



# CREATING VALUE FROM WEB3: FOUR APPROACHES TO ADOPTING BLOCKCHAIN

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Web3 embodies an evolving vision for the future of the internet, a vision that builds on concepts of decentralization and transparency, and technologies such as blockchain and artificial intelligence (AI).<sup>1</sup> But are companies today ready to pursue that vision? In a 2022 MIT CISR survey, only thirteen percent of executives described their companies as very effective at deploying technologies like blockchain, while thirty-six percent described them as only slightly or not at all effective at it. Companies' effectiveness at deploying those technologies was significantly correlated with growth and profitability.<sup>2</sup>

The emergence of technologies enabling Web3 has accelerated over the past decade. Compelling use cases for participating in an increasingly Web3-influenced economy are accumulating, and companies face difficult choices. Those companies that are not ready for or otherwise wait out the current wave of activity may see competitors embrace the best market opportunities, leaving them fewer opportunities with which to entice high-value digital talent seeking to develop experience and skills. But early adopters of blockchain-based Web3 solutions have experienced some significant failures over the past eighteen months and written off substantial investments. Digital leaders are faced with the question of how to build the capabilities needed to participate in value creation from Web3 while managing the risks of participation.

From 2022 to 2023, we interviewed executives across industries encompassing distribution, banking, technology startups, insurance, and software to explore enterprise approaches to adopting blockchain.<sup>3</sup> We analyzed the findings and identified four approaches that were informed by organizational risk appetite, regulatory acceptance, competition, and the digital savviness of key executives. In this briefing, we describe the four approaches and illustrate them with industry examples.

1 For information on Web3, see "15 Key Ways Web2 is (or will be) Truly Different from Web3," *Forbes*, March 6, 2023.

2 MIT CISR 2022 Future Ready Survey (N=721).

3 The authors conducted interviews with fifteen executives from twelve globally based companies.

## THE BUSINESS OPPORTUNITY OF DECENTRALIZATION

The term Web3 refers to the application of specific emerging technologies to decentralize the information, computing infrastructure, and governance of internet-based systems across distributed participants who retain data ownership and control. Companies that embrace the community-centric ethos of Web3 seek to democratize governance and infrastructure investments. Web3 and the technologies that make it viable stand to collectively contribute significantly to business innovation in the decades ahead and disrupt conventional internet-based services and the industries that presently embrace them.

Blockchain-based solutions offer new opportunities for value creation. Companies can decentralize infrastructure costs and governance across diverse participants, ultimately allowing new business innovations and lowering transaction costs to decrease barriers to entry. For example, decentralized finance (DeFi) services embed financial logic into smart contracts (programs or transactions stored on blockchain), allowing parties to access financial services such as lending and insurance without directly transacting with banks or insurers.<sup>4</sup> Non-fungible tokens (NFTs), unique digital assets that are recorded and assured in blockchain—such as gaming objects used across multiple platforms and token-based loyalty privileges<sup>5</sup>—enable entirely new types of customer experience.<sup>6</sup>

Conversely, adopting and developing blockchain-based solutions also introduces risks—such as financial loss—to a company's operations and priorities, and potential reputational jeopardy for investors and stakeholders. For example,

4 Lin William Cong, "Navigating the Next Wave of Blockchain Innovation: Smart Contracts," interview by Frieda Klotz, *MIT Sloan Management Review*, September 26, 2018.

5 A platform that offers token-based loyalty privileges enables customers of the platform to offer NFT tokens representing loyalty benefits (e.g., special privileges, discounts) to their own customers.

6 "What Are NFTs and Why Are Some Worth Millions?," *BBC News*, December 16, 2022.

the ability of crypto exchange platforms to avoid substantive regulatory oversight was associated with recent significant losses in cryptocurrency investments.<sup>7</sup>

## FOUR APPROACHES TO INVESTING IN BLOCKCHAIN

Simply put, there is no easy or straightforward choice for whether to invest in new blockchain-based Web3 capabilities. In our research, companies weighed value creation opportunities and risks and made choices to optimize their circumstances. Approaches varied across embracing a wait-and-see approach, experimentation, targeted adoption, and a comprehensive “all in” approach that bets the business on the success of a blockchain-based strategy.

### 1. Wait and See

Companies adopting a wait-and-see approach leave early experimentation to others until the way forward is more predictable. These companies are often in highly regulated industries that are awaiting regulatory clarification. For example, in 2021 the Commonwealth Bank of Australia, the largest Australian bank, made an early announcement on the release of cryptocurrency trading functionality within its banking app. But when market volatility and customer feedback surfaced the need for more regulation and clarity on the way forward, the bank adopted a wait-and-see approach until the market had greater regulatory certainty.<sup>8</sup>

Many companies adopting this approach wait until the case for near-term profitability is clearer. But as Mads Stolberg-Larsen, co-founder and CEO of Danish smart contract provider ZTLment, observed:

*Many of these organizations are applying criteria for return on investment and payback investment to determine whether they should invest in Web3 capabilities. This results in projects not progressing, as the benefits can appear lower if they haven't experimented with the technology to understand its role in their future business plans.*

**MADS STOLBERG-LARSEN, CO-FOUNDER AND CHIEF EXECUTIVE OFFICER, ZTLMENT**

7 In November 2022, following a report suggesting potential leverage and solvency concerns, the FTX cryptocurrency exchange faced a liquidity crisis and subsequently filed for bankruptcy; see Nathan Reiff, “The Collapse of FTX: What Went Wrong with the Crypto Exchange?,” *Investopedia*, February 27, 2023. In May 2022, Luna crypto crashed related to the failure of its closely linked TerraUSD algorithmic stablecoin; see “What Really Happened To LUNA Crypto?,” *Forbes*, September 20, 2022.

8 Josh Taylor, “Commonwealth Bank Pauses In-App Cryptocurrency Trading After Market Turmoil,” *The Guardian*, May 19, 2022.

The wait-and-see approach allows a company to learn from the experiences of early adopters but also risks the loss of key talent, organizational experience, and foundational capabilities that will be needed when Web3 competence becomes a necessity for market success.

### 2. Experiment

Companies experiment with blockchain-based products and services to prove the relevance of blockchain concepts in their organizational contexts, develop strategic partnerships and employees' skills, and explore market acceptance of disruptive new Web3 offerings. The companies taking this approach to blockchain adoption don't risk mission-critical operations with their experiments, and they are typically mindful of regulatory acceptance. The experiments do not change the products, service offerings, or technology architecture—but they do prepare the company to make such changes if warranted without exposing the company to uncontrolled risk.

For example, global insurers have conducted experiments to explore how motor vehicle accident repair claims can be managed in a decentralized manner to minimize the practice of double dipping insurance: submitting fraudulent insurance claims to multiple insurers for repairs on the same vehicle. Alex Taylor, global head of emerging technology at QBE Ventures, the venture investment and development arm of insurer QBE, explained:

*Blockchain provides a compelling solution to an age-old insurance conundrum. Insurers don't want to expose the details of their books to competitors, and blockchain allows them to share information to manage certain sector-wide risks, such as insurance fraud, while masking confidential and commercial information using cryptography. Industry proofs of concept have provided invaluable insight into the operational, commercial, and risk characteristics of distributed solutions needed for successful industry adoption.*

**ALEX TAYLOR, GLOBAL HEAD OF EMERGING TECHNOLOGY, QBE VENTURES**

### 3. Provide Targeted Offerings

Companies taking this approach to implement blockchain capabilities aim to expand offerings in targeted areas that are neither mission critical nor heavily regulated, such as facilitating deeper customer engagement. These companies have typically previously conducted successful experiments or have identified opportunities to differentiate themselves in lightly regulated sectors. They create value from blockchain capabilities while further developing skills and learning about

risks—but in doing so, they must manage risks by updating their company’s controls and governance to accommodate Web3 capabilities.

For example, Mastercard saw the opportunity to provide payment services to the burgeoning market for buying and selling NFTs.<sup>9</sup> Buying and selling NFT digital assets typically involves using cryptocurrencies, a potential hurdle for many customers and one that comes with some regulatory uncertainty. Rather than facilitating payments for NFTs with cryptocurrencies, Mastercard partnered with several NFT marketplaces to allow participants to purchase NFTs using conventional fiat currency (i.e., government-issued currency) Mastercard-enabled payments rather than cryptocurrency. In doing so, the company managed its regulatory risk, met new customer demands, and further developed its organizational capabilities for Web3.

#### 4. Go All In

A few companies are going all in with their adoption of blockchain technology, offering products, services, and technology architecture that rely on blockchain capabilities. Typically, these are startups seeking to be industry disrupters. With less to lose and more to gain, these companies challenge norms and look for opportunities where blockchain technology could establish the new status quo in industries ripe for digital disruption.

Gilbert Verdian, founder and CEO of Quant and founding chair of the International Organization for Standardization’s TC 307 Blockchain technical committee for blockchain interoperability, notes that the decentralization of infrastructure and network costs on blockchain significantly lowered the costs of participating in financial networks:

*You now have an infrastructure with effectively one hundred percent availability, and the only utility cost is a per-transaction fee. The cost of participating as a payments provider for any organization has dropped from ten million to ten dollars. Lowering the barrier to entry is opening up entirely new opportunities for innovation and competition.*

**GILBERT VERDIAN, FOUNDER AND CHIEF EXECUTIVE OFFICER, QUANT**

#### WEB3 ADOPTION AS A SOURCE OF VALUE CREATION

As with all transitions in technology, business, and society, success from Web3 investments does not come without risk and

the potential for failure. The choice companies have is how they will approach this transition, matching their risk appetite and strategy. A few companies, particularly startups, will fully commit to Web3. Some will become leaders in the next generation of digital offerings, while many will fail or be acquired.

For most large, traditional companies, moving forward with Web3 will involve first experimenting to build familiarity and skills and then offering targeted solutions where value creation outweighs the risks of engagement. Not all adoptions will lead to market success. Global shipping company Maersk and its strategic partner IBM developed the blockchain-enabled TradeLens platform. TradeLens, which launched in 2018, aimed to resolve inefficiencies for customers by combining information about supply chain events and trade documents using blockchain. Leveraging the platform, Maersk targeted efforts to create new value from operations, customers, and ecosystems.<sup>10</sup> Ultimately, the companies shut down the initiative because the value it produced did not outweigh their investment and risk.<sup>11</sup>

**Success from Web3 investments does not come without risk and the potential for failure. The choice companies have is how they will approach this transition, matching their risk appetite and strategy.**

In developing the TradeLens platform, Maersk learned it had to navigate platform participants’ concerns about data sharing and security. In Web3, participants retain and manage the sovereignty of their data and its use on the internet. A major criticism of Web2, the version of the internet in general use today, is its focus on aggregating and commercializing user information. By comparison, Web3’s communities of participants want to enforce what and with whom they will share their data. Conventional centralized approaches to governance and information management do not appear to match expectations of the ecosystem.<sup>12</sup> In future research briefings we will explore how companies and communities are experimenting with blockchain technology and business cases to develop new partnering capabilities and ecosystem models as they aim to realize Web3’s potential.

<sup>9</sup> Raj Dhamodharan, “Mastercard Brings Its Payments Network to Web3 and NFTs,” Mastercard Newsroom, Mastercard, June 9, 2022.

<sup>10</sup> Ina M. Sebastian, Peter Weill, and Stephanie L. Woerner, “Three Types of Value Drive Performance in Digital Business,” MIT CISR Research Briefing, Vol. XXI, No. 3, March 2021.

<sup>11</sup> Lora Cecere, “Tradelens Discontinues Operations. Why You Should Care,” *Forbes*, December 5, 2022.

<sup>12</sup> Mary Lacity and Remko Van Hoek, “What We’ve Learned So Far About Blockchain for Business,” *MIT Sloan Management Review*, February 3, 2021.

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MIT CISR is funded by Research Patrons and Sponsors, and we gratefully acknowledge their financial support and their many contributions to our work.

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