



"Block chain Adoption in Traditional Banking: Opportunities and Challenges"

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ABSTRACT

Block chain technology, with its unique recording capabilities, is poised to render traditional clearing and settlement processes obsolete. The traditional banking undergoes a paradigm shift with technological advancements. The objectives of study are twofold: firstly, to illuminate the opportunities that block chain presents to traditional banking, and secondly, to scrutinize the utility and advantages that block chain brings to the banking sector. The researcher approached respondents from banks through surveys and Questionnaire, providing valuable insights into the current perceptions on usefulness and benefits of blockchain adoption in the banking sector. Through a thorough examination of both opportunities and challenges, this research contributes to a nuanced understanding of the potential impact of block chain on traditional banking. The findings are anticipated to guide stakeholders in navigating the intricate landscape of block chain adoption, fostering informed decision-making and facilitating the integration of this transformative technology into the core of traditional banking operations.

Keywords: *Blockchain, Traditional Banking, Banking practices, opportunities and Challenges.*

INTRODUCTION

In India, banks, crucial financial intermediaries, have evolved significantly from 'conventional banking' to 'convenience banking' since liberalization. The RBI's 1988 computerization committee, led by Dr. C. Rangarajan, laid the foundation for technological advancements. The introduction of Standalone PCs, LANs, and core banking marked progress towards 'Anywhere - Anytime Banking' (Gupta and Gupta, 2018).

The integration of new technologies, such as e-banking and the introduction of Automated Teller Machines (ATMs), has significantly benefited banks in terms of time and cost efficiency. The banking sector experienced a digital revolution with the advent of payment methods like NEFT, ECS, and RTGS. The implementation of cheque truncation systems, along with the widespread adoption of "online banking, mobile banking, debit cards, credit cards, and prepaid cards", has further contributed to this digital transformation. Notable innovations in payment systems, such

as the launch of the “United Payments Interface (UPI) and Bharat Interface for Money (BHIM) by the National Payments Corporation of India (NPCI), have propelled remarkable progress in the digital evolution of the banking sector”. Presently, banks aim to provide fast, error-free, and quality services to meet the evolving needs of their customers. (RBI, 2017).

The researcher carried the study with following objectives:

1. *To highlight the opportunities and challenges for traditional banking in adoption of block chain.*
2. *To examine the usefulness and benefits of block chain in banking sector.*

MATERIAL AND METHOD

The researcher applied both quantitative and qualitative approach and exploratory methodologies for the study and based on doctrinal sources. The research was carried out using data from primary and secondary sources. Five banks provided the main information, and ten banking officials from each financial institution were contacted. Further information was gathered from books, articles, and published papers.

1. RESULT AND ANALYSIS

3.1 OPPORTUNITIES AND CHALLENGES FOR TRADITIONAL BANKING IN ADOPTION OF BLOCK CHAIN.

3.1.1 OPPORTUNITIES FOR TRADITIONAL BANKING

Blockchain, an emerging technology, has the potential to revolutionize The insurance and financial industry, offering a wealth of chances for expansion and creativity while also cutting expenses and risks. It has the potential to drastically alter the financial industry, making many of the current procedures and systems outdated. The following are some benefits of the blockchain technology: (Gupta and Gupta, 2018):

1. ***Reduced Transaction Costs:***The technology behind block chain reduces bank reconciliation costs and reduces loss due to fraud by giving market players instantaneous access to dematerialized products along with stored data. The simultaneous occurrence of payment and settlement reduces fund management costs for the treasury. In cross-border remittances, Blockchain can facilitate access to the best exchange rates through near-real-time processing.
2. ***Efficiency:***Blockchain enhances transaction processing speed by minimizing decision-making time across organizations very little assistance from humans. Faster payments and settlements are achieved by eliminating a requirement for redundant record-keeping, streamlining reconciling accounts, and reducing mistakes of fraud. In the event of unforeseen circumstances, such as war, flood, earthquake, etc., participants in Blockchain can collectively approve a transaction.

3. **Elimination of Intermediaries:**Blockchain, rooted in “cryptography, replaces third-party intermediaries” as the custodians of trust. This eliminates overhead costs when parties engage in direct transactions without the necessity of a central authority or middleman.
4. **Transparency:**Block chain improves disclosure of transactions by keeping an immutable trace of transactional events in an ordered manner. In financial areas, it offers information about the email's origin, promoting accountability and lowering risks.

CHALLENGES ENCOUNTERED BY BANKING SECTOR

Blockchain Technology holds immense potential, yet several challenges could impede its adoption rate. These challenges encompass(Hannan, 2022):

1. **Interoperability:**The absence of an international standard for competing Blockchain systems hinders greater interoperability. Achieving operational feasibility relies on parties being on the same Blockchain network. The proliferation of competing Blockchain networks exacerbates interoperability issues.
2. **Privacy:**Inherent data sharing among all participants in the Blockchain system poses challenges to transaction privacy. While private Blockchains enhance security, they face interoperability issues with other Blockchains.
3. **Encryption:**Concerns related to Blockchain data encryption arise, especially if the key becomes public or is lost. Potential vulnerabilities in the encryption system could be exploited, compromising data integrity.
4. **Security:**Blockchain's complexity and cryptographic safeguards make it challenging to hack, but security breaches necessitate robust measures. Multi-level security considerations include authorization, protection from malicious insiders, “defence against cyberattacks, transaction security, and infrastructure security”. Blockchain systems can be permission less or permissioned based on transaction nature.
5. **Scalability:**As Blockchain applications expand, the demand for a larger database and faster access becomes crucial. Ensuring high processing speed is essential for handling vast data volumes comparable to current systems.

These challenges may temper enthusiasm for Blockchain potential, but improvements in the Blockchain framework over time can address these concerns.

3.2 USEFULNESS AND BENEFITS OF BLOCK CHAIN IN BANKING SECTOR

On the basis of above discussed opportunities researcher examined the benefits and usefulness of block chain in banking.

Table:1.1 Responses of Banking representatives on usefulness of Block chain

S.no	Statement	Responses				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Block chain allows for direct access to dematerialized assets, saving reconciliation costs for banks and mitigating losses from fraud.	2	5	10	25	8
2.	The digital ledger speeds up decision-making inside companies while requiring less human involvement, eliminating the need for redundant keeping paperwork and simplifying a reconciliation.	1	7	12	20	10
3.	Block chain, rooted in cryptography, replaces third-party intermediaries, reducing overhead costs when parties engage in direct transactions without the necessity of a central authority or middleman.	3	8	15	18	6
4.	Block chain maintains an irreversible record of transaction events, enhancing transparency in business transactions and reducing risks.	5	12	10	15	8
5.	Block chain can facilitate access to the best exchange rates through near-real-time processing in cross-border remittances.	2	6	13	19	10
6.	In the event of unforeseen circumstances such as war, flood, earthquake, etc., participants in block chain can collectively approve a transaction.	4	9	11	17	9

Source: Created by researcher from questionnaire responses

The analysis of above Responses on Usefulness and benefits of Blockchain in Banking Sector are explained below:

1. **Block chain Technology Reduces Transaction Costs:** The majority 53% respondents agree or strongly agree that block chain allows for direct access to dematerialized assets, indicating positive perceptions regarding its potential to save costs and mitigate fraud.
2. **Block chain Enhances Efficiency in Transaction Processing:** A significant portion 50% respondents agree or strongly agree that block chain minimizes decision-making time and streamlines reconciliations, suggesting positive sentiments towards its efficiency benefits.
3. **Elimination of Intermediaries:** The responses indicate mixed perceptions, with a considerable number 45% respondents in agreement or strong agreement, but with 21% expressing disagreement or neutrality.
4. **Block chain Enhances Transparency:** There's a relatively balanced distribution of responses, but a majority 51% respondents agree or strongly agree that block chain enhances transparency and reduces risks.
5. **Block chain Facilitates Access to Best Exchange Rates in Cross-Border Remittances:** The majority 56% respondents agree or strongly agree that block chain can facilitate access to the best exchange rates, indicating positive perceptions about its potential in cross-border remittances.
6. **Block chain Enables Collective Approval in Unforeseen Circumstances:** Responses are distributed across the scale, but a significant 51% respondents agree or strongly agree that block chain can enable collective approval during unforeseen circumstances.

Overall, analysis the analysis reveals generally positive perceptions regarding the benefits of blockchain in the banking sector.

CONCLUSION

In conclusion, block chain technology holds significant promise for traditional banking, offering benefits such as reduced transaction costs, increased efficiency, elimination of intermediaries, and enhanced transparency. However, challenges like interoperability, privacy concerns, encryption issues, security considerations, scalability, energy consumption, and the absence of a comprehensive legal framework present obstacles to widespread adoption. The analysis indicates widespread positivity regarding block chain's benefits in the banking sector, particularly in enhancing efficiency, transparency, and cross-border transactions. However, there's uncertainty about its potential to entirely replace third-party intermediaries. Overall, while there's substantial optimism, addressing concerns around specific aspects of block chain adoption may be key to its successful integration into the banking industry.

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