

Chapter 10

Risk–Resilient Supply Chain Using Blockchain Technology

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ABSTRACT

Recently, blockchain technology has been recognized for other industries than finance, proving it's potential other than cryptocurrencies and bitcoin. Supply chain is one of the exponentially growing industries which needs to undergo through changes in order to survive in tomorrow's economy. There are many risks involved in current supply chains that can be potentially eliminated with the implementation of blockchain. This chapter analyses the various aspects of blockchain technology and how other technologies can be integrated with it to deliver exceptional solutions. Various risks present in the current system are discussed along with how those risks can be handled using blockchain, contributing towards building a risk resilient supply chain.

INTRODUCTION

With an exponential rise in the number of products and services, and the rising number of risks and threats to the Supply Chains of these products, there is an immediate need to move ahead from traditional supply chains and make a more robust, transparent and scalable system to manage them and protect them from these treats.

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Supply Chain

Supply chain consists of an out-sized number of steps between the origin of the merchandise to the consumer. Because there are numerous transactions between parties like the supplier, logistics, wholesale, retail and at the top the customer, and since the varied parties maintain independent views of their transaction history there are many issues requiring resolution of disputes. A supply chain can be often very fragmented, which makes it difficult to track the origin and the location or the position of the product within the chain. There also are problems with fraud and theft of fabric during a supply chain. The participants can share the information securely in a Blockchain powered supply chain network which reduces the risk of tampering and hence able to score rewards in terms of more precise and efficient process of transaction (Corporate Finance Institute, n.d.).

Traditional Supply Chains

Traditionally, Supply Chain has consistently been upheld the “four Vs”: volatility, volume, velocity and visibility and experts had the objective of improving prompts in terms of complete cost, administration quality and backing for development. These needs aren’t probably going to fluctuate, yet with the new difficulties of the present relentless world, new advanced advances should build the degree of execution.

These chains were developed decades ago, and the supply chains present today are turning out hard to manage and are not capable of supporting the chains which distinguish the globalized digital economy. The outdated supply chains are built upon centralized systems which do not provide the traceability, transparency, accountability and efficiency which is required in today’s economy.

While few leading companies have started to realize that traceability, transparency and accountability gives a very crucial competitive advantage in global trade, and when it comes to conscious capitalism, changes should be made towards achieving that goal. In order to secure their place in the changing economy, the supply chains should be developed using technologies like Blockchain in order to evolve them for tomorrow’s world.

Challenges in Traditional Supply Chains

In these supply chains, there isn’t any presence of a Universal Database. Even though everything is connected in today’s world, many organizations still prefer to keep their databases restricted to themselves. All the parties are keeping their individual records and are shared only upon the other party’s request. Due to this, there are many communication gaps between these parties which make room for the exploiters.

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