

# Blockchain and Digital Payments - The New Paradigm

– **Subodh Kesharwani**, Associate Professor, SOMS, IGNOU, New Delhi, [skesharwani@ignou.ac.in](mailto:skesharwani@ignou.ac.in)  
– **Madhulika P. Sarkar**, Reader, SOMS, IGNOU, New Delhi, [Madhulikap.sarkar@ignou.ac.in](mailto:Madhulikap.sarkar@ignou.ac.in)  
– **Shailza**, Research Scholar, SOMS, IGNOU, New Delhi, [Shailza509@gmail.com](mailto:Shailza509@gmail.com)  
– **Jyoti**, Research Scholar, SOMS, IGNOU, New Delhi, [Jyotiningania@gmail.com](mailto:Jyotiningania@gmail.com)

Indian economy continued to be heavily dependent on cash for payments. But now with the rise in the digital payment system people of India are rapidly switching to non cash payment instruments because of their simplicity and convenience. Then also there are worries about the security. Earlier the application of Blockchain was only limited to supply chain, remittances, insurance, and various other sectors. But now Blockchain has step forward in Digital payments too and expectations are that it will play a major role in the future of Digital payment process solution. The study attempts to explain how Blockchain Technology will revolutionize and improve the current system of Digital Payment System.

There has been a sound rise in the Digital Payment market place. Various factors are giving rise to the digital payments such as demonetization, ease to use, government efforts, etc. People of India are going cashless by using physical cards, digital wallets, mobile apps, etc. with the growth of digital payments, there increases the concern for the security. There are security issues with people using Digital Payment System and there is a strong need to adopt few new methods or technologies to ensure security. Several developments are taking place in the digital payment system and one of them is Blockchain which will remove the security issues by removing the need of the middlemen

and standardize the functionality and structure of Digital payments in the country.

## Let's understand the concept of Blockchain

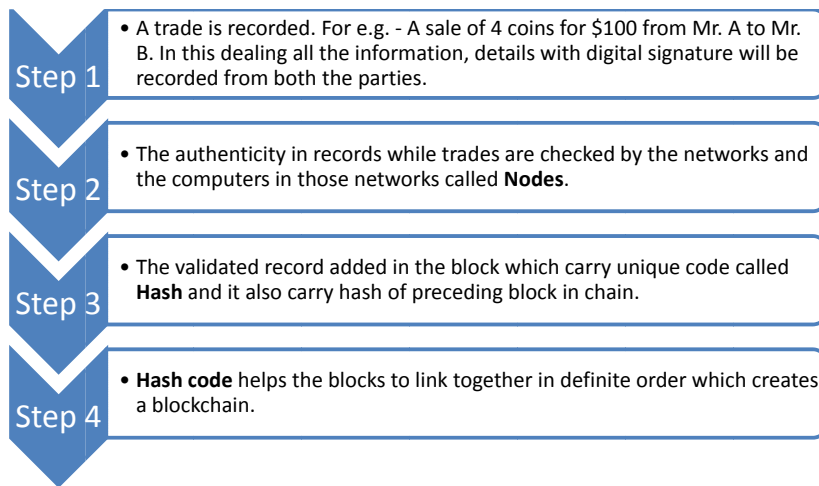
Blockchain is like a digital ledger or a shared database across computer networks which keep record of all the transactions. A set record in a chain can't be altered once entered. To ensure its verification and authenticity the data examine continuously. Several cyber-currencies like bitcoin uses blockchain and many more potential uses are emerging.

Database: A block of grouped records form together in a chain. Its parts are-

- The record: any information, entries, document etc.
- The block: a bundle of records
- The chain: series of linked blocks

For online transactions, it allows users to send, receive and manage their accounts without the need of a middleman. Let's say X is an owner of a shop who has just started accepting digital payments and is facing various problems regarding authenticity of the payments made by the customers. If he adopts the blockchain then management of payments will become surprisingly easier as he and his customers will have an open access to payment history, thereby removing the problem of tempered payments.

## How a deal gets included in a blockchain:



### Difficult to change (hash codes keep records safe) :

To create a hash code a math function is required which takes the digital information and makes a string of letters and numbers from it.

First, a hash code will always be of same length no matter how large or small the file is.

Second, any single change in original input like any comma or letter will change the whole hash code.

### The changed hash breaks the chain

As blocks saves both new as well as previous block hash codes thus any change in original input creates new hash code which mismatch with the later block hash cause to break a chain. It takes a lot of efforts and computing time to restore the chain.

### The computers in the network

Blockchain is decentralized in nature has no central control.

- Centralized hub: central node has all authority.
- Decentralized network: all

the nodes are capable to access the information and compete to be the next to add to the database.

### Permission to join

The issue of trust arises in decentralized control because members could be anonymous like in bitcoin case and can't be always known such as

company personnel. To resolve such issue, these blockchain set tests for computers to add any record to the chain. The test called consensus models.

### A Consensus

The test compel network members to 'prove' themselves. Example-

- Proof of work – a proof can be any work of solving an increasingly difficult computational puzzle. This process called mining which uses a lot of computing power. A member in return can receive rewards such as tokens for bitcoins or instance.
- Proof of stake – tokens allows participants to join the network. The more the tokens they have, the more they can mine.

### Conclusion

The integration of the blockchain with the digital payment system

## How Blockchain Technology Will be Beneficial for Digital Payments:

BENEFITS	EXPLANATION
No additional transaction fees	Blockchain will lead to no additional transaction costs because it will let businesses to have better cash flow as it removes the need for payment assistance devices.
Secure real-time payments	Blockchain is likely to solve the security issues because of full transparency between buyers and sellers as the whole algorithm is based on an open-to-all platform.
Access to a global market place	Using blockchain technology for online transactions will be beneficial for businesses on a global scale because of the fact it is a decentralized money management system which allows anyone in an encrypted database to send and receive money.
Faster payments	Blockchain will eliminate the presence of middlemen. Because of this the flow of money will be surprisingly very fast.
Improved Financial Management	Online transactions and <b>mobile payments have effectively become big data</b> . It will become stress-free for industries to manage the large inflows of money by using blockchain technology.

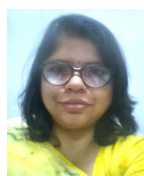
is the need of the hour. It is being developed by Digital Payment Service Providers for really secure contactless payments with the elimination of the middlemen. Each and every party that is involved in a blockchain-enabled transaction will have a record of every relevant transaction that took place in the system. So it is an emerging opportunity which will turn into strength for those who will integrate blockchain into their payment system which will be able to provide real time secure and reliable digital payments.

## References

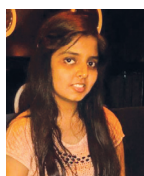
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**Dr Subodh Kesharwani** is an academician with a bronze medal in his post graduate and Doctorate in ERP System in 2002 from Allahabad University. He is one of the researchers who had concentrated his research on Total Cost of Ownership [TCO] & Critically evaluate ERP vendors including SAP. Dr. Kesharwani is presently an Associate Professor, School of Management Studies with a total 20 years of hardcore teaching and research in Information System and its linkages with various domains of management at Indira Gandhi National Open University, New Delhi.



**Dr Madhulika P. Sarkar** is currently Reader at SOMS, IGNOU (PhD LLB). She has a 15 year teaching experience with IGNOU. Her Area of interest is Taxation, Economics and Law. She has been part of various Seminars, Paper Presentations, and numerous Research Papers published in various National and International Journals. She is also a lifetime member of Indian Commerce Association.



**Miss Shailza** is a Research Scholar at SOMS (IGNOU), New Delhi. She has done her B.Com (H) from Vivekananda College and M.Com from Delhi School of Economics, University of Delhi and qualified UGC-NET JRF twice. She has been a part of various Seminars, Paper Presentations, Faculty Development Programme and National and International Conferences. She is a hardcore believer to work on her own initiative and also as a part of team. She excels in her analytical skills with a global outlook and foresightedness which is the need of hour.



**Miss Jyoti** is currently pursuing her Doctoral Research study from SOMS (IGNOU), New Delhi. She has done her B.Com (H) and M.com from University of Delhi and qualified UGC- NET JRF. She has been a part of various Seminars, Paper Presentations, Faculty Development Programme and National and International Conferences. She is an enthusiastic learner who believes in maintaining and maximizing the quality of life by implementing her skills, and experience gained through education, hard work and dedication.