Narrator:

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Gayan Benedict:

Hi, I'm Gayan Benedict, an MIT CISR Industry Research Fellow. Today I'm pleased to share with you the March 2023 research briefing that I coauthored with Ina Sebastian and Stephanie Woerner. The title of our research briefing is "Creating Value From Web 3: Four Approaches To Adopting Blockchain."

Web3 embodies an evolving vision for the future of the internet, a vision that builds on concepts of decentralization, transparency, and technologies such as blockchain and artificial intelligence. 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. Company's effectiveness at deploying those technologies were significantly correlated with growth and profitability. 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 talents seeking to develop experience and skills. But early adopters of blockchain-based Web3 solutions have also 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. 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.

Now let's look at 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, while they also disrupt conventional internet-based services and the industries that presently embrace them.

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

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, the ability of crypto exchange platforms to avoid substantive regulatory oversight was associated with recent significant losses in cryptocurrency investments.

We're now going to look at the 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.

The first approach is 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 a 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.

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 providers, 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 can result 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."

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.

The second approach is experimentation. Companies experiment in blockchain-based products and services to prove the relevance of blockchain concepts in their organizational context, develop strategic partnerships and employee 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 product 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. This is where the individual sub-parties submit fraudulent insurers claims to multiple insurance 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 valuable insight into the operational, commercial, and risk characteristics of distributed solutions needed for a successful industry adoption."

The third approach is to provide targeted offerings. Companies taking this approach to implement blockchain capabilities aim to expand offerings in targeted areas that are not 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. Buying and selling NFT digital assets typically involve using cryptocurrencies, a potential hurdle for many customers, and one that comes with some regulatory uncertainty. Rather than facilitating payments for NFTs with cryptocurrency, MasterCard partnered with several NFT marketplaces to allow participants to purchase NFTs via MasterCard-enabling payments using conventional fiat currency (or government issued currency) rather than cryptocurrency. In doing so, the company managed its regulatory risk, met new customer demands, and further developed its organizational capabilities for Web3.

And now the fourth approach, 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 disruptors. 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 tech committee for blockchain interoperability, notes that the decentralization of infrastructure and network costs on blockchain significantly lowered the cost of participating in financial networks. He said, "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 $10 million to $10, lowering the barrier to entries, opening up entirely new opportunities for innovation and competition."

Web 3 adoption is a source of value creation. As with all transitions in technology, business, and society, success from Web3 investments does not come without risk and potential for failure. The choice companies have is how they will approach this transition, matching their risk appetite with 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 first involve 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. Ultimately, the company shut down the initiative because the value produced did not outweigh their investment and risk.

In developing the TradeLens platform, Maersk learned that it had to navigate platform participants' concerns about data sharing and security. In Web3, participants retain and manage 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 the aggregation and commercialization of 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. 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.

Narrator:

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