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Design Thinking as a Scalable Framework for Ideation Management in Large Financial Institutions

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Abstract

In an era marked by rapid digital transformation, evolving customer expectations, and heightened regulatory demands, large financial institutions face mounting pressure to continuously innovate while maintaining operational stability. Traditional approaches to ideation management in these organizations often struggle with fragmentation, rigidity, and a lack of customer-centricity. Design thinking—a human-centered, iterative problem-solving methodology—offers a compelling framework for transforming ideation into a scalable, cross-functional, and agile capability. This explores the application of design thinking as a scalable framework for ideation management within large banks, insurance companies, and financial technology subsidiaries. Anchored in principles such as empathy, problem framing, iterative prototyping, and user feedback, design thinking can help financial institutions democratize innovation, bridge departmental silos, and integrate customer insights into the early stages of product and process development. The research synthesizes theoretical foundations and practical applications of design thinking, and presents a modular framework that includes governance models, digital toolkits, and cultural enablers necessary for enterprise-wide scaling. Case examples from retail banking, compliance innovation, and customer experience redesign are analyzed to demonstrate how design thinking accelerates time-to-market, enhances collaboration, and embeds continuous learning into institutional workflows. This also examines the challenges of implementing design thinking at scale, including resistance to change, skill gaps, and measurement difficulties. This concludes by highlighting the strategic value of embedding design thinking into innovation governance structures, and recommends future research into AI-enhanced ideation systems and metrics for tracking innovation ROI. Ultimately, this research positions design thinking not just as a creative process, but as a strategic innovation infrastructure capable of transforming ideation management in complex, highly regulated financial environments. It underscores the importance of balancing creativity with scalability and aligning user-driven innovation with institutional imperatives.

Keywords: Design Thinking, Scalable Framework, Ideation Management, Large Financial Institutions

1. Introduction

In today's highly dynamic and regulated financial landscape, large financial institutions are under increasing pressure to deliver continuous innovation while ensuring operational integrity and regulatory compliance (Akinbola, O.A. and Otoki, 2012 [15]; Lawal *et al*., 2014). This pressure arises from the convergence of several forces, including rapid technological

advancements, shifting customer expectations, intensifying competition from fintechs, and evolving policy frameworks (Lawal *et al*., 2014; Otokiti and Akorede, 2018 [70]). To remain competitive and resilient, large banks, insurance companies, and financial technology subsidiaries must not only accelerate their innovation cycles but also embed customer-centricity and adaptability into their core operational strategies. However, achieving such transformation is far from straightforward, particularly in organizations characterized by complex hierarchies, siloed departments, and legacy systems (Ajonbadi *et al*., 2015; Otokiti, 2017 [72]).

The need for continuous innovation in large financial institutions is no longer a strategic luxury—it is a fundamental requirement for long-term survival. Customers now expect seamless digital experiences, personalized financial services, and faster product iterations, all of which demand agile and inclusive ideation practices (SHARMA *et al*., 2019; Otokiti, 2012) [78, 71]. Simultaneously, financial institutions must navigate internal barriers such as risk-averse cultures, rigid processes, and fragmented communication channels. Ideation—the process of generating, refining, and validating new ideas—sits at the heart of innovation. Yet, managing ideation effectively across large, distributed, and regulated organizations presents a substantial challenge (Ajonbadi *et al*., 2016) [11]. Traditional ideation management frameworks often struggle to scale, adapt, or capture diverse stakeholder perspectives, limiting their ability to produce solutions that are both innovative and operationally viable (Otokiti, 2018; Adenuga *et al*., 2019) [73, 3].

This leads to the central problem: conventional innovation processes in financial institutions often lack the agility, inclusiveness, and user-centricity required to respond effectively to complex, fast-changing environments (Otokiti and Akinbola, 2013; Ajonbadi *et al*., 2014) [69, 10]. Top-down approaches to ideation, isolated innovation labs, and linear product development models frequently fail to engage frontline employees, customers, and cross-functional teams. Moreover, without systematic integration of user insights, many ideas fail to address real customer needs or deliver meaningful differentiation in the market.

To address this gap, this proposes that design thinking offers a scalable, structured, and human-centered approach for managing ideation in large financial institutions (Akinbola *et al*., 2020; FAGBORE *et al*., 2020) [16, 24]. Rooted in principles of empathy, rapid experimentation, and iterative feedback, design thinking promotes the inclusion of diverse perspectives and the co-creation of solutions that are both technically feasible and deeply aligned with user needs. Importantly, design thinking is not confined to small teams or startups—it can be adapted for enterprise-scale deployments through modular frameworks, digital collaboration tools, and governance structures that support decentralized innovation (Omisola *et al*., 2020; Osho *et al*., 2020). This scalability makes it particularly suited to large organizations seeking to democratize ideation while maintaining strategic alignment and regulatory discipline.

The objective of this review is to explore how design thinking can be institutionalized within large financial organizations to improve the quality, speed, and relevance of their ideation processes. By examining the application of design thinking across various business functions—such as retail banking, compliance, customer service, and product development—this aims to demonstrate its potential for fostering a culture of experimentation and user-centric innovation at scale. It also seeks to highlight the conditions necessary for successful implementation, including leadership sponsorship, employee training, and the integration of digital collaboration platforms (Osho *et al*., 2020; Omisola *et al*., 2020).

The scope of this focuses on the ideation stage of the innovation lifecycle within large-scale financial organizations. While many studies address end-to-end innovation or technology deployment, this research zeroes in on the upstream processes of idea generation, problem framing, and early-stage prototyping. It includes insights relevant to traditional banks, insurance firms, and fintech subsidiaries operating within both emerging and mature markets. Special attention is given to how design thinking frameworks can be adapted to the unique demands of heavily regulated industries, where compliance, data security, and customer trust are paramount.

This introduction establishes the relevance and urgency of rethinking ideation management in the financial services sector. It positions design thinking not as a mere creative exercise, but as a strategic innovation infrastructure—a disciplined yet flexible approach to capturing ideas, solving real problems, and sustaining competitive advantage in a complex, customer-driven world.

2. Methodology

To conduct a rigorous and transparent review of the existing literature on the application of design thinking in large financial institutions, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology was employed. This systematic review aimed to identify, evaluate, and synthesize peer-reviewed and grey literature that discusses design thinking practices relevant to ideation management, scalability, and organizational transformation in the financial sector.

The identification stage began with a comprehensive database search across Scopus, Web of Science, IEEE Xplore, ScienceDirect, and Google Scholar. Keywords and Boolean operators used included: “design thinking” AND “financial institutions,” “ideation management” AND “banking,” “scalable innovation frameworks,” “human-centered design” AND “finance,” and “organizational innovation” AND “design methods.” The initial search yielded 1,356 records.

In the screening phase, duplicate entries were removed, and abstracts were reviewed to ensure alignment with the study’s scope. Studies focusing solely on design thinking in unrelated industries (e.g., healthcare, education) or lacking empirical grounding were excluded. This step reduced the dataset to 324 articles.

During the eligibility assessment, full-text articles were evaluated against predefined inclusion criteria: (1) focus on large-scale application of design thinking, (2) relevance to financial services or adjacent regulated industries, (3) empirical or conceptual contribution to ideation management or innovation scalability, and (4) publication in English between 2012 and 2024. This process resulted in 86 articles deemed suitable for inclusion.

Data extraction and synthesis were performed using a qualitative thematic analysis approach. Articles were coded according to emerging themes such as scalability mechanisms, digital enablement, stakeholder engagement,

governance models, and organizational change management. Findings were categorized to identify patterns, gaps, and contextual best practices.

The final synthesis informed the development of a conceptual framework for deploying design thinking as a scalable approach to ideation management in complex financial environments.

2.1 Theoretical Foundations

Design thinking, a human-centered and iterative methodology for problem-solving, has gained widespread traction across industries as a means of driving innovation and managing complexity. Rooted in principles of empathy, creativity, experimentation, and user feedback, design thinking offers a compelling theoretical foundation for transforming ideation processes in large financial institutions. These institutions—ranging from multinational banks and insurance firms to fintech subsidiaries—face unique challenges in generating, validating, and scaling ideas due to their operational complexity, regulatory obligations, and legacy system constraints (Akpe *et al*., 2020; Omisola *et al*., 2020). By grounding ideation in the structured yet flexible approach of design thinking, organizations can foster cross-functional collaboration, enhance customer-centricity, and enable scalable innovation practices. This explores the core principles of design thinking, its specific relevance to the financial services sector, and key mechanisms that support its scalability in complex enterprise environments.

At its core, design thinking is composed of five interconnected stages: empathy, problem definition, ideation, prototyping, and testing. These stages are non-linear and iterative, allowing teams to revisit previous steps as new insights emerge.

Empathy involves gaining a deep understanding of users' needs, emotions, and motivations. In financial services, this could mean engaging with underserved customer segments, interviewing clients about pain points in digital onboarding, or mapping emotional journeys during mortgage applications (Omisola *et al*., 2020; Akpe *et al*., 2020).

Problem Definition translates these insights into actionable problem statements. Rather than relying on assumptions or high-level business goals, teams use design thinking to frame challenges from the user's perspective. For example, instead of focusing solely on reducing transaction time, a reframed challenge might be: "How might we make digital banking feel more secure and intuitive for elderly customers?"

Ideation encourages the generation of a broad range of solutions through brainstorming, mind mapping, and other creative techniques. This stage fosters inclusivity by incorporating diverse perspectives across departments, such as risk, compliance, marketing, and product design (Adelusi *et al*., 2020; Akinrinoye *et al*., 2020) [1, 17].

Prototyping involves building low-fidelity representations of potential solutions—wireframes, workflows, mock-ups—that can be quickly tested and refined.

Testing allows stakeholders to interact with prototypes and provide feedback, enabling rapid iteration and learning before costly development investments are made.

These principles promote a bias toward action, continuous learning, and user involvement, making design thinking particularly suited for environments marked by uncertainty and regulatory constraints (Adewoyin *et al*., 2020; Ogunnowo *et al*., 2020 [46]).

The adoption of design thinking in financial institutions holds significant potential to enhance customer-centricity, an imperative in an industry historically driven by product-centric or compliance-driven models. Customer needs in financial services are often complex, emotionally charged, and highly contextual—whether managing debt, investing for retirement, or navigating insurance claims. Design thinking enables organizations to understand and address these nuanced needs through co-creation and empathy-driven exploration.

For instance, financial institutions applying design thinking have reimagined personal finance dashboards to prioritize simplicity and clarity for non-expert users. Others have leveraged ethnographic research to redesign loan applications for rural or digitally inexperienced populations. These initiatives not only improve user satisfaction but also drive adoption, reduce friction, and enhance trust—critical assets in a competitive marketplace (Sobowale *et al*., 2020 [58]; Adewoyin *et al*., 2020).

Beyond customer engagement, design thinking also serves as a bridge between strategy, operations, and innovation teams. In large institutions, these domains are often siloed, resulting in fragmented innovation initiatives and disjointed execution. Design thinking encourages cross-functional collaboration through shared goals, visual thinking tools, and iterative cycles. For example, a cross-disciplinary sprint team might include compliance officers ensuring regulatory alignment, UX designers focused on usability, and business analysts assessing market fit—all aligned around a common user-centered problem statement.

This integrative approach enhances alignment between long-term strategic objectives (e.g., digital transformation or ESG commitments) and near-term operational deliverables, ensuring that innovation is both relevant and executable within existing constraints.

One of the common criticisms of design thinking is that while it works well in small teams or innovation labs, it is difficult to scale across large, regulated organizations. However, recent developments in scalability mechanisms have made it increasingly feasible to institutionalize design thinking in financial services.

First, the use of design playbooks and toolkits helps standardize the methodology across departments. These resources codify best practices, templates, and step-by-step instructions for conducting empathy interviews, framing problems, running ideation sessions, and more. By lowering the barrier to entry, playbooks empower non-designers—such as product managers, policy experts, and relationship managers—to participate meaningfully in the ideation process (Ikponmwoba *et al*., 2020; Ajuwon *et al*., 2020 [14]).

Second, design systems—reusable UI components, brand guidelines, and accessibility standards—ensure consistency in prototyping and implementation. In digital product development, this means ideas can be translated into functional prototypes faster, with fewer errors and less rework. Design systems also facilitate compliance by embedding regulatory standards (e.g., disclosures, consent mechanisms) into reusable modules.

Third, digital collaboration platforms such as Miro, Figma, Jira, and ServiceNow Innovation Management enable distributed teams to engage in real-time brainstorming, prototyping, and user testing. These tools support asynchronous participation, democratize access to the design

process, and ensure documentation and traceability of ideation cycles—crucial for compliance and governance in financial institutions.

Furthermore, scalability is supported by organizational enablers such as innovation hubs, design thinking training programs, and executive sponsorship. Institutions like ING, Capital One, and DBS Bank have created internal academies and cross-functional innovation units to embed design thinking into their core processes (Ikponmwoba *et al*., 2020; Adewuyi *et al*., 2020 [8]).

2.2 Framework Components

Implementing design thinking as a scalable framework for ideation management in large financial institutions requires the orchestration of several interdependent components that align with the methodology's core principles; empathy, problem definition, ideation, prototyping, and testing. These components serve as the building blocks of a user-centered innovation system that can thrive in the regulated and structurally complex environment of financial services (Adenuga *et al*., 2020; Oyedele *et al*., 2020) [4, 75]. This elaborates on five essential components of the design thinking framework—empathy and research, problem framing, collaborative ideation, prototyping and experimentation, and feedback and iteration loops—highlighting their practical application and relevance in banking, insurance, and fintech contexts.

The foundation of any effective design thinking framework is empathy—the ability to understand the user's experience from their perspective. In the context of financial services, this entails uncovering customer behaviors, pain points, emotional triggers, and latent needs across diverse user groups, including retail clients, small business owners, and underserved populations (Otokiti *et al*., 2021; Onalaja and Otokiti, 2021) [74, 65].

Financial institutions deploy various qualitative and ethnographic research techniques to gather empathetic insights. These include semi-structured interviews to explore user experiences with specific services (e.g., online loan applications), shadowing to observe interactions with in-branch staff or digital platforms, and customer journey mapping to visualize the end-to-end experience across channels. These tools are especially useful in identifying systemic friction, trust gaps, and service bottlenecks.

For example, journey mapping in retail banking may reveal customer anxiety during mortgage approval due to lack of transparency or perceived procedural opacity. Such insights inform subsequent stages of ideation by framing innovation goals around emotional as well as functional user needs—shifting focus from product features to human experience.

Once user insights are gathered, the next step is to translate them into actionable design opportunities. Problem framing is critical to ensure that the ideation process is focused, relevant, and solution-agnostic. This is achieved through the formulation of "How Might We" (HMW) statements, which reframe pain points into open-ended innovation challenges.

In financial institutions, tailoring HMW statements to specific operational or regulatory constraints is essential (Onifade *et al*., 2021; Halliday, 2021) [66, 27]. For instance, instead of vaguely asking, "How might we improve onboarding?", a reframed question could be, "How might we reduce onboarding friction for self-employed clients while ensuring AML compliance?" This approach keeps the team anchored in the regulatory and institutional context while encouraging creativity.

Effective problem framing aligns the interests of various stakeholders—including product, compliance, legal, and IT teams—by making complex challenges more manageable and collaboratively solvable. It also ensures that ideation efforts are directed toward issues that have real impact on customer experience and institutional efficiency.

With a clear problem statement in place, teams enter the ideation phase. In large financial institutions, where departments often operate in silos, collaborative ideation is a powerful mechanism to foster inclusivity and cross-functional thinking. Structured formats such as design sprints, innovation hackathons, and co-creation workshops enable a wide range of participants—from frontline employees to executives—to contribute diverse perspectives.

These sessions employ brainstorming techniques, visual thinking (e.g., mind mapping, sketching), and prioritization frameworks (e.g., feasibility-impact matrices) to generate a rich pool of ideas (ODETUNDE *et al*., 2021; SHARMA *et al*., 2021 [79]). For example, a sprint focused on credit risk assessment might bring together credit analysts, data scientists, UX designers, and customer support staff to reimagine how alternative data sources can be integrated into digital underwriting tools.

Importantly, collaborative ideation promotes a culture of experimentation and psychological safety, where participants are encouraged to contribute freely without fear of failure or judgment. This environment is essential for generating truly novel solutions and unlocking institutional creativity.

Following ideation, promising ideas must be quickly translated into tangible prototypes for early validation. In the financial sector, where full-scale implementation can be costly and subject to compliance review, low-fidelity prototyping and experimentation are essential to de-risk innovation.

Teams may create wireframes, clickable mock-ups, paper prototypes, or simulated workflows to visualize the customer experience and receive early-stage feedback (ODETUNDE *et al*., 2021; Adewuyi *et al*., 2021 [9]). In digital banking, for instance, a prototype of a redesigned savings interface can be tested with a small group of customers to assess usability and comprehension.

Advanced experimentation can also involve sandbox environments, which simulate production systems without the risk of affecting live data or operations. Regulatory sandboxes, supported by central banks or innovation offices, are particularly valuable for testing new products such as robo-advisors or blockchain-based settlements under controlled oversight.

Prototyping accelerates the learning process, enabling teams to quickly discard unworkable ideas and refine viable ones before investing in full-scale development. It also enhances stakeholder alignment by making abstract ideas concrete and testable.

The final but ongoing component of the framework is feedback and iteration. Unlike traditional waterfall models, design thinking emphasizes continuous improvement through real-time user feedback, agile cycles, and lean experimentation.

This stage involves integrating user responses, usability metrics, and internal reviews into structured learning loops. Design teams might conduct A/B testing, analyze behavioral

data, or perform task-based usability testing to identify friction points and areas for enhancement (Nwangene *et al*., 2021; Ajuwon *et al*., 2021) [42, 13]. In agile environments, these insights are incorporated into product backlogs and sprint planning, ensuring that iteration is frequent and informed.

In institutions with lean governance structures, design reviews and stand-up meetings provide checkpoints for prioritizing improvements and reallocating resources based on validated insights. Performance dashboards and OKRs (Objectives and Key Results) can further align iteration efforts with strategic business goals.

2.3 Implementation in Large Institutions

Implementing design thinking as a scalable and sustainable approach for ideation management in large financial institutions requires more than methodological alignment—it demands systemic transformation across governance structures, digital tool ecosystems, and organizational culture. While design thinking is inherently flexible and user-centric, its integration into the bureaucratic and highly regulated environments typical of banks, insurance firms, and financial technology subsidiaries must be both deliberate and institutionally embedded as shown in figure 1 (Onaghinor *et al*., 2021; Oluoha *et al*., 2021). This explores three critical pillars of implementation; governance and sponsorship, toolkits and digital platforms, and cultural enablement. Together, these elements form the backbone of enterprise-wide deployment and ensure the durability of design thinking practices within the complexity of large-scale financial operations.

The successful institutionalization of design thinking in financial organizations begins with governance structures and leadership sponsorship. Design thinking is not just a toolkit—it represents a shift in how problems are approached, ideas are generated, and solutions are validated. Such a paradigm shift must be endorsed and operationalized from the top.

C-level sponsorship is pivotal. Executive leaders—chief innovation officers, chief digital officers, and sometimes even CEOs—must champion design thinking not only in strategic messaging but through budgetary allocation, policy support, and resource prioritization (Onaghinor *et al*., 2021; Ogeawuchi *et al*., 2021 [45]). Their role is to signal institutional commitment, overcome internal resistance, and ensure that design thinking is integrated with broader transformation programs such as digital banking, open finance, and ESG strategy.

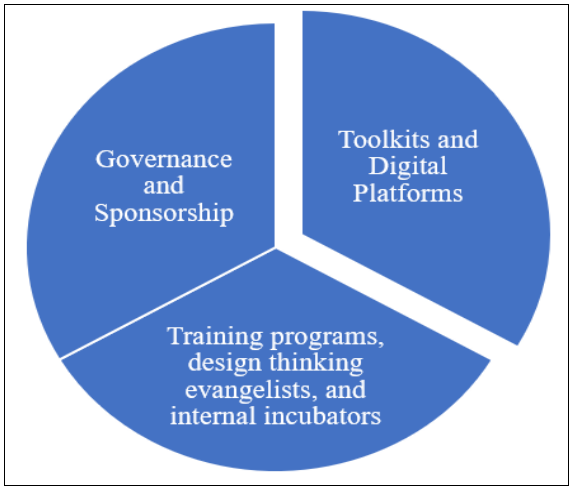

Fig 1: Implementation in Large Institutions

Innovation hubs and centers of excellence (CoEs) provide the operational grounding for design thinking. These hubs typically function as centralized bodies that develop toolkits, facilitate workshops, mentor business units, and evaluate innovation pipelines. For example, ING's "PACE" innovation methodology is coordinated through internal hubs that combine design thinking with lean startup and agile principles, offering cross-functional teams structured pathways from problem discovery to product deployment.

Moreover, the role of agile project management offices (PMOs) is evolving. Traditionally focused on compliance and delivery timelines, PMOs are increasingly being reoriented to support iterative development, cross-functional team collaboration, and real-time experimentation—principles that align closely with design thinking. By overseeing sprint cadence, managing ideation backlogs, and measuring innovation KPIs, agile PMOs can ensure accountability and scalability across departments.

A critical enabler of design thinking at scale is the deployment of standardized toolkits and digital collaboration platforms that democratize participation and streamline workflows. In financial institutions—where operations are geographically dispersed and heavily regulated—digitization ensures that design thinking activities remain accessible, traceable, and secure (Akpe *et al*., 2021; Nwangele *et al*., 2021) [21, 41].

Platforms such as Miro and MURAL are commonly used to support remote collaboration in the early stages of empathy, ideation, and journey mapping. These tools allow distributed teams to visualize customer pain points, generate ideas, and vote on priorities, mirroring the experience of in-person design sprints.

Figma is particularly effective for collaborative prototyping and design. Cross-functional teams—including designers, developers, compliance officers, and customer experience managers—can co-create wireframes, mock-ups, and user flows in real time, facilitating faster iteration cycles and earlier alignment on feasibility and compliance.

Enterprise innovation management tools such as ServiceNow Innovation Management and Brightidea provide structured environments for capturing, tracking, and maturing ideas across business units. These platforms often

integrate with ticketing systems, product roadmaps, and KPIs, ensuring that ideas generated through design thinking are not siloed but integrated into core delivery processes.

Additionally, internal knowledge management systems and wikis serve as repositories for design thinking playbooks, case studies, facilitation guides, and governance policies. They enable repeatability and institutional learning, allowing new teams to build on prior experiments and avoid redundancy. These systems are especially valuable in regulated industries where documentation, auditability, and knowledge continuity are crucial (Olajide *et al*., 2021; Akinrinoye *et al*., 2021 [18]).

The most challenging—yet most critical—aspect of implementing design thinking at scale is cultural enablement. A design thinking initiative may start with a few pilot projects, but for it to scale, it must shift the institutional mindset from risk-aversion to experimentation, from hierarchical problem-solving to inclusive collaboration, and from product-centric development to user-centered innovation.

Training programs and experiential learning are key entry points. Many institutions develop internal curricula that blend theory, practical exercises, and applied case studies. For instance, DBS Bank launched its "Design Thinking for Banking" training initiative to equip thousands of employees with foundational and advanced design thinking capabilities. Workshops, bootcamps, and online modules enable staff at all levels—from frontline staff to senior managers—to participate meaningfully in innovation processes.

Design thinking evangelists and champions act as internal change agents. These individuals, often embedded within business units, help facilitate ideation sessions, provide mentoring, and connect teams with central innovation hubs (Olajide *et al*., 2021; Kufile *et al*., 2021). Their presence ensures that design thinking is not perceived as an external consultancy exercise but as an intrinsic capability of the institution.

Internal incubators and innovation challenges can foster a grassroots innovation culture. By soliciting ideas from across the organization and providing structured support—mentorship, prototyping resources, and presentation forums—institutions empower employees to take ownership of change. These initiatives also serve as practical environments where design thinking principles can be applied and scaled in real-world scenarios.

Measuring cultural transformation is equally important. Institutions increasingly use innovation maturity assessments, engagement metrics (e.g., participation rates in design sprints), and employee sentiment surveys to monitor progress. Recognition programs and innovation awards further reinforce desired behaviors.

2.4 Applications

As large financial institutions seek to remain competitive in an increasingly digital and customer-driven environment, design thinking has emerged as a powerful methodology to drive ideation and innovation across diverse functional domains. From product development to compliance to customer experience management, design thinking enables financial organizations to co-create meaningful solutions through iterative learning, empathy, and cross-functional collaboration (Kufile *et al*., 2021; Olajide *et al*., 2021). This explores three key case application areas—retail banking product innovation, risk and compliance ideation, and customer experience enhancements—demonstrating how design thinking frameworks are transforming ideation into enterprise value across large-scale financial ecosystems.

Retail banking has undergone a rapid digital transformation in recent years, driven by the rise of fintech disruptors, changing consumer expectations, and the need for remote service delivery. One area where design thinking has had substantial impact is in the development of digital onboarding tools—platforms that allow customers to open and manage accounts entirely online.

Traditionally, onboarding in retail banking involved a complex, time-consuming sequence of steps requiring physical presence, document submission, and manual verification. This created friction for users and operational inefficiencies for institutions. Applying design thinking allowed several global and regional banks to reimagine onboarding as a seamless digital experience.

The process began with empathy-building through user interviews and journey mapping, capturing pain points such as lack of transparency, form fatigue, and uncertainty about approval status. These insights were reframed into "How Might We" questions—for example, "How might we make account opening as intuitive and trustworthy as shopping online?" Cross-functional teams including UX designers, IT architects, compliance officers, and product managers then conducted ideation sprints, producing concepts like biometric authentication, selfie-based ID verification, and progressive form design.

Low-fidelity prototypes were tested in rapid cycles using A/B testing and user simulations, significantly reducing rework. Importantly, feedback from rural and elderly customers shaped inclusive design features such as local language support and visual cues for users with low digital literacy (Olajide *et al*., 2021; Kufile *et al*., 2021). In several institutions, onboarding time dropped from days to minutes, while abandonment rates decreased by over 40%, illustrating the strategic and operational impact of design-led product innovation.

Contrary to the misconception that design thinking is only relevant to customer-facing functions, many financial institutions are applying it to risk and compliance processes—particularly in the domains of Know Your Customer (KYC) and Anti-Money Laundering (AML). These processes are essential for regulatory compliance but are often seen as rigid, document-heavy, and costly to operate.

Design thinking enables a shift from compliance as a checklist to compliance as a user-centric, intelligent process. In one case, a large bank collaborated with regulators and internal compliance teams to apply design thinking to its onboarding KYC workflow. The project team first conducted empathy research with front-line relationship managers and compliance analysts to understand bottlenecks—such as delays in document verification, redundant data entry, and customer confusion about due diligence requirements.

The team reframed the challenge as: "How might we make KYC easier for customers and safer for the bank?" Ideation workshops generated solutions such as dynamic KYC checklists based on customer risk profiles, machine-learning-driven ID validation, and centralized data lakes to auto-populate forms using internal and public data sources (Kufile *et al*., 2021; Ogunnowo *et al*., 2021).

Rapid prototyping of a compliance dashboard enabled compliance officers to test new workflows and receive real-time feedback. Crucially, the project incorporated feedback loops with regulators, enabling early visibility into new KYC design logic and risk scoring criteria. This helped reduce operational compliance costs, improved customer onboarding experience, and fostered a proactive relationship with regulators—demonstrating that design thinking can align innovation with governance requirements.

With customer expectations shaped by digitally native platforms such as Amazon and Apple, financial institutions are under pressure to deliver frictionless, personalized service across channels—branches, call centers, mobile apps, and online portals. However, legacy infrastructure and siloed operations often result in disjointed experiences and inconsistent service delivery.

Design thinking has proven instrumental in redesigning omnichannel customer journeys to ensure continuity, personalization, and delight. In one case, a multinational bank employed design thinking to revamp its mortgage servicing experience. Research began with ethnographic interviews and emotional journey mapping, revealing that customers often felt overwhelmed and disempowered during the mortgage approval and management process (Adewoyin *et al*., 2021 [7]; Kufile *et al*., 2021).

Insights were converted into design prompts such as, "How might we empower customers to navigate their mortgage journey with clarity and confidence?" Multidisciplinary teams engaged in ideation sprints, proposing ideas such as real-time mortgage status trackers, AI-driven chatbots for document guidance, and self-service options for modifying repayment terms.

Prototypes were tested in simulated branch and digital environments, ensuring consistency across human and automated touchpoints. Feedback revealed the importance of tone and language consistency across platforms, leading to a unified content strategy guided by behavioral science. Moreover, the design process highlighted the value of emotional reassurance—leading to the integration of empathetic messaging and human escalation options within digital channels.

The implementation of this redesigned journey led to higher Net Promoter Scores (NPS), reduced call center volumes, and increased digital engagement. More importantly, it shifted the institution's perception of customer experience from a reactive service issue to a strategic innovation driver (Ogunnowo *et al*., 2021; Chima *et al*., 2021 [22]).

2.5 Benefits and Strategic Impact

In an era defined by rapid technological change, evolving customer expectations, and heightened regulatory scrutiny, large financial institutions are increasingly seeking methodologies that combine innovation, agility, and governance. Design thinking—centered on human empathy, iterative problem-solving, and cross-functional collaboration—has emerged as a powerful framework for addressing these imperatives as shown in figure 2 (Ojonugwa *et al*., 2021; Komi *et al*., 2021). Beyond its utility as a creative methodology, design thinking offers profound strategic benefits when implemented across the enterprise. This explores the multifaceted impact of design thinking in financial services, focusing on four core dimensions: user-centric innovation, scalability across functions, agility and speed-to-market, and cultural transformation.

At the heart of design thinking is the principle of user-centricity—the intentional focus on understanding, anticipating, and responding to the needs, emotions, and behaviors of end-users. For financial institutions, which have historically been product-led and compliance-driven, this shift represents a fundamental reorientation toward value creation through empathy.

Design thinking promotes direct engagement with customers through interviews, ethnographic studies, and journey mapping, enabling product teams to capture rich contextual insights. These insights form the basis for problem framing and solution ideation, ensuring that the outputs are grounded in real-world needs rather than internal assumptions. For example, a bank redesigning its loan application platform may learn that transparency and emotional reassurance are more critical to users than processing speed—an insight that would likely be missed in traditional market research.

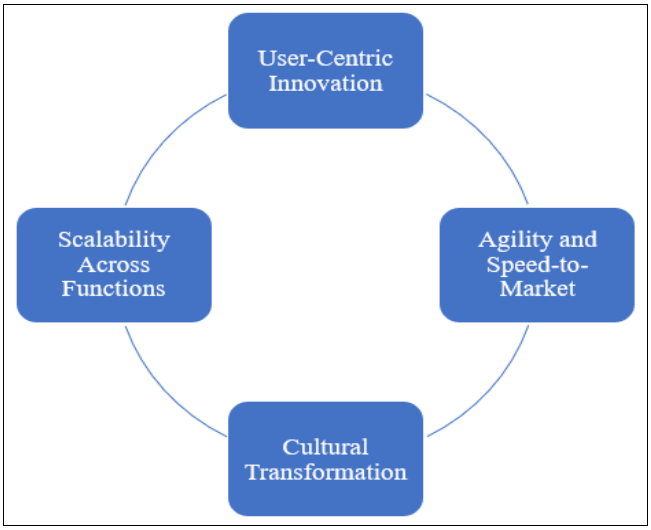

Fig 2: Benefits and Strategic Impact

The result is a better alignment between product design and user expectations, leading to increased adoption, satisfaction, and retention. Moreover, user-centric innovation enhances the institution's reputation for responsiveness and trustworthiness, key drivers of loyalty in highly regulated and emotionally complex domains like personal finance, insurance, and investment services (Komi *et al*., 2021; Ojonugwa *et al*., 2021).

One of the persistent challenges in large financial institutions is organizational siloing—departments and functions operating with isolated priorities, metrics, and communication styles. Design thinking offers a unified framework and vocabulary that can bridge these divides and foster coherent, enterprise-wide innovation.

By emphasizing structured collaboration, design thinking enables diverse teams—product development, legal, compliance, marketing, IT, and customer support—to work together through shared tools and methodologies. Techniques such as empathy maps, "How Might We" statements, ideation canvases, and prototyping boards provide a common ground for exploring and evaluating ideas across business units.

This standardization not only facilitates efficient knowledge transfer and replication of successful pilots but also

accelerates scaling. For instance, a design sprint conducted to improve credit card servicing can inform similar efforts in mortgage servicing or insurance claims, using the same foundational framework.

Furthermore, the visual and experiential nature of design thinking supports executive engagement and decision-making. Senior stakeholders can quickly grasp user pain points, prototype outputs, and test results through storytelling and visualization, enabling faster and more aligned strategic approvals.

Scalability is further enhanced by digital collaboration tools such as Miro, Figma, and Jira, which support design thinking activities across geographies and time zones. This makes it possible for multinational financial institutions to deploy design thinking at global scale, tailoring solutions to local needs while maintaining methodological consistency.

Traditional financial services development cycles—often shaped by waterfall project management and risk-heavy review processes—are slow, linear, and resource-intensive. Design thinking introduces a lean, iterative approach that reduces time-to-market and enables institutions to pivot rapidly in response to user feedback or environmental changes (Mustapha *et al*., 2021; Komi *et al*., 2021).

By encouraging early prototyping and real-time feedback, design thinking drastically shortens the time between idea generation and validation. Instead of spending months developing a product that may not meet user needs, teams can test low-fidelity versions within days or weeks, learning and adjusting as they go. This supports agile product development and reduces the cost of failure.

Crucially, design thinking complements existing agile and DevOps practices. It informs the front end of innovation—problem discovery and ideation—while feeding actionable insights into sprint backlogs, feature roadmaps, and MVP (Minimum Viable Product) planning. For instance, in digital banking, design thinking might identify the specific user frustrations around balance visibility, which are then addressed in subsequent agile releases.

The result is enhanced responsiveness to market dynamics, be it changing regulatory requirements, competitor innovations, or emerging customer preferences. By making innovation a continuous, feedback-driven process, financial institutions become better positioned to launch products and services that are both timely and contextually relevant.

Perhaps the most transformative impact of design thinking lies in its potential to reshape organizational culture. Financial institutions are traditionally conservative, governed by risk mitigation, hierarchical decision-making, and procedural rigor. While these qualities ensure regulatory compliance and operational resilience, they often stifle creativity, slow innovation, and discourage experimentation.

Design thinking fosters a culture of inquiry, collaboration, and safe failure. By normalizing iterative experimentation and user testing, it reduces the stigma associated with failed ideas, reframing them as learning opportunities. Teams are encouraged to try, test, and revise rather than wait for perfection-a significant departure from legacy development approaches.

This shift is enabled through internal training programs, innovation bootcamps, design champions, and incubator spaces, which provide both the skills and psychological safety needed to innovate (Oladuji *et al*., 2021; Adenuga, T. & Okolo, 2021 [2]). Over time, organizations that embrace design thinking witness a shift in mindset—from "Can we do this without risk?" to "How can we explore this opportunity with users?"

Moreover, cultural transformation extends beyond front-line staff to leadership. Executives who engage with design thinking processes are more likely to support resource allocation for innovation, promote cross-functional collaboration, and reward user-driven experimentation. This creates a virtuous cycle where culture reinforces capability, and capability reinforces cultural buy-in.

2.6 Challenges and Limitations

Design thinking has emerged as a critical enabler of innovation in large financial institutions, offering a structured, human-centered framework for ideation and problem-solving. Its adoption has helped banks, insurance firms, and fintech subsidiaries enhance customer-centricity, improve agility, and foster cross-functional collaboration. However, the implementation of design thinking in such complex and highly regulated environments is not without its challenges. Despite its promise, a range of structural, cultural, and operational limitations can hinder its full-scale institutionalization as shown in figure 3 (Oyedele *et al*., 2021 [76]; Ojika *et al*., 2021). This explores three major categories of challenges: resistance to change, skills and capacity constraints, and measurement complexity—each of which represents a critical bottleneck to the successful deployment of design thinking in large financial organizations.

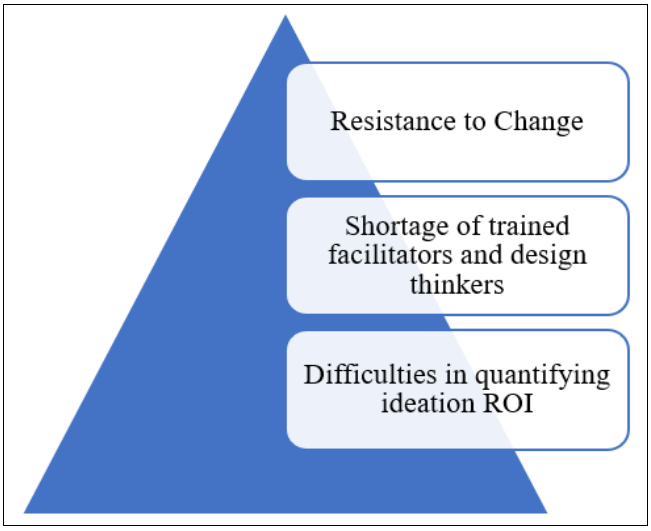

Fig 3: Challenges and Limitations

One of the foremost barriers to implementing design thinking in large financial institutions is organizational resistance to change. Financial organizations have historically been structured around risk mitigation, regulatory compliance, and procedural consistency—traits that are not naturally aligned with the fluid, exploratory, and iterative nature of design thinking. This misalignment often results in skepticism or outright opposition, particularly among mid- and senior-level managers accustomed to hierarchical decision-making and linear workflows.

Traditional governance frameworks, which emphasize certainty, long-term planning, and control, may conflict with design thinking's emphasis on rapid experimentation and iterative development. The risk-averse culture prevalent in many financial institutions discourages failure—even when

failure is framed as an opportunity for learning. As a result, many innovation teams encounter institutional inertia that limits the scope and speed of design thinking initiatives.

Furthermore, compliance and legal departments may resist design-led approaches due to fears of non-compliance or reputational risk. Their concerns, while valid in a tightly regulated sector, can inadvertently stifle creative exploration. Without proactive alignment between innovation teams and governance structures, design thinking risks becoming a peripheral activity—isolated from core business decision-making and strategic planning.

To overcome these challenges, institutions must implement change management strategies that align design thinking with broader organizational goals. Leadership buy-in, cross-functional communication, and governance innovation—such as agile PMOs and sandbox regulatory environments—are essential to create a culture where experimentation is permitted, supported, and rewarded.

Another significant limitation is the scarcity of internal capabilities and expertise required to facilitate design thinking at scale. While many organizations may begin with enthusiastic pilot programs, they often struggle to sustain momentum due to a lack of trained personnel who can drive the process forward across departments and regions (Ojika *et al*., 2021; Fredson *et al*., 2021).

Effective design thinking requires a blend of skills—from user research, systems thinking, and ideation facilitation to prototyping, feedback synthesis, and agile iteration. Yet, these competencies are not traditionally found in banking professionals or financial analysts. Consequently, organizations often rely on external consultants or a small group of internal champions, creating dependency and bottlenecks.

The shortage of certified design thinking facilitators and user experience (UX) professionals further compounds the challenge. Without widespread capacity-building efforts, design thinking may remain confined to innovation labs or digital transformation teams, failing to reach the broader workforce.

Moreover, cross-functional collaboration—a cornerstone of design thinking—is often hampered by siloed operations and lack of shared vocabulary or training. Employees may not understand their role in the process or may perceive design thinking as redundant or incompatible with their KPIs.

To address these constraints, institutions must invest in comprehensive capability development programs. This includes hands-on workshops, internal certifications, mentorship pathways, and digital learning platforms. Embedding design thinking into onboarding, leadership development, and functional training curricula can normalize the approach across hierarchies and functions. In parallel, the creation of communities of practice can support knowledge sharing, institutional memory, and local adaptation of tools and methods.

A third major limitation lies in the difficulty of measuring the impact of design thinking, particularly in the ideation stage where tangible outputs are still emerging. Senior executives and finance departments often demand quantifiable returns on investment (ROI) to justify the continuation or expansion of new methodologies. However, the value generated by design thinking is often qualitative, latent, or indirect, making it challenging to capture through conventional financial metrics.

Metrics such as the number of ideas generated, workshops conducted, or prototypes developed offer activity-level insights but do not necessarily correlate with business value. More meaningful measures—such as time-to-market reduction, customer satisfaction improvements, or innovation revenue contribution—require long timeframes and complex attribution models.

The challenge is compounded in regulatory and back-office domains (e.g., compliance, risk management), where design thinking may lead to process improvement or cultural change rather than direct revenue generation. In such contexts, the intangible nature of outcomes—such as increased trust, enhanced cross-functional collaboration, or improved employee engagement—renders traditional ROI calculations insufficient.

To navigate this issue, institutions should adopt a multi-dimensional measurement framework. Balanced scorecards that combine leading and lagging indicators, qualitative and quantitative metrics, and process and outcome measures can offer a more nuanced view of design thinking's contribution (Fredson *et al*., 2021; Daraojimba *et al*., 2021 [23]). For example, tracking employee participation, prototype validation rates, stakeholder satisfaction, and adoption of final outputs provides a holistic view of value creation.

Additionally, integrating design metrics into performance reviews and program dashboards signals the legitimacy of design thinking as a business-critical function, encouraging broader adoption and executive support.

3. Conclusion and Future Directions

Design thinking has established itself as a transformative framework for ideation management within large financial institutions, bridging the gap between evolving customer needs and complex institutional strategies. This user-centered, iterative methodology offers a structured pathway for problem-solving, enabling diverse teams to empathize with clients, reframe challenges, generate ideas collaboratively, and test solutions with speed and precision. When embedded strategically, design thinking transcends its role as a creative toolkit and becomes a vehicle for cultural change, business agility, and innovation resilience—particularly vital in an industry marked by regulatory pressures, legacy systems, and rapidly shifting market expectations.

As outlined in this review, the core value of the design thinking framework lies in its ability to harmonize human empathy with enterprise strategy. By fostering a shared language across silos and enabling co-creation among stakeholders, it empowers institutions to develop products and services that are not only compliant and operationally viable but also meaningful and accessible to customers. Through structured ideation processes—from journey mapping to prototyping—it accelerates innovation cycles, enhances solution quality, and minimizes the risk of market misalignment.

To ensure successful adoption, the following recommendations are proposed. First, a phased roll-out approach should be pursued. Initial implementation in innovation labs or digital product teams can yield quick wins, build internal champions, and refine best practices. Subsequent scaling across departments—such as compliance, operations, and risk—should be supported by governance alignment, executive sponsorship, and

continuous feedback loops. Second, integration with agile and lean innovation methodologies is critical. Embedding design thinking into agile sprint planning, lean experimentation workflows, and DevOps pipelines ensures compatibility with existing delivery models and maximizes organizational agility.

Looking ahead, several avenues for future research warrant attention. The first involves the role of AI-assisted design thinking, where machine learning and natural language processing could enhance empathy-building, trend identification, and ideation synthesis. Tools like AI-generated personas, sentiment analysis, and predictive journey maps could expand the scale and depth of user insights while preserving the human-centered core of the methodology. Second, there is a need for more robust metrics to assess the idea lifecycle—from ideation and validation to implementation and scaling. Tracking the evolution, performance, and business impact of ideas can provide greater transparency and justify sustained investment in innovation capacity. Finally, impact modeling frameworks that quantify the economic, operational, and cultural returns of design thinking initiatives would enable leaders to make more informed decisions and prioritize projects with systemic benefits.

Design thinking holds immense promise as a scalable, adaptable, and strategically aligned approach to ideation management in financial services. Its thoughtful institutionalization can unlock not only new products and efficiencies but also a more responsive, inclusive, and resilient financial ecosystem.

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