

# FIVE KEY TRENDS IN DISTRIBUTED LEDGER TECHNOLOGY IN 2021

Following the meteoric rise of cryptocurrency prices in 2017, many questioned if digital assets, and their underlying distributed ledger technology (DLT), were simply a fad or a true technological breakthrough. Much like the dot com bubble, the rush to adopt the hot new technology resulted in a frothy market cluttered with many more start-ups than use cases. However, 2020 demonstrated that both digital assets and distributed ledgers are here to stay. Mainstream players like Paypal and Fidelity launched crypto services, while Facebook continued to move towards the launch of its own Libra currency. Numerous central banks, also excited by the possibilities of programmable money, announced plans to launch their own digital currencies. China has already completed multiple pilots, including a \$1.5 million trial in Shenzhen. The shift of digital assets from a speculative fascination among cyberpunks to a mainstream institutional investment is forcing financial institutions adapt rapidly. We expect this activity to intensify in 2021 as new services are brought into the market to satisfy the exploding interest. As financial institutions continue their digital transformation journeys and integrate this new asset class, distributed ledger solutions will also help streamline middle and back-office operations while creating new business opportunities in open banking and peer-to-peer activities.

## **INSTITUTIONAL CUSTODY SERVICES:**

One of the largest barriers to adopting cryptocurrency payments has been the risk associated with holding digital currency assets. Loss or theft of the private keys used to manage digital wallets is typically irreversible, and securing such keys properly can require a significant amount of technical savvy. Without reputable custody options, many businesses and customers decide to forgo the risk of integrating digital asset services. However, the introduction of custodial services by mainstream financial institutions promises to be a game-changer. In July of 2020, the US Office of the Comptroller of Currency (OCC) [opened the door](#) from a regulatory perspective when it published a public letter stating that any nationally chartered bank in the US could offer custody services for cryptocurrencies. Strong investor interest, particularly among millennials, has also put pressure on wealth and asset managers to offer crypto products and related advice. Fidelity recently launched its crypto custody service, including a Bitcoin index fund for institutional investors. Other banks are discussing agreements with established firms like Coinbase and Anchorage to jump-start their crypto offerings.

## **STAKING SERVICES:**

By offering custodial services, financial institutions could find themselves holding significant amounts of crypto assets. For some tokens, this can provide additional revenue streams in the form of staking. Some blockchain protocols use staking as part of a consensus method called proof-of-stake, whereby network validators are granted the ability to confirm transactions based on the number of tokens they have staked. As a reward for confirming a transaction, the validator is typically given the transaction fees associated with the transaction and some additional amount of newly minted tokens. By staking more tokens, validators will get to confirm transactions with greater frequency and accumulate more rewards. One of the world's largest cryptocurrencies, Ethereum, is currently upgrading the network to operate using proof-of-stake. Validators are expected to receive eight-15 percent returns from staking on the Ethereum network. For banks providing custody services that include Ethereum and other major currencies, offering staking rewards could be a compelling differentiator.

## **CENTRAL BANK DIGITAL CURRENCIES**

In an effort to modernize monetary systems, many central banks have begun to develop digital currencies. Central bank digital currencies (CBDC) offer a range of potential benefits, including more efficient transaction processing, increased financial access for unbanked communities, lower service and delivery costs, and stronger anti-money laundering, anti-terrorism, and tax evasion controls. In addition to better policy levers, central banks are launching CBDCs to bolster their national currency supremacy, especially as independent cryptocurrencies, like Bitcoin and Ethereum, become more widely adopted. Establishing programmable money allows central banks to create different designs for their CBDC to meet specific national or regional goals and needs. Moreover, the advent of stablecoins, which the OCC recently endorsed for use by federally regulated banks, has helped spur the development of CBDCs. Given complementary use cases, many central banks have used stablecoin frameworks as a guide for designing their own CBDCs. The Bahamas became the first nation to launch digital fiat, the Sand Dollar, geared towards retail use. At the same time, Switzerland continues to test and refine its institutional CBDC, designed for wholesale, bank-to-bank transactions. China, which likely has the most developed program, plans to use a two-tier system by which the central banks issues digital currency to banks, with banks continuing to work directly with customers. In the US, discourse continues around the viability of a digital dollar, with the Fed and Congress studying such a program's economic and legal components. As central banks continue to adopt and develop CBDCs, the focus will shift from design and pilots towards implementation and integration.

## **AUTOMATION IN MID/BACK OFFICE**

Blockchain and distributed ledger technology have long carried the promise of increased efficiency for middle and back-office operations. Often cited benefits include cost reduction, improved recordkeeping, and elimination of manual processes. These potential benefits, from a once shunned technology, have piqued the interest of multiple financial firms. Last year saw the acceleration of testing and adoption of blockchain technologies, as firms such as J.P. Morgan, BNP Paribas, Northern Trust, Citigroup, Banco Santander, Bank of America, and Fidelity, continued to conduct pilots, file patents, and build-out existing capabilities. Cross-border payment processing, internal payment netting, bilateral repurchasing agreements, proxy voting, instantaneous trade settlement, and rapid post-trade information sharing are just a few examples of areas most likely to be

disrupted. Given rigorous privacy, performance, and regulatory requirements, many financial institutions leverage private, permissioned blockchains. Quorum and Corda, created by J.P. Morgan and R3, respectively, are especially popular options as they are purpose-built to meet financial organizations' unique needs.

## **DECENTRALIZED IDENTITY**

As financial institutions integrate digital asset services, they will have to meet increasingly stringent Know Your Customer (KYC) regulations. Innovation is needed to deliver compliant services that still provide an excellent customer experience. Decentralized identity promises to bridge the gap between digital assets and compliance systems by enabling the pseudo-anonymous wallets used by many crypto assets to be enriched with digital credentials. These credentials can be electronically verified and traced, enabling significant cost reduction and time savings through automation. Customers can use these credentials to interact with other businesses, creating new open banking opportunities and other offerings. By enabling identity information to be securely shared in a touchless manner, decentralized identity has become especially relevant in the aftermath of the Covid-19 pandemic. The ability to share information such as vaccination status without sacrificing privacy has significant promise beyond financial services. Large identity providers are taking note of the opportunity, with firms like Microsoft set to release decentralized identity tools in 2021.

## **CONCLUSION**

The COVID-19 pandemic accelerated many digital trends already underway, with digital currencies and distributed ledger technologies being no exception. We expect further maturation in 2021, as increased consumer demand and associated regulation will drive financial institutions to develop further and refine related products and services. Moreover, as firms become more familiar with the technology and associated use cases, we expect distributed ledger technology to be leveraged to improve banks' internal operations. Capco is experienced at providing digital transformation, regulatory compliance, and process improvement advice. We look forward to helping our clients navigate the blockchain space and leverage the technology to improve their organizations.

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