Evolution & Revolution

Understanding Web3 and digital assets—Franklin Templeton's new primer

Strategist views
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Introduction

The emerging Web3[1] space represents both an evolution in the development of internet technologies and a revolution that introduces the new dynamics of a decentralized economy. Understanding how the ecosystem has developed since the introduction of Bitcoin back in 2009 is critical as more of the world's economic activity is likely to shift into this new domain over the coming decade.[2]

Public layer 1 blockchains (L1 blockchains) are becoming something completely new in our world history—emerging digital nation-states. These blockchains have their own currency, their own governance, and their own economic rails on which entrepreneurs are building all sorts of businesses that are attracting a growing set of customers. Understanding the emergence of this ecosystem, its key building blocks, and the various ways in which tokens are being used to facilitate interactions should allow investors to evaluate and capture emerging growth opportunities in this new frontier. Moreover, our hope is that obtaining a better understanding of the new innovations might also help existing businesses rethink their delivery and ability to utilize the new transaction rails.

Our new publication, "Understanding Web3—a primer on the emerging digital asset ecosystem," tackles each of these topics. Below you will find an overview of each section in the primer that could be useful prior to reading the full document. Additionally, while some definitions of terminologies are included in this article, there is an extended, standalone glossary at the end of the primer that could serve as a helpful reference.

Foundational building blocks of Web3

This section focuses on the key building blocks being developed in Web3—blockchains, tokens, smart contracts and digital cryptocurrency wallets. It also explains how blockchains operate and rely on consensus mechanisms rather than centralized authorities to confirm transactions. It explores the various types of currency related tokens—payment tokens, stablecoins and central bank digital currencies (CBDCs). It explains the purpose of and lays out use cases for non-payment related tokens—utility tokens, governance tokens, asset-backed tokens and investment tokens. The section further explains how these tokens are programmable through the use of smart contracts and how those smart contracts can support a wide variety of "if-then" scenarios that will self-execute when the right conditions are met. Finally, the section explores how cryptocurrency wallets differ from existing digital wallets and offer individuals and institutions the opportunity to transact in ways that preserve their personal and organizational information.

Unlike earlier innovations, the Web3 infrastructure is being deployed in real-time and operates 24 hours a day, 7 days a week, 365 days a year. Being open source, the infrastructure is benefiting from the ongoing efforts of thousands of developers.

Understanding the Web3 digital asset ecosystem

This section looks at the evolution of the cryptocurrency ecosystem, starting with the emergence of Bitcoin's payment network in 2009, the Ethereum blockchain in 2015, the subsequent proliferation of L1 blockchains, and in recent years, the emergence of layer 2 blockchains, oracle networks, and multi-chain bridges. These offerings represent the new infrastructure on which Web3 is being built. Unlike earlier innovations, the Web3 infrastructure is being deployed in real-time and operates 24 hours a day, 7 days a week, 365 days a year. Being open source, the infrastructure is benefiting from the ongoing efforts of thousands of developers. This allows for potential issues to be spotted and addressed more quickly and for fixes to be introduced in an iterative manner that enables the mechanics of the Web3 to progress far more quickly than any comparable infrastructure.

Building and operating a business on a blockchain

This section looks at the ways that individuals and organizations can build and operate a business on the Web3 infrastructure. It explores how capital-raising diverges from the typical venture capital model and how tokens are used, instead of shares, to incentivize not just the founders, employees and early investors, but also the broader community of future users. It explains how a business is locked into the L1 blockchain they choose to operate on and how that blockchain facilitates key operational functions on behalf of the user such as token issuance, transaction verification, payments, smart contract fulfillment and security. Of these offerings, payments mark an area where the operational superiority of blockchain is most evident. Whereas merchants in the existing Web2 world must often wait up to 72 hours for a payment to hit their account, in the Web3 ecosystem, payments are nearly instantaneous with even the slowest blockchains allowing end-to-end processing in 10 minutes or less. Finally, the section explores what decentralized governance looks like and explains the progression of Web3 projects from foundations to communities to decentralized autonomous organizations (DAOs).

Investing in crypto businesses

This section describes the ways that individuals and institutions can invest in the crypto ecosystem. It outlines a set of new considerations that an investor must assess when choosing to put money to work in a crypto protocol that issues tokens versus a traditional company that issue equity shares. It explains how only certain tokens provide investment opportunities and how other types of tokens cannot represent the value of the underlying protocol. The section additionally explores what drives "tokenomics"[3] and how an evaluation of the token pool can provide important investment insights. It explores how an investor can buy or sell tokens on both centralized and decentralized exchanges. Lastly, the section looks at the multiple ways in which tokens can be used to generate additional yield or revenues for the holder through staking, lending or borrowing.

Non-fungible tokens (NFTs)[4]

This section looks at NFTs and how these wrappers allow for property rights to be embedded in a token. This capability will allow assets that are investable, but not transferable, to be more freely traded (e.g., music catalogs, film rights, wine vintages) as well as allowing assets that are transferable, but not easily invested in, to be made more accessible (e.g., dolls, sneakers, trading cards). Finally, these wrappers will allow for new types of assets that are neither transferable nor investable today. This category would include new types of assets, such as the value of an influencer's community or a data algorithm. Together, each of these types of NFT assets offer the potential to become important new sources of return in investor portfolios. Moreover, these assets can bestow certain rights to the holder that allow them to offer an experience, such as admission to a special concert or the right to own a special poster or piece of art.

Risks associated with digital assets

The final section of the primer cautions that although there is much opportunity in the Web3 space, many of the business models are new and there are also many risks. We outline both the system-related risks that stem from a decentralized business model and the risks that individuals and organizations might face by choosing to participate in the new ecosystem.

Our hope in offering this primer is that readers will walk away with an appreciation of the innovations occurring in the Web3 domain and an understanding of the new offerings that should allow them to make informed decisions about their desired level of participation.

Endnotes

1. Web1 provided users direct access to websites offering previously unimagined amounts of data, access to knowledge, and connectivity. Web2 shifted the customer experience of the internet, combining new mobile technologies with information networks to allow the upload of user-generated content and leveraging the power of big data and nascent AI technologies to personalize and tailor the delivery of content via specialized apps. Web3 is the next iteration of the world wide web—a decentralized, blockchain-based online ecosystem. Platforms and apps built on Web3 aren't owned or governed by a central authority; rather, they are owned by network participants, who earn their ownership stake by helping to develop and maintain those services.
2. Bitcoin is the largest and original blockchain. In the white paper that introduced Bitcoin, published in October 2008 by Satoshi Nakamoto, the anonymous creator(s?) of Bitcoin, the author described their vision of a peer-to-peer electronic cash system that would allow online payments to be sent directly from one party to another without having to go through a financial institution or be intermediated in any way. A blockchain is a digital record or ledger of transactions, duplicated and distributed across an entire network of computer systems. Blockchains represent complete records of all transactions ever performed within that system. Every node in the blockchain network has a real-time, simultaneously updating copy of this ledger. Every node sees new blocks of transactions being appended to the existing chain of verified blocks and could re-create the entire sequential history of transactions on that chain stretching back to the very first (genesis) trade on the ledger. Blockchain is sometimes described as "distributed ledger technology" or DLT.
3. Tokenomics informs the timing of an investment opportunity and highlights short-term influences that may affect token pricing. Tokenomics describes the topic of understanding the supply, demand and economic characteristics of digital assets. This entails a number of considerations and complexities additional to those considered in the valuation of traditional assets.
4. Some tokens are fungible—identical and substitutable—and others representing unique assets are non-fungible. NFTs are a unique, cryptographic unit of data that exists on a distributed ledger and cannot be replicated. They can represent digital media or real-world, tangible assets like artwork and real estate, making buying, selling, and trading more efficient, while reducing the scope for fraud. NFTs can also represent identities, property rights, or even a bundle of rights—all encoded into digital contracts or attestations.

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