonstrated significant potential in the use cases for supply chain management, where its ability to provide an

immutable, transparent ledger of transactions and processes addresses key issues related to traceability, authenticity verification, and the coordination of disparate stakeholders (Suwanposri et al. 2021, Catalini 2017, Kshetri 2018). These use cases are highly pertinent for communication management as they reflect blockchain's ability to facilitate information flow and exchange between different stakeholders with competing interests and needs. This can provide a useful basis for considering its potential in more general communication contexts.

Blockchain identity management systems offer promising prospects for secure, decentralized identity verification and authentication (Dunphy and Petitcolas 2018). This is a use case that also has clear pertinence to the communication domain, demonstrating how blockchain can address key communication security and stakeholder authentication issues.

Smart contracts, which are self-executing contracts with the terms of the agreement explicitly stated in code, are another key blockchain application with organizational communication implications (Szabo 1997, Christidis and Devetsikiotis 2016). Smart contracts can enable organizations to facilitate transparent, efficient interactions with stakeholders with less dependence on traditional intermediaries. While the individual fields of blockchain technology and organizational communication have been the subject of extensive research, the study of the intersection of these fields remains relatively underexplored.

Recent research has begun to start posing questions about the potential for blockchain to improve the transparency, security, and efficiency of communication (Yli-Huumo et al. 2016, Zheng et al. 2017, Han et al. 2023). Recent empirical work in the marketing domain also shows that blockchain-based architectures can enhance trust, transparency and efficiency in managing digital customer relationships, strengthening the case for blockchain-enabled communication systems (Hashem 2024).

The present literature review has identified significant potential for theoretical development at the intersection of blockchain technology and organizational communication. In particular, there is a clear need for more comprehensive frameworks explaining how blockchain's unique characteristics can be leveraged to address common communication challenges and create new value for organizations and their stakeholders.

Theoretical Model

Our theoretical model was built upon a systematic synthesis of literature that covered three main bodies of knowledge: blockchain technology, organizational communication theory, and models of information system adoption. The proposed framework integrates and expands upon existing theories to account for the unique characteristics and functionalities of blockchain technology in addressing contemporary communication challenges. The extended version of the model also accommodates cross-border legal harmonisation, cultural readiness, and digital literacy of stakeholder groups as additional factors influencing the success of the implementation. Potential KPIs might include decreases in information disputes, improved decision-making lead times, and increased stakeholder trust levels post-implementation. The integration of

feedback loops into the model allows for adaptive governance, enabling the communication system to dynamically adjust to technological and regulatory changes. Sector-specific customisation—for instance, in heavily regulated industries such as pharmaceuticals or energy—can be employed to further test the model's robustness and applicability.

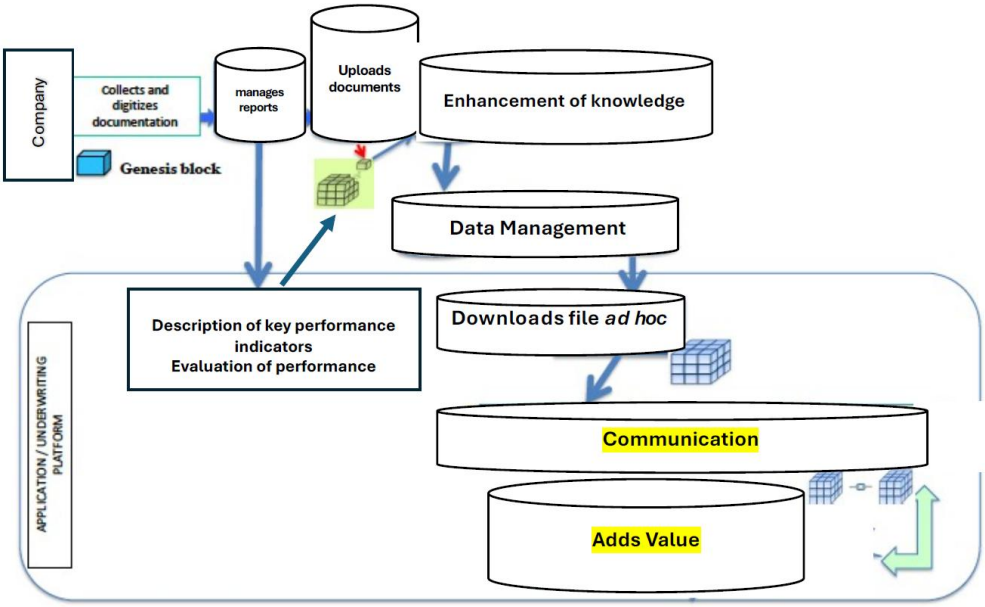
This paper follows the standard format for a conceptual model manuscript, as defined by the recent discourse on methodological research and conceptual studies within the social sciences (Whetten 1989, MacInnis 2011, Jaakkola 2020). It involves the creation of a theory that reveals the constructs, processes, and boundary conditions through the use of existing theories and empirical research without the collection of new data (Weick 1989, Cropanzano 2009). The analysis draws upon three theories: blockchain technology, distributed ledger technology, organizational communication theories, and information technology adoption theories. It integrates these theories in an understandable manner to address the primary question of how blockchain technology may affect organizational communication among organizational stakeholders.

In addition, the study incorporates various forms of meta-theoretical approaches such as the TOE model, technology acceptance models such as TAM and UTAUT, diffusion of innovations, and stakeholder theories to examine the relationships, constructs, and illuminate the assumptions that guide the development of the proposed mechanisms and constructs within the theory (MacInnis 2011, Jaakkola 2020). In keeping with the recent discourse on conceptual research, the manuscript establishes the logic between the claims, grounds, and warrants that are associated with the primary relationships within the proposed theory. In this context, the grounds are the existing research studies, the claims are the propositions associated with the proposed mechanism or constructs within the theory, and the warrants are the fundamental assumptions upon which the theory was developed (Whetten 1989, Cropanzano 2009).

The model-building process followed a structured process that started with an exhaustive literature review, followed by variable identification and relationship mapping, the designing of the conceptual framework and model theory verification by consulting subject matter experts and through peer review. This helps to ensure the model is both theoretically sound and practically applicable as proposed.

The model assumes that (1) organizations are confronted with increasingly complex ecosystems of stakeholders requiring more advanced communication strategies, (2) blockchain technology can offer inherent capabilities to resolve traditional communication problems, (3) that both the technological and organisational factors need to be considered for successful implementation, and (4) value generation occurs through improved stakeholder relationships and organizational efficiency. Governance using information technology can produce value for the organization by providing quantitative and qualitative information to all participants in the ecosystem, radically revolutionising the usual operations of the company. This is clearly depicted in the proposed theoretical model in Figure 1.

Figure 1. *The Structure of Blockchain and the Flows of Information*



Source: Original elaboration by the author.

In the diagrammed framework, we can see that communication networks both direct and mediated ones could be targeted towards the general community through open, transparent, and governed channels. This communication can be intentionally directed towards specific stakeholder groups, and also in different formats including commercial information, institutional information, managerial information, financial communication, and stakeholder engagement.

Types of information flows can be categorised into two broad sections:

- Hard information flows refer to measurable and objective data such as financial data, performance metrics, compliance reports, and operational data. The tamper-proof and auditable ledger features of blockchain technology ensure data integrity and prevent any post-facto alterations or manipulations, instilling greater stakeholder confidence in the reported data.
- Soft information category can be defined as including qualitative insights, observations, strategic reports, cultural messaging, and relationship-building information. While these have been traditionally difficult to structure and store in systematic manner, blockchain technology makes it possible to code and release soft information in a secure manner through smart contracts and automated information distribution processes.

Blockchain networks rely on an intrinsically secure design that is afforded through both the encryption provided by cryptographic hashing and the use of mathematical and sequential linking between blocks (Han et al. 2023). This makes it close to impossible for bad actors to alter or tamper with data without being noticed, as re-computing previous blocks would be necessary to adjust the mathematics underpinning the block to be changed. This technological structure results in the creation of records that are immutable and free from risk of human error, which leads

to more efficiency and far less risk of breaches of compliance (Shah and Jani 2018).

The process of information acquisition, processing, and dissemination can be summarised as follows:

- Input Phase: the process commences with the collection of extensive data both hard and soft which is applicable to the communication requirements of stakeholders. This information can include financial information, operational data, strategic insights, market analysis, regulatory updates, and feedback from stakeholders through the several organizational channels and external sources.
- Processing and Quality Assurance: Upon collection, all materials, whether of tangible or intangible nature, that are necessary to fulfil the communication needs of stakeholders regarding particular decisions or initiatives, are passed through an algorithmic quality assurance test. This mechanism of quality control, much like a pre-approval step, allows for automated evaluation of the precision, pertinence, completeness, and regulatory compliance of the information.
- Data Structuring and Customisation: the next step involves the organisation and tailoring of the information data to match particular stakeholder requirements, while also facilitating compliance with key communication principles such as selectivity (communication is reaching the intended audiences), efficacy (facilitating informed decision-making), and rapidity (ensuring timely delivery of information).

Blockchain technology assumes organizational-level decentralisation and distributed data processing, which means every worker has a crucial role to play in terms of contributing to the information flows, ensuring that organisational communication is an emergent network property and not simple top-down information sharing.

Further, employees are active nodes in the network, who manage distributed information and partake in the generation of new blocks regardless of geographical location. This means that the model makes it possible for all members of the organisation to be able to participate and contribute to communication processes.

In addition, the presence of distributed nodes also provides system robustness while also enabling much faster and efficient communication. Communication transparency and effective governance is ensured through shared consensus mechanisms, but there is also tight control on data access, reporting, and classification.

Immutable and transparent ledgers for organisational communications and decisions using blockchain technology, on the other hand, will increase trust among stakeholders radically. Individual stakeholders can independently confirm the authenticity of information and track communication histories, which helps reduce information asymmetry and build trust.

Furthermore, automated processes facilitated by smart contracts can minimize the need for manual intervention, reduce errors, and speed up communication loops. This results in cost savings and improved stakeholder experience through faster and more efficient communication.

Finally, organizations that successfully implement blockchain-based communication systems can create a unique value proposition based on transparency, speed, and improved stakeholder engagement capabilities. This can help establish a competitive

advantage and create a lasting competitive moat.

Implementing blockchain-based communications systems, however, requires a high level of technical expertise, significant infrastructure investment, and ongoing maintenance capabilities. Organizations must either develop or acquire specialized skills and knowledge and ensure system integration with existing IT infrastructure.

Successful implementation also requires comprehensive change management efforts, including employee training, cultural alignment, process redesign, and stakeholder education. Resistance to change is a common challenge that must be anticipated and managed. Additionally, the evolving regulatory landscape creates uncertainties in terms of blockchain deployment requirements, data privacy obligations, and compliance issues. Organizations must be prepared to adapt to these changes without sacrificing operational flexibility. In conclusion, while the proposed model offers several potential benefits for stakeholder communications, it is essential to consider and carefully evaluate various critical success factors before implementation. These factors include the technological feasibility of the solution, the organization's readiness and capacity, stakeholder acceptance and involvement, cost-benefit analysis, risk assessment, and potential value creation. Success metrics should be defined, encompassing both quantitative (cost reduction, efficiency improvement, response time) and qualitative (stakeholder satisfaction, trust levels, relationship quality) measures.

Discussion

There are many economic sectors where our model demonstrates that blockchain can be used to optimise communication processes.

In the financial services industry, blockchain-based reporting, notifications and transparency mechanisms can provide stakeholders with real-time, auditable, and tamper-evident communication of transaction processing, compliance status, risk management activities and other critical business information (Gomber et al. 2018). Banks and other financial institutions can implement blockchain solutions to ensure transparent and reliable communication with regulators, customers and other stakeholders (Arora and Nabi 2022).

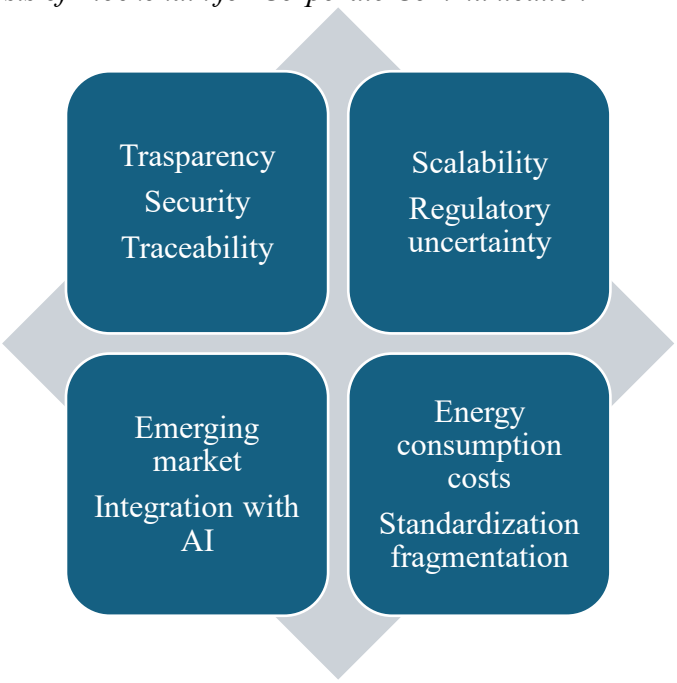
In healthcare, blockchain-based communication systems can provide secure, transparent, and auditable exchange of patient data, treatment plans, and research results while ensuring privacy, security, and regulatory compliance with healthcare regulations such as HIPAA and GDPR (Adegoke et al. 2024). Hospitals and medical research institutions can use blockchain communication systems to increase transparency, trust, and collaboration among stakeholders while maintaining patient confidentiality and privacy.

In the manufacturing industry, blockchain-based reporting, notifications, and transparency systems can be implemented to provide stakeholders with real-time visibility into supply chain activities, quality control processes, and sustainability initiatives, thus building trust and enabling better-informed decision-making. Similarly, in digital marketing and e-CRM contexts, blockchain has been shown to improve the effectiveness of customer relationship management by increasing transparency, data integrity and perceived trust in firm–customer interactions (Hashem 2024). Mini-case

studies can be included to showcase the versatility of blockchain-enabled communication systems. For example, in the energy industry, blockchain-based reporting has been used to provide real-time certification of renewable energy production and consumption, thus building stakeholder trust in sustainability claims.

In the education industry, universities have experimented with blockchain to issue verifiable and tamper-proof digital diplomas and university announcements, thus reducing administrative overhead.

Figure 2. *SWOT Analysis of Blockchain for Corporate Communication*



Source: Original elaboration by the author.

In the future, convergence between blockchain communication systems and other technologies, such as decentralized digital identity systems, can further enhance stakeholder engagement and autonomy. Organizations can consider implementing blockchain communication systems through a phased approach, starting with pilot projects in selected departments or stakeholder groups and gradually scaling up to an enterprise-wide implementation.

Organizations can enter into strategic partnerships with technology vendors, industry consortiums, and universities to overcome technical and resource challenges and share the costs and risks of implementation. Organizations should have comprehensive risk management plans to address potential technical failures, security vulnerabilities, and system integration issues. Operational risks, such as employee resistance, stakeholder confusion, and process disruption, should be anticipated and addressed through detailed change management and communication plans. These benefits are particularly relevant in an environment where social media usage has been associated with higher susceptibility to misinformation and even false memories when objective knowledge is low (Scuotto et al. 2021).

Conclusion

This study shows that blockchain technology is a relatively new kind of decentralized distributed database, and the already existing characteristics of persistency, anonymity, and audibility create many opportunities for change in the practice of organizational communication.

Blockchain technology is a useful medium for reducing costs by optimizing the verification process. However, the critical problem in the ethical dimension is the need to resolve the tension between a culture of radical transparency and the right to privacy and data minimization (EU GDPR) (Martin-Bariteau 2018). As a result, in managerial practice, it is necessary to include not only technical preparedness but also ethical governance and co-design of communication protocols with all the stakeholders on the principles of blockchain technology.

Empirical research needs to be conducted in order to prove the suggested model; in this case, in longitudinal and cross-industry case studies that compare similar industries in more and less "trust and technology-friendly" cultural contexts. In addition, an interesting direction for further development could be the study of hybrid systems on the blockchain with other safe information transmission technologies (to reduce the risk of "collapse" if there is a failure with one of them) (Prewett et al. 2020). Blockchain works on very basic principles of transparency with pseudonymity and, by radically improving traceability and data transparency, allows stakeholders to communicate more efficiently.

The paper presents the significant impact of blockchain technology as it directly provides stakeholders with soft information and has the potential to affect the decision-making process and, as a result, stakeholder behaviors. This becomes a very large step forward for the improvement of competencies of organizations' communication and, therefore, offers many different possibilities.

The proposed theoretical model is based on two primary positive benefits that directly come from the use of blockchain technology in organizational communication: (1) the opportunity to obtain and utilize specific soft information through advanced IT methods and, (2) the possibility of direct assessment and/or input of information to organizational matters by all members of the organization. In addition, it becomes possible to rapidly improve the pace of verification/authentication procedures, and as a result, the blockchain-based communication can significantly increase the pace of decision making by reducing the information asymmetry and the related risk, thus significantly improving organizational efficiency.

Blockchain technology has many benefits for the development of business efficiency in operations. These benefits include:

1. Improved Quality and Safety of Data: blockchain technology ensures enough safety and control mechanisms that can lead to high-quality data in which errors and duplication are eliminated.

2. Elimination of Data Redundancy: it is done by ensuring that there is no repeated addition of data to the blockchain, thereby avoiding the possibility of "double data" entry and upholding the integrity of data.

3. Improved Risk Management: a mechanism that establishes blockchain-enabled communication approaches can provide significant benefits in risk-sharing as

well as stakeholder coordination.

In spite of its very positive potential for lowering costs and improving efficiency, blockchain technology still lags behind traditional methods of communication in terms of resource requirements. The costs associated with developing and implementing blockchain infrastructure and technology are still significant and will most likely require very large initial investments, possibly rendering blockchain technology adoption infeasible for smaller organizations with constrained financial resources (Sugandh and Tawheed 2022).

Another significant barrier to widespread blockchain technology use is the high consumption of computational and energy resources. Traditional consensus mechanisms require substantial resources, for example, computing power for Proof of Work systems and stake prerequisites for Proof of Stake systems, which can be extremely expensive for organizations and devices with low-resource constraints (Cao et al. 2019).

Other challenges include determining roles in the implementation of digital platforms, the development of clear rules for accessing and using information by different categories of users, and other similar controls on the proper processing of critical and sensitive data (Brecht et al. 2022). The proposed model requires a large amount of human capital and, consequently, significant financial expenses in order to help provide effective management in the corporate environment. Organizations have to build capabilities for managing blockchain technology, change management, communication with stakeholders, and continuous operation of the system.

This study has certain limitations that need to be discussed. First, since the contribution is of theoretical nature, empirical testing needs to be performed in order to illustrate the practical applicability of the proposed framework. Second, this study was conducted as a part of an ongoing project of a broader scale, and further adjustments and elaborations based on empirical research across various firms and industries are required.

Future research should focus on:

1. Empirical Validation: performing extensive field tests of the proposed model in a variety of industries and organizational settings.
2. Comparative Analysis: which analyzes the relative performance of blockchain-based communication systems compared to traditional ones.
3. Cost-Benefit Analysis: developing comprehensive economic models to assess the financial impact of blockchain adoption.
4. Regulatory Impact Studies: which examines the influence of changing regulatory environments on blockchain communication adoption.
5. Cross-Cultural Research: which analyzes the influence of cultural factors on blockchain adoption and the effectiveness of communication across different regions.

Eventually, our analysis highlights that companies interested in using blockchain for improvement of communication should:

- Conduct detailed feasibility studies looking at technical, financial, and organizational readiness.
- Formulate detailed change management plans covering all relevant stakeholder groups.

- Invest in employee training and the development of new capabilities.
- Develop clear governance structures to manage the blockchain systems.
- Define measurable success metrics and monitoring mechanisms.
- Consider partnerships and collaborative strategies to reduce the risks and costs of implementation.

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