



ASIAN BULLETIN OF BIG DATA MANAGEMENT

<http://abbdm.com/>

ISSN (Print): 2959-0795

ISSN (online): 2959-0809

Blockchain Espousal in Legal Compliance with Corporate Governance

Naheeda Ali*

Chronicle**Article history****Received:** Aug 25, 2024**Received in the revised format:** Aug 30, 2024**Accepted:** Sept 6, 2024**Available online:** Sept 10, 2024

Naheeda Ali is currently affiliated with Department of Law, University of the Punjab, Gujranwala Campus, Pakistan.

Email: naheeda.ali@pujc.edu.pk

Abstract

There is much exhilaration about blockchain technology in practically every business, including financial, and significant investments are being made worldwide. In order to uncover critical criteria for blockchain espousal in corporate governance, we undertook a systematic examination of a sample of 52 articles (10 industrial and 42 academics) through a preliminary research period from 2012 to 2020. We perform textual and empirical research to build a paradigm for decentralised autonomous governance. Additionally, we relate classic corporate governance theories to blockchain espousal using this framework. Our research also focuses on how blockchain technology may be used to improve the way corporations are run, now and in the future, as well as its possible consequences. By doing a systematic study and conducting an analysis of the text, we uncovered other gaps in the earlier academic and industrial literature and common tendencies. In addition, as part of our empirical research, we are compiling a one-of-a-kind blockchain investment database to make future investment projections. In addition, in the course of and after the COVID-19 conference, we researched the many ways blockchain technology may be used to improve corporate governance. According to our findings, previous academic publications prefer to concentrate on regulation and Initial Coin Offerings (ICOs). In contrast, previous publications in the sector have focused on exchanges and cryptocurrencies. Final thoughts on the impact of blockchain technology on corporate governance from the perspectives of behaviour, law & regulatory requirements, ethical considerations and managerial practices.

Corresponding Author***Keywords:** Blockchains, Corporate Governance, Legal Framework, Smart Contract, Legal & Ethical considerations.

© 2024 The Asian Academy of Business and social science research Ltd Pakistan.

INTRODUCTION

A technological breakthrough known as blockchain can enhance the financial sector's image while creating new opportunities for its users. In addition, the usage of blockchains concurrently interacts with enterprises, stakeholders, and financial markets, posing obstacles to each of these groups. However, as our research has shown, a dearth of published material focuses exclusively on implementing blockchain technology in corporate Governance (Cong et al., 2020). The vast majority mention one or two applications and mostly focus on tackling other blockchain-related concerns, such as Initial Coin Offerings (from now on termed; ICOs) or cryptocurrencies. Furthermore, research findings are especially pertinent in the world that would exist after COVID-19, when the capacity to transact business online digitally will be of the utmost importance in the "new normal." Consequently, we conduct a thorough analysis of the significant body of scholarly and professional writing on how blockchains (sometimes called BC) are now being used in corporate Governance (from now on, called; CG) and regulation. We relate its implications to the more established theories of CG. This research aimed to determine how the academic and industrial literature changed over time and across significant domains

pertinent to implementing blockchain technology in corporate Governance (Abadi, J., & Brunnermeier, M. 2018). In addition, many academic and industrial literature has a lot in common. We take a cognitive, ethical, and strategic approach to the discussion on how blockchain might be used in corporate Governance and legislative structures. (Chod, J., & Lyandres, E. (2020). In addition, we will assemble a one-of-a-kind empirical database, conduct an empirical study of worldwide investments in blockchain and associated start-up companies, and make predictions for future blockchain investments. In conclusion, we provide a paradigm for implementing blockchain technology in corporate Governance. The following are some study objectives that we pose:

- Present and potential uses of blockchain technology that are being used in corporate Governance.
- The commonalities, differences, and emerging patterns between academic and earlier industrial literature.
- The consequences of using blockchain technology in corporate Governance by espousal.
- Effect during COVID-19 and after COVID-19 by using blockchain technology in corporate Governance
- Connections between worldwide investments in blockchain technology and predictions for the future.

Even though more and more studies are being published on the advancement of blockchain technology, the applications of this technology, particularly as they pertain to corporate Governance, have received very little attention. The primary source of inspiration for our study was Yermack (2017), who examined the impact of blockchain advocacy in corporate Governance on various stakeholders, including executives, minority investors, institutional investors, and others. According to Yermack (2017), the use of blockchain technology in corporate Governance would lead to a reduction in costs and an increase in liquidity, transparency, and accurate accounting.

Disclosure of potential conflicts of interest

Our research is distinct from these other studies and the previous body of research in several important respects. We use blockchain technology in corporate Governance. Using a large sample of publications, there are many similarities between academic and industrial writing in terms of subjects, research areas, and the growth of literature across time. There has been a lot of interest in blockchains and the related start-up investments made all over the globe. We relate theories in corporate Governance to consequences resulting from implementing blockchain technology. As a result, this research contributes to the behavioural views and structural changes that are not restricted to businesses due to technological shocks such as blockchain but include market players, developers, and regulators. Blockchain is one example of a technological shock. From the perspective of a social paradigm, this study would be of interest to academics, industry practitioners, governments, law- and policymakers, blockchain entrepreneurs, and investors. (Drummer, D., & Neumann, D. (2020).

The following is a selection of significant results from the systematic review of a sample of 52 articles (10 industrial and 42 academics) from 2012 to 2020. We identify significant themes from the previous research that have some significance in using blockchain technology in corporate Governance. These themes are covered in depth in the findings. On the one hand, most scholarly publications focus on the regulatory subject and the ICO theme. On the other hand, the majority of the attention paid by industry papers is concentrated on exchange-related topics and cryptocurrency. We find considerable interest in both academic institutions and industry in the years 2017 and 2018. As a result of China's recent reinvestment in the Blockchain-based Service Network (BSN) and COVID-19 lockdowns, many businesses are driven towards digital transformation.

Among the conclusions from the textual analysis that were selected to be discussed are the following: We found that the majority of the industry literature and academic literature is focused on Bitcoin, markets, technology, and fintech application topics, respectively. In the following instances, however, the objectives of the corporate sector and those of the academic community diverge: the commercial sector is more concerned with privacy, business, and global issues, while the academic community is more concerned with Governance, legislation, and ledger issues. By providing a context for these themes based on the content of this literature, when it comes to commercial applications and privacy-enhancing aspects of blockchain technology, we can see that the sector is increasingly focused on harnessing the technology worldwide. Amidst this, academic work is more targeted, with a substantial focus on blockchain governance and architecture being examined.

Despite the COVID-19 issue, an increasing linear trend is shown for investments and deal count beyond 2020, with investments and deal counts in 2020 and 2020 reaching 6.173 and 6.051 USD billion and 822 and 937, respectively. This is in comparison to the figure of 6.051 USD billion in 2019. We find an inverse relationship between the amount of money invested in blockchain technology in Europe and Asia (primarily driven by China). On the other hand, there is a significant relationship between investments in blockchain technology around the globe and Asia. In the following analysis and findings, these major points and additional findings from our literature review, scriptural interpretation, and analysis are split up and discussed in further context.

The following is the structure of this study: A review of the relevant literature is presented in Section 2. The methodology for the study is presented in Section 3. The distributed ledger technology is covered in Section 4. Section 5 contains the Decentralized Autonomous Corporate Governance (DACG) Framework. The implementation of blockchain technology in corporate Governance is discussed in Section 6, along with its influence and current and potential uses. Section 7 will discuss the Governance and ethical considerations that come into play when using blockchains for corporate governance applications. The possible applications of blockchain technology in corporate Governance during COVID-19 and in the environment after COVID-19. In Section 8, we talk about the restrictions that our research had. The research is finished with the ninth as the final section of the conclusion.

LITERATURE REVIEW

This section goes through the basics of corporate Governance. The literature related to blockchain- Corporate Governance. In conclusion, the discussion contains findings through the methodical analysis of the literature. A thorough, organized literature

review is conducted in this study to discover secondary data sources, historical background, and best practice comparative data. Our goal is not to present a complete examination of each facet of blockchains in finance or corporate Governance. Thus, we address previous research on the subject. Because this research emphasizes the impact of blockchain technology on corporate Governance, it will look at theories influenced by blockchain espousal.

Structure of Corporate Governance

Corporate Governance is the structure through which organizations are directed and managed, one of the first commonly recognized definitions of the term. Theoretical and later adopted other versions of this essential term in corporate Governance studies (Allen, D. W., & Berg, C. (2020)). As per agency cost theory, virtuous corporate Governance's primary goal is to defend shareholders, including all stakeholders. Because of separate ownership and control with varied concerns among stakeholders, Governance procedures are required to align stakeholders' interests. Internal and external corporate Governance methods have been identified via study. These measures are designed to save agency expenses and provide a smooth decision-making process that optimizes the corporation's value. Ownership erection of shareholders, directorial board, director's responsibility, and management remuneration appears to be the most critical internal processes (Blémus, S., & Guégan, D. (2020)).

Furthermore, transaction cost theories are a coalition among law, organizations, and economics initially begun in Coase's (1937) work and far ahead hypothetically characterized by Williamson (1996). According to this theory, a corporation comprises people with different perspectives and goals. The primary evidence of transaction theories, corporations have grown up to the extent that they effectively replace market indecisive source division. The company's erection and organization might stimulate that is evaluating and output. The stewardship hypothesis, which origins in sociology & psychology and was outlined by Davis and Thompson (1994), is an alternative perspective on Corporate Governance.

According to this view, Stewards are corporation leaders and managers who aim to safeguard and grow capital for shareholders. Unlike agency theories, stewardship theory emphasizes the participation of higher management as stewards, participating goals as a fragment of the corporation other than distinctiveness. The capital dependence hypothesis is another corporate Governance theory. While stakeholder theory emphasizes interactions with various organizations for personal gain, capital dependence theory focuses the function of the directorial board on certifying the corporation's accessibility toward the capital.

As Hillman et al. (2000), capital dependence theories emphasize directors' responsibility regarding bringing or fortifying imperative capital in the organization by linkages with exterior environments. Lastly, political theories address the strategy of gaining shareholder backing through acquiring elective rule. As a result, possessing political clout may impact corporate Governance. Government contributes to business policymaking while captivating cultural issues in the account, and public interest is greatly tempered (Ante, L. (2020)). The goal of this work's literature review is to identify particular ideas influenced by blockchain espousal within the corporate governance domain rather than to explore the whole literature on Corporate

Governance. Our framework and numerous crucial Tables in Section 6 connect these ideas to blockchain espousal within corporate Governance (Hillman et al. (2000).

Nexus between Corporate Governance and Blockchains

Yermack (2017), blockchain applications in corporate Governance will outcome in liquidation, low-priced, precise record protection with translucent ownership. Our paper distinguishes itself from previous studies because of the emerging espousal framework, accompanying efficient analysis, distinguishing between theoretical and practical work by recognizing Lagunas and inclinations, and connecting the last corporate Governance theory to blockchain espousal. Believe that using blockchain to connect several bank ledgers will speed up procedures and save money. On the other hand, smart contracts might lead to more collusive behaviour among participants, according to Cong, L. W., & He, Z. (2019). Research-based on another record architecture and the smart contract looks into payment mechanism applications for blockchains. Abadi,j., and Brunnermeier, M(2018) doubt the potential of blockchains to be lucrative, decentralized, and precise simultaneously.

Discovers operation subscriptions, or costs of trading security, are proportional to the computational power of miners. Under asymmetric information offer a theoretical framework to elucidate cryptocurrency assessment depending upon blockchains. Bitcoin's transaction fees are 2% cheaper than standard conversion rates. Easley et al. (2017) employ a game-theoretic model to assess transaction fee development and explain consumers' and miners' strategic behaviour. The impacts of blockchain applications in accounting are investigated by Jayasuriya and Sims (2019). They discover a variety of applications, together with triple time entry accounting, decreased income administration, and instantaneous audit. The utilization of cryptocurrency or crypto tokens significantly differs between blockchain base and without blockchain base trade. The token might have stimulus on operative, economic, and tactical decisions. Stakeholders synchronizing with network outwardness in a single network is enabled through entrepreneurship-based crypto. Blockchain qualities like immutability, transparency, and wealth-sharing, according to Cong et al. (2020), attract developers, early users, and entrepreneurs. According to Li, J., & Mann, W. (2018), as the podium's quality recovers, it draws multiple operators. It drives up the worth of tokens, resulting in optimistic network effects. look for earlier ICO-related material.

However, as mentioned in the results and discussion section, the goal of this study is not to conduct a comprehensive assessment of ICO literature but to highlight features pertinent to corporate Governance and blockchains. ICOs are a novel fundraising tool for blockchain-based companies, particularly in the initial phases of development. According to Chod J. & Lyandres E. (2020), ICOs allow entrepreneurs to raise funds without relinquishing control rights. When comparing ICOs to initial public offerings (IPOs), Dell'Erba, M. (2017) finds that ICOs have lesser issuing charges due to the absence of intermediaries like; banks. ICOs enhance the token's request, promote rivalry among token purchasers, and reveal consumer value.

Detect parallels between ICOs and crowdfunding, where educated investment decisions are made via crowdsourcing. Making ICO whitepapers and project-associated materials accessible on the Internet reduces information irregularity while exposing entrepreneurs to a larger pool of investors (Li, J., & Mann, W. (2018). Unlike venture capital and private equity investments, its claim ICOs create a much liquidated and secondary market for tokens listed in crypto exchanges. However,

various research identifies regulatory arbitrage and ambiguity as ICO drawbacks; most ICOs have static tokens supply and just one round of funding, so it is necessary to boost tokens' financial value as request grows. Review prior research on ICO token creation and valuation. There is much literature out there that looks at the success of ICOs. Several studies have focused on the managerial squad and ICO consultants as venture excellence and potential indicators. Emphasize the importance of the entrepreneurs' experience, and Fisch, C., & Momtaz, P. P. (2020) finds CEO sentiment and devotion necessary for ICO results. One more body of ICO research reveals considerable underselling in ICOs compared to IPOs. Claim that tokens are underpriced to entice a broader investor base and solve information irregularities associated with ICOs. Moreover, research like looking into ICO low pricing factors. Investors' moods and initial returns are essential for predicting long-term ICO returns (Fisch, C., & Momtaz, P. P. (2020)).

Applications of Blockchains with legal & Corporate Governance Characteristics

Businesses based on blockchain will be the innovative type of business that require updated economic evaluations and Governance measures. As a result, several studies emphasize the significance of government control in blockchain implementation, addressing issues with ICO bans and investigating appropriate ICO regulation. Twenty-five nations are exploring full cryptocurrency legislation. Money laundering and black-market operations can be prevented with such legislation. From a regulatory standpoint, it analyses blockchain implementation in Corporate Governance. Due to regulatory uncertainties, Bitcoin & blockchain usage in ownership reporting and accounting is not judicious (Drummer, D., & Neumann, D. (2020)).

On the other hand, advocates for blockchain as a corporate elective instrument. Discusses the many types of cryptocurrency regulation and actions that may be taken. Another set of research emphasizes the need for coordinated control within society. Analyze the economic challenges to cryptocurrency, espousal and legal, technological, intermediation, Governance, and Governance reasons and solutions (Almatarneh, A. (2020)). It examines current cryptocurrency systems and alternatives, emphasizing the need for good Governance. Tasca (2015) makes a case for national-level regulation of cryptocurrency and reimbursement mechanisms, including economic mediators. Bitcoin regulation attempts should be subject to broader jurisdiction.

The absence of governmental backing with regulations is a significant impediment to bitcoin espousal and accomplishment. Analyses ICOs generally and call for strict regulations to prevent hacking akin to the DAO incident. Make lawful advice to investors to reduce the dangers of participating in ICOs. Investigate the regulatory landscape of cryptocurrency and offer a methodology for cherishing them (Mik, E. (2017)). Regulation of equity crowdfunding is also part of blockchain-based regulation. Investigate Chinese equity mass capital podiums and propose blockchains as a viable solution for less priced, effective, and protected podiums that do not require regulatory oversight. Our study design is described in full in the next section (Kaal, W. A. (2020)).

Research Strategy

The study plan, which includes textual analysis and a systematic review, is explained first, followed by the research design for the pragmatic analysis. Textual analysis can determine the significant aspects to include in our framework. This study provides:

- Overview of multiple engaged parties and ideas derived from previous research.
- The dynamics of the market.
- The relevance of blockchain espousal of corporate governance.

Governance espousal is also included in our framework. After that, we manually gather data about blockchain-associated investments all over the globe and then make projections about potential investments, transactional volumes, and interconnections over a large number of geographical regions.

Systematic Review

Systematic reviews are a meta-analysis approach for exploring, collecting, and analyzing current knowledge and gaps in specific ideas. Prior literature has grown with practical and theoretical publications on generic blockchain applications across sectors and their impact. However, each analysis has a restricted scope regarding applicability and influence on Corporate Governance. This expansion also risks theoretical s and practitioners regarding knowledge gathering and integration. As a result, this research combines these disparate articles methodically and coherently to identify traits linked to blockchain espousal in Corporate Governance, analyze gaps, similarities, and trends in theoretical and industrial literature, and build an espousal framework (Ante, L. (2020)). In light of these circumstances, we have chosen to conduct a systematic literature review by (Chod, J., & Lyandres, E. (2020)). Here is an outline of the primary stages.

First, identify the review's goal and create research questions; second, gather relevant articles from past literature, perform quality evaluations, and synthesize data; Third, manually and textually analyze the final sample of articles to recognize patterns, shortfalls, and commonalities between industry and academic literary works and establish legal framework; and eventually, discuss the data from our review and the developed framework. We placed a total sample of 52 articles (10 industrial and 42 academics) through preliminary research from 2012 - to 2020, and all these publications portray the epitome of such a search. More information on the article's inclusion and exclusion criteria, search algorithms, and keyword specifications will be presented in-depth in the following sub-sections.

The initial step is to identify the reasons for conducting the study and formulate the questions that will be investigated. Most companies are using blockchain technology as an essential component of their digital transformation processes since it is a constantly improving technology. Therefore, it is essential to have a grasp of this technology and the influence it has. However, a significant component often ignored by earlier research is how blockchain technology links to corporate governance, including its theories and consequences. Furthermore, since there is rapid research on blockchain espousal in general, it is essential to carry out a comprehensive examination to appreciate the existing research and locate insights pertinent to the usage of blockchain technology in corporate governance. To achieve the goal, these research problems have been developed. Current and potential uses of blockchain technology that are being used in corporate governance—issue

highlights current and prospective blockchain usage in various blockchain applications across numerous sectors, including publications discussing the general espousal of blockchain technology and articles discussing finance-related topics specifically. The commonalities, differences, and emerging patterns between academic and earlier industrial literature--In the context of blockchain technology and corporate governance, the purpose of inquiry, get an understanding of areas that have been over-or under-explored, as well as discrepancies in the areas of interest held by the business world and the academic community Findings relating to this study issue would help future scholars and industry practitioners recognize gaps in knowledge where additional research and applications are necessary. Stimulate cooperation between the private sector and academic institutions.

The insinuations of using blockchain technology in corporate governance, tying ideas presented in previous literature? -- It is essential for the effective deployment and ongoing maintenance of blockchain technology within the financial sector to have a clear understanding of the influence of blockchain technology on corporate governance. This research topic contributes to improved consideration for both effects and the unintended consequences of blockchain espousal by integrating standard corporate governance theories already in use with blockchain technology. The connections between worldwide investments in blockchain technology and predictions for the future. This area of study combines empirical findings on blockchain transactions from various sources and anticipates investment to identify upcoming speculating trends.

Assembling Research

Putting together articles in the next part, we will go through the procedures used to choose the articles. We carried out an exhaustive search of the relevant literature using Science Direct, Scopus, and Google Scholar. The following procedures were engaged in the compilation of the articles. The identification of databases (Science Direct, Scopus and Google scholar); the finalization of keywords and research standards (for the initial research); the identifier of preliminary journal articles and analysis of these articles both configured and through textual analysis; and the categorization of the relevant articles that were found according to their major themes; Following the recommendation of finance specialist librarians at the university, Science Direct, Google Scholar and Scopus selected to serve as the primary databases. Each of these three databases contains an extensive set of academic and industry articles pertinent to blockchain technology in economics. This was carried out in line with the suggestions provided by the librarians.

"Corporate governances and blockchain," "decentralized system link with corporate governances," "decentralized network and legal regulation and "decentralized ledger and corporate governances " were some of the keywords that were used in the article search, along with "cryptocurrencies and corporate governance," "digital currencies and control of corporate governance," "bitcoin in corporate governance," "ICO & Corporate governances," "legal measure & blockchain," "ethics In addition to this, the reference lists of the chosen articles were thoroughly examined in order to locate other publications that had not been located using the search criteria. All were obtained from all of the databases due to this exploratory search. These articles consist of research articles evaluated by other researchers, papers presented at conferences, reports produced by consulting firms and other professional

organizations, book chapters, papers and brief remarks. After that, I separated the academic and industry articles and constructed them. This sample was utilized for analysis, and it contained aspects that are pertinent to corporate governance.

Selection of Research Paper

The final sample of articles was constructed with the assistance of the inclusion/exclusion criteria that were described in Table 1. Before the articles are added to the bibliographic manager, specific conditions for excluding them from consideration are implemented. These included reading each item to check the language used and the kind of document it was (notes, editorials) and deleting any additional articles that had no material pertinent to the application of blockchain in corporate governance. At the beginning of the process, all articles' keywords, abstracts, and introductions were evaluated. After then, any item that satisfied one of the criteria for excluding it was removed from consideration. As a result of a full-text examination, other papers that were only focused on the technical features of blockchain technology were disqualified from further consideration. The research reference list contains other publications that cover topics such as finance, corporate governance, and survey methodology; however, these articles were not considered for inclusion in the review analysis since they do not pertain to blockchain technology.

Table 1.
Enclosure and Enclosure standards.

Collection Standards	Time Limitations	Article Explanation	Grey literature (unclear-at-first-search literature)
Enclosure	Time limitations start (from 2012)	Research articles, conference papers, review papers, book chapters, etc.	Blockchain-related technical reports, but with elements that may be adapted for use in corporate governance applications.
Exclosure	Before Bibliographic manager imports	We utilized Science Direct, Legal Source Premier, Google Scholar, and Scopus as our primary research tools. Articles written in languages other than English, articles without abstracts, notes, or editorials	Corporate governance-relevant issues are absent from generic blockchain technology publications
	Screen Title	Generic articles about blockchain technology and/or design that have no bearing on corporate governance or any potential applications in the financial sector.	
	Screening Abstracts	Articles on blockchain' technology that aren't focused on governance issues.	
	Comprehensive Review	Blockchain technology articles that are just focused on the technology not just the governance of blockchains.	

Lexical Analysis and Contextual Scripting

All the articles that make up the final sample are input into a piece of textual analysis software called "Leximancer," based on machine learning. The creation of the framework and additional distinction between academic and industrial literature may be accomplished with the help of Leximancer, which identifies major themes and sub-themes. By carefully analysing the articles that make up the final sample, additional criteria are added to the framework. These considerations ensure that the findings obtained by Leximancer are reliable and serve to offer context for the significant themes discovered by the programme. Leximancer's thematic content analysis is carried out via resource maps and explains the findings in further detail.

Resource Mapping

It displays a comprehensive overview of the significant research body in a single graph. The size of that point represents the connectivity between two idea points. The algorithm will work its way through the list, and while it does so, it will make an effort to bring as many words as it can to the centre of the image. The basis of our DCAG comprises these primary objectives and sub-objectives discovered through source mapping and the systematic physical evaluation of previous material.

Blockchain Technology

"Blockchain" denotes to subdivision of the broader field of distributed ledger technology. We use the word "blockchain" instead of "distributed ledger technology" since it is more widely used (DLT). Public and permissioned blockchains are the two primary forms of blockchains. Authorization is not necessary to use or see the blockchain in a public blockchain like Bitcoin. Bitcoin and Ethereum are the two most well-known public blockchains (Chod, J., & Lyandres, E. (2020)). The first blockchain was Bitcoin. Maximum public blockchains are open-source, and no single body or individual administers them. Instead, the blockchain's state is approved by a network of peers. Peer-to-peer verification is used on the Bitcoin blockchain (Jayasuriya, D. D., & Sims, A. (2019)).

The blockchain of Bitcoin is a ledger that keeps track of how many bitcoins hold in each wallet. Includes the whole transaction record of every trading activity sent and received by that wallet. Public keys are used instead of names to define people or entities, as they would be for a bank account. A lengthy string of numbers and characters constitutes a public key. Each public key's bitcoins are recorded on the Bitcoin blockchain. In turn, the person who owns the private key controls the public key. Anyone with access to the private key can send bitcoins, emphasizing the necessity of the private key's security. Importantly, unlike bank account passwords, there is no way to retrieve missing or elapsed security keys (Bennett et al. (2020)).

A block reward incentivizes miners to execute the authentication and block a creative effort by providing bitcoin recompense for effectively adding a block to the blockchain, with transaction charges included in a block. Additionally, a block reward is used to disperse freshly minted bitcoin. Bitcoin's supply is now restricted at 21 million units, with the final bitcoin scheduled to be issued around 2140. Miners will only get transaction fees once the final bitcoin has been produced. Trading cannot be changed after they have occurred, albeit alterations can be made retrospectively in extraordinary cases. Although Issac, A. C., & Baral, R. (2020). have questioned the

figures, Bitcoin's working evidence accord algorithm was criticized due to high-power consumption. Because nodes are picked randomly for noncorporations trading, some blockchains employ evidence of interest or vicarious evidence of interest, which never consume enormous power. The NEM blockchain, for example, employs proof of significance consensus. Permissioned blockchains, which we will look at next, do not employ proof-of-work and have low power needs. Permissioned blockchains could lemmatize which one has the authority to validate the trading, access the blockchain, and generate trading, as the name implies. Consortia are often in charge of permissioned blockchains. A permissioned blockchain has fewer members and is less decentralized than a public blockchain—permissioned versions of some public blockchains, such as Ethereum and NEM. (Issac, A. C., & Baral, R. (2020).

Smart Contracts

Smart contracts are directions written in computer code that reside on a blockchain and are vital for utilizing the blockchain's competencies. According to Szabo, T. L. (1994), A computerized system that can carry out a contract is known as a "smart contract." It may be used, for instance, to guarantee reimbursement from another party throughout contracts. The first blockchain was Ethereum, which efficaciously implemented and used smart contracts. Because smart contracts work as their appliances, the transaction costs associated with watching and applying devotion to norms and regulations are eliminated. According to Sisli-Ciamarra, E. (2012), smart contracts may impact the composition of a company's board of directors. Bankers are often appointed as directors of companies to indicate the creditworthiness of financial markets, but smart contract signalling may eliminate this requirement. According to Mik E. (2017), smart contracts may be used to tackle a variety of legal and enforcement difficulties.

Possible working and other conditional prerogatives demanding quick collateral transfer in the event of default, in our opinion, might be smart contract applications in corporate finance and Governance. Employee remuneration packages that are based on performance might also be included. In many of these corporate governance instances, using smart contracts reduces the expenses incurred by the agency. In conclusion, a company's willingness to employ smart contracts might predict its future moral behaviour (Murray et al. (2020).

Decentralized Autonomous Organizations (DAO)

Since the middle of the nineteenth century, people have formed organizations and companies to use them as a typical machine to accompany commerce. On the other hand, blockchain efficiently transmutes upcoming organizations into the distributed digital network of stakeholders (Kaal, W. A. (2020). We believe blockchain technology tends to make possible a new kind of organization that does not rely on senior management or a hierarchical structure. Blockchains provide a platform that enables the formation of new types of organizations with a distributed and decentralized organizational structure. Shermin V. (2017) contends that blockchains may resolve concerns related to vicarious responsibilities via decentralized Governance, which underlines the significance of smart contracts in implementing a trust regulating framework. A decentralized autonomous organization (DAO) is a group of blockchains, smart contracts, and stakeholders that work together in real-time (Saurabh et al. (2022).

At the time of establishment, the blockchain is coded with fundamental governance laws. All DAO participants will get tokens that reflect shares of DAO's success (akin to stock in a company). As a result, a DAO's primary profit maximization purpose might be rephrased as the value maximization of tokens. DAO is an organization owned by token holders who uses smart contracts to function on a blockchain. In order to cooperate and do business in the actual world, DAOs have to follow the same law and regulations as systematic businesses (Parmentola et al. (2022)). As a result, token holders will take the position of board members and top management, with token holders making decisions. Furthermore, similar to an employee in a traditional organization/corporation, every token holder's kind of token can dictate the kind of contract in every venture within DAO. (Murray et al. (2020)).

Finding of Systematic Literature Review

The study looks at 52 articles from 2012 to 2020, 10 industry-related. Sample period based on years 2012 to 2020. By analysing previous literature, we can categorize them into fundamental categories in a broad sense: 1. Cryptocurrency and exchanges; 2. Cryptocurrency and corporate voting; 3. Blockchain education and practice; 4. Blockchain and cryptocurrency; 5. Regulation; 6. Blockchain technology tied to cryptocurrency; 7. Initial Coin Offerings; 8. Cryptocurrencies; and 9. Articles primarily focused on anything other than the themes highlighted related to blockchain technology are categorized under the "Other" topic. These articles do, however, contain some important considerations to consider for adopting blockchain technology in corporate Governance.

Evaluation of Industrial and Academic Article

Figure 1 shows the number of academic and industrial articles published over time, Figure 2 shows several articles published on important topics in both industry and academic literature, and the total number of articles published. Figure 2 shows how multiple papers from the business and literary worlds may overlap on various topics. Figure 2 also allows us to see how academic research and industry reports compare and contrast in terms of trends, gaps, and similarities.

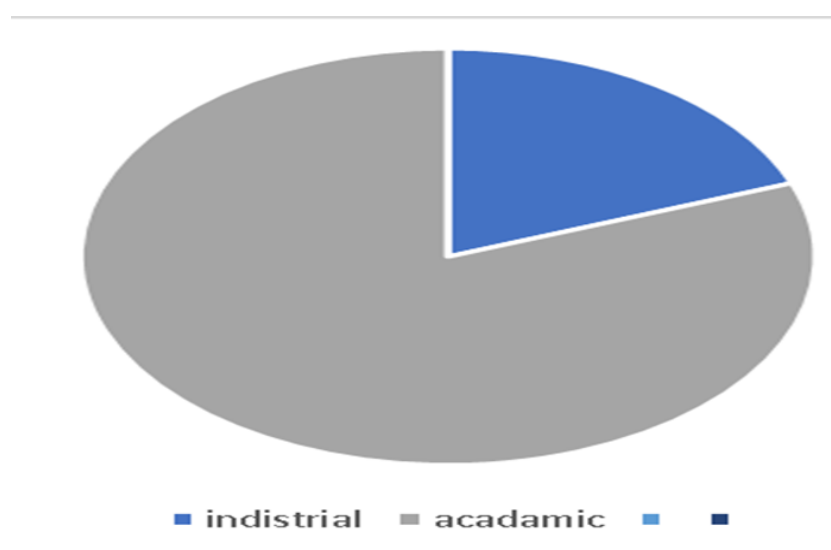


Figure 1.
Year-wise article count.

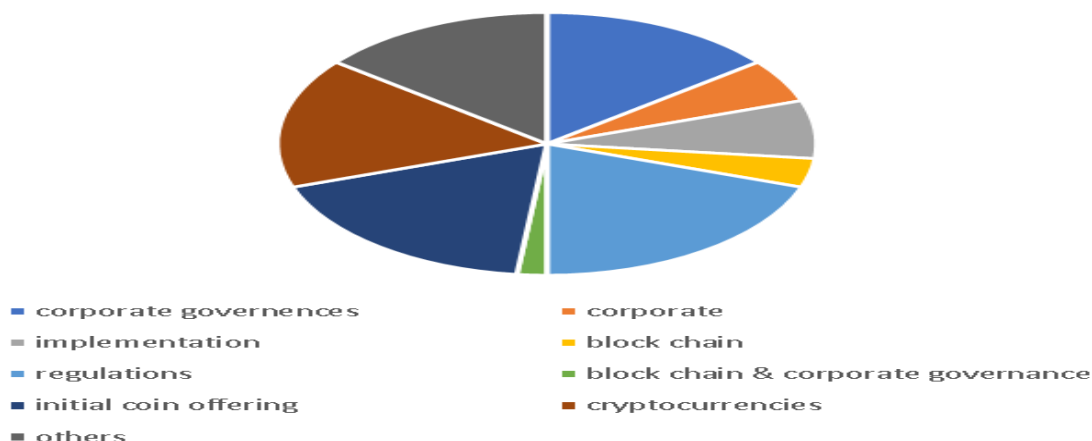


Figure 2.
Topic-wise article count for academic and industry articles and total aggregate.

According to Figure 1, the number of scholarly papers made available to the public grew significantly in both 2017 and 2018. 2015 was, nevertheless, the year in which the industry saw the most significant number of papers published that had some link to corporate Governance. According to this calculation, the academic world seems to be two years behind the business world regarding the number of blockchain papers that address corporate governance problems. Since then, there has been a significant decrease because of various rigorous governing restrictions and prohibitions implemented within China in 2018. (Allan and Hagiwara 2018).

This downward trend is anticipated to turn around due to an uptick in interest brought by COVID-19. The revival of interest from China. The distribution of our sample of 52 articles according to their respective themes is shown in Figure 2. In contrast to the themes discussed before, derived directly from our DACG framework, these topics were discovered during our systematic review. According to Figure 2, the primary emphasis of scholarly studies is on regulation and initial coin offerings (ICOs). The primary topics of discussion in industry articles are cryptocurrency exchanges and trading. This finding is not surprising given that maximum industry applications are inclined to concentrate on digital or cryptocurrency applications and their various uses in the financial services business. These data demonstrate the potential for blockchains to be used in transdisciplinary contexts across sectors.

Framework for Decentralized Autonomous Corporate Governance (DACG)

Framework for Decentralized Autonomous Corporate Governance (here and after called DACG) Blockchain is a digital ledger (public, private, permission) that effectively records transactions carried out between participants in a way that can be perpetually verified. Some systems may create these tasks to automatically activate trading based on particular conditions (smart contracts). The prerequisite of intermediaries like; banks, brokers, and attorneys are considerably limited with blockchain-enabled Corporate Governance (Pimentel, E., & Boulianne, E. (2020). Instead, stakeholders, users, organizations, and blockchains execute and interact with one another as smoothly as possible. The intimidating promise of blockchains is a new digital corporate governance universe that might look years away in the future. Furthermore, that future arrived more readily than expected because of the pandemic. Our DACG framework is depicted in given figure:3

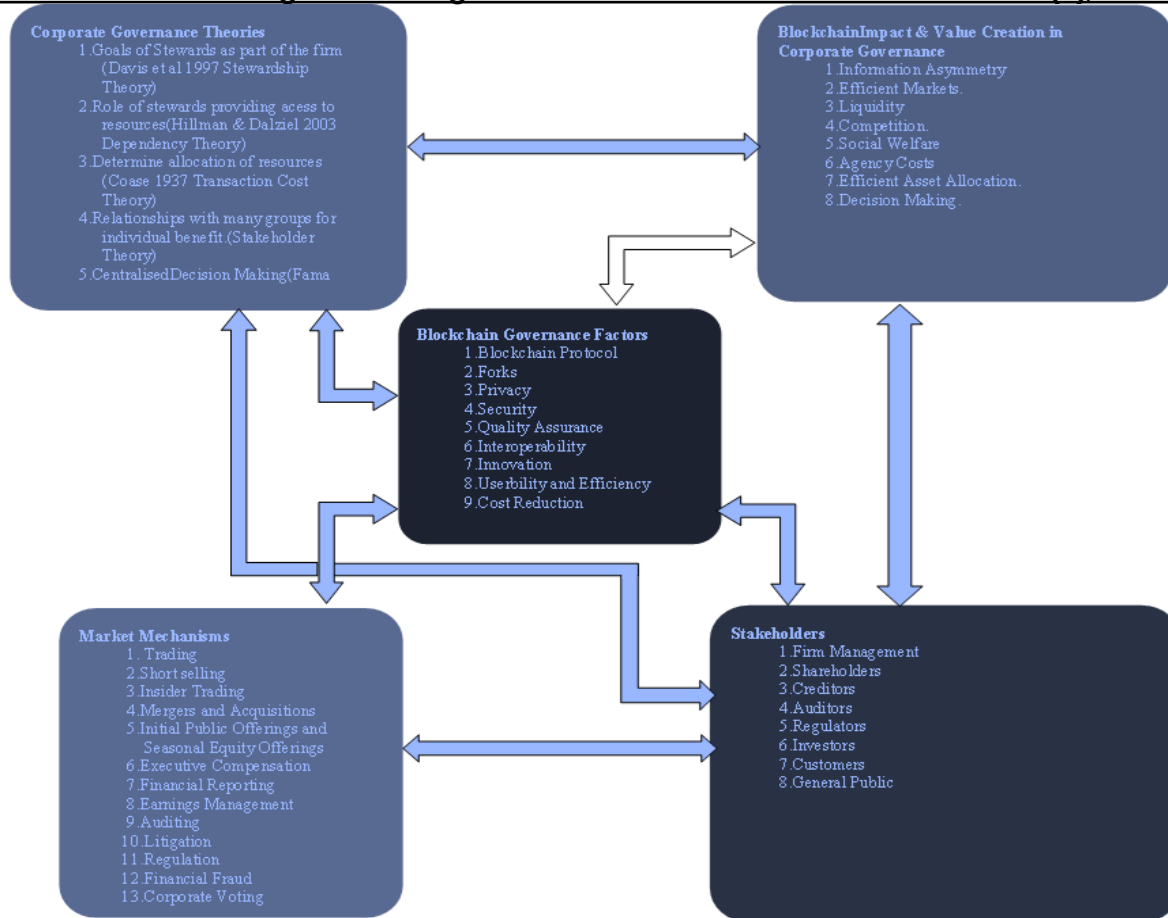


Figure 3.
Decentralized Autonomous Corporate Governance

Governance in Organization and limits are recognized, including ownership authentication, personalities, event recording, and stakeholder interactions. Similar to the functionalities of a blockchain. As a result, we believe that incorporating blockchain in corporate Governance is simply an alternative way to digitizing variables. However, to apparent benefits, the ability to digitize in all stages can raise numerous social, ethical and legal regulatory problems. These concerns and benefits are addressed in the study's following parts. Concerning blockchain espousal in Corporate Governance, the DACG Framework aimed to assist organizations and concerned parties in achieving lucidity, ensuring worth by exertions, creating a vibrant objective, maintaining opportunity, concentration, and establishing accountabilities. This portion of the article describes the DACG Framework's essential components and core elements. This framework, in essence, summarises blockchains, their effect, pertinent corporate Governance applications, and theories to facilitate appropriate implementation.

Usage of DACG Framework

Maintaining records, exchanging goods and services, the formation of contracts, and the involvement of stakeholders are all essential components of blockchain technology that have already been institutionalized in our economic, legal, and

political institutions. The following primary factors drive the majority of an organization's trading: profit maximization, managing complexity and expenses, hazard management, safety, and secrecy (Janssen et al. (2020). All organization's efforts eventually are focused on these three basic requirements. On the other hand, maintaining attention to consideration and keeping every facet under consideration can be challenging, especially when investigating the viability and prospective espousal of innovative technology like blockchains.

In this context, the framework aids concerned parties and organizations in remembering the larger image. We may use frameworks for structuring how we think and talk about unclear, novel, and complex issues. As a result, a comprehensive framework on the impact of blockchain espousal at a higher level may give clarity and purpose for interested parties. Corporate Governance theories, market processes, blockchain effect, stakeholders, and, in core, blockchain Governance are five primary components of our system. The central themes of our framework are detailed underneath (Jayasuriya Daluwathumullagamage, D., & Sims, A. (2020).

Corporate Governance' Theories Related to Espousal of Blockchain

The research underwrites knowledge on corporate Governance ideas by identifying theories linked with blockchain espousal examining its effect. Table 2 investigates deeper into such beliefs and their implications for blockchain espousal. Entirely comprehend possibilities and consequences of blockchain espousal. Developing innovative theories connected with blockchain espousal within Corporate Governance, it is necessary to identify such theories (Mathelier et al. (2020). For that purpose, we have identified the following significant corporate Governance theories; Stewardship goals as a company member (Stewardship Theory by Davis et al. 1997). The role of stewards in facilitating capital access (Hillman, A. J., & Dalziel, T. (2003)., Dependency Theory). Deciding on capital allocation (Coase 1937, Transaction Cost Theory). Relationships with a variety of groups for the person's advantage. (Friedman, A. L., & Miles, S. 2006 Theory of Stakeholders). Making decisions centralized (Fama and Jensen 1983 Agency Costs).

Table 2.

Blockchain Espousal Insinuations with Corporate Governance Theories.

Theory of Corporate Governance	Descriptive Theory	Blockchain Espousal Insinuations
Agency costs	1. A blockchain can be utilized to issue and retain organizational shares. Strong corporate governance's basic purpose is to safeguard shareholders and other stakeholders against executive prerogative.	1 Managerial motivation and profit potential would be considerably altered due to amplified transparency and compact information irregularity.
Transaction-cost theory	Firm' structure and Organization can determine price and production.	1. Lower execution costs and speeds would considerably increase liquidation, and the inclusion of information into stock value would achieve massive regularity. 2. Upsurge request for stock savings while simultaneously introducing new investment strategies, objectives, and dynamics. 3. Significant trading archives would speed up incorporating information into pricing, rendering operations more competitive.

Stewardship theory	Stewards are corporation executives and managers working and protecting and making money for the shareholders.	This could eliminate information asymmetry and drastically alter institutional investors', insiders', and other traders' motivations and profit possibilities.
Theory of sources dependence	The significance of board directors in giving access to the firm's resources is highlighted.	1. Greater openness may alter and possibly enhance shareholders' participation in corporate Governance. 2. This might also impede the board of directors, which shareholders who do not possess the essential expertise could be halted.
Political theory	Discusses the strategy of cultivating shareholder backing instead of acquiring electoral power.	
Agency costs	2. Corporate electoral Principal objective of effective corporate governance is to protect shareholders and other stakeholders from the executive discretion of the company's leadership.	Voters and the corporation would be able to see that votes were accurately cast, but they not competent to know how specific voters voted if it was something that was desired. As a direct consequence of this, not only would cost and voting significantly upsurge, but also the precision and managerial intrusion.
Transactional cost theory	A company's structure and organization can influence pricing and output.	
Stewardship theory	Stewards are firm leaders and managers who work for the shareholders, safeguarding and creating money.	More shareholder and other interested stakeholder engagement would arise from increased transparency and speed and lower costs. As a direct consequence of this, stakeholders are allowed to play an active role in corporate governance and to petition foot's on significant company verdicts.
Resource dependency theory	The role of the board of directors in ensuring that all employees have access to the company's resources is emphasized here.	
Political theory	Considers the strategy of cultivating shareholder support rather than acquiring voting power.	The use of blockchain in corporate elections and stock exchanges would make empty voting very problematic, if possible. After transfer of share, smart contracts may be used to establish a stand-down period during which the claim in question does not have any voting rights. During this time, the claim in question is effectively worthless.

Blockchain Effect on Worth Construction

Incorporates our findings on blockchain applications in corporate Governance with past theoretical work and practical reports. We recognized the characteristics, benefits, and drawbacks of the current, according to the results of our in-depth study on potential future use cases for blockchain implementation in corporate Governance to value generation pathways in terms of past theoretical literature and market processes impacted by blockchain espousal in Corporate Governance (Lei et al. (2020)). The following are some of the most important factors; Blockchain provides transparency due to information asymmetry. The efficient market for blockchains allows for faster trading, more efficiency, lower agency charges, and greater transparency (Kaal, W. A. (2020)).

The liquidity of Blockchain quickly and efficiently manages massive volumes of data while also providing more transparency. The competition of Blockchain enables a more significant number of people to participate. Social services by blockchains diminish agency outflows, fraud, and maladministration. Agency expenses in blockchains, eliminating or plummeting agent's lower agency costs. Operative asset allocation effectual capital allocation would arise from more incredible speed, efficacy, transparency, and resourceful markets. Due to lesser agency cost, transparency with the practical market, and Blockchain, policy-making would improve decision-making (Jayasuriya, D. D., & Sims, A. (2022)).

International Blockchain Investments and Future Forecasts

Responds to the relationship between international blockchain investments and future forecasts. Table 3 shows the number of blockchain wallet users in millions, with 44.69 million handlers in the fourth quarter of 2019, indicating that demand is growing. Between the first and second quarters of 2019, there was a considerable rise in users, owing to Bitcoin value swings, trade war worries in the US and China, and increased curiosity in cryptocurrency.

Table 3.
Strength of Blockchain Wallet Operators.

Year	Strength of Blockchain Wallet Operators in Millions
2016 Q3	8.95
2016 Q4	10.98
2017 Q1	12.89
2017 Q2	14.97
2017 Q3	17.26
2017 Q4	21.51
2018 Q1	23.95
2018 Q2	25.76
2018 Q3	28.89
2018 Q4	31.91
2019 Q1	34.66
2019 Q2	40.09
2019 Q3	42.31
2019 Q4	44.69

Source: Statista.

Blockchain Espousal in Corporate Governance

Current and upcoming usages of blockchain technologies in corporate Governance. Financial institutions, accountancy, taxation, and initial coin offerings use blockchain. The work being done on blockchain by stock exchanges all across the world is very crucial. They imply that stock tokenization will happen sooner rather than later. Table 5 lists the major blockchain deployments in clearing houses and securities exchanges.

Table 4.**Present Blockchain Applications in Corporate Governance**

Blockchain Application	Exchange	Years	Explanation and Usages Case	Cooperating Firm	Tech Firm
LINQ	NASDAQ	2015	The platform on the blockchain for the trading of private bonds and stocks.		
	Toronto's Group	TMX	A platform for the company's Natural Gas Exchange built on blockchain technology (NGX).		
	Australian Stock Exchange (ASX)	2015	Blockchain technology will be used to replace CHES, the company's clearing, and settlement platform.	Digital Holdings	Asset is responsible for the implementation.
	Japan Exchange Group (JPX)		We are developing a platform based on blockchain technology for trading securities with limited liquidity.	IBM	
Korean Start-up Market	Korea Exchange	2017	to engage in the trading of shares in newly established businesses.		
	India's National Stock Exchange (NSE)	2017	a know-your-customer (KYC) data protocol was tested using a blockchain in a study carried out.		
	Moscow Exchange (MOEX)		We are investigating the possibility of migrating the National Settlement Depository (NSD) to a blockchain-based system.		
	Deutsche Börse and Deutsche Bundesbank	2016	been conducting prototype testing of blockchain platforms for use in settlement offies.		
	London Stock Exchange		Increasing efficiency of post-trade processing via the use of blockchain platforms.		
	Luxembourg Stock Exchange		The security system for digitally signed documents and associated codes was given a blockchain platform to run on when it was implemented.		
	Santiago Exchange is		We are investigating the potential for using blockchain technology throughout Chile's entire financial system.	IBM	
	Hong Kong Exchange and Clearing (HKEX)		Improve its infrastructure for post-trade operations.	Digital Holdings	Asset is

the Singapore Exchange (SGX) 2018	It is embedding the technology of the blockchain into its fundamental infrastructure.	responsible for the implementation.
Zimbabwe Stock Exchange	We are investigating the feasibility of using blockchain technology.	

Moving exchanges to blockchain podiums would minimize data redundancy, transaction costs, and transaction speed, resulting in improved performance (Mathew and Irrera 2017). However, one of the most prominent risks associated with blockchains is the security of private keys. These are tamper-proof evidence of ownership. Multi-signature trading, in which all participants' signatures are required before agreeing to a transaction, may, in our judgment, avoid this problem. Based on existing research and our perspective, Table 6 summaries the consequences of blockchain implementation in corporate Governance for key market processes and market.

Table 5.
Stakeholders & Blockchain Espousal implementation in Corporate Governance.

Stakeholder	Behavior base Perceptions of Blockchain Espousal
1. Market Measures	Mergers in which hostile postures for taking overs are being built may be hampered, and blockchains may be used as fragments of taking overprotection mechanism.
2. Shareholder	While shareholders may become more passive, akin to Grossman and Hart's (1980) free-rider dilemma, blockchains' enhanced openness is more likely to improve and even grow shareholders' participation in corporate Governance. This could also make it difficult for the board of directors and management to make decisions, especially if shareholders who lack knowledge in the relevant industry try to block them.
3. New Breed of 3rd party Identity Verification Companies.	Even if stock transactions are conducted under fictitious names, third parties may be compensated to confirm investors' identity. These third parties would leverage the existing technologies used by the financial markets to identify particular traders based on the transaction sequences, sizes, and timings that are visible.
4. Mediators & Exchanges	Since blockchains eliminate the need for intermediaries, settlement times might be reduced to minutes, if not seconds; but, this process could take significantly longer if public blockchains are used.
5. Insiders	Contrary to transactions involving sell orders, those involving buy orders from insiders or managers result in more substantial and more significant market responses. The use of blockchains would make intelligent trading more distinctive, which would result in an increase in the amount of information content and absorption into asset price.
6. Retail Investors	Retail investors would have access to blockchain because of its improved transparency and (much) quicker execution. Institutional investors may lose some of their advantages, and the playing field may be leveled.
7. Block Holders	Increased liquidity would reduce expenses, particularly for selling shares, enhancing block holder exits, and increasing block holders' leverage over management. The greater risk of block holders going would encourage management to pursue projects that maximize shareholder value and discourage them from working on projects with private benefits.

Corporation' Share Tokenization

Impacts of blockchain espousal in corporate Governance' area, like tokenization of corporation's shares, are explored in this article. Tokenization entails the placement of shares on a blockchain and the repercussions and opportunities. Blockchain might

give market players unparalleled transparency to classify title holdings and trading of debt, capital investors, and inside management (Blémus, S., & Guégan, D. (2020). Corporations, exchanges, and regulators would experience less moral hazard, fraud, and mistakes. The tokenization of shares provides greater efficacy, particularly shareholder voting precision and suitability, dividend distribution, and various additional purposes, such as preventing empty voting. According to Lee et al. (2016), blockchain technology provides benefits cost implementation haste and reduced settlement time.

The capacity to monitor trade activities in the past in the current time minimizes information irregularity and changes institutional investors', insiders', and other traders' motivations and profit chances. Securities, in our opinion, might be constructed to make greater use of smart contracts' capacity to execute themselves (Malinova, K., & Park, A. (2017). However, there are legal difficulties with tokenizing a corporation's shares that are not addressed in this research. Analysing the legal ramifications of virtual capital on blockchains, Article 8 of the UCC classifies them as uncertificated securities. Mergers and acquisitions spillovers are another consequence of blockchain Espousal. Even market procedures like mergers, where hostile taking over positions may be created, might be impeded, and blockchains might be a component of taking over security measures. At the same time, shareholders become increasingly inactive, like Grossman and free rider's conundrum describe. We believe that the increased transparency given by blockchains will transform and perhaps enhance the role of shareholders in corporate Governance (Frizzo-Barker et al. (2022). According to Malinova K. & Park A. (2017), identifying buyers and sellers would generally enhance market and surge markets wellbeing.

As a result, digital identification would be favoured over attempts to conceal the identity, according to this reasoning. Stock trades in the United States typically take three business days to settle. These trading, which the Depository Trust Clearing Houses supervise, involve many participants. Without intermediaries, blockchains might cut payment periods of proceedings, if not second or somewhat lengthier, if public blockchains are used, saving expenses and commissions. Significantly increased liquidity, in our opinion, would allow higher transactions and requests for stock reserves and develop innovative investment methods, aims, and subtleties (Dell'Erba, M. (2017). When insiders/managers trade purchase orders, the market reacts significantly more strongly than when they trade sell orders. Blockchains, in our opinion, will make educated trading simpler to differentiate, enhancing the information gratified and captivating asset values. Break existing market subtleties, in which malicious updates and positive news take a long time to be absorbed by pricing. All shares exchanged by investors would be visible to market makers. As a result, the quality of the information material supplied would improve, resulting in more efficient pricing and lower risk premiums. We believe this will lead to more effective capital allocation in the actual economy and improved internal business decision-making (Cong, L. W., & He, Z. (2019).

Corporate Determinations/ Elections

Numerous ways of blockchains may be utilized in corporate Governance for company determinations. Proxy voting techniques are commonly used in today's business elections. Its inaccurate elector list, wrong election tabularization, and inadequate election dissemination in current proxy voting methods (Kaal, W. A.

(2020). Close elections are more likely to support management decisions. By awarding qualified electorates a token or vote currency being a number that symbolizes their elective authority, blockchain may be utilized to establish correct proxy voting. Voters and the corporation may verify if ballots were cast correctly (Falwadiya, H., & Dhingra, S. (2022). On the other hand, they may decide not to look at how individual people voted if that was what they wanted to do. In judgment, it will significantly upsurge voting speediness and precision while simultaneously reducing expenses and the amount of meddling from managers. In addition, we think that an improvement in transparency, promptness and cost savings would lead to greater participation from shareholders and other interested stakeholders (Mathew, S., & Irrera, A. (2017). Consequently, stakeholders are allowed to play an active role in corporate Governance and seek votes on important company decisions.

Vacant balloting

The temporary exploitation of lent shares or derived amalgamations to get elective rights is known as empty voting. The voter would be protected, subject to cashflow rights, monitoring, or executing such safeties through this approach. Shareholders use empty voting to make quick money or maintain long-term ownership interests. If used in corporate elections and stock exchanges, blockchain technology would make absentee voting exceedingly difficult, if not impossible. This would be a concern since the blockchain would record all transactions (Hillman, A. J., & Dalziel, T. (2003). When a share is transferred, smart contracts may impose a standdown period during which the share's voting rights are lost. During this time, the share is effectively un votable. Table 1 above summarizes the implications that would arise as a result of using blockchain technology in corporate Governance. In the context of theoretical study, this table ties the blockchain ideology to traditional corporate governance concepts (McGrath et al. (2016).

Registered Technology and Corporate Governance

Since the 1990s, registered technology has been used to refer to computerized regulatory compliance. Growing blockchain investments and widespread usage, particularly in the financial services practice, have piqued regulators' interest in assessing blockchain's potential in this space (Ølnes, S. (2016, September). Furthermore, by 2023, the worldwide Reg Tech Market will generate \$7.2 billion in sales. However, mainstream blockchain legislation focuses on initial coin offerings (ICOs), cryptocurrencies, and highly specialized legal concerns like knowing your customer (KYC) and anti-money laundering (AML) (AML). Registered Technology's contribution to corporate Governance is undeniable (Seyedsayamdost, E., & Vanderwal, P. (2020). Blockchains can enable increased safety, procedure digitalization, and instrument tracking internal and exterior administration in regulatory compliance. Blockchain can track and monitor compliance rates at different capacities relatively quickly. Several tools keep track of a company's workers' internet activity. These records can be utilized to determine conformity to strict laws and other restrictions. These programmers can also track document inconsistencies, staff actions, and incident reports (Fischer, A., & Valiente, M. C. (2020).

Ethical Aspects and Blockchain Governance

The Governance of blockchains is the primary concern. Software code governs public blockchains independently. The code specifies the inputs, priority, and time for each transaction and the sizes and contingencies encode each transaction onto the

blockchain. These blockchain Governance guidelines are analogous to the rules that stock exchanges impose on publicly traded companies. Like an authorized version of Ethereum, authorized blockchains are used by most companies looking at blockchain projects. Like partnerships or other bespoke financial arrangements, governance rules must be established and renegotiated even on permissioned blockchains (Almatarneh, A. (2020). The standpoint of a DAO case study presents great debate regarding blockchain Governance. Table 7 outlines the current state of blockchain technology regulation in several nations.

Table 6.

Worldwide Laws Related to Blockchains.

Country	Laws & Regulation
United States	State legislatures have passed laws that authorize smart contracts, digital signatures based on blockchain technology, and the lawful acceptability of ledgers in blockchains as evidence.
Russia	The legal framework has been announced for initial coin offerings.
France	Permissions for the storage of data gathered via crowdsourcing on distributed ledgers.
United Kingdom	Sandboxes have been built for various financial products, including blockchains, amongst others.
Switzerland& Luxembourg	Comparable concepts
Australia	The task group will work on these standards
China	The task group will work on these standards
Japan	Reports/announcements/taskforce.
India	Reports/declarations of regulatory intent.
Turkey	Blockchains and Taskforces
Singapore	Regulations related to anti money laundering on crypto currencies/taskforce on the blockchain.
Canada	Reports/taskforces/sandboxing.

Blockchain' Ethical Aspects

Variability is a significant feature of blockchains in the financial market system since it eliminates a corporation's ability to change account records and business activities. Backdating the option date to a point when value levels were at their lowest enables blockchain deployment to reduce the likelihood of fraudulent acts taking advantage of worker stock possibilities to gain personal benefits at the expense of shareholders (Shermin, V. (2017). We believe that blockchain's considerable transparency will provide shareholders with more high-quality information and faster speed. As a result, corporate management would be held more accountable to shareholders, regulators, and other market players. Say that blockchains create a new domain of corporate integrity based on openness, honesty, thoughtfulness, and responsibility, leading to more accurate CEO remuneration and asset value. Finally, blockchains have the potential to shift power away from corporate management and toward shareholders, employees, and regulators (Smith, S. S., & Castonguay, J. J. (2020). Furthermore, blockchains can assist with harmonization, authentication, confirmation, and implementation difficulties. For example, enormous trading costs and numerous legal violations went overlooked (Yermack, D. (2017). Though violations are discovered, they are typically after delay since significant damage has already occurred. Finally, the quality of blockchain that we believe is undervalued is its ability to deter wrongdoing. As a substitute for a manipulative monitoring structure, avoiding vacant voting can be prohibited in the following ways. For example, shares can be programmed to lose their elective rights for a specific time after a claim is sold. Individuals would not be competent to borrow, share and vote (Rindfleisch, A. (2020).

Blockchain Espousal and Corporate Governance benefits during COVID-19 benefits of blockchain espousal in Corporate Governance. Corporate Governance digitization is becoming increasingly crucial as a significant global health outbreak challenges and disrupts enterprises, individuals, and many societal elements. Blockchains have the potential to play a vital role in this scenario (Chen et al. (2020). To efficiently decrease mistakes, processing times, and smooth business administration, blockchain technology, in our opinion, is utilized to keep corporation data and confirm that data sources are visible and noticeable inside every organization. As a result, blockchains would make the available podium for management to track the project development in real-time, and workers could safely register pertinent data on-chain (Bo et al. (2020).

Workers and stakeholders accompanying the corporation would be more accountable due to the data associations depending upon translucent evaluation and amplified safety through blockchain. This should minimize mismanagement, security concerns, and blunders during lockdowns and working-from-home situations. Corporate boards would benefit from improved monitoring of everyday manoeuvres and were moved to the blockchain podium. With real-time updates to blockchain systems, councils would have better insight into corporate operations and a better understanding of the corporation's risks and the effect of the ever-changing pandemic scenario, leading to better everyday and planned policymaking. Furthermore, blockchain may make information exchange, planning, execution, and statements for workers and stakeholders more efficient (Chod, J., & Lyandres, E. (2020).

Furthermore, the epidemic brought attention to the fragility of existing financial systems and fiat currencies, prompting many to advocate for the use of digital currencies. According to our research, cryptocurrency is a prominent subject in blockchain applications and is essential to corporate Governance. Price increases in traditional authorization currency and a decline in interest charges on traditional assets like bank savings are two significant factors driving this newfound interest in digital or cryptocurrencies. As a result of the current COVID-19 epidemic, the creation of central bank digital currencies has accelerated. Like, the Public Bank of China finished the construction of essential functions for the digital Yuan.

In addition, establishing a Blockchain-based Service Network (BSN), which is being supported by a collection of Chinese enterprises controlled by the state, government agencies, banks, and technology companies, highlights the need for corporate Governance in the context of blockchains. BSN is predicted to cut the cost of conducting blockchain-based companies in China by 80%. Ant Financial, an Alibaba affiliate, drew attention by introducing Open Chain, a new consortium chain. Businesses all across the world are dealing with the COVID-19 epidemic. Chen, T., Peng, L., Yin, X., Rong, J., Yang, J., & Cong, G. (2020). As a result, blockchain might be the following corporate Governance instrument to help us overcome this extraordinary upheaval to our business practices and traditional corporate Governance Jayasuriya. Daluwathumullagamage, D., & Sims, A. (2020).

LIMITATIONS OF OUR STUDY

The limitations of our study are discussed in this section. The major limitation is the empirical analysis section. Most companies keep their investment breakdown into

new technology a closely guarded secret. As a result, obtaining funding only related to blockchains is tough. Another flaw in systematic reviews is sample selection bias, which can occur due to research and selection standards omits. To find a solution for this issue, we made use of several different study topic variations, went in the other direction from crucial terms found in previous research publications on blockchain that were specific to finance, and improved search database technology. We then looked through the reference lists of the papers we chose to see if any were relevant (snowball effect). Another weakness of our study might be inconsistency in the categorization of themes.

CONCLUSIONS

Blockchain technology holds much promise in providing practical answers to many issues wreaking havoc on present corporate Governance structures. However, difficulties such as permissioned vs public blockchains, capital requirements, hacking risks, and a lack of substantial study and knowledge, to mention a few, continue to exist. Our research is unique among its peers. It systematically reviews previously dispersed literature, conducts theoretical and practical analysis for the framework's development of blockchains espousal within corporate Governance, distinguishes between empirical and theoretical literature with time, and makes significant objective forecasts for future investment.

Furthermore, this research looks at blockchain espousal in corporate Governance from a behavioral ethical standpoint. The selection of nine significant themes from past literature relevant to blockchain espousal within corporate Governance was based on an organized analysis. Our research estimates that blockchain investments and deal counts will reach 6.173 and 6.051 USD billion and 822 and 937, respectively, in 2020 and 2020. Finally, we argue that, while permissioned blockchains may still be utilized to limit openness in corporate Governance, perfect transparency may provoke excessive shareholder fear. As a result, multiple levels of accessibility would most likely be implemented by businesses. Whether authorities should enable companies to reduce transparency is a crucial one. Blockchains may result in more accurate, accessible, and efficient corporate Governance models, allowing shareholders to make better decisions. Smart contracts on blockchains may enable new ways to control corporations in the future.

However, this study points out that regulatory changes should accompany such success. In addition, the COVID-19 situation is compelling most businesses to undergo digital transformation. This includes China's enormous investments in Blockchain technology (BSN), the digitalization of the Yuan, and the anticipated meteoric rise in interest in blockchains in the years to come.

DECLARATIONS

Acknowledgement: We appreciate the generous support from all the contributor of research and their different affiliations.

Funding: No funding body in the public, private, or nonprofit sectors provided a particular grant for this research.

Availability of data and material: In the approach, the data sources for the variables are stated.

Authors' contributions: Each author participated equally to the creation of this work.

Conflicts of Interests: The authors declare no conflict of interest.

Consent to Participate: Yes

Consent for publication and Ethical approval: Because this study does not include human or animal data, ethical approval is not required for publication. All authors have given their consent.

REFERENCE

- á Williamson, O. (1996). The Mechanism of Governance.
- Abadi, J., & Brunnermeier, M. (2018). Blockchain economics (No. w25407). National Bureau of Economic Research.
- Allen, D. W., & Berg, C. (2020). Blockchain governance: What we can learn from the economics of corporate governance. Allen, DWE and Berg, C (Forthcoming) 'Blockchain Governance: What can we Learn from the Economics of Corporate Governance.
- Almatarneh, A. (2020). Blockchain technology and corporate governance: The issue of smart contracts—current perspectives and evolving concerns. *Éthique et économie= Ethics and economics*, 17(1).
- Ante, L. (2020). Smart contracts on the blockchain—A bibliometric analysis and review. *Telematics and Informatics*, 57, 101519.
- Bennett, R., Miller, T., Pickering, M., & Kara, A. K. (2020). Hybrid approaches for smart contracts in land administration: Lessons from three blockchain proofs-of-concept. *Land*, 10(2), 220.
- Blémus, S., & Guégan, D. (2020). Initial crypto-asset offerings (ICOs), tokenization and corporate governance. *Capital Markets Law Journal*, 15(2), 191-223.
- Bo, X. U., Fan, C. Y., Wang, A. L., Zou, Y. L., Yu, Y. H., Cong, H. E., ... & Qing, M. I. A. O. (2020). Suppressed T cell-mediated immunity in patients with COVID-19: a clinical retrospective study in Wuhan, China. *Journal of Infection*, 81(1), e51-e60.
- Chen, T., Peng, L., Yin, X., Rong, J., Yang, J., & Cong, G. (2020, September). Analysis of user satisfaction with online education platforms in China during the COVID-19 pandemic. In *Healthcare* (Vol. 8, No. 3, p. 200). Multidisciplinary Digital Publishing Institute.
- Chod, J., & Lyandres, E. (2020). A theory of icos: Diversification, agency, and information asymmetry. *Management Science*, 67(10), 5969-5989.
- Coase, R. H. (1937). The nature of the firm. *economica*, 4(16), 386-405.
- Cong, L. W., & He, Z. (2019). Blockchain disruption and smart contracts. *The Review of Financial Studies*, 32(5), 1754-1797.
- Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management review*, 22(1), 20-47.
- Dell'Erba, M. (2017). Initial coin offerings: the response of regulatory authorities. *NYUJL & Bus.*, 14, 1107.
- Drummer, D., & Neumann, D. (2020). Is code law? Current legal and technical espousal issues and remedies for blockchain-enabled smart contracts. *Journal of Information Technology*, 35(4), 337-360.
- Falwadiya, H., & Dhingra, S. (2022). Blockchain technology espousal in government organizations: a systematic literature review. *Journal of Global Operations and Strategic Sourcing*.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The journal of law and Economics*, 26(2), 301-325.
- Fisch, C., & Momtaz, P. P. (2020). Institutional investors and post-ICO performance: an empirical analysis of investor returns in initial coin offerings (ICOs). *Journal of Corporate Finance*, 64, 101679.
- Fischer, A., & Valiente, M. C. (2020). Blockchain governance. *Internet Policy Review*, 10(2), 1-10.
- Friedman, A. L., & Miles, S. (2006). *Stakeholders: Theory and practice*. OUP Oxford.
- Frizzo-Barker, J., Chow-White, P. A., Adams, P. R., Mentanko, J., Ha, D., & Green, S. (2020). Blockchain as a disruptive technology for business: A systematic review. *International Journal of Information Management*, 51, 102029.

- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management review*, 28(3), 383-396.
- Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management studies*, 37(2), 235-256.
- Janssen, M., Weerakkody, V., Ismagilova, E., Sivarajah, U., & Irani, Z. (2020). A framework for analysing blockchain technology espousal: Integrating institutional, market and technical factors. *International Journal of Information Management*, 50, 302-309.
- Jayasuriya Daluwathumullagamage, D., & Sims, A. (2020). Blockchain-Enabled Corporate Governance and Regulation. *International Journal of Financial Studies*, 8(2), 36.
- Jayasuriya, D. D., & Sims, A. (2019). From the Abacus to Enterprise Resource Planning: Is Blockchain the Next Big Accounting Technology. Unpublished Working Paper.
- Jayasuriya, D. D., & Sims, A. (2022). From the abacus to enterprise resource planning: is blockchain the next big accounting tool?. *Accounting, Auditing & Accountability Journal*, (ahead-of-print).
- Kaal, W. A. (2020). Decentralized corporate governance via blockchain technology. *Annals of Corporate Governance*, 5(2), 101-147.
- Kaal, W. A. (2020). Blockchain-based corporate governance. *Stanford Journal of Blockchain Law & Policy*, 4(1), 19-10.
- Lei, N., Masanet, E., & Koomey, J. (2020). Best practices for analyzing the direct energy use of blockchain technology systems: Review and policy recommendations. *Energy Policy*, 156, 112422.
- Li, J., & Mann, W. (2018). Initial coin offering and platform building. *SSRN Electronic Journal*, 1-56.
- Malinova, K., & Park, A. (2017). Market design with blockchain technology. Available at SSRN 2785626.
- Mathew, S., & Irrera, A. (2017). Australia's ASX Selects Blockchain to Cut Costs. Toronto: Reuters.
- McGrath, J. M., Primm, D., & Lafe, W. (2016). The Economic Impact of Pennsylvania Heritage Areas. Center for Rural Pennsylvania.
- Mik, E. (2017). Smart contracts: terminology, technical limitations and real world complexity. *Law, Innovation and Technology*, 9(2), 269-300.
- Ølnes, S. (2016, September). Beyond bitcoin enabling smart government using blockchain technology. In *International conference on electronic government* (pp. 253-264). Springer, Cham.
- Seyedsayamdost, E., & Vanderwal, P. (2020). From good governance to governance for good: blockchain for social impact. *Journal of International Development*, 32(6), 943-960.
- Shermin, V. (2017). Disrupting governance with blockchains and smart contracts. *Strategic Change*, 26(5), 499-509.
- Sisli-Ciamarra, E. (2012). Monitoring by affiliated bankers on board of directors: Evidence from corporate financing outcomes. *Financial Management*, 41(3), 665-702.
- Smith, S. S., & Castonguay, J. J. (2020). Blockchain and accounting governance: Emerging issues and considerations for accounting and assurance professionals. *Journal of Emerging Technologies in Accounting*, 17(1), 119-131.
- Szabo, T. L. (1994). Time domain wave equations for lossy media obeying a frequency power law. *The Journal of the Acoustical Society of America*, 96(1), 491-500.
- Tasca, P. (2015). Digital currencies: Principles, trends, opportunities, and risks. *Trends, Opportunities, and Risks* (September 7, 2015).
- Yermack, D. (2017). Corporate governance and blockchains. *Review of finance*, 21(1), 7-31

