


## Chapter 6

# Constructing an E-Commerce Model Using the Framework of Blockchain

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### ABSTRACT

*Blockchain technology is gaining immense popularity in the realm of online e-commerce, advertising, and consumerism. This study aims to develop a model that comprehends how blockchain can act as a significant disruptor for various functions and applications related to e-commerce. The research explores the possibility that this technological advancement has the potential to revolutionize the core operations of e-commerce industry by providing trade connections devoid of trust or need for specialized intermediaries or central authority in case of permission less blockchains. Furthermore, it could facilitate equitable access to immutable data across supply chains which may result in a major reorganization pertaining to information and value exchanged between businesses involved in electronic commerce and their customers.*

### INTRODUCTION

The blockchain is a kind of distributed ledger technology that protects data so that it is impossible to manipulate it in any way. Because of this, it is exceptionally trustworthy for commercial use. Honestly, it's fairly comparable to how data is now stored by online retailers like Amazon and eBay. But with the distributed ledger technology

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known as blockchain, the data is kept safely by each individual user. This indicates that there is no one place where all of the information can be kept at the same time. It is dispersed throughout. This indicates that anybody, at any moment, may access the information that is stored on the blockchain. The blockchain is most recognised for its role as the foundation of cryptocurrencies, but it also has a wide variety of other applications, many of which are applicable to online shopping (see Frey et al., 2016). The blockchain is a very remarkable technology that is gradually beginning to make its way into widespread use. Blockchain technology was first developed to serve as the foundation of the digital currency Bitcoin; however, it has since been accepted as a way of transforming whole sectors in addition to enhancing a broad variety of other fields and businesses (Jiang & Chen, 2021). In fact, the blockchain is currently being used as a tool to improve almost every facet of our lives, including but not limited to banking, healthcare, and online shopping. The blockchain is a decentralised data structure designed to securely, transparently, and verifiably record transactions. It is often referred to as a ledger system that is used to record various transactions. Typically, a blockchain is used to verify digital data. It operates by recording a hash of each transaction that is encrypted. Each block in the blockchain includes a hash of the block that came before it. This establishes a timestamp system that enables anybody to demonstrate the presence of information at a certain moment. A key benefit of blockchain is that it is hard to alter data once it has been recorded. It cannot be corrupted. This is one of the blockchain applications that the majority of people can comprehend and enjoy. Using blockchain technology, they can easily and transparently confirm that the item they're purchasing is what it claims to be (Kim & Kim, 2020). This implies that manufacturers and dealers cannot replace a lesser or more costly product for the one ordered. It also implies that one cannot return or get a replacement for a "fake" good. If the goods match what they bought, they will get them for sure. The blockchain is a decentralised ledger that may be used to record digital data. There are no gatekeepers since the ledger is decentralised, which makes the data more reliable. One can easily have authority over their own data. They have control over who can access their data, and no one can alter it. The blockchain is especially effective for supply chain management because it enables information to be transmitted along the supply chain without being altered or seen by outside parties (Lahkani et al., 2020). This implies that the blockchain may be used to guarantee that the items are obtained ethically, a problem that is crucial to many online businesses.

It is common knowledge that the internet purchasing experience is flawed. When a consumer makes a purchase on Amazon, for instance, they essentially believe that Amazon is their only option for that specific good. There is no assurance that they will get the goods, that they will match their prescribed specifications, or that they will be dispatched on time. However, due to blockchain, the online buying

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