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Chapter

# EVALUATING BLOCKCHAIN ADOPTION IN INDIAN E-COMMERCE SUPPLY CHAINS: A CASE STUDY ANALYSIS

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## **ABSTRACT**

*This study focuses at the significant effect of blockchain technological innovation on web-based business in India with a unique spotlight on supply management network. The report sheds light on an examination of the current literatures for the research topic, arguing about both the possible benefits and impediments related with blockchain innovation. The exploration technique utilized in this study incorporates a mix of online reviews and meetings with directors and business specialists. With this review, we aim to acquire knowledge into the acumens and temperaments of Indian retail organizations towards blockchain innovation. The consequences of our examination show that a few respondents have a good understanding of blockchain innovation and know about its expected advantages in further developing security, guaranteeing information respectability and diminishing extortion. In any case, there are other people who have restricted mindfulness or more prominent interest in embracing the innovation. Taken together, the outcomes recommend that further exploration is expected to work with the broad adoption of blockchain innovation for supply network deriving the Indian online business in retail space. Likewise, obviously there are as yet exceptional issues in the implementation of blockchain innovation in e-commerce sector.*

**Keywords:** *Block Chain Technology, Supply chain management, E-commerce, Digital Ledger.*

## **16.1 INTRODUCTION**

Discrete, open-source blockchain innovation makes it feasible for advanced merchants to ship computerized assets over the different geological areas safely. Since it depends on a conveyed computerized bookkeeping record, each and every individual who utilizes it might get to something similar, continually refreshed continuous information (Lee and Pilkington, 2017; Lu and Xu, 2017). By guaranteeing that all exchanges are affirmed and recorded by various organization hubs, this dispenses with the requirement for middle people like banks or *state-run* administrations. The permanence, openness, and security of blockchain innovation are its core values. On the blockchain, every exchange is kept in a block that is then associated with further blocks to lay out a chain of data. Because of the cryptographic strategies utilized, this chain can't be changed or obstructed, guaranteeing the start to finish computerized power that is being seen at braced speed to spike disturbance in conventional nature of business endeavors (Angelis and Ribeiro, 2018; Luthra et al., 2018; Moberg, 2003). Internet business is the virtual business assemblage of buying and offering labor and products electronically through web-based channels. It has changed the manner in which organizations work, simplifying it for individuals and organizations to globally impart and execute business. Organizations can get to a bigger client base and give their labor and products nonstop because of online business. Clients can arrange things on the web

and have them conveyed straightforwardly to their entryway while shopping from the solace of their homes. The prominence and development of internet business have been extraordinarily helped by this support and availability (Apte and Petrovsky, 2016; Lo et al., 2018; Longo et al., 2019).

Different highlights and capacities are presented by web-based business stages, including on the web inventories, secure instalment doors, request following, and client assistance administrations. To improve consumer loyalty, these stages additionally empower organizations to customize the buying experience and give designated motivations (Levine, 2017; Loop, 2016; Mondragon, 2018). In online business retail organizations, store network the executives involve the coordination and improvement of cycles including obtaining, buying, creation, warehousing, and item conveyance to clients (Aste et al., 2017). To ensure viable tasks and client joy, it is fundamental. Stock administration is a critical part of inventory network the ecommerce business. To forestall under stock or overloading, retail organizations should cautiously gauge data driven technique, keep up with stock levels, and screen stock development. Ongoing acceptability and productive contact with providers and strategic accomplices are expected for this. Meeting satisfaction is another pivotal variable. Retail organizations that utilization internet business should ensure that orders are precisely handled, picked and stuffed, and conveyed to clients on time. This involves administering various satisfaction habitats, setting up refined request the board frameworks, and picking the most reasonable choices (Casino et al., 2019; Li et al., 1997)

## **16.2 LITERATURE REVIEW**

Jha (2020) lays focus on the acceptance of blockchain innovation in the Indian online business area in this thorough survey. To acquire understanding into how Indian online business organizations feel about utilizing blockchain in production network the executives, the creator takes a gander at various examinations and industry reports. The investigation arrives at the resolution that blockchain innovation is acquiring popularity because of its capability to increment inventory network activities' straightforwardness, recognition, and trust. The adoption is still in its beginning phases, hence various issues should be settled before it very well may be generally embraced.

Sahni et al. (2021) to all the more likely comprehend the perspectives towards blockchain adoption in the Indian web-based business area, Sahni et al. directed a subjective report. The review accumulates discernments, mentalities, and concerns encompassing the use of blockchain innovation in production network the board through interviews with vital participants from Indian web-based business ventures. The outcomes show that there is support for blockchain, which can increment

effectiveness, decline extortion, and advance straightforwardness. Notwithstanding, troubles including questionable guidelines, an absence of specialized expertise, and huge execution costs are likewise underscored.

Agarwal and Mishra (2020) analysed the acceptability of blockchain for store network the board in the Indian online business area, Agarwal and Mishra use opinion examination approaches. The review takes a note at how clients, industry insiders, and internet business organizations perceive about utilizing blockchain innovation through the examination of virtual entertainment information and online surveys. The outcomes show that there is a scope of feelings; inspirational perspectives underline the expected benefits of transparency and information security, while negative assessments stress stresses over execution troubles and versatility issues. The study features the requirement for extra examination to determine these concerns and support more noteworthy use.

### **16.3 RESEARCH METHODOLOGY**

The research attempt will take quantitative and subjective information range approaches in a merged methodological research technique. Administrative level staff from GlobalKart Tech Pvt Ltd, High Road Fundamentals Pvt Ltd (Faballey), production network administrators, and IT experts at Nodia research region will be evaluated to collect the essential information. These meetings will offer relevant data and direct points of view on the production network's true capacity and problems.

As well as guiding meetings, online surveys will likewise be utilized to gather data from various inventory network members, like providers, makers, and strategies accomplices. These surveys will be made to prompt answers that will help to identify the production network's primary issues and areas for development. To ensure successful information gathering and examination, the reviews will be sent electronically (Chen and Ou, 2009).

### **16.4 OBJECTIVE OF THE STUDY**

1. To determine how the Indian e-commerce industry, and more specifically Indian retail companies, currently perceive about the implementation of blockchain technology on supply chain management.
2. To examine the possible advantages and difficulties connected with the implementation of blockchain technology on supply chain management in the Indian e-commerce sector.

## 16.5 ANALYSIS, RESULT AND DISCUSSION

Table-16.1: General Information

S. No.	Age	Gender	Occupation	Years of Experience in Supply Chain Management
1	35	Male	Operations Manager	10
2	28	Female	Supply Chain Analyst	5
3	40	Male	Logistic Manager	15

Source: Primary Data

From above data table, it is clear that –male executive who works as an operations manager in selected e-commerce firms dealing in retail business. With ten years of supply chain management expertise, he has a somewhat awareness of the market and its difficulties. The job as an operations manager involves managing the daily operations of the e-commerce company, including supply chain operations. The second respondent is supply-chain analyst in case study she is 28-year-old female and has supply chain vertical experience of 5 years and other is 40-year male with 15 years career spanning in logistic management in retail ecommerce industry.

## 16.6 BLOCK CHAIN ADOPTION RELATED RESPONSES

Q1 How familiar are you with the concept of blockchain technology?

Table-16.2: Familiarity With Block Chain Technology

S. No.	Familiarity With Block Chain Technology
1	Familiar
2	Very Familiar
3	Neutral

Source: Primary Data

In above table result, one respondent is aware with the idea of blockchain technology, according to the sample data of three respondents from retail e-commerce enterprises in Noida. second respondent is well-informed in the idea of blockchain technology and third has neutral knowledge with blockchain technology exists in data driven world.

**Q2. Are you interested in implementation of block chain technology in the supply chain management of your organization?**

**Table-16.3: Interested in implementation of Block Chain Technology in Organization**

S. No.	Interested in implementation of Block Chain Technology in Organization
1	Yes
2	No
3	Neutral

*Source: Primary Data*

The table shows that one of the three sample respondents from retail e-commerce companies in Noida is interested in implementing blockchain technology in their company's supply chain management. The remaining responder has a neutral opinion, while one respondent is not interested in utilizing blockchain technology. Therefore, the sample respondents from retail e-commerce enterprises in Noida had varying levels of interest in integrating blockchain technology in supply chain management.

**Q3. What are major the potential benefit of using blockchain technology in supply chain management?**

**Table-16.4: Potential Benefits using Block Chain Technology**

S. No.	Potential Benefits using Block Chain Technology
1	Improved security and data integrity
2	Reduction in fraud and counterfeit products
3	Improved security and data integrity

*Source: Primary Data*

The following possible advantages of utilizing blockchain technology in supply chain management were suggested by three sample respondents from retail e-commerce enterprises in Noida, as shown in the table:

1. Increased security and data integrity: Two respondents highlighted this benefit. It suggests that applying blockchain technology to supply chain management can improve the security and secrecy of data.

2. Decrease in fraud and forged goods: One respondent emphasised this potential advantage. It implies that using blockchain technology can aid in the supply chain's detection and prevention of fraud and fake goods.

The vast majority of respondents agreed that blockchain technology is essential for enhancing security, data integrity, and mitigating the fraud in supply chain management.

**Q4. To what extent do you believe blockchain technology can contribute to reducing fraud and counterfeit products in the Indian e-commerce industry?**

**Table-16.5: Contribution of Block Chain Technology**

S. No.	Contribution of Block Chain Technology in reducing fraud and counterfeit products in e-commerce industry
1	To some extent
2	To some extent
3	To great extent

*Source: Primary Data*

Blockchain technology, according to three sample responders from retail e-commerce companies in Noida, can help lessen fraud and fake goods in the Indian e-commerce sector. One respondent assumes blockchain technology can contribute significantly, while the other two opined that it can contribute to cause with focused approach. All three respondents have the opinion that deploying blockchain technology can aid in lowering fraud and fake goods in the e-commerce sector (Kshetri, 2018).

**Q5. Will the use of blockchain technology improve the transparency and traceability of products in your supply chain?**

**Table-16.6: Benefit of Block Chain Technology**

S. No.	Benefit of Block Chain Technology in Products Traceability
1	Significant Change
2	No Significant Change
3	Significant Change

*Source: Primary Data*

We can see from the sample of three respondents from Noida-based retail e-commerce companies that they all think the deployment of blockchain technology will

significantly alter the transparency and traceability of goods in their supply chain. None of the respondents predicted there would be no effect on particular applicability. This indicates that these respondents generally agree that blockchain technology will benefit their supply chain by enhancing product transparency and traceability.

## **16.7 CONCLUSION**

In final concluding remark, the research study looked to determine how Indian retail organizations, unequivocally, had an outlook on the utilization of blockchain innovation technology in virtual network that is handled by platform of ecommerce supply chain. The essence likewise meant to decide the possible benefits and difficulties of blockchain innovative technology in the Indian online business industry. As per an assessment of the data accumulated from three respondents in retail web-based business undertakings arranged in Noida, only one of the respondents knew with blockchain innovation, while the other two either had changed levels of figuring out about it or were uninterested in it. Furthermore, only one of the three respondents communicated interest in utilizing blockchain innovation to deal with the store network for their organization, with the other two having unbiased or less effected perspectives.

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