



THE BLOCKCHAIN SCHOOL

COURSE 1



Chapter 1

I N T R O D U C T I O N

The term Blockchain emerged towards the end of first decade of 20th Century around 2008. Since then it has caught an eye of numerous amount of people throughout the globe. There is traction in the scaling up of this technology after PricewaterhouseCoopers, Ernst & Young, Deloitte, Touche Tohmatsu and KPMG showed a keen interest into it. The chances of Blockchain being the next phenomenal milestone in human evolution are comparable to that of outburst of internet as a public technology in late 20th century.



1.1 Origin of blockchain

The evolution of this technology is in our hands but the origin of this technology is still a mystery. Bitcoin and Blockchain emerged together into the flow even if their creation must have been dated on different timelines and possible spaces as well. They are expectedly the creation of Satoshi Nakamoto. Satoshi Nakamoto can be an individual or can even be a group of people. In the paper 'Bitcoin: A Peer-to-Peer Electronic Cash System' from 2008, Nakamoto introduced Bitcoin to the world. Bitcoin is just one of the applications of Blockchain Technology. But Bitcoin and Blockchain walk closely because the world was introduced to Blockchain with Bitcoin as a medium. The words block and chain were separately used in Satoshi Nakamoto's paper. Although they are now mainstreamed as single word "Blockchain". However this technology expectedly introduced by Nakamoto uses many previous methodologies incorporated in itself to form an evolved version of pre-existing techniques. The encryption methods implemented with public and private keys are one of such previously used methods which have been used as a foundation of Blockchain technology.

1.2 Internet and Blockchain a comparable evolution

The Internet laid a revolutionary impact on various segments forming a society after its mainstreaming in mid-1990's. These segments include culture, commerce, and technology. The evolution in internet resulted in rise of electronic mailing systems, instant messaging, duplex interactive video calls etc. The World Wide Web still holds the strongest of the importance with its provision of implementing blogs, social networking, e-commerce and such similar necessary activities.

Blockchain is said to hold such potential like internet, which will supposedly transform the life of modern day humans in terms of every aspect right from the point they wake up to the point where they go back to bed.



Chapter 2: Features of Blockchain Technology

The potential of the blockchain technology has not been approved by global tech community based on the hype that has been created but the features are truly concrete in nature which support the possible, foreseen and expected potential.

These features are:

- 1] Blockchain is distributed
- 2] Blockchain is permissioned
- 3] Blockchain is secure



2.1 Blockchain is distributed

Distributed nature of Blockchain comes into picture due to its decentralized characteristic. For an instance, consider that a person is transferring some money, to his friend Steve through a mobile banking application. The request of transferring the money has a central control over the request made, the banks being the central institutions. This is a centralized workflow where the receiver will receive the intended amount after approvals and transactions from a central infrastructure i.e. the banks. Blockchain targets on decentralization and hence it gets its distributed feature.

2.2 Blockchain is permissioned

The permissioned feature of Blockchain provides the users with ability to decide the validating authority in the blockchain network to validate the blocks under the transaction. This nature allows to maintain privacy in a business group or an underlying network. Consider the same case of you transferring money. There are ten people working in the bank where the request is being made. Five of which include interns and janitors. However only a limited number of employees should gain an access towards validating the request of transfer initiated by the user. Blockchain network infrastructure allows deciding on who has permission to validate the transaction.

2.3 Blockchain is secure

There should be an assurance from the security point of view at the time of transaction. Blockchain provides security with cryptography as its integral part, hence making security its key feature.



Chapter 3: Success Factors

There are few factors on which the success of Blockchain as a technology of the future depends.

These factors mainly include:

- 1] The factor of trust provided by Blockchain.
- 2] The factor of simplicity of Blockchain.
- 3] The factor of scalability of Blockchain.

3.1 Trust

Trust is an integral psychological part of any deals between two or more people under an activity involving contract. Trust is generally a virtue of involvement of intermediaries. Let us understand this with an example. While applying for a student loan, a student needs to provide the details of his or her parents and keep an asset as mortgage in most of the cases as this creates a factor of trust between the student and the bank or a lending firm. Trust will be an important deciding factor in the success of this technology.

3.2 Simplicity

The success of Blockchain also depends upon the simplicity of the software infrastructure that is being developed for the relevant use cases. Simple security platform and structures can be needed to be developed in order to facilitate efficient business and Blockchain network activity.

3.3 Scalability

The energy requirements of Blockchain technology are massive and are rapidly growing with every day. This puts a limit on the scalability of this technology beyond the current stage if these energy requirements are not tactfully addressed. Hence, the scalability is an important factor on which the success of Blockchain technology.

There are many such factors which will decide on the success of Blockchain as a future technology, but these three are one of the most important ones. The scope of implementation of Blockchain technology as a foundation of the future of tech industry and its integral segments is wide.



Chapter 4: Scope of Application

The segments of industry that has the most probability of evolution due to blockchain are enlisted below.

1] Finance industry:

The finance industry includes implementation of Blockchain in currency exchange, mortgages, new banking infrastructures, upgrading traditional banking methodologies etc.

2] Retail industry:

The implementation of Blockchain is majorly to be seen in loyalty program management and supply chain management along with important role in e-commerce.

The other industry segments looking at evolution into Blockchain technology include;

3] Insurance Sector.

4] Manufacturing industry:

Specifically in supply chain management and maintenance tracking.

5] Public sector

like healthcare, governance, asset management etc.

However, the usability of this technology is not limited to just the above mentioned cases. There is a huge possibility of use cases when it comes to Blockchain.



Chapter 5: Course Overview

The course is divided in three major parts which will extract out the perfect essence of Blockchain technology.

Part 1: What is Blockchain?

This part emphasizes on the basic definition of Blockchain and what exact concept lies within the core of this technology.

Part 2: Why Blockchain?

This part of the course focuses on the need of Blockchain technology in today's ever growing world in terms of data.

Part 3: How Blockchain?

The part introduces you to the methodologies through which Blockchain can be implemented. This part is just a basic introduction to these methodologies and the detailed study will be available in dedicated courses on The Blockchain School.