

# Chapter 4

## Blockchain and Its Derived Technologies: Shaping the Future Generation of Digital Businesses With a Focus on Decentralized Finance and the Metaverse

**Gurwinder Kaur Dua**

*Post Graduate Government College, Chandigarh, India*

### **ABSTRACT**

*Indeed, blockchain played a pivotal role in the Industrial Revolution and is considered as one of the most valuable technological developments that evolved from the past years. Decentralized finance (DeFi) and the metaverse have roots in blockchain which has brought a fundamental transition in people's lives. These evolving technologies have a major effect on the future landscape of digital platforms. This study delved into the development of digital trades in the coming future, with a special focus on the aforementioned fundamental technologies. Initially, this study scrutinized DeFi-based technologies, encompassing GameFi, SciFi, SocialFi, and other foundational elements crucial for upcoming job roles and businesses. Subsequently, the authors explored metaverse-based occupations, including metaverse-based educational institutions and markets anticipated to emerge as widely adopted enterprises.*

### **INTRODUCTION**

The extensive adoption of the Internet has foundationally transformed traditional businesses, leading to the fall off of some while propelling the growth of others. As the Internet becomes extremely famous, business owners want to offer services remotely to enhance their revenue streams while maintaining physical offices. Illustrations of such businesses consist of banks, supermarkets, jewellery stores, and automobile spare parts stores (Kreutzer, 2018; Zhou et al., 2007). In contrast, certain businesses specifically provide online offers without fulfilling to in-person customers, such as Google and Amazon (Hadi

Kiapour et al., 2015). Overall, the Internet has instigated significant transition in the landscape of different professions which give rise to various innovative business models that have gained global traction.

The digital based economy is shaped by the development of the Internet along with cyberspace, which lead to the development of numerous technologies like financial technology (FinTech) (Gai et al., 2018) and insurance technology (InsurTech) (Stoekli et al., 2018). These evolving technologies form the fundamentals for different services falling under the umbrella of centralized finance (CeFi) (Allen et al., 2002; Hoxby, 1996) which further support applications like shopping, tax, accounting, insurance, customer relationship management (CRM) applications, and other trading platforms. Moreover, they pave the way for the introduction of various web-based services, such as web-based taxi services, food ordering applications and ticket-issuing web pages which all are become integral parts of people's lives.

If technology and artificial intelligence (AI) have significantly assists individuals, businesses, and industries, they have led to the displacement of certain traditional kind of jobs as well (Akerkar, 2019; Canhoto and Clear, 2020; Di Vaio et al., 2020). So, business owners and employees working as per conventional practices must stay abreast of the new technological advancements to the digital era to sustain their businesses.

All kinds of businesses, whether traditional or modern, work on a centralized infrastructure and are covered by relevant laws. Nevertheless, small businesses have individual based policies and governed by stringent regulations over which they have no control (Chen, 2019). In consequence, they have to bear the brunt of these policies, having conflicts of interest (Ismail et al., 2017; Rangaswamy et al., 2020). On Contrary, big corporations can engage with the government to custom regulations as per their businesses. Negotiating regulatory changes with governments can be convoluted and demanding. Nevertheless, businesses can consider effective strategies including comprehending the regulatory process, conducting research, and fostering relationship and engaging with stakeholders. Successful illustrations of such negotiations consist of the Affordable Care Act (ACA) in the United States, The Paris Agreement on Climate Change and the European Union's General Data Protection Regulation (GDPR). Consequently, the need for a democracy based domain that enables all participants such as small businesses, retail markets, and big companies, to devour in significant decisions is crucial to ensure satisfaction among business owners.

Nakamoto (2008) introduced distributed bitcoin ledger as a practical implementation of blockchain technology. Bitcoin is considered as one of the most groundbreaking evolutions of the 21st century and blockchain development has gained significant attention from a different array of researchers, developers, and academics (Osgood, 2016; Qi et al., 2017). As explained in Section 2.1, the inherent features of blockchain technology assist a consensus-based approach among users who determine whether to record content on the blockchain. Consequently, blockchain technology can contribute as an infrastructure for democratic digital systems.

## **DeFi**

By considering the potential attributes of blockchain technology, various evolving technologies have been invented. Among these, DeFi and the Metaverse highlighted as two significant innovations put forward approximately five years ago and are still considered cutting-edge technologies. Specifically DeFi technology presents a financial technology that leverages blockchain to hail various finance related issues (Chen and Bellavitis, 2019; Zetzsche et al., 2020).

13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/blockchain-and-its-derived-technologies/351024](http://www.igi-global.com/chapter/blockchain-and-its-derived-technologies/351024)

## Related Content

---

### Maxout Networks for Visual Recognition

Gabriel Castaneda, Paul Morris and Taghi M. Khoshgoftaar (2019). *International Journal of Multimedia Data Engineering and Management* (pp. 1-25).

[www.irma-international.org/article/maxout-networks-for-visual-recognition/245261](http://www.irma-international.org/article/maxout-networks-for-visual-recognition/245261)

### Optimizing Health, Education and Governance Delivery Through Blockchain

Indo Isa Benna (2021). *Research Anthology on Blockchain Technology in Business, Healthcare, Education, and Government* (pp. 1655-1678).

[www.irma-international.org/chapter/optimizing-health-education-and-governance-delivery-through-blockchain/268681](http://www.irma-international.org/chapter/optimizing-health-education-and-governance-delivery-through-blockchain/268681)

### Transformation of Industrial Production: The Effects of Digitalization

Kravchenko Maryna, Olena Trofymenko, Boiarynova Kateryna, Marzena Sobczak-Michalowska and Kashuba Svitlana (2024). *Applications of Synthetic High Dimensional Data* (pp. 209-221).

[www.irma-international.org/chapter/transformation-of-industrial-production/342993](http://www.irma-international.org/chapter/transformation-of-industrial-production/342993)

### Distributed Ledger Technology based Property Transaction System with Support for IoT Devices

Nikita Singhand Manu Vardhan (2021). *Research Anthology on Blockchain Technology in Business, Healthcare, Education, and Government* (pp. 299-319).

[www.irma-international.org/chapter/distributed-ledger-technology-based-property-transaction-system-with-support-for-iot-devices/268606](http://www.irma-international.org/chapter/distributed-ledger-technology-based-property-transaction-system-with-support-for-iot-devices/268606)

### Improving Gender Classification Using an Extended Set of Local Binary Patterns

Abbas Roayaei Ardakany, Mircea Nicolescu and Monica Nicolescu (2014). *International Journal of Multimedia Data Engineering and Management* (pp. 47-66).

[www.irma-international.org/article/improving-gender-classification-using-an-extended-set-of-local-binary-patterns/117893](http://www.irma-international.org/article/improving-gender-classification-using-an-extended-set-of-local-binary-patterns/117893)