Deep Science Publishing
https://doi.org/10.70593/978-93-49910-98-0_3

Chapter 3: Building modern wealth management platforms for personalized, scalable, and secure financial services

3.1. Introduction

Throughout history, wealth management in the private banking sector has served as the primary financial advisory market, whose clients were mainly ultra-rich families and individuals. They received discretionary investment, tax, estate, and succession services, all handed over by the same advisor over decades, and often through private banking only. Over the last sixty years this perception and the business around wealth management have gradually changed, paralleling the growth of the financial industry, the wave of market globalization, technological innovation, and digitization. Clients' preferences have become more complex as they increasingly diversify their investments into illiquid and non-financial assets, or use the wealth for generating social impact. The wealth management market has become more competitive as new digital entrants, fintech companies, big techs, and private equity firms as intermediaries, emerge with alternative proposals. Wealth management has become more decentralized and institutionalized, as clients increasingly demand tailored solutions and products, and increasingly allocate goods and services to experts rather than one single relationship manager (BCG, 2023; Deloitte, 2023; ElifTech, 2023).

Modern wealth management platforms offer advisory and execution functions to both end-clients and intermediaries. Platforms cannot replace the traditional face-to-face meetings between wealth advisors and clients. They exploit the client-investor relationship, and the trust embedded in this relationship, by offering increasingly effective digital solutions to support such relationship. They combine the four wealth management functions of portfolio management, product structuring, purchase execution, and after-sale service on one internal platform, integrate external value-added services made available through open APIs and connectors, and combine them with other market variables such as clients' expectations, thresholds, preferences, and skills. Data are the platform's foundation (Milemarker, 2024; Salesforce, 2025).

3.2. The Evolution of Wealth Management

3.2. The Evolution of Wealth Management When private banking started, wealthy families paid for the banker to take care of all the investments, be it buying stocks, be it purchasing businesses, fruit and vegetable companies in South America or shipping companies in Norway or whatever is profitable. As wealth sources are changing and the number of newly wealthy families is increasing, banks started specializing, and specialization has only increased over time, with hedge funds and private equity funds being created.

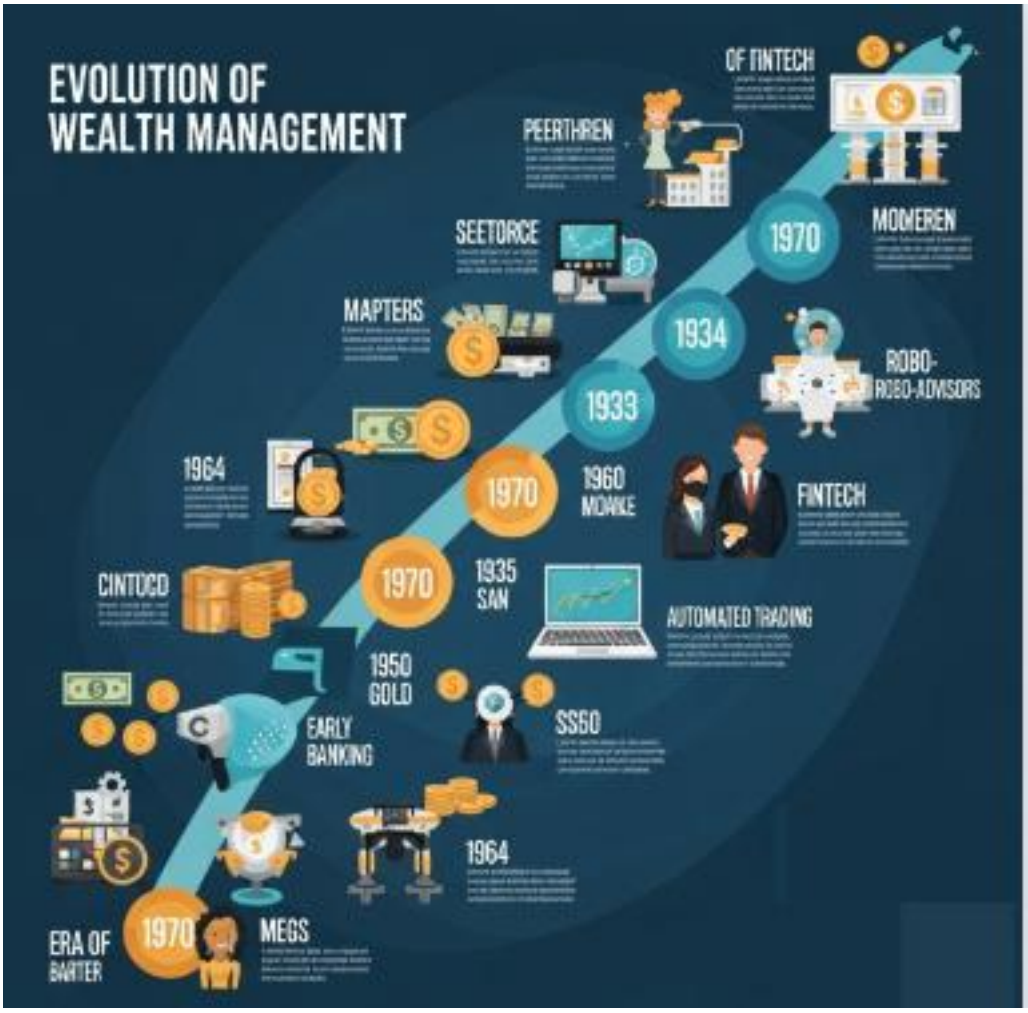

Fig 1 : The Evolution of Wealth Management

The motivation behind these new specialized products is to outperform the traditional asset allocation approved by asset consultants. In this traditional asset allocation, the family allocates 60% to worldwide equities and 40% to bonds and expects the advisor to outperform this investment portfolio. The bank charges a yearly fee of 1% to 2% of

this portfolio, so if the family's portfolio is invested for retirement purposes, they will pay this excessive yearly fee for decades. In order to avoid the resulting wealth degradation, banks have urged wealthy families to consider new sources of diversification which led to the birth of family offices. A family office, originally, was a tiny structure supporting a wealthy family. Its vocation was to optimize the wealth of the family over generations.

As demand increased, these small structures grew more sophisticated, including private equity departments, investment funds, financial engineering departments, accounting and legal departments, management companies for real-estate assets, etc. What used to be a tiny structure, especially when compared to the size of the family wealth which was above $100 million in order to justify these structures, has evolved to multi-billions family office companies. The creation of the FOF structure initially occurred to minimize management fees, with hedge funds pooling the assets of wealthy families. The FOF structure is a structure that invests in hedge funds; which is managed for a flat fee of 1% above the expenses of the hedge funds, that usually vary between 1% and 2%, covering the salaries of the hedge fund managers for their work of selecting investments. Their vocation is to do better than a traditional underlining investment hedge fund valley-add, which invests in all hedge funds for free, getting the hedge fund rates which are only half of what they are charged to accredited investors.

3.3. Key Components of Modern Platforms

In a platform economy business model, a unique cohort of companies, known as platform companies, are focusing their entire business model on the development and offering of digital platforms. From fintechs to large traditional financial services companies, wealth management service companies are in the early stages of adopting the platform economy business model. This adoption begins with companies developing or already having built digital platforms that use technology in interesting ways to make their service provisioning more effective and efficient. Such a platform can be considered a digital platform when it allows for the creation of value by leveraging a wide range of data analytics. Such platforms are similar to product-driven digital platforms that deliver physical products or services but in wholesale quantities to large consumer groups. Mass customization is apparent as groups of consumers use these platforms offering personalization at a lesser cost in providing the service. Unlike the product-driven companies, wealth management-related companies use their digital, data-heavy offerings to service a group of specific consumers with a focused need.

While it is possible to use third-party offerings to support the core assets of a wealth management company, the value proposition of a platform financial services company comes from the use of proprietary capability and know-how. For this reason, these

companies develop and use their proprietary platforms that hold these assets and use a variety of plug-in applications to interface with them. The possibilities in providing wealth management-related services from a project platform approach are endless since the platform can accommodate a myriad diversity of projects of varying degree of complexity and held by customers that have specific investment needs. Such platforms, however, need to address certain important aspects to make them amenable to such usage. These aspects include providing a high-quality user experience design and digital interaction; analytics and data insight speed of interaction, flexibility, and ease of use; and integration capacity with varied data sources that are necessary to facilitate the instantiation of user-specific projects.

3.3.1. User Experience Design

User-centric design is the most fundamental part of a modern wealth management platform. It is a well-known concept that has become fundamental in the design of many successful digital products, not only in financial services. However, we believe user experience design has special implications for wealth management. Regardless of product type, the term "platform" implies something larger, more encompassing than a simple product. For instance, while "Project Management" is a product—specifically a software-as-a-service product—"Project Management Platform" might describe much more accurately. The projects are a definite part of the offerings of both these companies, but they also enable storage, collaboration, and sharing; but above all, they connect that area with more other products and services than just the simple "project management." The same could be said of Wealth Management Products and Wealth Management Platforms.

Until now, we have focused mostly on the definition of wealth management platforms, with a strong emphasis on the "System of Records" aspects of wealth management platforms. These platforms allow firms to migrate assets-in-place, while providing a seamless experience for clients/users. Integrating both SoR-SoC aspects at the user design level is why we note that wealth management platforms are more than an integrated user experience from the perspective of the end-user. Without accounting for the specific constraints of how wealth management services are provided to an end-user in the real world, it would not be a real integrated user experience; nor would it be a platform.

3.3.2. Data Analytics and Insights

The significance of digital channels and data analytics stands at the paramount of modern wealth management. The demand for remote portfolio monitoring, data sharing

capabilities, advisors supporting more clients aided by technology, and investor reluctance to pay for communication, are all leading advisors to invest in technology to streamline their practices. As such, the wealth management firms need to constantly utilize data analytics to arm advisors with insights into how to best manage their relationships and serve their needs. Dynamic portfolio and firm-level KPI monitoring aids in identifying opportunities or red flags to present to advisors includes...

- Firm's revenue increase and decrease tracking

- Portfolio growth in times of stable market vs market downturn

- Portfolio sensitivity tracking

- Portfolio sector exposure tracking and overshoot

- Cash balance / withdrawal tracking for retail portfolios

While it is very easy to cut investment costs, investor needs to be educated about how these cost cuts can have very deep repercussions in volatile market conditions. The supervisory KPI monitoring helps advisory firms in tracking the advisor's interactions and working with high-risk portfolios. Some of this includes...

3.3.3. Integration with Financial Products

A modern wealth management platform enables different investors access to invest in products that were hard to reach in terms of minimum investment size. Therefore a infrastructure layer with a wide variety of financial products is critical. Financial products could include: • لجی • Share Market • Private Equity Investments • Alternative Investments • Debt Securities • Cryptocurrency • Bonds • Stock Market • Real Estate • Gold Once we have identified and selected products that will find relevance with our investor base, the next step is ensure that partnering and integrating with these product providers is extremely seamless. Financial products are from a very wide variety of asset classes and therefore having partnerships and narrow integrations across a wide variety of financial markets in one platform is essential to help build one-click solutions for seamless customer experience. Every financial product will have different regulations, policies, tax treatment, fees and processes, and therefore having a platform which can partner with every product in a tight manner to help build an efficient one-click solution for our client base is a true value addition a wealth management platform can bring to the industry. Each different combination of financial products for a range of products for a life stage has a potential of lending money to lock for a longer term and is a critical asset allocation and investment decision.

3.4. Personalization in Wealth Management

Wealth management has evolved into a highly specialized sub-sector of the financial services industry — in high net worth markets instruction about investments is not enough anymore. Clients require tailored action proposals and investment implementation support. AI is able to deeply analyze large amounts of objective and subjective data about client and family needs, risk tolerances and return expectations over time, investment product preferences, values and principles, as well as family and business dynamics. AI can help improving the timing, conditions, tone and style of client communications as well as their frequency. High-Tech-High-Touch approaches are able to improve authenticity and engagement in long-term trusted advisor – client relationships.

The deep understanding of client needs and desires allows for highly personalized products and services like family governance, will and inheritance planning, family conflict arbitration, charitable giving planning, optimizing asset management fees, tax consulting, risk protection, succession planning and impact investing. Moreover, AI enables the entire breadth of wealth management services to be delivered as an option to those clients that cannot pay the fees of traditional banking but who will seek HNW services in the future if they build wealth over their lifetimes. Traditional banks have the option of trying to blend the instillation of the key competencies and processes of digital wealth management within their current meld of wealth management services for the rich and advisory services for the underprivileged and underserved.

3.4.1. Understanding Client Needs

Wealth managers need to understand client goals and needs if they want to develop a personalized investment portfolio. There can be different perspectives and different levels of depth for this assessment. All clients want to grow and preserve wealth, whether it is a high school student, a retiree with significant assets, or an endowment with an annual spending policy. They may have very different risk tolerances and sources of funds for their investment, however. The experienced wealth advisor may guide the conversation in the direction of measurable goals without the client having to detail specific requests. At this level, the advisor can assess the client's risk aversion or ability to take risk in conjunction with a common understanding of the future goals guiding the allocation choice.

Once the discussion has started, the advisor can dig deeper into a client-specific assessment of risk tolerance. Having this discussion is one of the most important aspects of a personalized wealth management experience yet the most difficult to accomplish. For simple assessment, loss aversion can be used as a stand-in for general risk aversion.

Some clients will register a loss aversion at a certain level, meaning that they would be willing to accept an investment with three times the expected gain if it had a chance of decreasing in value by a certain percentage. Other clients will object to investment strategies with any chance of big losses at any time. In terms of investment choices, low-loss clients will reject all strategies with a standard deviation greater than a certain threshold value, while other clients will reject only strategies with the chance of a loss worse than a stated minimal value. It is not only a matter of measuring risk aversion but rather creating client closeness and rapport on this sensitive but crucial topic in wealth management.

3.4.2. Tailored Investment Strategies

Personalization at scale is a business model, but how does that translate in practice for a wealth manager? While the journey starts with clients' needs and goals — be it retirement, saving for a child's university tuition, or leaving money and a legacy for heirs — these are just milestones along the path of a financial journey, and there are many different ways to reach a specific objective. An increasing number of clients expect their portfolios to align with their ethical or sustainable values, such as environmental stewardship, responsible governance of businesses, or the treatment of employees and vendors. Therefore, offering a range of risk-and-return portfolios with specialized tilt portfolio features can serve as the building blocks of any tailored investment strategy.

At the same time, not all clients have the same level of interest in being active today. For some, investing is just a means to an end: their primary goal is to invest to meet a specific objective, and once they put their portfolio in autopilot, they don't want to do much and aren't excited to be actively looking at choices, discussing details, and fine-tuning their portfolio. For others, the excitement of investing is both the process and the outcome. It is a strong driver of engagement and passion, so they want to have more of a hand in making investment decisions. How does a wealth management firm balance this great diversity of client needs and interests? Investment risk factors are an efficient and effective answer to this question. Whether a portfolio is managed in-house or externally, or is less actively invested or more actively traded, analytical engines can work behind the scenes to create the appropriate portfolio with the desired client portfolio profile.

3.5. Scalability in Financial Services

Scalability is the process in which larger volumes of demand can be met with smaller increases in supply. In economics, scalability is crucial for companies operating with tight margins of profit relative to revenues because they need to continually grow sales volumes in order to increase margins, slash costs or externalize non-core competencies

in order to be able to maintain performance standards. This has been possible in a handful of industries in the industrial era, with mass production and mass service consumption creating large scale companies with market capitalizations matching or exceeding the GDP of many countries. In financial services, however, history shows that scale is not sufficient to produce great long-term performance.

Fig 2 : Scalability in Financial Services

Financial service technology is most often deployed in vertical silos or layers, where functionality is delivered by industry-specific solutions developed specifically for the financial services industry, usually unique to each institution. Any institution's financial ecosystem is a patchwork of applications designed and implemented at very different times in its history and unsupported by any common thread of capability or design philosophy. Common banking glue functionality is achieved by expensive, lengthy, problematic and error-prone projects undertaken to integrate the disparate elements into a functioning whole. The costs of maintaining these disparate and poorly connected systems is particularly high, and growing. Financial institutions with modern open architecture platforms, on the other hand, are in a good position to have scalable solutions that are increasingly being offered in the Cloud. Modular solutions that can be

plugged in and out of core business processes as a financial institution's needs change will allow the platforms to remain relevant as customers change their behaviors and risk increases as their demands increase. Building a modern scale architecture that could support many commercial actions in many geographies is a necessary prerequisite to more efficiently and effectively meeting customer needs at higher returns. High speed global distribution creates bigger pools of commercial demand for financial services. Typical demand and return patterns are changing. Cloud and Box solutions are solving some scalability problems. Modular architectures are supported by functional toys that allow a financial institution or external developer to plug functional modules into business processes for a test period, and then either continue running the module in the business ecosystem or take it out.

3.5.1. Cloud Computing Solutions

Many professionals remember when the term cloud computing first emerged, which was during the mid-90s. However, it was not until 2000-01 when companies started to implement some of the main cloud computing features: low-cost, large-scale IT solutions, accessible for most organizations. Perhaps now is a good moment to define cloud computing in our field: what are the main characteristics of the cloud? Access to compute and storage systems on a need basis, low cost, fast implementation, and the availability of secure proven security solutions.

These features are aligned with the requirements of financial services companies, including wealth management companies. A modern wealth manager should be able to flexibly provision more resources during busy times, pay only for what they use, implement new technology solutions in days instead of months, and also have on-demand access to state-of-the-art security features. Finally, the comparison of security features by cloud providers is of tremendous value as they have to prove compliance with regulators and third-party security certifications. These goals should drive a modern wealth manager to adopt at least some cloud-based solutions with some urgency.

The majority of wealth managers today have either gone through this decision to some extent or are in the process of developing or upgrading one or more of their key internal technology solutions, like their Robust Digital Client Experience or Client and Investment Management system, or for those companies that provide their technology to other wealth managers, through partnerships with technology vendors.

3.5.2. Modular Architecture

Resiliency and scale is a journey in tech infrastructure. Processes, functions, and services can be broken down across a multitude of modules. Each module may be deployed into the cloud once, only to be invoked innumerable times thereafter. The cost-benefit analysis of storage and computing at scale favors this architecture. The technology also enables a nirvana state of resiliency. With the tools available today, it is very simple to achieve the lofty claims of 99.99% resiliency. However, that is not the level at which business operates. Typically, the demands of the business are on a significant scale, yet there may be shared concerns around the cost-to-repair of failure. Depending on the type of startup, scenarios account for how technology would be used in extreme circumstances.

Today's modern customers tend to demand multi-channel delivery options, customized products, services that seamlessly reach further and deeper. Core modular architectures facilitate this assembly-line approach to building products and services. One may readily create commercial products or internal workflows using services such as chatbots. Services may move seamlessly between self and assisted methods within a hybrid model. Products can be customized for different customer segments, all through core components that deal with the common functioning. Newer channels once again fall back onto core parts of the business to enable product flow and visibility. Choosing the business capabilities that may be modularized is a critical component of strategy. These high-risk modules may require higher investment and longer timelines. These may have high-friction or high-cost defects. High-volume modules that require high velocity but are less business-critical should be selected for faster turnaround.

3.6. Security Considerations

Along with the structural and functional design considerations of a modern platform, there are important security and data protection considerations that need to be built in along the way and not added later as a patch. These mainly include two things that increasingly are deeply interrelated: adherence to applicable data protection regulations, and preventing, mitigating or timely detecting and responding to cybersecurity threats.

Data security and privacy are critical considerations when collecting and managing sensitive client data, and managing client accounts and financial transactions using a platform. Starting with what is often an initial onboarding of clients by client bankers with ID verification and Customer Due Diligence, this sensitive personal identifiable information often along with sensitive business confidential information for high net worth individuals and family offices, or key business owners of business clients is typically collected for identity verification, KYC, and AML regulations. As the

relationship progresses, more sensitive information relating to their wealth management strategy, asset allocation, and financial investments is collected through a client portal where this additional sensitive information is shared. There is a strong expectation by clients that this sensitive information would be securely managed, and is also the basis of many data protection regulations. This requires data minimization and purpose limitation principles with strong Client Confidentiality and Privacy obligations by the wealth management firm.

The most obvious measures for cybersecurity include strong internal security/network controls and systems security protocols, plus robust cybersecurity training for employees and clients to guard against social engineering. However, like compliance, security is not just limited to what is realistically affordable and monitoring just around the sensitive data held on the platform itself. Modern cyber security firms while able to detect and timely prevent or respond to many cybersecurity attacks, increasingly recommend a heightened focus on security by design, and shifting cybersecurity left during the initial development phase of the platform design. This involves building in informed system and infrastructure security architecture choices such as Product Security Standards, Secure Coding, Product Threat Modeling, Product Penetration Testing, Data Protection, Security Deployment/Build Standards and Cybersecurity Event Monitoring and Data Protection.

3.6.1. Data Protection Regulations

In addition to stored information security, digital wealth management platforms also need to review the legality of applied data processing. The growing collection of personal investment data has not gone unnoticed by regulators. There are already examples of applicable data protection regulations directly prohibiting analysis or monetization of private data without the actors becoming aware and providing specific consent. The California Consumer Privacy Act includes various clauses regulating processing for monetization purposes. As wealthy individuals have a different definition of monetary value due to the reduced marginal utility of money, it is not sufficient to rely only on having accepted the general terms of service authorize the platform to use their data for machine learning modeling or sell it to the highest bidding insurance company. Similarly, advertising companies cannot pay wealthy individuals to use wealth management platforms in order to assess product offerings and brand values.

Processes allowing data usage or accessibility by external stakeholders should be transparent. This transparency requirement extends to any service providers or partners of the wealth management platform, e.g., data cloud storage vendors, API aggregators, customer segmentation analytics, or other collaborating technology companies, as the actors should have the option of modifying the data sharing rules and also remove their

data after the incentive has been eliminated. Legal review of data sharing requirements and their implications will require a collaboration with external consultancy firms as most wealth management platforms are probably not internally equipped to navigate the complexity of potential regulation violations from both a financial but also a reputational point of view.

3.6.2. Cybersecurity Measures

Data built on modern wealth management activist – custodian and single responsibility, investment governance, labor saving, fund costing, operations efficiency, intelligent powering, and confluence helping, needs security measures in a way where perimeter security is visible to end-users and clients, but real protection behind the scenes, like in the classical navy strategy of displaying frigates on anti-pirates mission to the public, but getting protection by submarines. Cybersecurity strategy needs a single window where clients can check the status of the security measures, in parallel with cyber dashboards displayed, at the same time, on clients devices with adequate notifications and alerts.

Another area of the cybersecurity in front-end is to show results of data leak penetrations, like a monetary cost of the current cyber strategy, similar to a suspicious transaction notification. We can also imagine a future international consortium publishing security Depositary receipts allowing exchanges for different monetary costs of the published cyber plans.

In a wealth management digital ecosystem approach to cybersecurity is more complex. Apart from the company perimeter considerations to protect users in the core, we have to define security of bridges that log out users, aware of any shadow device or channel, and give delay and reauthorization alerts. Third-party organizations that pursue automation guidelines, or being custodians in some areas for cross border architectures, need to define cybersecurity procedures with certified businesses, agreed bridge contracts, penalties, and insurance parameters against business interruption. For action transactions, or system generation, a more complex web of alerts, re-trials, and different authorizations for different requested levels are needed.

3.7. Technology Stack for Wealth Management

The techno-operational component of a wealth management platform demands careful consideration of the entire technology stack in which it is implemented. Wealth management platforms typically consist of four layers – the mobile or desktop client layer, the API layer, the back-office logic layer, and the database layer. In this section

we will examine these four layers of technology stack, touching upon the key features investors and users expect of each of them, before providing our guidance on how to implement each of the layers.

In part influenced by the need for compliance with the KYC algorithms of the custodial bank and the local non-banking financial institution, the client channel of a digital wealth management platform is either mobile, web-based or both. For client-facing software, this channel typically needs to be doubly secure, doubly usable and doubly fast. Security, usability, and speed are all paramount for client-facing wealth management platforms. For private banks catering to mass-affluent or affluent customers, a hands-on approach to customer service is key and therefore, a strong mobile- and portal-based client interaction channel is essential to put customers in control of their portfolio so that the bank can focus on the services not involving technology where a thin spread across each of the banking relationships is on offer.

3.7.1. Frontend Technologies

In modern wealth management, when it comes to the client interface, the primary objective has been to weave the site into a seamless part of the customer's experience.

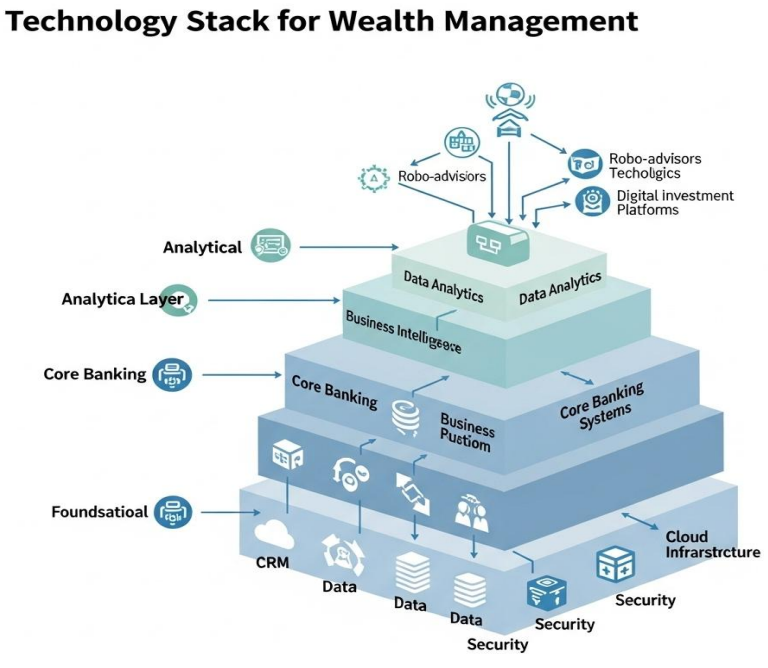

Fig : Technology Stack for Wealth Management

This often includes an omnichannel frame into which the company can then push as many relevant, meaningful, user-friendly tools as possible. These tools include financial analytics, portfolio/evaluation grants, reporting, financial decision planning, multiple account aggregation, trading platform, and communications from firm to client and client to firm. And there are many technology solutions people can consider in developing such an integrated interface.

From a tech-functionality viewpoint, wealth management portals generally rely on middleware; dashboards; dynamic HTML; integrated messaging; e-content; and international support. Portals can also integrate various features, such as tag clouds, searchable and annotated archives, user profiles, and user-chosen updates; and mobile device and tablet technologies are increasingly being incorporated. These such choices can make the choice of developing the Programmable Service Infrastructure unique, deploying or developing the more traditional wealth management solution, or emulating other financial service portals.

3.7.2. Backend Systems

Once the user's identity has been authenticated, the frontend asks the backend systems for the data to be rendered on screen. Backend systems store the data, hold business logic, and interface with databases and third-party systems. If the frontend for a web or mobile client needs to be able to work offline, then there is also a second, light backend on the client device that stores data locally, and syncs with the main backend when online connectivity is restored. The choice of how smart a client should be is dependent on the type of service provided, and also the available frontend technology as compared to a full backend system.

Backend systems also provide user experience flows beyond the traditional page response paradigm of web applications. For example, notifications may be sent to mobile devices to trigger action from users, and the results of action may be posted back to the backend systems. Messages may be exchanged between users and backoffice agents via a chat interface. Users may also be able to interact with digital assistants powered by machine learning for tasks requiring automation.

Extensive use of third-party APIs makes the process of providing services to end users faster and cheaper by utilizing the years of work invested by vendors to write, maintain, and operate these services at high capacity. Companies dispatch tasks to third-party APIs, monitor use, optimize choice and API usage as needed, and provide the user experience that is most relevant to their targets. The same architecture also lends itself to be deployed by many players in the industry, leading to commoditization of many services offered to end users. However, providing extraordinary user experiences that

stand out and create lasting user affinity for a brand may still be undertaken by a single company in a niche, using the same backend building blocks.

3.7.3. APIs and Integration

Wealth management applications manage diverse data sources like portfolio valuations and pricing data from the custodians, CRM data from sales and marketing systems, risk profiles and suitability data from data enrichers, research data from CRM and research systems, investment policies from the portfolio rebalancers, and regulatory requirements data from compliance monitoring systems. These data sources are from both internal and external organizations and vendors. Users expect a seamless experience interacting across functions and with different systems. This is achieved by defining each function and related features as microservices that individually manage a specific capability. These microservices are hosted inside the application or in other applications as APIs. Microservices that are built as API services open telecommunication with industry-standard protocols. Federated systems also need application integration tools that coordinate the need for data collection, aggregation, and data transfer in a simple, efficient, and timely manner. Wealth management microservices must be built to API and allow external access channels to become feature agnostic. This enables a wealth management service to be offered through several channels- branch desks, concierge desks of banks, broker-dealer agents, wealth advisors of merchant banks, and online portals or mobile apps. And, be consistent across different channels; provide alerts, notifications, and recommendations around behavioral or transactional events; and support explainable AI by providing visibility into the AI engine learnings and working, risk notifications, and security measures.

3.8. Regulatory Compliance

Modern wealth management applications are complicated by the need to adhere to regulatory requirements. Compliance is an important subject for financial technology developers. With the rise of personal wealth management via digital channels, regulators will be driven to enforce rules around advertising, fundraising, fee disclosure, currently required of registered investment advisors. Digital marketers soliciting investment management through social media, influencer marketing, and other means would do so at their peril unless these advisors who bypass the due diligence of established wealth management firms register as licensed. The incidental purchase of cryptocurrency-based products by high-net-worth individuals forced a discussion about accredited investor status, and guidance on the topic hinted that potential enforcement actions would take place against firms or individuals embarked on a marketed crypto-related investing

strategy. While funded tech development firms skillfully avoided scrutiny, large asset management firms were forced to shut down their token marketing efforts. The chair reiterated that the ill-fated tokens created and promoted by influencers and capitalized by retail investors who were misled about the investment prospects were “securities” and should therefore come under jurisdiction and rule.

Smart tech developers have considered the implications of poorly drafted advertising copy and optics for their revenue from assets under management and, typically built compliance frameworks that reside outside the user interface itself. Using a compliance framework of rules, applied filters tighten the definition of rules-based compliant designs. The compliance frameworks typically check for design and content errors that violate guidelines, establishing a final barrier to the potential exposure for financial advisors and their firms before it is approved and submitted to the designated compliance officer for final review.

3.8.1. Understanding Financial Regulations

The regulatory landscape of the finance industry is extremely complex, with guidance coming from multiple sources at both the Federal and State levels. In addition to government regulations, independent regulatory organizations impose regulations on aspects of the industry, as do exchanges. However, the purpose behind all of these regulations is essentially the same, and it can be summarized in three principles. First, licensed organizations and individuals in the finance industry are required to act in their clients' best interest, known as the fiduciary principle, which is different from acting in their interest, which is the traditional business model. Second, financial products must adhere to some level of requirements regarding fairness, efficiency, and transparency so that consumers are appropriately protected. Third, the various aspects of the finance industry must be reported to the government so that the government can effectively monitor the consumer protections.

To prevent abuse, the government has established independent regulatory organizations to monitor the activities of financial institutions and quash practices that might jeopardize consumer interests and the integrity of the business. For example, one organization has the authority to prohibit certain types of accounting practices that would allow an institution to conceal a major loss or mislead consumers regarding the financial health of a company; conversely, it can also individually regulate certain transactions and trading. These regulations are in place partly through mandate and penalty – an institution that violates a regulation will likely be penalized by that organization – and partly through audits and inspection. Independent regulatory organizations monitor these types of decisions through regular visits, reviews of books, and examinations of company documents.

3.8.2. Implementing Compliance Frameworks

Regulatory compliance presents a challenge for wealth management firms. Compliance must be implemented at the same time as the product launch to ensure the business can operate as desired. Vendors are typically responsible for providing compliance rules and processes to clients to ensure that accounts are legally established and that clients are onboarded properly. The vendor must also provide market updates to clients to enable them to alter, add, or remove rules when circumstances change. This is performed through system updates as regulators change existing rules or implement new rules.

Similarly, the vendor must provide transactional approval rules for transaction requests through the wealth management application during the operation of client accounts. Once requests have been approved, the system ensures that transactions are executed in compliance with the stipulations of the regulators. So far, the discussion has concerned the financial and transactional elements of the regulatory responsibilities of firms. However, of equal or greater importance, are the compliance rules involving monitoring and reporting. Data must be collected and stored, with ad hoc reporting capability built into the system, so that the firm can report to the regulators on demand. Automated monitoring functions should also be performed by the system to alert compliance staff to exceptions based on regulatory thresholds, and eventually draw the compliance team's attention to transactions representing possible breaches of regulations. The new importance of compliance monitoring has drawn specific attention since the trading loss events experienced by several large financial institutions, despite their being monitored. These events shout out for serious questioning of current practices in compliance implementation.

3.9. Case Studies of Successful Platforms

Many firms have begun building wealth management platforms including large traditional firms as well as newer specialty tech players. Below, we provide examples of two traditional incumbents who have built successful modern wealth management platforms, as well as a few examples of modern tech-focused companies.

There have been established wealth management firms investing time and resources into building investing platforms dedicated explicitly to the modern age, providing all the necessary tools there to help make this investment journey a great success. One firm pioneered the index fund and has continued to democratize access to low-cost investment management services by expanding its offerings of low-fee funds, technology services, and user-friendly retirement saving accounts. Currently, another firm has democratized access for consumers. Its goal is to help consumers build daily credit, pay off debt, and strengthen their credit score, while investing for retirement.

There are different kinds of startups that are changing the way consumers think about wealth management. These innovations are critical to consider when defining the future wealth management infrastructure. Ideas that were once served primarily by large financial institutions are now being packaged by ventures containing different goals and product value. One startup is building a proprietary technology that will help its users with an easy way to self-custody and manage their digital wealth. Meanwhile, another is building a financial management hub that allows people to better understand their overall debt and choose the best options to consolidate their debt. With the growth of new technologies comes the opportunity to rethink the unbundling and rebundling of wealth management services.

3.9.1. Established Firms

Many established firms have built increasingly sophisticated platforms; some even began doing so with fairly simple ideas. For instance, Schwab built its self-service brokerage platform in the 1970s, allowing investors to purchase their own securities without the help of a broker, taking its commission fee. In the process, Schwab opened a new asset class for lower and middle income Americans who had been excluded from the private equity or alternative asset class. Over time, Schwab's offering expanded into a turn-key wealth management solution, including investment management, retirement planning, rebalancing, and tax services. The design, implementation, and marketing of that platform accelerated Schwab's growth relative to incumbent trust banks during the social and political shifts of the 1980s and 1990s. The company's platform was further enhanced in the 2000s by a firm that pioneered the wholesale mutual fund retailer model in Asia, where investors had very little choice of fund managers or products.

Over the past decade, many of Schwab's competitors have also added a complete suite of products – low-cost mutual funds, ETFs, and a do-it-yourself model solution – to their wealth planning and management services. In particular, 401(k) plan providers launched services and products that, together, form an integrated digital platform that serves as a turn-key solution for end users. Third party plan sponsors and administrators are in turn able to offer a customized software platform to employers and their employees.

3.9.2. Startups and Innovation

Platform business models are still relatively new in the wealth management space. Although companies have been offering data and trading infrastructure for decades, and technology partners have created all-in-one solutions for advisors' back-office automation and reporting, there are no earlier examples of wealth management services that rely on a vast ecosystem of partners and move IT spending from the local IT room

to the cloud. Newer startups—mostly using software-as-a-service—function more like facilitators allowing clients as different as advisors or custodians to build their own solutions. This is particularly interesting in that the APIs that allow these custom builds are developed according to their needs; it is not the vendor who decides what is good for the client. Wealth management platform services are starting to emerge—for client onboarding, for monitoring and reporting, for compliance and risk management—and wealth industry players are using them to synthesize their own custom tech stack.

Companies are building their business models around these financial services platform solutions. Robotic process automation solutions have started making their way into finance. Even though the real power and potential of true wealth management platforms is yet to be realized, there are already numerous use cases of complementary, modular, microservices-enabled solutions created by weltechs. And talking about the capabilities that true wealth management platforms would offer, a few of them have already managed to get into the advanced beta phase—all of those aiming at transforming the value chain by innovating and introducing efficiencies. Many ideas that have been experimental for years become more creditworthy as more megatrends converge; there is digital-native design, the ecosystem of services, the global automation of workflows, the focus on business outcomes, and the demand for customization.

3.10. Future Trends in Wealth Management

The wealth management industry is undergoing fundamental changes, many of which were accelerated by the COVID-19 pandemic. New services and ways of interacting with customers are emerging, radically improving the personalization of product offerings and Client experience for HNW and UHNW families. In addition, services offered to address environmental and social values, impact investing, and a positive Client experience are increasingly important. With close to half of AUM expected to transfer from older generations to Millennial and Gen-Z heirs in the next 15–20 years, these trends should not be ignored. In addition, technology will play an important role as disruptors gain market share, incumbents revamp legacy platforms, and new players enter the space with modern tech-enabled offerings. In this chapter, we cover these changing Client expectations and increasing competition in more depth, as well as define the implications for wealth management platforms. Notable industry trends include greater personalization of Client offerings; technology-enabled services to enhance Client interaction and experience; and technology-enabled services that make the business of serving HNW families more effective and efficient. Artificial intelligence and machine learning will play an important role in wealth management, improving the ability of companies to deliver insights for enhanced Client advice, recommendations, and messaging, as well as predict and simulate Client responses to those

recommendations. Many wealth managers are experimenting with machine learning aimed at improving the investment process, especially in alternative strategies. Emerging digital Private Markets platforms are leveraging these technologies to streamline operational processes and reduce fees through automation. In fact, much fund Due Diligence is already being accomplished through digital platforms, and once the industry matures, we believe that Distributed Ledger Technology will be leveraged to negotiate, execute, and securitize fund investments.

3.10.1. Artificial Intelligence and Machine Learning

Artificial intelligence (AI) enables machines to perform tasks that typically require human insight. Through learning from experience, AI identifies new data patterns. An example is a speech recognizer that is trained by listening to archives of spoken language that have been transcribed, which learns how to recognize spoken words. When faced with unseen speakers, the technology uses the identified patterns to help process unknown speech.

Machine learning is a cornerstone of AI, and defines a system that uses training data to learn how to complete an entrusted task. Artificial intelligence is often defined as the broader area of focus involving systems that can incorporate human-like capabilities, and machine learning is a subset of artificial intelligence that focuses solely on building systems that use training data.

The earliest attempts to automate trading of securities or other financial instruments date back to the 1970s and incorporated only rule-based heuristics. These systems were limited in addressing only a narrow range of probability distributions around extreme market events, which are slim and frequent. As with other adaptive systems that have matured recently, supervised machine learning can remedy the unnatural limitations of these heuristic approaches.

What makes machine learning particularly well-suited to tasks of identifying, extrapolating, and responding to changing patterns in low-dimensional assets over time? Consider some recent examples from the physical world, where amazing advances in video recognition have been made. For instance, astonishingly powerful image classifiers using only synthetic training data are now used widely both in commercial and costless cloud services.

3.10.2. Robo-Advisors

Robo-advisors have arisen as a contemporary form of investment management. The process for a customer to invest through a robo-advisory platform starts when the individual responds to a relatively simple questionnaire designed to assess wealth, investment goals, time horizon, risk tolerance, and other characteristics. Advanced algorithms construct an optimal portfolio of ETFs with a risk-return profile designed to satisfy the responses to the questionnaire. Subsequent investment management is accomplished by portfolio rebalancing, tax-loss harvesting, and other customized activities, typically with relatively limited human intervention. Robo-advisors generally charge management fees of 0.25-0.50 percent and may earn a portion of revenue from the ETFs rented in customer portfolios.

Robo-advisors differ from traditional investment advisors in that the latter are registered with regulators and are subject to the fiduciary standard of care when advising clients regarding investment strategy. A fiduciary advisor must act in the best interests of its clients – embracing disclosure, loyalty, prudence, confidentiality, and the exercise of sound judgment over the lifetime of the advisory relationship – instead of merely adhering to a lesser suitability standard which applies to brokers. The suitability standard only requires investment actions to meet the general requirements of the client's profile, without the extra risk mitigation and supervision required of a fiduciary relationship. Whether robo-advisors are covered by the fiduciary standard is an unsettled regulatory question. In practice, many robo-advisors operate under the more demanding fiduciary standard while others consider themselves exempt and are only subject to the suitability standard imposed on brokers.

3.11. Challenges in Implementation

As technology accelerates wealth management toward a digital-intensive future, it raises new internal and external challenges. For large and middle market prospective users, the establishment of a wealth manager to a built-in, proprietary propulsion capability is a massive investment that is unlikely to be taken lightly. Of course, a number of tech startups are emerging that are offering discrete services and capabilities. This may allow smaller wealth managers to hedge against the risks of their proprietary technology investment. However, as potential technology partners become more deeply integrated into their existing practices, and client-facing functions become more technology-dependent, uncertainties associated with emphasizing non-proprietary technology servicescape will surely rise.

Given the wealth management industry's notoriously cautious decision-making regarding investments in relatively untested new technologies, and the rate and direction

of these shifts in behavior, wealth managers that are spearheading the design of their technology solutions need to develop and test clear change management protocols. Change management protocols need to examine the fears of wealth managers about ongoing investments in more proprietary technology capabilities within general retail enterprises. For those wealth managers that have relied on external partners or themselves resisted investments in technology that are more entrenched and built-out than wealth managers because they occupy less nebulous spaces within the broader financial services industry, the shift toward proprietary technology is likely to run up against entrenched attitudes.

In particular, it may be difficult to accelerate some of the industry's most traditional practices in advertising, naming, branding, and promotion toward a technology- or science-oriented belief space. These disciplines are meant to communicate constant and ongoing security, support, and safety over time. For current clients who are more intimate with these ongoing communication patterns, there exists a large bank of accumulated trust around these brands.

3.11.1. Change Management

Change management is an adaptation discipline designed to help organizations navigate current and future transitions. Running the business while trying to change it is particularly difficult. Everybody is busy making a living, and at the same time nobody has really got the time to reinvent the process that got them where they are – and if they did, they probably wouldn't because of their deep-dense conditioning. The old adage about the shoemaker's children applies in spades.

But change is needed if organisations are to renew themselves. To achieve renewal requires courageous leadership and tactical discipline. Renewal is a scary thing. It's about facing up to the possibility that the emperor may be naked. A courageous leader approaches renewal with humility. And tactical discipline means being willing to re-do the basic activities and rethink the basic structures, patterns and relationships that create an organisation's unique advantage in the first place, and gut and rewire them if needed. Tactical discipline means being committed to the activities all the way through, not just the easy part – the design or the initial rollout. Committed to the day-to-day minutia for months and months, building a whole new set of routines while the Warrior routines wither away.

It's hard nose work, demanding intimacy with the material, and close and constant supervision. It's being in the field, sailing the boat while the team is rebuilding the boat, bringing the teams together, constantly focusing on the end goals, on the enterprise, and on why you're doing it. Getting the organization out of denial, out of the rut of inertia,

and mobilizing every last will to drive the need for change. Change management is always necessary, even on the most technical of projects. Far too many people enter into a software implementation project with the attitude of "because we're designing and installing a system, it's all technical, and the management changes will take care of themselves."

3.11.2. Client Adoption

Client adoption is the final milestone in successful implementation and development of a wealth management full service/model. This is not to be overlooked because without assets under management, or better yet, creating demand for new products, there will be little or no return for the expenses incurred. Investing money in new technology and the newest of trends for the sake of being the cool kids on the block will not add value to a brand. Having the coolest investment item without the clients supporting it, could detract from a brand image. For a full service model, the platform directly or indirectly would be doing the trade support or product support for which clients have questions for. Platforms are driven by asset gathering, not simply product offerings. Hopefully money market funds or another occasionally used product, would not have to bear the burden of maintaining technology costs.

Adoption can be driven internally or externally, but usually involves a mix of the two. An internal push, such as a legacy reputation/branding, market practicality of an ability to service products well, or a long-standing working relationship can create an internal "push." If advisors, wholesalers or clients do not understand the product, cannot access the product, or have not been exposed to the product offering in a positive manner, they will not use it. For trustee items and painful subject matters, such as original issue discount investment items, lack of advisor exposure could potentially render a firm's platform worthless to a client. Externally, a visible market need that is not being addressed or a glaring difference between the platform and those of competitors can push a product to garner proportionately greater market share.

3.12. Measuring Success

Building a client-centric wealth management platform requires more than just a beautiful solution. That is why success must be defined and measured across key axes, such as client and advisor experience, business model, revenue, platform performance, and scalability. It is also important to define the appropriate key performance indicators and recommend thresholds for success in order to ensure business objectives are met. In this way, the executives in charge of building up the platform will be able to answer the question posed at the beginning of this chapter.

At the enterprise level, financial enterprise architects and platform owners will want to ensure that the value of the platform will outweigh the costs. With this in mind, they will closely monitor three categories of metrics—value metrics, business model metrics, and enterprise metrics—over a 3 to 5-year window measured either relative to the previous solutions or as absolute thresholds. Value creation is typically measured by means of an enterprise's market capitalization as compared to its peer group. The business model cost drivers need to be mapped to the different P&L items affected by the operations of the platform. Enterprise effectiveness is measured by return on capital metrics as well as client asset and revenue metrics relative to other comparable industry players.

The business model metrics are measured by month and quantified in the context of financial P&L requirements, weighing costs against value created in deferred income lines. Examples of cost drivers that need to be monitored are the following: service delivery expense as a % of company revenue; cost of goods sold as a % of company revenue; loss of interest on working capital employed; opportunity cost associated with equity capital employed on technology buildout.

3.12.1. Key Performance Indicators

This is the question that so many startup founders, advisory and service heads, and product managers wrestle with on a daily basis. With so much work required to create and run a successful business it is easy to lose sight of the end goal, and to convince yourself that you are doing a good job by how busy you are, or by how nice your systems or processes are. The problem is, these will not bring in clients for your business, nor will they delight your existing client base.

Key Performance Indicators are the few key metrics that you should focus on in your business. They should be metrics that drive the most value. Tempting as it is to look at a hundred metrics all day, you probably don’t need to be using that many reports to effectively manage the business. Focus on the few metrics that actually matter. For instance, to a developer who is designing the visualization system in your app, getting that visualization engine to work might be the pinnacle of effectively managing the team. To someone running the business, or a marketing professional who sets things on cruise control until it is time to run a new lead gen campaign, engagement rate, churn rate, or number of active clients (and the monetization associated with each) might be the most important metrics.

Instead of just getting consumed by the output and analytics of the metrics in your business, have regular accountability meetings where you go over the numbers, and make plans to solve any issues (like high churn, or low engagement) are recognized

proactively. These can help ensure that while you are building out product features and getting distracted by hiring sales and dev teams, you don't lose sight of the health of your business. It's perfectly ok to be judgmental in these times not just for your team, but for yourself as well.

3.12.2. Client Satisfaction Metrics

Client satisfaction metrics focus on motivation, engagement, and the overall subjective experience of clients and their journey with the firm. These partly reflected the qualitatively flavored questions of the advisor interview. These metrics reflect the discretionary choice of the consumer to select a particular firm to work with and thus the privilege of the advisor to be told what is best for their clients, and subsequently the trust in the advisor not to only be there in good times. For these metrics, we focus on the typical consumer use case, whilst recognizing that this might not mirror all use cases.

Net promoter score (NPS): NPS is gauged through a single question: "What is the likelihood that you would recommend us to a friend or colleague?" Responses are recorded on a zero to 10 scale thereupon hinging at answer 6 for grouping clients into detractors (rating of 0–6), passive (rating of 7–8), and promoters (rating of 9–10). Thereafter arriving at NPS entails subtracting the share of detractors from the share of promoters. Accordingly, NPS ranges from minus 100 (only detractors) to plus 100 (only promoters).

The values of NPS can be interpreted according to the following thresholds: -100 to -1 – very dissatisfied to unsatisfied (many clients dissuade others); 0 to 50 – mixed to satisfied (much less suckers than backers); 50 to 70 – strong (many backers); and above 70 – excellent (almost only backers). Inherent assumptions are that the recall of the impact of many interactions on a client's degree of satisfaction is feasible and realistic while an evaluation of the adequacy of many factors influencing reputation is not such an easy endeavor.

3.13. Conclusion

The statistics indicate a strong growth of the Wealth Management industry, particularly in Europe and the United States. The statistics also indicate that this growth is fundamentally created by market level growth and, which is certainly good news for Wealth Managers, limited by the growth in Wealth Manager market share and limiting factors. There is only a limited pool of High Net-Worth Individuals composed of Entrepreneurs who have had the ability and/or good fortune to generate wealth levels higher than the average.

Consumption of Wealth Management services is usually correlated to the size of the asset base providing the basis of said services, which in turn is usually backed by investment in investments with a market-price versus store of value income-related return source. Real Estate is not considered an investment asset by most Wealth Fund Managers, nor do they use it for asset base calculations. Growth in asset values in risky financial assets creates a compounding effect on Wealth Management revenue that is proportionately larger than the growth in expenses.

The limited ability for Wealth Management services to claw back revenue directly from financial market fund managers, and the generally better quality of service provided by the last, suggests that these firms well-structured to provide Wealth Management services via online executive investment management platforms will continue to grow. The Wealth Management Services industry seems to be riddled with wasteful expense structures that could be optimized significantly via video-conferencing Wealth Fund Management solutions and well-structured risk-weighted long-horizon value-added portfolios fed by professional fund management services.

References

Deloitte, "The digital wealth manager of today," Deloitte Insights, 2023.

Milemarker, "Navigating the Landscape of Modern Wealth Management Platforms," Milemarker, 2024.

BCG, "Scalable Tech and Operations in Wealth and Asset Management," Boston Consulting Group, 2023.

ElifTech, "Developing a Wealth Management Platform From Scratch," ElifTech, 2023.

Salesforce, "Wealth Management Software for Financial Advisors," Salesforce, 2025.