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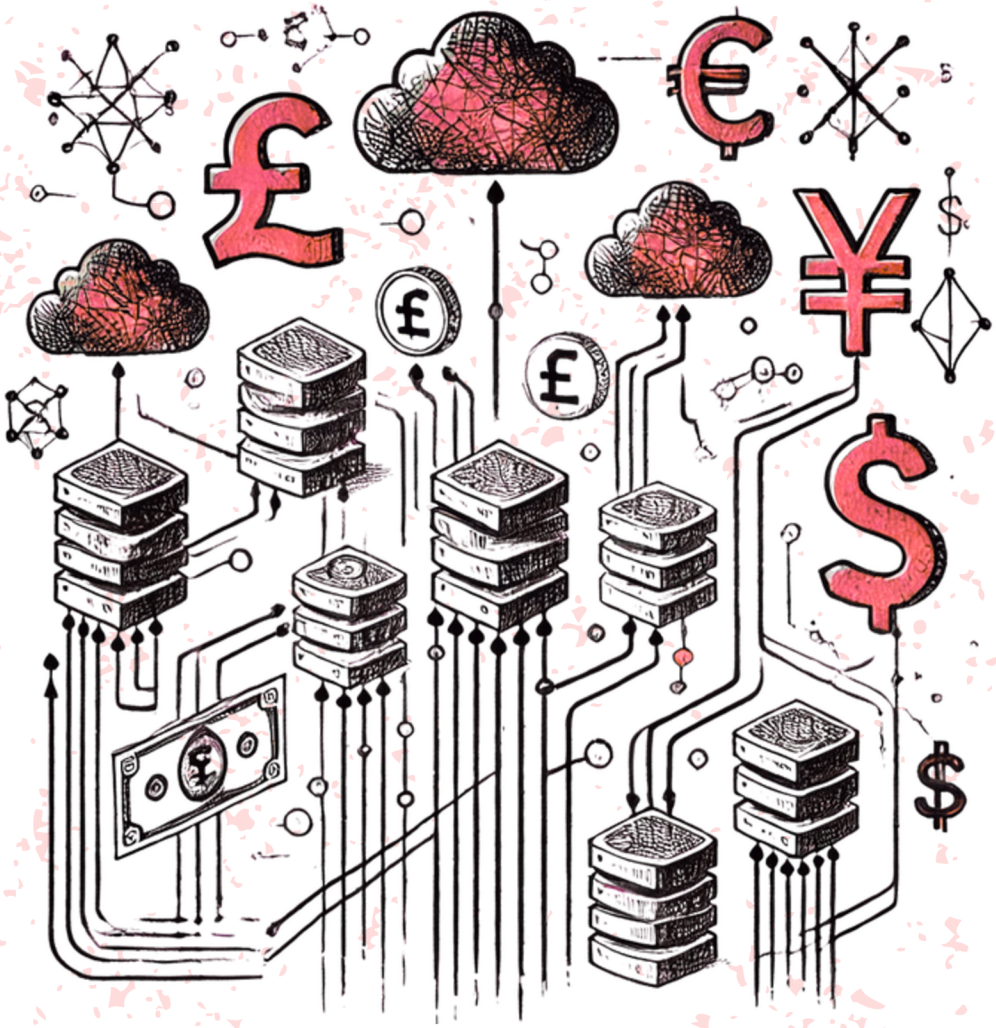

Digital Assets Team Playbook for Financial Institutions

Talents, End-to-End Tooling, Capabilities, and Track Records

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Contents

Chapter 1

Thriving in Digital Assets: Institutions in Search of the Missing Pieces

The emergence of digital assets marks one of the most transformative shifts in modern finance, comparable in magnitude to the rise of internet banking or the global adoption of electronic trading but perhaps even more profound in its impact. Juxtaposed with the strategic opportunities that digital assets proffer are technical complexity, regulatory uncertainty, and market immaturity. To leverage the opportunities to their fullest in this fast-growing environment and to overcome the myriad challenges, a proficient, resilient, and seasoned digital assets team armed with effective, versatile tools and a vision adapted to the institution's strategy is essential.

This Playbook illustrates how financial institutions, with the appropriate mix of talents, tools, capabilities,and experience, can excel in digital assets across a broad range of strategies and positions. More important, it offers detailed analyses into each of these aspects and can serve as a step-by-step guide to succeeding in digital assets.

1.1 Understanding Digital Assets as Opportunities and Challenges

For many financial institutions, the path forward in digital assets remains unclear. Part of the aimlessness arises from partial understanding of the opportunities and challenges in the sector, which makes it impossible to assess one's position and to formulate a winning strategy. Comprehensive, in-depth knowledge of the sector, thus, is the prerequisite to thriving in digital assets.

1.1.1 What are the opportunities and challenges?

The digital assets market continues to grow, both in scale and in scope. Worldwide, it is projected to generate a revenue of $100 billion by 2025 and $110 billion by 2026, a 10% year-on-year growth. The number of users will reach just under 1bn by 2026, a 12% year-on-year growth.

Notably, the digital assets market is fast expanding beyond cryptocurrencies, NFTs, and classic DeFi (decentralized finance) options of yesteryear. From tokenized securities to stablecoins and central bank digital currencies (CBDCs) to a burgeoning array of decentralized financial instruments, digital assets increasingly cross paths with the core businesses of financial institutions. The recent rise of tokenized real-world assets (RWAs) further drives this point home.

Key Trends

Beyond the raw numbers, some key qualitative trends shaping the landscape of digital assets in finance are worth noting. They reflect broader shifts in technology, market maturity, and regulatory dynamics.

1. ***Tokenization of Real-World Assets***. Indeed, RWA is arguably the most impactful trend in digital assets, as the financial system increasingly presents assets such as bonds, real estate, art, and private equity, etc. on blockchains. This enables fractional ownership, instantaneous settlement, round-the-clock market access, and often greater liquidity for traditionally illiquid assets.
2. ***Institutional Integration***. Traditional financial institutions are moving beyond just investing, and many are actively building digital asset infrastructures. This is also the context in which this Playbook is set.
3. ***Stablecoins as Payment Rails***. Stablecoins are also moving beyond crypto trading to financial integration. For example, Visa and Mastercard are testing stablecoin settlements across their networks.
4. ***Fragmented Regulatory Landscape***. While major economies are formalizing frameworks for digital assets, rules vary widely. Navigating global markets demands versatility and resilience from digital asset teams.
5. ***Interoperability***. New protocols and frameworks focus on connecting disparate blockchain services and traditional financial systems. This lays the ground for a seamless digital assets ecosystem and is a preamble

to global regulatory compatibility.

6. *Digital Identity and Compliance Integration*. Financial-grade identity verification is being built into Web3 wallets and apps. This reflects the emphasis on compliance and is in sync with the digital assets becoming mainstream.
7. *Digital Asset Custody*. Secure, compliant storage of digital assets is a fast-growing industry.
8. *Convergence of Blockchain and AI*. Artificial intelligence is being used for real-time fraud detection, credit scoring, and portfolio management, among other tasks, within the digital assets sector.
9. *Sustainability and ESG*. Growing awareness and pressure on sustainability are putting a selective force on digital assets.
10. *Advanced Analytics*. Public blockchains provide rich, open data that emerging analytics tools can rely on.
11. *Programmable Finance*. Last but certainly not least, smart contracts are enabling logic-based finance that run on pre-defined algorithms against live parameters. This introduces breakthroughs in efficiency and transparency.

Broad Opportunities for Financial Institutions

These trends present broad opportunities for financial institutions in a refreshed competitive landscape. From infrastructure to products and services, these opportunities have profound implications for strategy in the digital assets space and beyond.

1. *Institutional Adoption*. The launch of Bitcoin and Ethereum ETFs as well as developments in tokenized RWAs are pushing a lot of business volume to digital assets. Continued institution adoption is driving rapid growth in the size of the market.
2. *Asset Tokenization*. The tokenization of RWAs is not only a key trend but also represents one of the biggest opportunities for financial institutions. It has immense potential for new products and liquidity solutions, especially for real-world assets without present equivalents.

3. *Payments*. Banks can enable blockchain-based payment processing and settlement processes, with a mix of payment instruments that bridge money (including CBDCs), stablecoins, and digital assets (including cryptocurrencies). This leads to faster, cheaper, more robust, and highly versatile payment rails.
4. *Custody Services*. Banks are evolving from traditional custody to advanced digital asset custody solutions, with staking and DeFi market access. The potential for wealth management and institutional funds is profound.
5. *Security Services*. Trading access, market making, and execution of digital assets, sometimes in conjunction with custody services, add to existing revenue streams. They provide further diversification options and potentially attract new clients.
6. *Product Innovation*. New financial products are enabled with digital assets. In particular, they can leverage programmable finance capabilities of smart contracts, and with a combination of centralized and decentralized finance tools.
7. *Operational Efficiency*. Blockchain can reduce settlement time and costs for a variety of transactions. With increasingly embedded compliance features, handling cross-border transactions can also be faster and less costly. Further, smart contracts allow for automation in a broad range of digital assets applications, from tokenized RWAs to payments to novel financial products.
8. *Risk Diversification*. Digital assets can constitute part of the collateral in lending and derivatives trading or form part of an investment portfolio, either for clients or in proprietary trading.
9. *Revenue and Client Growth*. Digital assets services can constitute a major source of revenue growth. As client demand remains high and fast-growing, especially among younger investors, a new, quality pool of clients is waiting to be captured.
10. *Partnerships and Acquisitions*. Financial institutions can acquire stakes in or partner with blockchain-native firms; they can also form strategic alliances among each other. New corporate strategy options become available as a result.
11. *Industry Leadership*. Last but not least, the financial industry is at a point

where lasting regulatory and infrastructure leadership in digital assets can be established. Institutions can help shape regulatory and technological standards that reshape the entire industry. With an ecosystem play, potentially with a modular framework and smart contract package hubs, financial institutions can secure a durable competitive advantage in digital assets.

Lingering Challenges to Overcome

Concurrent with the opportunities are lingering challenges across technical complexity, regulatory uncertainty, and market immaturity that financial institutions must understand systematically in order to formulate appropriate strategies that will lead to success. Fortunately, much effort has been made to address many of these challenges, and innovative and effective solutions continue to come by.

1. ***Technological Complexity***. Handling digital assets, especially on public blockchains, requires new infrastructure and deep expertise that are highly technical and often beyond the conventional capabilities of financial institutions. Even as institutions develop these competences, the talents are usually specialized and distant from traditional banking operations. Thus, operationally the challenge can remain unless tooling that meaningfully abstract away technological complexity is used.
2. ***Interoperability and Scalability***. As new, blockchain-based infrastructures are introduced, integrating them with traditional banking systems is an ongoing effort, both in terms of technical solutions, legal status, and operational practices. Interoperability and scalability are key concerns. Standard-setting frameworks and an inclusive technological ecosystem point to a promising direction.
3. ***Security and Risk Management***. Digital assets inherently come with cybersecurity risks. When external providers such as custody and staking services are involved, counterparty risk also exists. Liquidity risks, volatility, and compliance, etc. add up to additional concerns. Financial institutions must tailor a strategy that allows them to navigate the digital asset space with all risks involved satisfactorily addressed. This may involve internal procedures and external services as well as carefully-chosen technological solutions.

4. *Regulatory Uncertainty and Fragmentation*. The regulatory landscape for digital assets is still evolving quickly and varies widely across jurisdictions. As it is with security and risk management, internal procedures and external services are possible components of the eventual solution. Technological solutions, especially in the form of modular infrastructure with compliance packages sourced directly from the respective regulators, as we shall discuss later in this Playbook, may be an integral part of the solution, too. This also circles back to the ecosystem play that we mentioned among the opportunities.
5. *Client Education*. While there is considerable excitement and momentum among many clients of traditional financial institutions for digital assets, there is lingering doubt among a similarly large segment of the clientele, due to cryptocurrency's past associations to fraud and black markets. Further, clients may be ill-prepared to manage their own wallets, despite believing otherwise. The same may also apply to internal stakeholders. Helping to bring about a mature market is therefore another ongoing effort.
6. *Strategy Alignment*. Last but not least, one of the most challenging aspects of digital assets actually lies in how financial institutions can incorporate them into their business. There is regrettably little literature on the issue. This Playbook emphasizes strategy alignment unique to each institution and its digital asset team across every aspect of the analyses.

Faced with so many consequential innovation opportunities but having to navigate significant challenges, it is easy for any organization to be overwhelmed with options. Financial institutions, often traditional and conservative, are more hesitant to rush into endeavours that will leave lasting impacts on their corporate strategy, technological infrastructure, operational routines, and organizational structure. This is why a strong strategy that takes into account the institution's positions and aligned with its vision is a prerequisite for success.

Thankfully, the scale and scope of opportunities in digital assets can support virtually limitless strategy mixes. While this in itself can also leave decision-makers spoilt for choice, the breadth of options means that, whatever the competitive positions that a financial institution occupies, there are at least some viable strategies for it in digital assets.

However, "wait-and-see" is not one of them. As early movers establish

leadership positions, set industry standards, secure clients, and accumulate experiences, etc., the strategy space left open can collapse quickly. While the innovativeness of the digital assets sector likely entails a continued stream of novel opportunities, playing catch-up will be harder.

In 1.1.2 and 1.1.3, we shall start to discuss digital assets strategy and digital assets team (DA team henceforth), though this is a key thread throughout the Playbook (the other two being the strategy and the ecosystem as living organisms and the modular technical framework with package hubs).

Before concluding with the context against which this Playbook should be read and would be used, we should point out that many digital assets initiatives are actively taking place at many financial institutions, notably major investment and commercial banks, and that many others are actively exploring their options. This is an additional piece of the context in which the Playbook will add value.

1.1.2 What do DA teams bring?

DA teams have significant and growing roles to play in financial institutions, ranging from operations and technology to strategic impacts that position the organization for long-term relevance, innovation, and competitive advantage. Truly remarkable DA teams further help institutions set standards, provide foundational infrastructures, and achieve and retain industry leaderships.

Naturally, and as we repeatedly emphasize in this Playbook, these roles and impacts do not come suddenly or all at once. The substantial delineation below is not meant to overwhelm decision-makers. Instead, we want to help financial institutions formulate their own, proper ambitions and visions. Indeed, organizations cannot plan for every minute activity years down the line. As a DA team grows, as the strategic positions of an institution changes, and as the digital assets space evolves, the vision and strategy that guide the DA team should adjust.

Day-to-Day Operations

In terms of daily operations, a DA team can engage in a mix of activities in services, operations, marketing, and organizations. As should become obvious upon reflection, these activities are themselves mixes of technical, financial, compliance, and strategic tasks.

1. *Custody and Wallets*. A DA team may engage in custody and wallet management services. In this role, it monitors wallet security against key loss, frauds, and cyberattacks. It approves and processes withdrawals and deposits and coordinates with external or internal custody infrastructure. When the financial institution provides internal custody services, the DA team also maintains ledger integrity by reconciling on-chain balances with internal records. It onboards new asset types into the custody system, too.
2. *Tokenization and Issuance*. A DA team may further engage in tokenization and issuance operations. This involves the workflow of tokenizing assets, including customizing smart contracts, deploying them, and managing and overseeing token lifecycle events. As we shall discuss in Chapter 3, tokenization tooling can significantly impact the workflow, with many aspects able to be abstracted away or automated.
3. *Trading and Markets*. A DA team may engage in trading and markets services. In such a role, it monitors markets for tokenized assets, stablecoins, and cryptocurrencies, etc. It may execute trades on crypto exchanges, decentralized exchanges (DEX), OTC desks, or specialized platforms for tokenized assets for clients or for the financial institution (proprietary trading), though there are strong rules against the same team doing both. In so doing, the DA team also manages positions and executes strategies, especially when proprietary trading or market-making is involved. Lastly, the DA team confirms settlement of digital asset transactions and reconcile balances across wallets, custodians, and trading platforms.
4. *Compliance*. Whichever service DA team engages in, especially if external clients are part of the equation, compliance is part of the team's day-to-day. This involves on-chain as well as off-chain aspects. The DA team should also track regulatory developments, especially those that will affect ongoing operations. Lastly, the team should conduct risk reviews on a regular basis.
5. *Reporting and Internal Coordination*. Beyond compliance, a DA team also needs to carry out reporting and coordination so that the entire financial institution functions as a well-oiled machine.
6. *Clients and Revenues*. A DA team may be active in client acquisition and revenue generation, including both institutional and retail clients.

In such a role, the DA team may analyze available data to discover incoming market demand, to design profitable products, and to devise fruitful acquisition strategies.

7. ***Experimentation and Pilots***. A DA team active in research and development may conduct experiments and pilots in daily operations. This includes testing new token standards, new technical frameworks, and new tools, etc. in live scenarios.
8. ***Internal Education***. Last but not least, since the influence of digital assets on the finance industry will continue to grow, institutions may find it advantageous to build internal capabilities beyond the DA team. In this case, the DA team may be training departments on various aspects of digital assets and their operations. Cross-functional coordination is another area of capabilities that will see the DA team at the core.

Technology and Infrastructure

In terms of technology, the repertoire of a DA team includes the design, integration, operation and maintenance of infrastructures that underpin digital assets services and related operations. Hence, the team serves as the reservoir of knowledge and sentinel for new development in this fast-evolving space. In reality, a tremendous amount of options is available, and we dedicate Chapter 3 to discuss this in detail.

1. ***Digital Assets Infrastructure***. A key area of expertise that DA teams bring to financial institutions relates to digital assets infrastructure. This spans from trading and markets to custody and wallet management to tokenization and issuance. It also extends to traditional service lines and back-office operations, including information system integration, compliance and risk management, and reporting and monitoring, etc. Within this broad scope, the DA team brings knowledge and experience in executing the organization's strategy, designing the appropriate infrastructure, integrating digital assets infrastructure to existing systems, and maintaining the system in daily operations.
2. ***Blockchain Management***. Where applicable, the DA team is responsible for running and maintaining blockchain nodes. Whether to use private blockchains and whether the institution should run its own nodes are discussions that we cover in Chapters 3 through 5. The decision must

take into account the DA team's needs and expertise, among other factors.

3. ***Wallet and Key Management***. Wallet and key management is an aspect that the DA team must be in charge of, whether the institution offers custody services or not and even when the institution has no external client. This may involve external service providers, in which case the DA team should have a robust method of integrating third-party services to the organization's own systems. It may also interact with the organization's own blockchain nodes, and there are many options in between. This is another subject that we cover in Chapters 3 through 5. The decision must also take into account the DA team's needs and expertise.
4. ***Security and Monitoring***. Another area of technical expertise that a DA team brings is security and monitoring. This involves identifying vulnerabilities in smart contracts, optimizing gas usage, and altering attack attempts, etc. It is likely also part of the compliance requirements. To do this, the DA team must be on top of the latest emerging threats, probably with the help of external services, tools, plugins, or modules, in the digital assets service lines that the institution operates. Indeed, it is an aspect of capabilities that the financial institution must cover before the corresponding service or product can be online.
5. ***Data Analytics***. Lastly, good DA teams are also on top of data and analytics so as to provide guidance for system maintenance and updates, service improvement and growth, and security and risk management, etc. This aspect interacts closely with monitoring and reporting and provides essential information for building internal capabilities.

Strategic Impacts

Beyond operations and technology, a DA team can have profound strategic impacts in a financial institution. Part of these are built directly on the operational routines and technical know-hows, but a significant part of them go beyond an organization's current digital assets business alone—being able to identify and leverage the strategic values that a DA team brings to the table will be a differentiator in the industry. We delve into this aspect extensively in Chapters 4 and 5.

1. *Innovation*. The most direct impact on the organization is the innovation, both in concrete products and in capabilities, that a DA team brings. This helps the financial institution differentiate from slow-moving peers by offering blockchain-native financial services that attract, and has the potential to retain, new and growing clients and revenue streams. A well-positioned DA team enables first-mover advantages in hot finance topics such as tokenized bonds, green finance, and ESG. Further, as major foundational players in the industry as well as key regulators embark on digital assets, this is an area that will entwine with traditional finance service lines, and any competitive advantage will likely be amplified.
2. *Corporate Strategy*. With the knowledge and experience of a DA team, the financial institution can better build partnerships and/or acquire third-party services. From blockchain-native tech companies to custodians, exchanges, and infrastructure providers to other financial institutions with complementary strategic positions in digital assets, a discerning DA team is a valuable asset for planning the strategy, selecting targets, due diligence, and negotiations, etc.
3. *Ecosystem*. With an active DA team, a financial institution can engage in ecosystem building on a deep level, for example by participating in industry consortia, contributing to foundational infrastructure, and building credibility with regulators. Among first-movers, the institution can further influence standards and policy, which will leave profound and lasting strategic impacts. Indeed, ecosystem play is the core component of industry leadership that we discuss in depth in the following chapters.
4. *Routines*. A successful DA team helps financial institutions improve their routines. Improvements in operational efficiency and risk management can be transformative, resulting in competitive advantage over slow-moving peers. By transformative we mean not only quantitative but qualitative change. For example, programmable finance via smart contracts not only improves efficiency in automating workflows but also brings formerly unimaginable feathers as well as exceptional auditability and transparency.
5. *Know-Hows*. As discussed above, the DA team acts as the knowledge hub when it comes to all things digital assets. Over time, the team also becomes a crucial part of the organization's institutional memory, with

experiences on top of knowledge and expertise that set the financial institution apart in the fluid competitive landscape in and beyond digital assets.

6. *Culture and Organizations*. Last but not least, the type of talents in DA teams, the search for them, and the process to integrate them and transform the organization drives internal organizational change. This helps legacy teams rethink old assumptions and accelerates internal experimentation and corporate entrepreneurship. With a new generation of talents, the organizational structure and culture shift over time, too. Done right, this creates an environment more conducive to innovation and better prepared to win the "next big thing".

1.1.3 How to fit the team into an institution's strategy?

A successful DA team is an expression of the institution's overall strategy in digital assets. As diverse and idiosyncratic as each financial institution is, success can take many different forms. Still, a key prerequisite is the match between what the DA team does, what the digital assets strategy is, and what the institution's overall strategies are. As fast-evolving as the digital assets space is, the DA team as well as the institution's strategies must be resilient and flexible so as to adapt, scale, and evolve with the technology frontier, market maturity, and ecosystem growth.

A Match in Strategy

The abundance of opportunities in digital assets and the diversity of routines, knowledge, and impacts that a DA team can bring to a financial institution entail wide-ranging ways that the DA team could potentially be set up. As broad as the possibilities are, however, the DA team must execute the organization's digital assets strategy, which in turn must align with the institution's overall strategy.

1. *Strategic Coherence*. Misaligned strategies lead to conflicting priorities, confused stakeholders, and ultimately wasted investments. A digital assets strategy aligned with the firm's goals avoids these issues and is more likely to be executed smoothly in the organization's context.
2. *Resource Allocation*. Digital assets initiatives require substantial investment in technology and talents. A digital assets strategy more ambitious

than the institution is able to allocate resources for is unlikely to succeed, while one too timid and falls well short of the institution's potential simply squanders the opportunities.

3. ***Operational Efficiency***. Aligned strategies avoid duplicated systems and fragmented tooling. The smoother operations that result also add to organizational cohesion and improves buy-ins from other departments.
4. ***Client Expectation***. With an aligned digital assets strategy, the DA team is more likely to provide products and services that the clients want and need. It also avoids customer confusion.
5. ***Regulatory Alignment***. Similar to the point above, it is easier to convince regulators with a cohesive compliance posture.
6. ***Long-Term Sustainability***. The digital assets space is evolving. If the strategy is not fully anchored in the institution's enduring strengths and vision, it risks being short-lived or reactive rather than durable and adaptive. Alignment allows the financial institution to embed digital assets into its unique value propositions rather than following fads; this is the foundation of long-term competitive advantage.

Some Common Qualities

Nevertheless, there are some important qualities that are conducive to success, whatever the specific digital assets strategy. These qualities span functional expertise, market acumen, technical skills, and team culture. They ensure that the DA team is minimally equipped to deal with diverse and evolving challenges in digital assets. Please note that we exclusively list common qualities here, while additional, more specialized qualities may prove even more important for certain strategies. We discuss this aspect as well as the common qualities below in detail in Chapter 2.

1. ***Blockchain Knowledge***. Needless to say, a deep understanding of protocols, consensus, mechanisms, smart contracts, and tokenomics, etc. is essential for any DA team, which should be on top of the latest developments in the industry.
2. ***Financial Products Expertise***. The DA team in a financial institution must also have a deep understanding of financial products, at least the ones that it is tasked to design, deploy, and maintain the digital assets

versions of.

3. *Regulatory Competence*. Both the finance industry and the blockchain industry are heavily regulated. Up-to-date knowledge of global regulations and preparedness to comply in the evolving digital assets environment are indispensable.
4. *Cross-Functional Acumen*. Digital assets services are cross-functional in nature, spanning from innovation and IT to compliance, risk management, strategy, and much beyond. The DA team should be comfortable navigating complex organizations and coordinating with various departments.
5. *Market Awareness*. The digital assets market is fast-evolving. A successful DA team should be sensitive to market trends and preferably have its own foresight into upcoming opportunities and threats.
6. *Blockchain Tooling*. The technology is arguably the key differentiator of digital assets from past innovations in finance. While there are many degrees of technical complexity that a digital assets strategy may entail, any DA team should have some knowledge of basic blockchain tooling, such as APIs, key management systems, blockchain nodes, custody solutions, and codeless frameworks. They may not be using these tools daily, but at least they should be discerning when it comes to third-party service providers.
7. *Cybersecurity Experience*. Like blockchain tooling, the DA team may not be in charge of cybersecurity but should still have good judgment and follow best practices, many of which are required by regulations.
8. *Resilience and Agility*. Perhaps the most important and distinguishing common quality is the DA team's culture. Specifically, resilience and agility are crucial. This is because a nascent sector like digital assets evolves at breakneck pace, and a successful DA team must be ready to adapt, scale, experiment, and evolve with the ecosystem.

The Value of Effective Tools

Two key aspects that support the DA team's success in executing the institution's strategy are internal capabilities and the ability to co-evolve. Effective tools comprise a key link in building internal capabilities, alongside talents, knowledge, and routines—indeed, the four elements are tightly in-

tertwined. Meanwhile, effective tools empower the DA team with the flexibility, scalability, and resilience to evolve with shifts in the organization's digital assets strategy as well as the ecosystem at large. We will delve into this in detail in Chapters 3 and 4.

1. ***Routines and Knowledge Retention and Transfer***. Tools are the conduits through which the institution standardizes processes and accumulates knowledge and experience. As carriers of routines and knowledge, effective tools are unalienable components of internal capabilities. Having the right tools can help a DA team succeed in a financial institution over a long timeframe.
2. ***Self-Sufficiency***. Effective tools streamline processes and reduce reliance on external providers. This builds internal capabilities and long-term adaptability. Again, this helps the DA team in the long-term.
3. ***Experimentation and R&D***. Related to self-sufficiency is the advantage that effective tools bring to experimentation and R&D. Using well-designed, well-engineered, and well-supported modular infrastructures let DA teams experiment safely, at speed, and at low cost. The processes to bring products to trials and production are also much more straightforward. This helps innovation and adaptation and ultimately contributes to success.
4. ***Ecosystem Play***. By leveraging effective tools, especially ones under a well-designed, well-engineered, and well-supported modular framework, the DA team will be able to execute ecosystem-level strategies. This may involve contributing to foundational infrastructure that sets lasting standards.
5. ***Interoperability***. Beyond internal capabilities, effective tools bring several key qualities that help DA teams succeed in financial institutions. A good selection of tools helps ensure interoperability between digital assets services and traditional systems and routines. It is a foundation for the smooth integration of a DA team.
6. ***Flexibility***. Good, modular tools also underpins flexibility. This allows the DA team to adapt quickly to changing strategies as well as shifting technologies and growing markets.
7. ***Scalability***. Good, modular tools empower the infrastructure as well as the digital assets service line with functional scalability, i.e. scalable

not only in transactional volume but also in functions and features. This helps the DA team to execute the institution's strategy progressively; it also keeps options open for strategy-level changes without service interruptions.

8. *Resilience*. Interoperability, flexibility, and scalability alongside security and robustness combine to produce resilience, which helps a DA team overcome even the toughest, unforeseen challenges.

Measuring Success

Having discussed in length how a DA team can fit into an institution's strategy, we should conclude with a number of metrics against which we can measure the success of this endeavour. The important message is that success is not merely in quarterly operations but should be evaluated in a longer time horizon, and that truly successful DA teams that fit well will help the financial institution grow and lead organically in the new digital assets paradigm. We shall delve into this subject in further detail in Chapter

1. *Strategy Alignment*. Alignment of strategies is not only a prerequisite but also a measure of success. This is because better alignment reflects superior performance along the lines we laid out previously; it also unlocks deeper potentials in future.
2. *Business Impact*. Tangible values such as clients and revenues as well as product launches, time-to-market, and market penetration are meaningful metrics that need no explanation. They should not, however, serve as the sole measure of success, because the emphasis is on long-term, organic success, while business impacts can be heavily influenced by varying exogenous factors.
3. *Operational Performance*. Security, efficiency, and resilience in digital assets services reflect professionalism with roots in talents, routines, knowledge, and mastery of tools. That is, operational performance not only contributes to business impact but also captures an aspect of internal capabilities.
4. *Internal Capabilities*. Internal capabilities are harder to appraise than other points on this list. It may involve qualitative evaluations of routines, knowledge, and tools in conjunction with data analytics that capture these aspects. A financial institution may be wise to design process-

es that capture the harder-to-get data for evaluative purposes.

5. *Industry Leadership*. Last but not least, industry leadership in digital assets is a desirable status. Some data sources may include industry pilots and consortia, patents and research papers, press coverage and awards, and partnership and acquisitions. Those succeeding in ecosystem play are worth a special mention, as their roles in setting industry standards and providing foundational infrastructure leave lasting impacts.

1.1.4 How to start on the right track?

So far, we have discussed the opportunities and challenges in digital assets, what a DA team can bring, and how it may fit in, at least on a general level. This is to provide some context and motivation for financial institutions to start addressing the core task that this Playbook is to guide: building and growing a DA team to succeed.

But where should institutions begin? What capabilities should they build? What tools can they rely on? Which risks must they mitigate? How indeed can they align digital assets with their core strategies?

The answers lie not in bold experimentation alone, but in structured, strategic development, guided by a clear understanding of what a DA team can and should do. It requires assembling the key pieces of talents, tools, capabilities, and experience, as we shall explain in Section 1.2. Each key piece, or missing piece as we call it, receives its own dedicated chapter.

In these chapters, we dissect each missing piece from the strategic level all the way to daily operations, with technological and organizational considerations in between. Real-world cases as well as thought experiments are used to illustrate the decisions wherever necessary and appropriate. As many readers are not tech natives, we dedicate substantial paragraphs to cover the technical aspects even when not discussing the tooling.

Successive chapters also build on preceding ones, reflecting the process through which DA teams develop. However, we should emphasize that real-world decisions in a sector as dynamic as digital assets must not be a simple regressive process down a "decision tree". That is, readers are encouraged to refrain from forming concrete opinions regarding their DA teams before finishing this Playbook. In building and growing their DA teams, readers should not be "married" to dated information and past decisions, either; rather, they are encouraged to strive to retain a level of

vitality and dynamism, which may not be instinctual to traditional finance.

Throughout the chapters, we maintain three common threads: (*i*) the alignment of strategy and the DA team, (*ii*) the modular technical architecture, and (*iii*) the evolutionary view of the digital assets sector. That is, each decision is to be made with a view of the overall strategy in relation to the unique position of a financial institution as well as its ambitions and visions; technology is to empower the DA team and the institution in crafting, executing, and evolving the strategy instead of becoming a burden; and the strategy and the DA team are to be seen as living organisms that evolve naturally and effortlessly to be more efficient, competitive, and polymathic.

This Playbook helps institutions identify their own missing pieces, build teams that reflect their unique mandates and constraints, and move forward with clarity. It is not a one-size-fits-all blueprint. Instead, it provides a pragmatic guide to aligning digital asset efforts with business models, regulatory jurisdictions, client needs, and long-term strategic goals.

When desired, this Playbook can be used as a step-by-step guide, considering that its passages follow the chronological order of the development of a DA team. In this case, however, as we have repeatedly emphasized, a comprehensive, long-term plan should be formed from the get-go. Flexibility should be retained, but all decisions throughout the endeavor should be fact-driven and evidence-based: that is, adaptations of the plan reflect new information and new capabilities rather than haphazard hunches.

DA teams are not simply innovation units. Done well, they become cross-functional hubs of expertise that integrate blockchain strategy, compliance insight, digital infrastructure, custody solutions, and product innovation. They can become catalysts for transformation, helping institutions translate curiosity into capability and capability into leadership. Our objective is to get institutions started on the right track.

1.2 Uniting Talents, Tools, Capabilities, and Experience

As we have alluded to, building an effective, ultimately successful DA team involves identifying, assembling, and developing the missing pieces of talents, tools, capabilities, and experience. Since each financial institution is different, with varying positions and ambitions, the appropriate missing pieces differ dramatically from one institution to another. In this brief sec-

tion, we provide a high-level depiction of the strategic decisions as well as each of the missing pieces that we detail in subsequent chapters. It offers a mental diagram that should make the full analyses easier to follow.

1.2.1 What makes the right DA team unique for each institution?

Financial institutions can occupy a variety of strategic positions in general. These in turn impose limits on the strategy space in digital assets to varying degrees; that is, some positions leave more options open, while others reduce the set of viable paths forward. Nevertheless, appropriate courses of action for building and growing DA teams to succeed exist for every combination of strategic positions. The key is to have a comprehensive view of as exhaustive as possible the list of options in the strategy space in digital assets, objectively exclude options inaccessible due to current positions, and then form a strategy that corresponds with the financial institution's digital assets ambitions based on these options. This strategy would in turn be reflected in how the DA team is structured.

Ex Ante Positions

Strategic positions before venturing in digital assets can affect the outcome of such endeavors. More directly, they exert profound influence on the available strategy space for a financial institution.

1. *Market Segment*. Different market segments have different corresponding technologies, competitions, and market conditions in digital assets. The specific markets that the financial institution serves therefore directly affects how its DA team will look like.
2. *Customer Segment*. Different customer segments have different appetites for digital assets and are suitable for different types of digital assets products and services.
3. *Service Scope*. Whether a financial institution focuses on a single segment or spans multiple market and customer segments can moderate the impact of the two points above.
4. *Geography*. Different geographies have different levels of market conditions and competition for digital assets. Moreover, different geographic scopes also have different digital assets applications (e.g. national vs in-

ternational standards and settlements).

5. ***Competitiveness***. Within the financial institution's service and geographic scopes, the absolute and, perhaps more importantly, the institution's relative competitiveness will affect its digital assets posture.
6. ***Innovation and Technology***. How the financial institution has traditionally fared in innovation and technology is important in that it reflects the institution's routines and culture, which are invisible forces that can greatly facilitate or impede its digital assets efforts.
7. ***Risk Posture***. Risk appetite influences not only the specific digital assets services that a financial institution may venture into but also how aggressive this endeavor will be.
8. ***Sustainability and ESG***. One main area of opportunities in digital assets is sustainability. Institutions with different levels of sustainability and ESG emphasis may choose accordingly.
9. ***Growth Orientation***. Last but not least, some institutions are more familiar with organic growth, while others lean more on inorganic options. The same choices are available in digital assets.

Strategy Space

The concept of "strategy space" refers to the full range of strategic options available to an organization in a given context. In a game theoretic sense, it encompasses the universe of possible positions, moves, and responses that one can take based on internal capabilities and external conditions. In Chapter 2, we delve into this concept and analyze all main strategic dimensions in digital assets for financial institutions.

Below, we only enumerate the overarching strategies that each covers a broad range of mixes of strategic dimensions. These dimensions span custody, trading, brokerage, payment, settlement, tokenization, investment, new product innovation, infrastructure, risk, compliance, R&D, and partnerships; they are the dimensions of the strategy space in digital assets.

1. ***Innovator***. The Innovator strategy emphasizes creating industry-wise impact through infrastructure or ecosystem play that consolidate lasting competitive advantage.
2. ***Builder***. The Build strategy also leverages roles that the financial in-

stitution can play in providing foundational infrastructure and setting standards. It takes a less aggressive stance that may suit some institutions better.

3. *Integrator*. The Integrator strategy emphasizes combining technologies and competitive advantages through technical solutions, partnerships, or both. This includes interoperability between digital assets and traditional financial infrastructure.
4. *Mediator*. The Mediator strategy is a less innovation-intense variation of the Integrator, with the financial institution contributing to interoperability and standardization but in less of a leadership role. It concedes some competitive advantages but does not imply slower implementation.
5. *Niche Expert*. The Niche Expert strategy emphasizes focus on a specific area of digital assets where the financial institution has a unique competitive advantage.
6. *Specialist*. The Specialist strategy acknowledges not only the strengths of the institution in certain areas but also limits in its ability to lead here.
7. *Adopter*. The Adopter strategy emphasizes swift response to the consolidation of technology, standard, and practice in the digital assets space. The Adopter does not aspire to lead, but it can outperform first-movers.

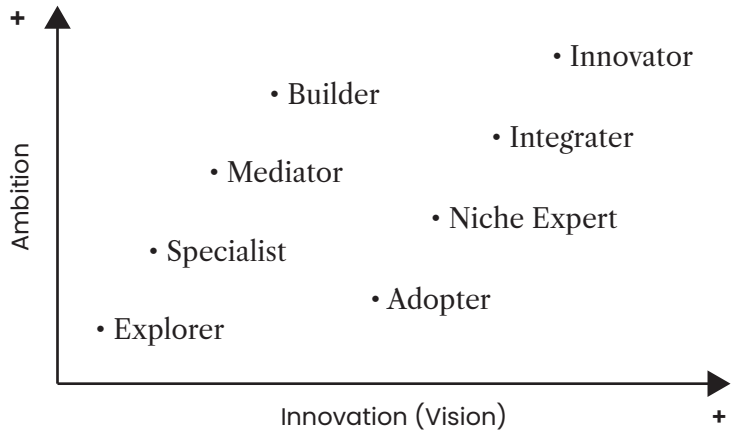

Figure 1. Strategy archetypes in the strategy space.

8. *Explorer*. The Explorer strategy is more cautious, emphasizing instead exploration and experimentation of consolidating technology, standard, and practice. Still, it differs from "wait-and-see", which we do not consider "strategy" but surrender, in that the institution is actively moving forward in digital assets.

We should emphasize that these overarching strategies are not rigid boxes: They are archetypes that are useful for illustration, but no financial institution should adapt their strategic objectives to fit into a box. Also worth noting is that institutions can change their strategies; for some, as they succeed in digital assets and improve their competitive positions, new options become available.

DA Team Configuration

With different positions and strategies, the right DA team naturally differs. In Chapter 2, we delve deep into identifying and structuring the right team. Here, we provide a brief overview of the dimensions of DA team configurations that reflect the aforementioned strategies.

1. *Mandate*. This dimension refers to the scope of the strategic objectives that the DA team is to pursue. It may be purely research-focused, or it can extend to ecosystem structuring and everything in between.
2. *Function*. The functional configuration of a DA team describes the functions that the team should have competence in. This includes technology, operations, trading, and compliance, etc.
3. *Skillset*. The skillset of a DA team is heavily influenced by its mandate and functional configuration. Nevertheless, it differs from function in two ways: there are more than one ways to perform a function, and the team benefits from having capabilities beyond its existing functions.
4. *Structure*. The structure of a DA team is analogous to that of any organization, with some structures better for efficiency and standardization and others more suitable for innovation and dynamism. The hybrid model is also an option for big DA teams, where the innovation and execution groups have different structures but coordinate closely under the mandate of a single team.
5. *Technology*. Technology underpins key digital assets functions and is an integral part of the DA team's internal capabilities. It also has profound

implications for business integration and partnerships.

6. *Business Integration*. A financial institution may choose different levels of integration between digital assets services and its traditional or core business.
7. *Geography*. Some financial institutions may favor having regional nodes to capture local markets or to interact with local partners better.
8. *External Partners*. Beyond internal teams, effective configurations also take into account partnerships and external resources, including service providers, consortia, and technological communities.

Every institution is different. Yet when it comes to building digital asset strategies that scale, common patterns emerge, and so do common gaps. In this Playbook, you will find out how positions, strategies, and DA team configurations interact—but more importantly how they co-evolve with the ecosystem and the industry at large.

1.2.2 How to find the right missing pieces for one's own DA team?

In practice, digital asset initiatives falter due just as much to strategic incoherence as to missing talents, tooling, capabilities, or experience. The remainder of this Playbook delves into the four missing pieces that financial institutions must identify, assemble, and develop to ensure success. Below is a high-level overview that can serve as a mental diagram for readers to follow the detailed analyses. This aspect is important because the four missing pieces are closely intertwined and constantly interact with each other. Together, they form the architecture of a DA team designed not only to navigate the present, but to shape the future of institutional finance.

In Chapter 2, we start by examining the composition, progenitor, influence, and interaction of an institution's *digital assets strategy*, for one must thoroughly appreciate the strategy space, introspect for one's positions, evaluate the tools available, and form the vision and ambition that guide one's digital assets initiatives before assembling the DA team.

- In Section 2.1.1, we clearly delineate the strategy space in digital assets. This begins with defining twelve *strategic dimensions* that correspond with the functional lines in DA teams, including custody, trading, pay-

ment, tokenization, infrastructure, risk management, and compliance, etc. Then, we map select, representative options in each dimension against *innovation intensity* and *industry ambition*.

- Section 2.1.2 operationalizes the concept of strategy space by linking it to the institution's position—and the latter's equally important, albeit often overlooked complement—*free will*, expressed as vision for innovation and industry ambition. That is, strategy is not deterministic, even though the ex ante position can shrink an institution's strategy space significantly. Summing these factors, we detail the eight *strategy archetypes*.
- Section 2.1.3 follows up by adding technology into the strategy-position mix, emphasizing its role as *mediator* in strategy execution, *moderator* for strategic decisions, and *context* for strategic positions.
- In Section 2.1.4, we conclude this analysis by mapping strategy, position, technology, and the free wills of vision and ambition in the process of strategic decision-making in digital assets.

Building on the understanding of strategy, we then tackle the appropriate structures and talents. Of note is the need to go beyond tailoring the DA team for immediate strategies, leaving room for future capabilities and allowing for future adaptations and evolutions.

- In Section 2.2.1, we address the structural decision in assembling the DA team. This begins with delineating six *structure archetypes* that differ in physical structure, function fulfillment, and stakeholder interaction. A number of internal and external factors are introduced to help one choose among them, including strategy, infrastructure, and capabilities, etc.
- Section 2.2.2 follows up by examining the desirable *skills* and appropriate *profiles* to look for in talents. Notably, while skills are desired, they are harder to assess, especially in the early stages; by contrast, experience and professional profiles are easier to evaluate.
- Section 2.2.3 expands the discussion of talent acquisition in two directions: On the macro level, we venture into *philosophical considerations* that go beyond skills, experience, and strategic alignment but nonetheless critical to the effectiveness, cohesion, and adaptability of the DA team. On the micro level, we inspect the full range of personal traits that

a well-run DA team may benefit from.

Moving on to Chapter 3, we shift focus to technology, infrastructure, and tooling. Prominently discussed is the architectural perspective that argues that the DA team's infrastructure should be a coherent system. From this starting point, we begin the chapter by examining a modular architecture marked by packages and package hubs.

- In Section 3.1.1, we establish the superiority of modular smart contract architecture in terms of *functional scalability*, which refers to scaling not only in capacity but in capability. Modular smart contracts resolve or circumvent chronic issues in monolithic designs. The *Package-Oriented Framework* successfully operationalizes the modular design and, with the help of *Package Hub Technology*, industrializes the development of highly flexible and functionally scalable yet ontologically consistent, composable, and maintainable institutional-grade smart contract infrastructure.
- Section 3.1.2 illustrates the benefits of modular tooling underpinned by functionally-scalable modular smart contract infrastructure in terms of interoperability with existing and future systems as well as of its versatility, flexibility, scalability, and resilience.

Going more granular into functional tools and features, we further demonstrate how modular framework facilitates their development and enumerate an extensive, though not exhaustive list of popular tools and features that DA teams may develop on this infrastructure.

- Section 3.2.1 walks through the general steps involved in developing features on such a modular framework. The unique values added by the framework are explored in detail.
- In Section 3.2.2, we expand the discussion of digital assets tooling to popular and emerging tools that DA teams may explore in eleven categories, roughly corresponding with the strategic dimensions and functional lines laid out earlier.

By elongating the time frame of analysis, we then move on to the complete concept of end-to-end solutions. Rather than scattered projects, it requires an infrastructural strategy with a methodology that emphasizes continuity and flexibility. This, so that an end-to-end solution can be adopted flexibly

and grown progressively.

- In Section 3.3.1, we depict the conceptual steps involved in *progressive adoption* of modular tooling. A vivid analogy is that of core infrastructural backbone, main functional tools, and individual features as trunk, branches, and leaves in a living, flourishing tree.
- Section 3.3.2 further captures this living organism analogy in a different scenario—that of adaptation. We discuss all the available *tooling adjustments* that DA teams can undertake with a modular architecture and map them against updates to the strategy along the dimensions of vision for innovation and industry leadership.
- In Section 3.3.3, we zoom out and assess the strategic impacts of modular framework from an evolutionary perspective: internal capabilities, strategy space, and strategic options are individually empowered by the framework over time; collectively, they are the mediator between modular framework and strategic growth.

Chapter 4 moves the topic to internal capabilities, which is another variable besides strategy and tooling that the DA team has control over. We begin by examining a conscious, purposeful, proactive, and structured methodological approach to building and curating internal capabilities.

- Section 4.1.1 delves into the comprehensive range of human, technological, organizational, and operational *elements* that constitute internal capabilities. Based on this understanding, we present the general steps that a *capability methodology* should cover. These steps mirror the elements, because unlike functional lines in a strategy or functional tools in an infrastructure they are not optional for a well-rounded DA team.
- In Section 4.1.2, we further delineate nine *triggers* from market and technology to governance, cultural, and feedback that should prompt a DA team to consider adjusting its internal capabilities. The emphasis is on *consider*, because sometimes the team is already prepared for the upcoming change

Technology is inalienable from digital asset capabilities, for they not only underlie many capabilities but also shape countless others. Hence, in Section 4.2 we take a long-range view of the nine most promising *frontier technologies*, from AI and programmable finance to personalized finance and

automated compliance. These frontier technologies have the potential to disrupt the digital assets space and reshape how some capabilities should be valued.

Beyond technology, other emerging trends in the ecosystem are no less impactful. In Section 4.3, we examine nine of the most promising *non-tech trends*, from tokenization and institutional DeFi to regulatory clarity and sustainability linkages. Of note is that every non-tech trend has tech underpinnings, with the main difference being technology's relatively secondary role. Joining the tech as well as non-tech trends discussed, we conclude this chapter by mapping them into three waves and analyzing how DA teams can prepare themselves with the right capabilities in the short-, medium-, and long-term to leverage these trends.

Finally, Chapter 5 fully develops the evolutionary perspective and focuses on experience and track records, because strategy, infrastructure, and capability grow and evolve—and how they do makes all the difference—learning to leverage experience and track records can thus be key. We begin by outlining how a DA team can build track records.

- Section 5.1.1 makes it clear that *internal assessment* is where the true accumulation of experience and track records begin. We emphasize the needs for methodology, evidence, and learning across five conceptual levels to transform assessments to track records.
- In Section 5.1.2, we shift gears and delineate five *tactics* to leverage track records with external stakeholders before delving into how the eight categories of stakeholders can be influenced. Here, we stress the importance of evidence, transparency, and benchmarking, because track records must be built on trust.
- Section 5.1.3 follows up with the use of track records internally in the financial institution and within the DA team. Here as it is with external stakeholders, strong, structured, and consistent track records leave a more profound impact than one-shot wonders.

Before concluding the Playbook, we zoom out and analyze how the key elements tie in together as the DA team evolves. While we acknowledge the factor of chance, and particularly because of it, it is crucial for a well-run DA team to follow a robust methodology that leverages experience and track records to evolve and prosper in the changing landscape.

- In Section 5.2.1, we posit that such DA teams learn from their experience for more depth, resilience, and adaptability; they leverage their track records to gain legitimacy, resource, and influence. Both together create a virtuous cycle in which strategy, infrastructure, and capability *co-evolve* synergistically.
- Section 5.2.2 takes one step further and likens outstanding DA teams to *living organisms* that evolve and prosper in response to the fast-changing environment. The purpose of this analogy is to help readers reflect on the key elements that have been covered in this Playbook and link them in a cohesive understanding of how to succeed in digital assets.

The Tokenized Economies Institute (TEI) is a research and collaboration platform launched by FeverTokens and its partners to advance tokenization through public-private dialogue. By bringing together f inance institutions, regulators, researchers, technologists, and civil society, it aims to produce research that is not only thoughtful but useful, grounded in real-world constraints, mindful of risks, and oriented toward practical implementations.

This Playbook illustrates how financial institutions, with the appropriate mix of talents, tools, capabilities,and experience, can excel in digital assets across a broad range of strategies and positions. More important, it offers detailed analyses into each of these aspects and can serve as a step-by-step guide to succeeding in digital assets.