



Introducing Web 3.0

This editorial is based on "[India Is Now A Nation Firmly Into Web3](#)" which was published in Livemint on 04/02/2022. It talks about the role and opportunities for India in the adoption of Web 3.0.

For Prelims: Web 1.0, Web 2.0, Web.3.0, Blockchain Technology, Central Bank Digital Currency (CBDC).

For Mains: Different Versions of Web, Blockchain Technology, Decentralized Technology and its Significance, Data Security, E-commerce.

In the modern retelling of Web history, the world has now fully entered the third generation of the internet. We have moved from **decentralized protocols (Web 1.0)** to centralized, **monopolistic platforms (Web 2.0)** and are now poised to move towards an era of **decentralized blockchain-based architectures - [Web 3.0](#)**.

With Web 3.0 as the current narrative, the hold of power will shift away from a few dominant Web 2.0 companies and give control back to the masses.

Web 3.0 offers a myriad of opportunities for India and its software developers but there also exist certain obstacles in terms of blockchain regulatory measures, taxation and decentralization.

If India succeeds in resolving these issues, it has a chance to **become one of the key players as the next frontier of the internet is established**.

All About Web 3.0

What is Web 3.0?

- **Web 3.0 is a decentralized internet to be run on [blockchain technology](#)**, which would be different from the versions in use, Web 1.0 and Web 2.0.
 - Web 1.0 is the world wide web or the internet that was invented in 1989, became popular from 1993 and lasted until 1999.
 - The internet in the **Web 1.0 days was mostly static web pages** where users would go to a website and then read and interact with the static information.
 - Web 2.0 started in some form in the late 1990s and it is still the age of Web 2.0.
 - The differentiating characteristic of Web 2.0 compared to Web 1.0 is that users can create content - **primarily, a [social media](#) kind of interaction**.
- In Web3, **users will have ownership stakes in platforms and applications** unlike now where tech giants control the platforms.

What will be the Significance of Web 3.0?

- The large mass of **creators and builders will leverage next-generation tools**, co-opt themselves into **self-governing organizations** and participate in this new economy.
- The **spirit of Web3 is Decentralized Autonomous Organization (DAO)**. Web3 will deliver a **decentralized and fair internet** where users control their own data.
- This will **eliminate excessive rents levied by the large platforms** and move the masses away from an obviously flawed business model of ad-based monetization of user-generated data that has become the hallmark of the modern digital economy.
- In Web 2.0, most of the data in the internet and the internet traffic are owned or **handled by very few behemoth companies which created issues related to data privacy**, data security and abuse of such data.
 - There is a sense of disappointment that the original purpose of the internet has been distorted. It is in this context that the buzz around Web3 is significant.

What are the Associated Issues?

- Web3 is in its very initial days and there is no consensus if it will take off like Web 1.0 or Web 2.0 did.
 - There is much **skepticism from top tech brains in the industry** and the academic community that **Web3 does not solve the problems it purports to solve**.
- The Web 3.0 movement in India is still in its nascent stage. There are serious **questions on the scalability and sustainability of blockchain platforms**.
- Furthermore, the **usability by developers** is an issue, and there is significant confusion on scenarios appropriate for decentralized data and smart contracts.
- Also, there is considerable **regulatory uncertainty**. In India, the [budget imposed a 30% tax on income from virtual assets](#).
 - There are plans to launch a [Central Bank Digital Currency \(CBDC\)](#) and a comprehensive legislation that establishes India's posture on [cryptocurrency](#) is still awaited.

What is the Way Forward?

- **Proactive Approach to Web 3.0:** It would be unwise to underestimate the generational energy, developer focus and Venture Capital (VC) funding going into Web3.
 - This momentum will fuel the Web away from its current avatar into a new paradigm.
 - Undoubtedly, the **approach towards Web 2.0 was largely passive** allowing the big tech platforms to dominate our landscape—search, [e-commerce](#), ride-hailing, grocery, and social media all ape western models.
 - Now, there is a need to adopt a more active approach to shaping the global Web 3.0.
- **Key Requirements for Developing Web3 Architecture:** From a technology perspective, Web3 will require **deviation from the current architecture** where there is a front-end, middle layer and back-end.
 - It will need **backend solutions for handling block chain**, persisting and indexing data in block chain, **peer to peer communications** and so forth.
 - Similarly, the middle layer, also called the business rules layer, will need to **include handling block chain-based backend**.
- **Opportunity for India:** Web3 implies a radical overhaul of legacy digital architecture.
 - New **business models** will evolve over the next few years, along with a universe of decentralized apps to meet consumer needs.
 - In addition, a massive amount of effort will be needed to **resolve the scalability issue**.
 - All this represents a massive **opportunity for India to move its software industry to a new level** as the **'web3 operating system'** comes to life.
- **India's Role in Web 3.0:** Web3 is **similar to fintech in its rapid evolution**, its ability to attract talented young entrepreneurs and technologists, and its **ability to impact India at scale**.
 - However, there is a natural tension between the state on one side and big tech on the other, each seemingly **opposed to Web3 goals**. There is a lot to be done here beyond regulating cryptocurrency.
 - The already envisioned **National Blockchain Framework will need to be strengthened** and primed with use cases that drive adoption.

- The newly announced **CBDC will have to be situated in the context of India's overall Web3 ambition** and the **IT services and developer ecosystem mobilized.**
- A myriad of tricky issues related to **regulatory jurisdiction and taxation issues will need to be resolved.**

Drishti Mains Question

Discuss the key challenges that India needs to overcome to join the global race for the decentralized, blockchain run Web 3.0.

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