Introduction

The rise of cryptocurrency as an asset class has brought increased attention from financial institutions, not only driven by the size of the opportunity, but also due to the presence of players aiming to benefit from the lack of specialized knowledge of traditional finance players in the emerging blockchain space.

The already present institutional adoption (81% of institutional investors surveyed by Fidelity viewed digital assets as having a role in investment portfolios¹), along with the expected final leap from large finance institutions to include cryptocurrencies in their service offering, has further encouraged institutions to consider the different cryptocurrency offering options and how that would affect their control over the whole financial value chain.

With major financial institutions (both digital native and traditional) such as Block and Paypal enabling users to buy Bitcoin on their apps, MasterCard launching APAC's First Crypto-Linked Payment Cards and the introduction of crypto investment products such as Grayscale's Trusts, cryptocurrency market capitalization is expected to keep growing, specially once that (as happened with gold in 2003) a Bitcoin ETF is finally accepted by the SEC.

Although full regulation is still underway, combined efforts such as MiFID or MiCA in Europe will provide a stable set of rules for institutional investors, clearing the way towards full adoption by helping assess risks and understand the implications of implementing these services. Moreover, token standardization to describe properly assets and their compliance obligations will pave the way to make the transaction world interoperable.



Figure 1: Institutional Investor interest in cryptocurrencies is rising¹

Why should Financial Institutions be concerned?

Adoption moves very fast and once started "First mover takes it all" advantage is considerable. Although digital assets' services started as a need of differentiation, they are becoming a transforming lever for business growth, with increasing demand from hedge funds, high-net-worth individuals, and financial institutions as they expand their cryptocurrency holdings and explore new digital assets in the space.

The upsurge in blockchain and crypto funding from \$5.8 billion (2020) to \$28.5 billion (2022)², illustrates how innovators and early adopters have already settled and the early majority is starting to embrace the idea of providing cryptocurrency related services, as a path towards progress and growth as innovations and new products continue to appear.

Coinbase's IPO, valuing the company at \$70 billion, beating amongst others Santander, UBS or Barclays by market capitalization, sent the first indicator of the size and maturity of the cryptocurrency industry, and the possibility that banks are lagging behind digital-native companies on adopting the crypto trend.

For instance, in an interview with *TheBlockCrypto*³, Monzo cofounder Tom Blomfield admitted he regrets "not exploring stock and cryptocurrency trading during his time as Monzo CEO", illustrating how even disruptive FinTechs see the risk of not jumping onto the Web3 train.

On top of this, the emergence of Decentralized Finance (DeFi) has arrived with a transition from a transaction-based model, with tokens merely providing digital representations, to a decentralized and digital-based model, with automatized protocols performing increasingly complex business processes such as cryptocurrency exchange, lending, asset management and insurance among others, tapping into the competencies of traditional finance services.

Precisely, the 5x DeFi market capitalization increase between Aug 2020 and Aug 2023 (with up to x22 in Nov 2021)⁴, and the rise of new technologies around the blockchain ecosystem (NFTs, DAOs, Staking, Metaverse, etc.) suggest the industry is still far from plateauing, presenting plenty of room for growth and opportunity, and a chance for Financial Institutions to remodel their current operation for the upcoming technological changes and innovations.

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Our Vision

Digital assets are being increasingly demanded by clients, who currently turn to digitally native players for related services. To maintain their fiduciary position, traditional financial institutions are approaching digital asset offering with the intention to continue as trusted partners when providing clients with a wide and renewed range of financial services. For this reason, leveraging a robust digital asset custody implementation is necessary to provide a basis on which future digital asset services can be developed in a secure and confident way.



Figure 2: A&M's aspects to consider in digital assets' offerings

Digital asset management requirements will vary from firm to firm, however there are certain considerations every player in the industry should consider before embracing cryptocurrencies as part of their offering. A&M provides a framework by which different aspects have to be considered during this strategic development, namely: Technology & Operations, Strategy & Governance, Business, Regulatory & Compliance and Risks.

The assessment of all these aspects as a whole will help envision a service that can endure in time and is not affected by factors that can put at risk these services to clients in the future.

Technology & Operations Definition

When assessing different technological options, a non-intrusive integration approach with current applications is key, assessing

both external solutions on how they can fit within the firm's architecture, as well as internal capabilities on developing inhouse solutions or leveraging existing applications or products that can help to accelerate the launch of these services.

Additionally, companies will have to align crypto services with their internal technological standards and digital strategies in place. Considerations such as exposure to decentralized protocols (via open APIs) vs connections to centralized exchanges, software selection preferences and costs (build vs buy vs partner decision), as well as a clear cybersecurity and testing strategy, all comprise the different pillars on which to build a successful tailored solution.

The final technological integration will have to account for the current and future landscape of the cryptocurrency ecosystem. It is worth remembering Bitcoin's whitepaper was released only 14 years ago, and just as the ecosystem has changed since, it will probably change so too in the coming years.

Considering the emergence of low-risk stable coin loans, tokenized stocks, metaverse assets, yield farming, NFT trading, blockchain gaming and the emergence of DAOs, firms need to allow for potential future integrations. For this reason, the design of a flexible modular architecture becomes vital to cater for future service offerings and to keep up with digital native players that can add new services in an agile way.

Strategy & Governance Model

Beyond the technological discussion, the operational model also plays a pivotal decision from a governance, strategic and legal standpoint. Three main options for this model have been identified: creating a NewCo, a Federated Market model and a Centralized model, as depicted in Figure 3, presenting the different degrees of dependency between the holding company and the entity providing digital asset services.

On one end of the spectrum, through a special purpose vehicle a new corporation (NewCo) can be established, being financed both by the holding company and other lenders/investors. The

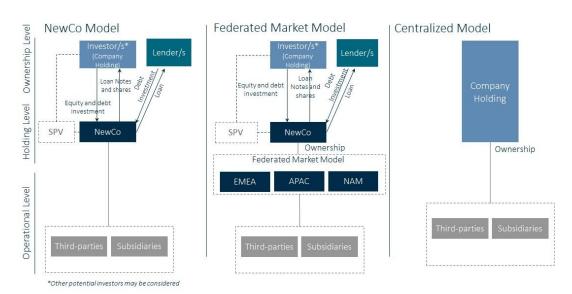


Figure 3: Different proposed operational models to provide digital assets' services

company can then provide services to third parties or subsidiaries of the holding company as a separate entity, without the associated financing effort or reputational risk related to crypto custody.

The Federated Market Model poses an operational deviation of the NewCo model by providing services by region (due to regulatory requirements or other considerations), and therefore decentralizing the operational model.

Finally, the centralized model consolidates all the services and financing within the holding company. No other investors are involved, and services are provided as in any standard division procedure. Due to its structure, this model implies the largest reputational risk and financing effort, in exchange for full control of the operations.

Business Development

In terms of monetization of the service, there are several actions to be considered. As a first step, a market scan is necessary to identify all competitors within the target geography as well as current regulations that might limit the offering. This initial scan will help shape the kind of products and services that will be offered to target clients and these clients' appetite for these new services. With this information, the creation of a business case that predicts profitability, as well as a roadmap is necessary to ensure the feasibility of the service.

As shown in Figure 2, business and technology come hand in hand, with advancements in technology shaping the services that will be offered, and thus the flexibility of adapting assets based on tokenization standards like ERC-20 and ERC-721 (or ERC-1155) is crucial to rapidly adopt the custody of new assets outside of monetary use cases.

Furthermore, different kinds of exchanges might need to be considered for each type of customer. For example, retail customers might prefer these services to be offered via traditional trading or trading desks where they can directly offer different cryptocurrencies. In the case of corporate customers, an additional possibility of offering over-the-counter (OTC) operations might be more appealing with large volume.

Regulation Considerations

Regulatory uncertainty is still a major issue for cryptocurrencies due to their conflicting interest with traditional securities laws, particularly in terms of how customer protection practices are sustained. Major concerns around the categorization of cryptocurrencies continue to be debated in legislative discourse, questioning them as financial instruments (FIs), securities, commodities, or some other form of asset, as well as reviewing the implied custody requirements.

On the 24th of September 2020 however, the European Commission (EC) adopted an expansive new Digital Finance Package to transform the European economy in the coming decades. Importantly, the European Securities and Markets Authority (ESMA) introduced the MiCA regulation that entered into force in June 2023⁵, aiming at reducing licensing

requirements in the EU as well as introducing more obligations and disclosures for Crypto Asset Service Providers (CASPs) and token issuance processes, to protect users and investors.

Although the release of MiCA has certainly strengthened the regulatory landscape, plenty of milestones are still to be achieved. ESMA is continually consulting with the public on a range of technical standards to be published sequentially in three packages until the transitional phase ends and entities benefitting from these measures acquire authorization by 1 July 2026 to continue to provide crypto-asset services. On top of that, non-EU landscape is still very much a work in progress, with the clear driver, US's SEC, still working on establishing a clear role of digital assets within the financial industry.

Therefore, it is clear that the regulatory and compliance approach must cater for future regulation. Adapting to the base regulation initially will provide an easier step-up to a more open and inclusive landscape. However, expected regulations, specially focusing on AML and KYC, will condition how firms approach cryptocurrency services. That is why regulation approaches should not only consider Capital Markets Laws, but also others (MiFID, CRD, AMLD5 or DORA in Europe) to prevent potential future impacts of the complementary regulations. As such, firms should place regulation flexibility at the core of their strategies, given how young the industry is, and how much the regulation landscape can change in the near future.

Risks & Cybersecurity Concerns

As part of the cryptocurrency custody service, a risk map needs to be performed, to analyze operational risk added to traditional lines of business, for instance those activities related to business lines like Core Crypto Custody, Crypto Fund Services or Banking Services ancillary to Core Crypto Custody amongst others. This will help determine and assess whether the risks are worth the addition of this service and how to mitigate them.

Custody is a double-edged sword, when done well it provides users with assets that cannot be stolen or confiscated, however, as commonly remarked in the industry "not your keys not your coins", therefore upon facing theft, recovery options drain rapidly.

Considering that more than 25% of global malware attacks affected financial service providers, cryptocurrency-based crime reached a new all-time high in 2022, and illicit addresses

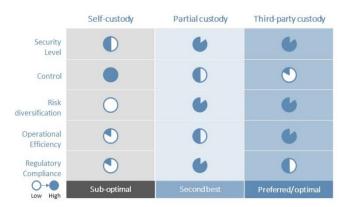


Figure 4: Different types of custody available

received \$20.1 billion over the course of the last year⁶, cybersecurity remains at the root of firms' crypto strategy.

As such, cryptocurrency custody offers 3 different approaches according to cyber risk appetite:

- Self-custody: No third-party involved. The keys are stored in a vault property of the owner of the digital asset, leaving way to a single point to compromise the key with usually less security barriers.
- 2. Partial custody: Tries to avoid the single point of failure when storing the key (with technologies such as Multisignature or Multi-party Computation). The custody relies on several parties that need to contribute with their part of the key when signing an operation.
- Third-Party custody: Self-managed wallet that offers a degree of third-party assistance in securing assets. A third-party assumes the responsibility of storing the key and acts on behalf of its customer according to given instructions.

Whatever the approach however, cybersecurity strategies require not only concise definitions, but also clear evolution roadmaps to keep up with advances in the space.

Final Remarks and Conclusions

The institutionalization of the cryptocurrency industry and the first steps in regulation being taken, has given rise to discussions regarding the extent of the impact it can have on the financial industry.

The industry's maturity along with the possibility of being disintermediated by new technologies has pressured firms to embrace cryptocurrencies and explore digital asset services. From there, a lot of considerations and products have emerged, setting the necessary basis for traditional institutions to develop their own solutions. Overall, this is just the beginning of how traditional finance will evolve to adapt to new Web3 trends and the new opportunities they offer.

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Alvarez & Marsal can augment and help lead the efforts of financial institutions entering the digital asset space, aiding in designing their strategic approach with world-class quantitative analytical skills and pragmatic expertise, understanding best practices, current and future trends and associated risks. Our Financial Services Performance Improvement professionals use a fact-based and collaborative approach to meet the changing needs of companies and investors. We combine expertise from industry operators and experienced consultants to develop a strategic approach to delivering bottom line results. Connect with our professionals today to learn how we can help your organization.

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