

A Qualitative Study on Blockchain Adoption in Fintech

^{1*}Prasanth MK, ²Prof. Dr. Jagathy Raj V. P

^{1*}Research Scholar, School of Management Studies, Cochin University of Science and Technology, Cochin, Kerala, India, Email ID: prasanthtohl@gmail.com

²Senior Professor (Retired), School of Management Studies, Cochin University of Science and Technology, Cochin, Kerala, India, Email ID: jagathyraj@gmail.com

HOW TO CITE:

Prasanth MK, Jagathy Raj V. P
(2026). A Qualitative Study on
Blockchain Adoption in Fintech.
International Journal of Special
Education, 41(11s), 1054-1066

COPYRIGHT STATEMENT:

Copyright: © 2026 Authors.
Open access publication under the
terms and conditions
of the Creative Commons Attribution (CC BY)
license (<http://creativecommons.org/licenses/by/4.0/>).

ABSTRACT:

Blockchain offers benefits including efficiency, enhanced security, transparency, and cost savings, has vast potential to significantly change the financial landscape in coming years. The contemporary research looks into the factors that the Fintech sector is likely to encounter when adopting block chain at the organizational level with the aid of qualitative approach and by means of interviews that are semi-structured. The findings of the thematic analysis of various constructs reveal that, block chain technology is significantly impacted by privacy, security, organizational size, senior management backing, organizational preparedness, and the legal landscape. This scholarly work contributes to the theoretical and empirical literature by offering new perspectives on blockchain implementation within developing nations..

Keywords: Block chain (BC), Block chain technology (BCT/BT), Distributed ledger (DL), Distributed ledger Technology (DLT), Financial technology (Fin tech), Information system (IS), Diffusion of Innovations (DOI), Technology organization environment (TOE).

1. Introduction

The block chain (BC) is one of the most creative and mesmerizing financial technology (Fin tech) in the technological domain (Du et al., 2019). The BC functions in the same way to an information systems (IS) database which is dispersed among its users for authenticated record keeping and is updated in real time (Swan, 2015). As the uniqueness of distributed ledger (DL) in particular immutability, decentralization, in addition to transparency be able to assist with issues related to accountability, supply network traceability, and confidence (Saber, et al., 2019). The rapid, inexpensive, and secure international asset and money transfers have demonstrated the feasibility of the innovative approach, which is based on distributed networks

and open-source cryptographic protocols (Mansfield Devine, 2017). The BC, which is the primary technology that drives prospective financial sector applications also powers Bitcoin and other crypto currencies (Arora and Nabi, 2022) can alter how people engage in commerce, politics, and society at large (Atzori, 2015). Even while BCT is at the core of the Fin-tech revolution and has an immense impact on financial developments, it has mostly been employed for payments until now. With the introduction of digitalization, India's financial system has seen a dramatic change that is also enabling financial independence and bringing new opportunities.

2. Review of literature

There is a lot of interest in BT in both corporate and societal situations as the use of crypto currencies like Bitcoin has increased dramatically. But BT, which powers crypto currencies, has the potential to significantly expand to other commercial uses. BC is well positioned towards improvement and enhances output across multiple new sectors including supply chains, digital arts management, and healthcare. However, before widespread adoption can take place, organizational, technical, and legal obstacles must be removed (**Hughes, et al., 2019**). The implementation of blockchain in banking services be found to be significantly influenced by compatibility, apparent cost, relative advantage, perceived security, business scope, learning culture, support from top management, government regulations, competitive pressure, and customer preparedness (**Kulkarni and Patil, 2020**). The adoption of BC in the asset and wealth management sector has been found to be influenced by compatibility, complexity and perceived benefit (**De Castro, et al., 2020**). Nevertheless three most important elements shaping BC's implementation in the freight logistics industry are government policy along with support, infrastructure facility, and ease of use of precise BC apparatus (**Orji et al., 2020**), whereas, according to **Barnes and Xiao, 2019** the governmental support is a crucial for adoption in logistics. Alternatively, the BC adoption in supply chain management is influenced by trust, facilitating condition, performance expectancy, effort expectancy, technology readiness, and technology affinity (**Wong et al., 2020**). Despite the fact that BC have made significant progress recently, there are research gaps existing.

In order to close this gap, the current study offers spanking new empirical perspectives and creates a fresh line of inquiry about BC adoption in the area of fintech with the following objectives: (i) To look into how privacy, security, and interoperability can impact BCT adoption in the fintech ii) To determine how BCT adoption

may be impacted by business size, organizational preparedness, and support from top management and iii) To look at how the regulatory framework aims to balance the innovative potential of BCT with the need to reduce systemic risks and maintain financial sector stability. The research is progressed by way of outlining theoretical framework, posing research questions, methodological aspects, outcome and potential areas of further study.

3. Theoretical framework

The IS research employs a number of theories, but the focus here is organizational adoption of technology and two well-known theories are Diffusion of Innovations (DOI) by Roger's (1995) and the Technology Organization Environment (TOE) by Tomatzky and Fleischer (1990). The three main factors under TOE are technological, organizational and environmental. **According to Rogers, 1995**, the technological view takes into account technical attributes including relative advantage, complexity, compatibility privacy, and security. The organizational approach, on the other hand, focuses on an organization's internal elements, including organizational scale, organizational preparedness, top management support, and prior IT expertise (Weiner, 2009; Wang et al., 2010). The environmental viewpoint includes elements like competitive dynamics that affect an organization's daily operations, government relations, and regulations (Lippert and Govindarajulu 2006). The different factors within the three contexts have been discovered by various studies. Consequently, the TOE framework was chosen for the present investigation and expanded to the BCT adoption in accordance with the empirical data, literature analysis, and theoretical viewpoints (**Kauffman and Walden 2001**). As the BCT is currently being used in an exploratory manner in the Indian financial sector, the present research can bring fruitful insights.

4. Research design

4.1 Setting

The BC adoption is a multifaceted issue in financial sector, mostly owing to the extremely regulated character of the Indian financial system. Despite these regulatory challenges, the financial sector sees substantial prospective for BC applications. The study carried out in Chennai, Hyderabad, Bangalore, and Mumbai as they play significant roles in India's economic and technological landscapes. The experts having experience in creating BC solutions for fintech were selected as participants.

To get in touch with professionals, the researchers made advantage of their professional connections. Following interview, we asked participant to provide recommendations from their professional networks, based on their suitability. The inclusion strategy for the participants is minimum five years of experience with first-hand knowledge of developing BC solutions in the fintech.

4.2 Sample

The study carried out in between January 12, 2025, and March 16, 2025 with middle level and senior-level executives' in the fintech sector with semi-structured interviews, lasting roughly 35 to 45 minutes, to gather the data. Both consistency and flexibility were made possible by this interview approach, which expectant participants to go into further detail about their experiences while also allowing the researcher to examine particular topics (Kvale and Brinkmann, 2009; Longhurst, 2003). All identifiers were eliminated from transcripts and personal data was safely maintained to preserve participant secrecy. In certain instances, the participants exchanged use cases and the implementation process flow and cross-validated the discussions with aid of these extra data. Considering the process flow and use cases, we made thorough notes, which we then used to confirm the conversations.

4.3 Data analysis

The researcher took thorough field notes during the interviews and verbatim transcribed each one. A thorough and contextually rich dataset was guaranteed by this triangulated method, which included audio recordings, transcriptions, and handwritten notes (Patton, 2002). To conserve the integrity of the participants' statement, each transcription's accuracy was confirmed by contrasting it with the original audio recordings (Halcomb and Davidson, 2006). The two other researchers independently compared the transcripts to authentic recordings with the objective of reducing bias of researchers (Weston et al., 2001; Braun and Clarke, 2020). The validity and dependability of qualitative findings are improved by this inter-coder reliability approach (Nowell et al., 2017; Guest et al., 2012). The concise remarks that contextualized interview replies were recorded via manual field note recording, which was a useful addition to the coding and thematic analysis stage (Creswell and Poth, 2018).

The interview transcripts were coded and analyzed with the help of NVivo, an extensively used software for social science research in qualitative domain (Goyal and Deshwal, 2022; Zamawe, 2015). The study based on reflexive thematic analysis methodology of Braun and Clarke's 2006, 2020, which prioritizes thoughtful interpretation, iterative engagement with data, and researcher subjectivity. This method consists of six main steps: familiarizing oneself with the data, creating preliminary codes, investigating themes, evaluating themes, conceptualizing and labeling themes, and creating the final report (Braun and Clarke, 2006). Each of these phases mixed up active participation from all writers, which enhanced the analysis's intensity and authority. The clear traceability from codes to themes was made possible by NVivo's facilitation of effective data management and organization (Woods et al., 2016). When no new material or themes surfaced from follow-up interviews, usually after 30 transcripts had been examined, data saturation

was deemed to have been reached. But in order to corroborate the point of saturation and guarantee analytical robustness, data collecting went on until 40 interviews were finished (Fusch et al., 2015; Guest et al., 2006).

5. Results and Discussion

5.1 Word Cloud: It shows the most significant themes that were identified in the qualitative analysis. For getting the word cloud, we give the option 100 most frequent, display words with minimum length 5, and grouping with synonym. Dominant words like adoption, influence, challenges, privacy, security and financial reveal the main issues of stakeholders. This tips to the fact that adoption is multidimensional with environmental, organizational, and technological aspects (Tornatzky and Fleischer, 1990). This word ‘challenges’ was mostly used with infancy and smaller business which suggest challenges are less for established businesses indicating that such firms face greater barriers due to limited

resources, while established firms may experience fewer obstacles (Iansiti and Lakhani, 2017).

The 'privacy' was mostly associated with key words challenge and concern which shows majority is privacy is a big issue need to be addressed while implementing BC (Casino et al., 2019). The 'adoption' is also preceded with various challenges such as interoperability and security challenge which confirms that the successful implementation of BC is hampered by a number of issues (Xu et al., 2019). The widespread use of phrases like "perceived benefits," "elimination," and "intermediaries" is also a sign of BC's disruptive potential since it would lower transaction costs and do away with middlemen (Tapscott and Tapscott, 2016). The word cloud generally aligns through the TOE and provides visual support for the major themes found through thematic analysis aligned with (Braun & Clarke, 2006, 2020). This figure 01 shows the word cloud analysis.

Figure I: Word Cloud Analysis using NVivo.



5.2 Word frequency: In line with the TOE paradigm, the frequency table provides deep insights into the recurring themes gleaned via qualitative research (**Oliveira and Martins, 2011; Tornatzky and Fleischer, 1990**). As most common word, "adoption" (246 occurrences, 7.34%), emphasizes how important it is to BC implementation studies. These findings aligns with previous research that consider adoption to be a critical step influenced by a number of interconnected factors (**Zhu et al., 2006**). The word "influence" is prominent (168 times, 4.3%),

indicating that both internal and external stakeholders, such as organizational leaders and regulators, influence the choice to adopt (Squotto et al., 2020). Similar to this, "challenges" (84 times, 2.51%) represent perceived obstacles to BC adoption, including resource limitations, regulatory ambiguity, and technological complexity. These findings suggest that that early-stage businesses frequently encounter more implementation difficulties (Lansiti and Lakhani 2017). Additionally, the words "privacy" and "security" come up a lot, suggesting that

stakeholder concerns are persistent. These obstacles are well-established in the literature on BC, where dangers of unauthorized access and data sensitivity are viewed as deterrents (Casino et al., 2019). The fact that "privacy" is frequently used in conjunction with "challenge" and "concern" highlights the fact that it is still a crucial area that requires smart protections (Xu et al., 2019). However, as seen in the qualitative coding, terms like "benefits," "elimination," and "intermediaries" emphasize BC's disruptive potential—removing dependence on other parties and reducing transaction expenses (Tapscott and Tapscott, 2016). These advantages fit in with the TOE framework's technological setting, where innovation traits like compatibility and relative advantage are essential (Rogers, 2003). Furthermore, words like "readiness," "support," and "frame" imply infrastructural development and organizational preparedness, both of which are elements of the organizational setting. This suggests successful implementation is greatly impacted by structural and financial preparedness (Oliveira and Martins, 2011). The idea that financial institutions are the primary focus of investigation is further supported by the inclusion of "financial" (2.8%). All things considered, the word cloud's thematic density reflects the TOE model's holistic methodology and is consistent with the themes obtained by thematic analysis that is reflective (Braun and Clarke, 2006, 2020).

5.3 Theme#1: Technological context

Numerous organizations are presently concentrating on BCT in an effort to accelerate the development of green technologies and foster economic growth (Cocco et al., 2017). The technological approach, considers technological elements that could affect newly proposed or in use IT systems, such as interoperability, privacy, security, complexity, and relative advantage (Rogers, 1995). In the present research, privacy and security, compatibility challenges of interoperability and perceived benefits are examined under technological context to find out its impact on adoption in the fintech sector.

5.3.1 Privacy and security

RQ: 1 *How do privacy and security impact the adoption of BCT in fintech sector?*

While the BC is believed to be very safe for users since it may produce several addresses for people instead than their real identities to stop information leaking (Eyal, 2017) as users want privacy, ownership must be established and double-spending must be prevented through openness (Drescher, 2017). The transaction values, sender signatures, addresses of participants, and timestamps are all included in BC transactions (Feng et al., 2018). This allows transaction flows to be traced in order to harvest user information via data mining. As DLT can assist users in creating permanent, unchangeable data, but it also increases the risk to certain entities' privacy (Till et al., 2017). In the interim, data in public BC based systems is by default exposed to all network users, making it challenging to preserve confidentiality (Staples et al., 2017) and it is a fact that BC based systems are not without flaws (Werbach, 2018) because the BC is vulnerable to collusive, self-serving miners' assaults (Zheng et al. 2018). Because all balance and transactional data is publicly accessible (Meiklejohn et al., 2013; Kosba et al., 2016), it is commonly known that BC cannot stop transactional information leaks. The lack of such control has been a major contributing factor to several BC cybercrimes and other illegal activities (Crosby et al., 2016; Attaran and Gunasekaran, 2019). Although several approaches have been put forth to increase block chain secrecy, the issue is still unsolved (Cong and He, 2019).

The BC may generate several addresses for individuals instead of their actual identities to prevent information leaks; it is thought to be extremely secure for participants.

Participant 20, Participant 32, Participant 37, Participant 25.

Since each participant in a BC must provide permission before any entry can be changed or removed. **Participant 04, Participant 07.**

*Despite being extremely beneficial and distinctive in the financial market, DLT is still in its infancy, which poses challenges for regulators. **Participant 12, Participant 29, Participant 30.***

*Because all network users can access data in public BC-based systems by default, maintaining secrecy can be difficult. **Participant 06, Participant 14.***

*If the encryption key is misplaced or hacked, there's a possibility that the sensitive data will be lost. **Participant 09, Participant 18.***

*BCT increases encryption to promote security and privacy. But you do forfeit transparency and verifiability. **Participant 40, Participant 28, Participant 31.***

The financial industry's acceptance and application of BCT are impacted by privacy and security issues because of the growing threat of cybercrimes and privacy threats. **Participant 10, Participant 13, Participant 21, Participant 27.**

5.3.2: Compatibility challenges of interoperability

RQ: 2 How compatibility challenges of interoperability impact the fintech adoption of BC?

The interoperability is the capacity of various BC networks to safely and easily interchange data and values. The creative concept aims to encourage the creation of new features as well as applications through facilitating communication and resource exchange amongst these dispersed BC networks (Gordon and Catalini, 2018). The interoperable BC frameworks facilitate the transfer of existing tokens across two BCs. Within BC interoperability, cross-chain asset transactions and crypto currency are relatively limited subsets (Belchior et al., 2021). The high heterogeneity of the BC ecosystem allows possible consumers to select from a wide range of incompatible technology. As current protocols and standards typically do not allow interoperability between multiple BC, some operations, including calling and executing smart contracts or transmitting tokens from one participant to another, can only be performed within a single BC (Schulte et al., 2019). Without further work by the operators of the fundamental

BC protocols, the interoperable chains enable third parties to perform payment-versus-payment and payment-versus-delivery schemes, move assets between platforms, and access data from one chain inside another. The chain interoperability has been the subject of much discussion in theory, although little of it has been implemented in practice thus far. This is mostly because two stable, sufficiently powerful, and preexisting block chains are needed for a successful live example of chain interoperability; however, this is beginning to gradually change (Buterin, 2016).

*When different fintech uses different BC platforms, how can we easily share assets and data. **Participant 25, Participant 39, Participant 11, Participant 14.***

*Large transaction throughout and quick confirmation times are essential for BCT. For efficient data exchange and transactions, standardized protocols and simple communication between diverse BC networks are essential. **Participant 03, Participant 27, Participant 16, Participant 23,***

5.3.3: Perceived benefits

RQ: 3 Explain the perceived benefits of adopting BC in fintech?

As it doesn't require human interaction, BC claims to be able to address these major problems by symbolizing "a change from trusting people to trusting Maths" (Nofer et al., 2017). The BC has the power to overthrow current company structures because it removes middlemen, reduces transaction costs, and creates new revenue sources (Morkunas et al., 2019). BCT enables anyone to transfer digital assets anywhere in the world with exceptional dependability and drastically lowers the cost of value transmission. By connecting them directly with a global network of investors, it enables projects and enterprises to raise money without the use of traditional middlemen like banks or venture capitalists (Rohr and Wright, 2018). The consensus-building, distributed databases and cryptographic hashes are not novel ideas. Combined, though, they provide a powerful new means of data communication and asset transfers

that could eliminate the need for costly reconciliation processes, centralized third parties, and middlemen (Treat et al., 2017). In other cases, the technology can decrease the layers of traditional intermediation while wholly eliminating the need for intermediation (Cai, 2018). As the BC eliminates middlemen, lowers transaction costs, and generates new revenue streams, it has the potential to upset conventional business structures.

Transactions are made between peers easier and transaction costs are reduced by BC, which also streamlines procedures. Moreover, it promotes innovation by creating new avenues for revenue generation. Participant 02, Participant 22, Participant 35.

It is anticipated to have a greater influence on asset transfer procedures by providing a more trustworthy and effective substitute for conventional methods. Participant 05, Participant 26, Participant 36 Participant 38.

BCT is revolutionizing asset transfers in financial services sector by doing away with middlemen. Participant 08, Participant 16, Participant 34, Participant 40.

5.4 Theme#2: Organizational context

Adoption decisions and the success of their implementation have been shown to be significantly influenced by the accessibility of organizational resources, such as material, human, and financial resources (Depietro et al., 1990). Adopting an IT innovation may alter corporate operations both internally and externally (Kaganer et al., 2010; Wang, 2009). The internal elements regarding an organization, such as information intensity, organizational scale, past IT experience, inventiveness, top management support, and organizational readiness, are referred to as the organizational view (Weiner, 2009; Wang et al., 2010). This study has thoroughly examined the impact of top management, organizational preparedness, and company size on adoption.

5:4:1 Top-level management assistance

RQ: 4 How Top-level management assistance power the implementation of BC in the fintech sector?

A company's senior management has a direct responsibility to overcome internal obstacles and reluctance to change since it affects the coordinated re-engineering of processes, activities, and resources (Sangster et al., 2009; Gutierrez et al., 2015). Lack of it can seriously impede the process of adoption (Picoto et al., 2014), and it would be crucial towards an eye on the different facets of adoption, such as standardization, architectural integration, and the distribution of required resources (Wang et al., 2016). Top management's attitude and backing guarantee that there will be sufficient resources to implement the invention (Grover and Goslar, 1993). The process of innovation adoption and dissemination is positively connected with senior management's availability of adequate resources and fostering an environment that is favorable to innovation adoption within a company (Rogers, 1995; Premkumar and Roberts, 1999).

The management is cautiously waiting for the technology to advance before putting into practice because it would require significant funding. Participant 15, Participant 24, Participant 33, Participant 17.

Top management must co-operate for BCT to be successfully implemented because it is essential for resource allocation, new technology integration, and business process re-engineering. This aids in resolving the process's complexity. Participant 22, Participant 34, Participant 19, Participant 21, Participant 38.

5:4:2 Organizational readiness

RQ: 5 How organizational readiness power acceptance of Block chain in fintech sector?

An exceptional institutional composition of block networks and public choice economics put a high weight on decentralization and disintermediation. In future for BC, the responsibilities and procedures might not change, but the economic structure of the industry most definitely would change. Many of the transactions

that are currently controlled by relational contracts, hierarchical structures, or market transactions may transfer to the BC due to its economic efficiency over transaction costs, resulting in significant organizational structure changes for the institutions involved (MacDonald, et al., 2016). The organizational resources available to incorporate new IT advances are referred to as organizational readiness (Lacovou et al., 1995; Weiner, 2009; Wang et al., 2010).

Possessing the required financial resources, technological infrastructure, and IT expertise has a major impact on the acceptance of BCT by facilitating its effective implementation and removing technological barriers. Participant 31, Participant 40, Participant 20, Participant 10.

The organization must first build up its entire infrastructure, which is expensive, before making any changes. Participant 12, Participant 29, Participant 25 Participant 17, Participant 03.

5.4.3 Organizational size

RQ:6 How organizational size power embracing block chain in fintech sector?

The size of an organization is believed to significantly influence the adoption (Mendling et al., 2017; Tapscott and Tapscott, 2016) as it has a beneficial impact on an enterprise's propensity to adopt new innovative IT (Damanpour, 1992). The larger businesses have more varied and sophisticated facilities, which promotes adoption (Lee and Xia, 2006). However, there are a number of obstacles that can prevent small firms from implementing IT innovations, including a lack of resources and a small IT budget (Thong and Yap, 1995).

The adoption rate of BCT is thought to be significantly influenced by the size of an enterprise. Participant 19, Participant 27, Participant 34, Participant 11, Participant 22.

BCT can lessen reliance on traditional service providers, however smaller businesses frequently face challenges including scarce resources and high IT costs, whereas larger companies frequently have access to better facilities and

more resources. Participant 05, Participant 36, Participant 10, Participant 08, Participant 20.

5.5: Theme#3 Environmental context

RQ: 7 How can regulatory framework be designed to balance the innovative potential of BCT with the need to mitigate systemic risks and ensure stability in the fintech sector?

5.5.1: Regulatory environment and new governance frameworks

The BT has the power to drastically change not just the banking sector but also the way we interact with the government and go about our daily lives (Knezevic, 2018). Acknowledging the potential for the technology to inadvertently pose systemic threats to the financial structure, it would be necessary to skillfully balance the regulatory measures against its innovative spirit (Yeoh, 2017). To realize the true societal benefits of BC, governance is required, together with the proper regulations, procedures, and enforcements (Harwood-Jones 2016). The regulations are probably going to have an impact on establishing the prerequisites for increased adoption, particularly in banking (Larios-Hernandez, 2017; Fan, 2018; Kshetri, 2018). The BC applications in finance must ensure commercial viability despite competition from well-established businesses that are steeped in the current legal and regulatory environment in addition to being strong and affluent (Varma, 2019). The applications of the BC that do not involve crypto currencies need to overcome several important legal and commercial barriers. When real-world banking is moved to the BC, code and law must co-exist. The code must be at least partially accepted as law by real world for BC transactions result in ownership changes. In obtaining regulatory approval is challenging since authorities' stances on emerging technology are often ambiguous. In spite of competition from well-established companies that are not only strong and wealthy but also well-versed in the present legal and regulatory environment, the numerous BC applications in finance must

maintain commercial viability (Varma, 2019). The modification of financial regulations and decentralization of the current centralized financial system is expected to require a long time to implement since financial institution system adjustments need to be backed by systemic changes (Yoo, 2017). The possible systemic challenges with BCT include governance problems and designing regulatory frameworks that can deal with the constantly shifting dispersed and highly mobile economic actors poses challenges to policymakers. The block chain applications by large firms may in the future reroute value flows away from regulatory supervision (Manski, 2017). More research and development in the realm of regulatory frameworks will be necessary for BCT to become extensively used and affluent (Swan, M. 2019). The future investigations and remedies for the problems mentioned might concentrate on fixing legal and regulatory concerns (Zheng et al., 2018).

By encouraging collaboration between regulators, business leaders, and technologists, BC legislation ought to be developed in a manner that achieves equilibrium between innovation, systemic risk reduction, and the maintenance of financial stability. These frameworks ought to have adaptable regulations that permit growth while preserving monitoring and adherence to legal obligations for issues like data privacy and anti-money laundering. Participant.26, Participant 12, Participant 02, Participant07, Participant04.

6. Major findings

The advantages like lower transaction costs, removal of middlemen, increased trust, improved encryption and user safety are recognized. But privacy and security pose the biggest complexity, together with issues like cybercrimes, lost transparency, and the nascent nature of the technology. Another most significant challenge is organizational preparedness, where successful adoption depends on having enough financial resources, IT expertise, and infrastructure. As BC integration necessitates active participation at the highest organizational level, top management support, highlights the importance of leadership engagement, resource allocation, and process re-engineering. The organizational size with small businesses finds it difficult, where as larger businesses have access to more resources. Further, the governance framework is thought to be important external factors influencing adoption as lack of standards among BC systems leads to technological breakup and incorporation issues. Although BC is thought to have many advantages, its long-term acceptance in the fintech would need resolving the primary issues of privacy and security, organizational preparedness, robust management and governmental backing. The figure 02 showing hierarchy chart of major factors affecting BC adoption in the Fintech sector.

Fig 02 showing Hierarchy chart using NVivo.



7.Limits of the study and potential research

The results should be interpreted cautiously due to limitations because BCT is still relatively new in India, even though the research assured validity and reliability by following recognized research methodologies. Future research endeavors may center on interactions across

developing domains like AI, and machine learning with a larger sample size from the ecosystem. Examining adoption strategies in various countries and legal contexts, cross-cultural studies could also be useful since they offer more precise information about how BCT can be successfully incorporated into current systems.

References

- Arora, S., & Nabi, T. (2022). Blockchain adoption in banking systems: A boon or bane?. In Applications, challenges, and opportunities of blockchain technology in banking and insurance (pp. 19-42). IGI Global.
- Attaran, M. and Gunasekaran, A. (2019), Applications of Blockchain Technology in Business: Challenges and Opportunities, Springer Nature, Switzerland, AG.
- Atzori, M. (2015). Blockchain technology and decentralized governance: Is the state still necessary?. Available at SSRN 2709713.
- Barnes III, B. W., & Xiao, B. (2019). Organizational adoption of blockchain technology: an ecosystem perspective.
- Belchior, R., Vasconcelos, A., Guerreiro, S., & Correia, M. (2021). A survey on blockchain interoperability: Past, present, and future trends. *ACM Computing Surveys (CSUR)*, 54(8), 1-41.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Braun, V., & Clarke, V. (2020). *Thematic Analysis: A Practical Guide*. SAGE Publications.
- Buterin, V. (2016). Chain interoperability. R3 research paper, 9, 1-25.
- Cai, C. W. (2018). Disruption of financial intermediation by FinTech: a review on crowdfunding and blockchain. *Accounting & Finance*, 58(4), 965-992.
- Casino, F., Dasaklis, T. K., & Patsakis, C. (2019). A systematic literature review of blockchain-based applications: Current status, classification and open issues. *Telematics and Informatics*, 36, 55–81.
- Cocco, L., Pinna, A., & Marchesi, M. (2017). Banking on blockchain: Costs savings thanks to the blockchain technology. *Future internet*, 9(3), 25.
- Cong, L. W., & He, Z. (2019). Blockchain disruption and smart contracts. *The Review of Financial Studies*, 32(5), 1754-1797.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). SAGE Publications.
- Crosby, M., Pattanayak, P., Verma, S., & Kalyanaraman, V. (2016). Blockchain technology: Beyond bitcoin. *Applied Innovation*, 2(6-10), 71.
- Damanpour, F. (1992). Organizational size and innovation. *Organization studies*, 13(3), 375-402.
- De Castro, P., Tanner, M., & Johnston, K. (2020, March). Perceived factors influencing blockchain adoption in the asset and wealth management industry in the Western Cape, South Africa. In *International Development Informatics Association Conference* (pp. 48-62). Cham: Springer International Publishing.
- Depietro, R., Wiarda, E., & Fleischer, M. (1990). The context for change: Organization, technology and environment. The processes of technological innovation, 199(0), 151-175.
- Drescher, D. (2017). A Non-Technical Introduction in 25 Steps. New York, New York, United States: Apress.
- Du, W. D., Pan, S. L., Leidner, D. E., & Ying, W. (2019). Affordances, experimentation and actualization of FinTech: A blockchain implementation study. *The Journal of Strategic Information Systems*, 28(1), 50-65.

-
- Eyal, I. (2017), "Blockchain technology: transforming libertarian cryptocurrency dreams to finance and banking realities", *Computer*, Vol. 50 No. 9, pp. 38-49.
- Fan, P. S. (2018). Singapore approach to develop and regulate FinTech. In *Handbook of Blockchain, Digital Finance, and Inclusion*, Volume 1 (pp. 347-357). Academic Press.
- Feng, Q., He, D., Zeadally, S., Khan, M. K., & Kumar, N. (2019). A survey on privacy protection in blockchain system. *Journal of network and computer applications*, 126, 45-58.
- Fusch Ph D, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research.
- Gordon, W. J., & Catalini, C. (2018). Blockchain technology for healthcare: facilitating the transition to patient-driven interoperability. *Computational and structural biotechnology journal*, 16, 224-230.
- Goyal, M., & Deshwal, P. (2023). Online post-purchase customer experience: a qualitative study using NVivo software. *Quality & quantity*, 57(4), 3763-3781.
- Grover, V., & Goslar, M. D. (1993). The initiation, adoption, and implementation of telecommunications technologies in US organizations. *Journal of management information systems*, 10(1), 141-164.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82.
- Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied Thematic Analysis*. SAGE Publications.
- Gutierrez, A., Boukrami, E., & Lumsden, R. (2015). Technological, organisational and environmental factors influencing managers' decision to adopt cloud computing in the UK. *Journal of enterprise information management*, 28(6), 788-807.
- Halcomb, E. J., & Davidson, P. M. (2006). Is verbatim transcription of interview data always necessary? *Applied Nursing Research*, 19(1), 38-42.
- Harwood-Jones, M. (2016). Blockchain and T2S: a potential disruptor. Standard Chartered Bank.
- Hughes, A., Park, A., Kietzmann, J., & Archer-Brown, C. (2019). Beyond Bitcoin: What blockchain and distributed ledger technologies mean for firms. *Business Horizons*, 62(3), 273-281.
- Iacovou, C. L., Benbasat, I., & Dexter, A. S. (1995). Electronic data interchange and small organizations: Adoption and impact of technology. *MIS quarterly*, 465-485.
- Iansiti, M., & Lakhani, K. R. (2017). The truth about blockchain. *Harvard Business Review*, 95(1), 118-127.
- Kaganer, E., Pawlowski, S.D. and Wiley-Patton, S. (2010), "Building legitimacy for IT innovations: the case of computerized physician order entry systems", *Journal of the Association for Information Systems*, Vol. 11 No. 1, pp. 1.
- Kauffman, R. J., & Walden, E. A. (2001). Economics and electronic commerce: Survey and directions for research. *International journal of electronic commerce*, 5(4), 5-116.
- Knezevic, D. (2018). Impact of blockchain technology platform in changing the financial sector and other industries. *Montenegrin Journal of Economics*, 14(1), 109-120.
- Kosba, A., Miller, A., Shi, E., Wen, Z., & Papamanthou, C. (2016). Hawk: The blockchain model of cryptography and privacy-preserving smart contracts. *Proceedings of the 2016 IEEE Symposium on Security and Privacy*, 839-858.
- Kshetri, N. (2018). Blockchain's roles in meeting key supply chain management objectives. *International Journal of information management*, 39, 80-89.
- Kulkarni, M., & Patil, K. (2020, March). Block Chain Technology Adoption for Banking Services-Model based on Technology-Organization-Environment theory. In *Proceedings of the International Conference on Innovative Computing & Communications (ICICC)*.
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd ed.). SAGE Publications.
-

-
- Larios-Hernández, G. J. (2017). Blockchain entrepreneurship opportunity in the practices of the unbanked. *Business Horizons*, 60(6), 865-874.
- Lee, G., & Xia, W. (2006). Organizational size and IT innovation adoption: A meta-analysis. *Information & management*, 43(8), 975-985.
- Lippert, S. K., & Govindarajulu, C. (2006). Technological, organizational, and environmental antecedents to web services adoption. *Communications of the IIMA*, 6(1), 14.
- Longhurst, R. (2003). Semi-structured interviews and focus groups. In N. J. Clifford & G. Valentine (Eds.), *Key methods in geography* (pp. 117–132). SAGE Publications.
- MacDonald, T. J., Allen, D. W., & Potts, J. (2016). Blockchains and the boundaries of self-organized economies: Predictions for the future of banking (pp. 279-296). Springer International Publishing.
- Mansfield-Devine, S. (2017). Beyond Bitcoin: using blockchain technology to provide assurance in the commercial world. *Computer Fraud & Security*, 2017(5), 14-18.
- Manski, S. (2017). Building the blockchain world: Technological commonwealth or just more of the same?. *Strategic Change*, 26(5), 511-522.
- Meiklejohn, S., Pomarole, M., Jordan, G., Levchenko, K., McCoy, D., Voelker, G. M., & Savage, S. (2013, October). A fistful of bitcoins: characterizing payments among men with no names. In *Proceedings of the 2013 conference on Internet measurement conference* (pp. 127-140).
- Mendling, J., Weber, I., Aalst, W. V. D., Brocke, J. V., Cabanillas, C., Daniel, F., ... and Gal, A. (2018), "Blockchains for business process management-challenges and opportunities", *ACM Transactions on Management Information Systems (TMIS)*, Vol. 9 No. 1, pp. 1-16.
- Morkunas, V. J., Paschen, J., & Boon, E. (2019). How blockchain technologies impact your business model. *Business Horizons*, 62(3), 295-306.
- Nofer, M., Gomber, P., Hinz, O., & Schiereck, D. (2017). Blockchain. *Business & Information Systems Engineering*, 59, 183-187.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13.
- Oliveira, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *The Electronic Journal Information Systems Evaluation*, 14(1), 110–121.
- Orji, I. J., Kusi-Sarpong, S., Huang, S., & Vazquez-Brust, D. (2020). Evaluating the factors that influence blockchain adoption in the freight logistics industry. *Transportation Research Part E: Logistics and Transportation Review*, 141, 102025.
- Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods* (3rd ed.). SAGE Publications.
- Picoto, W. N., Bélanger, F., & Palma-dos-Reis, A. (2014). An organizational perspective on m-business: usage factors and value determination. *European journal of information systems*, 23(5), 571-592.
- Premkumar, G., & Roberts, M. (1999). Adoption of new information technologies in rural small businesses. *Omega*, 27(4), 467-484.
- Rogers Everett, M. (1995). *Diffusion of innovations*. New York, 12.
- Rohr, J., & Wright, A. (2018). Blockchain-based token sales, initial coin offerings, and the democratization of public capital markets. *Hastings LJ*, 70, 463.
- Saberi, S., Kouhizadeh, M., Sarkis, J., and Shen, L. (2019). Blockchain technology and its relationships to sustainable supply chain management. *International journal of production research*, 57(7), 2117-2135.
- Sangster, A., Leech, S. A., & Grabski, S. (2009). ERP implementations and their impact upon management accountants. *JISTEM-Journal of Information Systems and Technology Management*, 6, 125-142.
- Schulte, S., Sigwart, M., Frauenthaler, P., & Borkowski, M. (2019). Towards blockchain interoperability. In *Business Process Management: Blockchain and Central and Eastern Europe Forum: BPM 2019 Blockchain and CEE Forum*, Vienna, Austria, September 1–6, 2019, *Proceedings 17* (pp. 3-10). Springer International Publishing.
-

-
- Scuotto, V., Serravalle, F., Murray, A., & De Bernardi, P. (2020). Shifting intra- and inter-organizational innovation processes towards digital ecosystems: A case study. *Journal of Business Research*, 123, 130–142.
- Staples, M., Chen, S., Falamaki, S., Ponomarev, A., Rimba, P., Tran, A. B., ... & Zhu, J. (2017). Risks and opportunities for systems using blockchain and smart contracts. Data61. CSIRO), Sydney.
- Swan, M. (2015). Blockchain: Blueprint for a new economy. " O'Reilly Media, Inc."
- Swan, M. (2019). Blockchain economic networks: Economic network theory—Systemic risk and blockchain technology. *Business Transformation through Blockchain: Volume I*, 3-45.
- Swan, M. (2015). Blockchains may replace the institutions that safeguard commercial activities. *LSE Business Review*.
- Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world*. Penguin.
- Thong, J.Y. and Yap, C.S. (1995), "CEO characteristics, organizational characteristics and information technology innovations", *Journal of the Association for Information Systems*, Vol. 10 No. 1.
- Till, B. M., Peters, A. W., Afshar, S., & Meara, J. G. (2017). From blockchain technology to global health equity: can cryptocurrencies finance universal health coverage?. *BMJ global health*, 2(4), e000570.
- Tornatzky, L., & Fleischer, M. (1990). *The process of technology innovation*, Lexington, MA.
- Treat, D., Brodersen, C., Blain, C., & Kurbanov, R. (2017). Banking on blockchain-a value analysis for investment banks. *Accent. Consult*, 10.
- Varma, J.R. (2019). Blockchain in finance. *Vikalpa*, 44(1), 1-11.
- Wang, H., Chen, K. and Xu, D. (2016), "A maturity model for blockchain adoption", *Financial Innovation*, Vol. 2 No. 1, pp. 1-5.
- Wang, Y.M., Wang, Y.S. and Yang, Y.F. (2010), "Understanding the determinants of RFID adoption in the manufacturing industry", *Technological Forecasting and Social Change*, Vol. 77 No. 5, pp. 803-815.
- Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation science*, 4, 1-9.
- Werbach, K. (2018). *The blockchain and the new architecture of trust*. Mit Press.
- Weston, C., Gandell, T., Beauchamp, J., McAlpine, L., Wiseman, C., & Beauchamp, C. (2001). Analyzing interview data: The development and evolution of a coding system. *Qualitative Sociology*, 24(3), 381–400.
- Wong, L. W., Tan, G. W. H., Lee, V. H., Ooi, K. B., & Sohal, A. (2020). Unearthing the determinants of Blockchain adoption in supply chain management. *International Journal of Production Research*, 58(7), 2100-2123.
- Woods, M., Paulus, T., Atkins, D. P., & Macklin, R. (2016). Advancing qualitative research using qualitative data analysis software (QDAS)? Reviewing potential versus practice in published studies using ATLAS. ti and NVivo, 1994–2013. *Social science computer review*, 34(5), 597-617.
- Xu, X., Weber, I., & Staples, M. (2019). *Architecture for blockchain applications*. Springer.
- Yeoh, P. (2017). Regulatory issues in blockchain technology. *Journal of Financial Regulation and Compliance*, 25(2), 196-208.
- Yoo, S. (2017). Blockchain based financial case analysis and its implications. *Asia Pacific Journal of Innovation and Entrepreneurship*, 11(3), 312-321.
- Zamawe, F. C. (2015). The implication of using NVivo software in qualitative data analysis: Evidence-based reflections. *Malawi Medical Journal*, 27(1), 13-15.
- Zheng, Z., Xie, S., Dai, H. N., Chen, X., & Wang, H. (2018). Blockchain challenges and opportunities: A survey. *International journal of web and grid services*, 14(4), 352-375.
- Zhu, K., Kraemer, K. L., & Xu, S. (2006). The process of innovation assimilation by firms in different countries: A technology diffusion perspective on e-business. *Management Science*, 52(10), 1557–1576.
-