

# Chapter 9

## The Future of Decentralized Governance With DAO and Web 3

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### **ABSTRACT**

*Web 3 is considered the next generation of the internet. Decentralized autonomous organizations (DAOs) are considered the next avatar of organizations run digitally over blockchain-led technology platforms. Business logic and rules for running the organization are programmed in distributed applications (dApps) and executed using smart contracts. Token-based rights allow owing members to vote, participate in governance, and direct how the organization will be run. While DAOs are facing several legal and regulatory challenges on one side and fighting with technical vulnerabilities and hacks on the other side, future research in this field appears promising. There is an enormous need for education and awareness of the functioning of these emerging models, which can be dealt with using a multi-faceted approach. Decentralized governance can have a massive societal impact and lead to an equitable world. It drives financial inclusion and puts automatic decision-making at the fore.*

### **INTRODUCTION**

#### **Background on Emerging Web 3 Technologies and Blockchain**

Web3 and blockchain are key emerging technologies that can potentially revolutionize the functioning of the internet. As the next generational step in the information age, Web3 is a vision for a new iteration of the internet (Sheridan et al., 2022). It is designed to be more decentralized, secure, and private than the current web. Web3 is expected to be built on several technologies, including blockchain, a distributed

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ledger technology that allows for safe, tamper-proof, and transparent transactions without intermediaries (Gupta & Sadoghi, 2019).

Web3 brings in many features necessary for the next generation of web users. Considering the growing importance of personal data privacy, Web3 users are expected to have more control over their data and how it will be used. Web3 emphasizes decentralized applications (dApps) as a critical feature (Korpala & Scott, 2022). These applications are built on blockchain technology and will not be controlled by any single entity but by their users. Similarly, smart contracts are another critical feature of Web3. These self-executing contracts are stored on the blockchain. They can be executed automatically without the need for intermediaries.

Blockchain disrupts traditional business systems by eliminating middlemen and central platforms. This paves the way to a “platform-as-a-service” era (Trabucchi et al., 2020). It works by creating a chain of blocks that are linked together. Each block contains a record of transactions that have taken place. Network participants verify transactions on the blockchain but cannot tamper with it, making blockchain very secure and transparent.

The Web3 involves several emerging technologies – Blockchain, Extended AR/VR, and Artificial Intelligence. These technologies are expected to work in collaboration with each other, bringing about value. So, they can potentially revolutionize how businesses are run, especially in financial services. Digital assets and tokens are expected to change the way payments are made. The new technologies also facilitate newer governance models, changing how organizations will be governed. A brief overview of these is presented here:

1. **Decentralized Finance (DeFi):** The entire DeFi ecosystem is called the “Lego of finance” as a metaphor for its composability (Popescu, 2020). DeFi has several applications based on Blockchain technology, allowing users to lend, borrow, trade, and invest assets without intermediaries (Meyer et al., 2021).
2. **Non-Fungible Tokens (NFTs):** NFTs are unique digital assets. They convert ownership of digital items such as art, music, and collectibles into tokenized form. The ownership details of these are stored on a tamper-proof blockchain ledger. NFT is currently in its 2.0 version, which focuses on interoperability, programmability, and scalability (Guidi & Michienzi, 2023).
3. **Decentralized Autonomous Organizations (DAOs):** DAOs are new-generation organizations coordinated and governed by their members using blockchain technology (Hassan & De Filippi, 2021). DAOs have exciting use cases in crowdfunding, NFT-powered investment, dApp governance, proposal execution, and decentralization in the Metaverse.

### **Decentralization as the Defining Principle of Web 3**

Decentralization is the foundation of Web3. It presents a paradigm shift in how information is disseminated and interacted online. It moves away from the traditional centralized Web2 model, where a few powerful entities control the flow of information and services. Web3 attempts to empower users by allowing them to manage the data and digital assets fully. This gives greater autonomy, security, and transparency and keeps the web user truly at the centre of the ecosystem. Decentralized networks and blockchain technology form the backbone of this new ecosystem, enabling the creation of open, censorship-resistant, and trustless systems. By eliminating intermediaries, Web3 fosters a more equitable and democratic digital landscape where everyone has an equal voice and stake in the network.

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