

Financial Advisory as a Service System: A Systematic Review of Value Co-Creation, Functions, and Dominant Lenses

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Abstract

The financial advisory (FA) sector is undergoing structural reconfiguration as artificial intelligence (AI), digital platforms, and intensified regulatory oversight reshape how financial advice is produced, governed, trusted, and consumed. This study presents a systematic literature review examining the evolving state of FA research related to value co-creation, system functions, and the dominant lens applied to FA studies. Following a PRISMA-guided review of FA-oriented publications published since 2016, 26 studies were analyzed to identify how FA value co-creation is conceptualized, operationalized, and transformed under emerging technological and institutional pressures. The literature indicates a shift from FA as a human, trust-based service towards a socio-technical system in which AI, decision support tools, and client-protection requirements reshape advice production. Across the reviewed papers, patterns emerged along three dimensions, namely, (1) common FA system entities are evolving value co-creation, (2) enduring FA system functions, and (3) distinct academic lenses through which FA is studied. These patterns reflect broader industry developments. Synthesizing these findings, the study develops a conceptual FA system architecture, positioning FA as a configurable socio-technical system comprising interacting entities. Drawing deductively on Robert C. Merton's functional perspective, the analysis indicates that although FA institutions and technologies evolve rapidly, underlying system functions remain relatively stable. This lens identifies six core FA system functions and links technological change to enduring economic purposes. Applying a Service Systems Engineering (SSE) perspective further reveals the fragmentation that characterizes much of FA research. By analysing FA through interacting system entities and stable underlying functions, the study integrates previously siloed academic lenses into a coherent system-level understanding. This combined perspective provides a foundation for future research and engineering-based design of FA systems operating within increasingly digitally mediated environments.

Keywords

Financial Advisory Services, Value Co-Creation, Systematic Literature Review, Financial Advice, Robo-Advisory, Artificial Intelligence

1. Introduction

According to Section 1 of the South African Financial Advisory and Intermediary Services Act (FAIS Act 37, 2002), financial advice is defined as "*any recommendation, guidance or proposal of a financial nature furnished, by any*

means or medium, to any client or group of clients". Within academic discourse, a more specialized definition may be used to describe FA as a professional service in which trained experts facilitate the attainment of individual financial objectives in exchange for a fee or commission (Khan and Pandey, 2023; Eichler and Schwab, 2024). Furthermore, Grönroos and Gummerus (2014) define value co-creation as, "a joint process that takes place on a co-creation platform involving, for example, a service provider and a customer, where the service provider's service (production) process and the customer's consumption and value creation process merge into one process of direct interactions. In this merged process, the service provider may engage with the customer's value creation and, through joint co-creational actions, influence the customer's creation of value-in-use. On the co-creation platform, the customer can also take on a role as a service provider and co-create value with the provider."

Drawing on the definitions above and recognizing that the FA sector is being rapidly reconfigured by major drivers, including large-scale digital transformation, advances in AI and generative models, and heightened regulatory and client protection demands, it follows that both FA and its value co-creation processes are being reshaped, whether intentionally or not. Together, these drivers are reshaping how financial advice is produced and consumed (World Economic Forum, 2024), influencing the future of FA services. As these forces emerge, there is a need to assess and study their system-level influence on FA and the service system architecture. To initiate this assessment, it is first required to clarify the current state of FA literature, and determine its focus and perspective, and how value co-creation has been defined, operationalized, and engineered within this setting. Thus, this paper follows a PRISMA-guided systematic literature review that was conducted using Elsevier's abstract and citation database, Scopus. Drawing on 26 studies published between 2016 and 2026, the review finds that current literature on FA is mostly fragmented across focused streams, including, robo-advice, behavioral finance, wealth-management, AI, and regulatory-focused studies. Each illuminates a discrete aspect of FA, yet stops short of an integrated, system-level account of how FA value is conceptualized, operationalized and studied. Furthermore, only a limited number of engineering-oriented studies were identified. Therefore, the review focused on FA and value co-creation, which was viewed as necessary to consolidate dispersed findings, cross-cutting patterns and methodological gaps, and provide a defensible basis for engineering a holistic service-system framing of FA. To that end, this paper reconceptualizes FA as a configurable socio-technical service system in which value is co-created through dynamic interactions among nine service system entities that together perform six core FA system functions.

1.1 Objectives

The study aims to address the following objectives:

1. Conceptualize how value co-creation is defined and operationalized within the FA system.
2. Identify and classify the functions of a FA services system.
3. To synthesize the reviewed literature into a proposed literature-derived conceptual architecture of FA value co-creation.
4. To identify the dominant methodological, analytical, and thematic lens applied to study FA services.

This study delivers three related contributions. First, it presents a PRISMA-guided review that maps the dominant academic lenses applied to FA and highlights the relatively limited presence of engineering-oriented research, thereby clarifying areas of academic concentration and neglect. Second, it synthesizes prior research findings into SSE entity taxonomy and a conceptual FA system architecture that organize dispersed findings into a coherent and testable structure. Third, and most importantly, the paper demonstrates that combining an SSE perspective with a functional view of the FA system reconciles previously siloed technological, behavioral and regulatory analyses. This integrated perspective reduces conceptual fragmentation and provides a rigorous foundation for engineering-led design, governance and evaluation of resilient FA systems.

The remainder of this paper is structured as follows. Section 2 outlines the methodology employed to conduct the systematic literature review. Section 3 presents the descriptive and thematic synthesis of the findings in relation to the research objectives. Finally, Section 4 concludes with the results, highlights the study's contributions to the fields of FA and engineering management, and identifies opportunities for future research.

2. Methods

A systematic literature review was undertaken to examine how value co-creation concepts have been applied within FA contexts. The review followed established systematic literature review procedures widely applied in management and information systems research (Moher et al., 2010; McClelland et al., 2020; Smit, 2026). The review methodology

was structured to align directly with the three research objectives of this study. Elsevier's abstract and citation database, Scopus (Elsevier, 2026), was used to identify and retrieve relevant academic literature due to its extensive coverage of interdisciplinary research across management, engineering, and information systems. The search strategy was developed around three key themes, namely, (1) the FA domain, (2) the value co-creation context, and (3) the functional perspective of FA services. The search was executed using a structured Boolean query applied to the title, abstract, and keyword fields, combining the three thematic dimensions using logical operators (AND/OR). The specific search terms employed in the review are presented in Table 1.

Table 1: Search terms applied

Theme	Search terms
Core	"financial intermediar*" OR "financial advice" OR "financial adviser" OR "financial advisor" OR "financial planning" OR "wealth management" OR "investment advisory" OR "insurance advi*" OR "financial portfolio management"
System theory	"value cocreation" OR "value co-creation" OR "value-in-use" OR "value in use" OR "value creation" OR "value-proposition" OR "value proposition" OR co-creat* OR coproduc* OR "service-dominant logic" OR "client value" OR "customer value" OR "investment strategy" OR "risk management"
Function	"advice process" OR "process*" OR "workflow" OR "decision making" OR "decision-making" OR "framework" OR "model" OR "service system*" OR "service design" OR "service engineering" OR "architecture"

Inclusion and exclusion criteria were established to ensure the relevance and quality of the reviewed literature. Only peer-reviewed journal articles and conference papers published in English between 2016 and 2026 were considered. The search was limited to studies that addressed FA and included aspects related to value co-creation. A minimum citation threshold of one citation was applied to ensure that the included studies had achieved a basic level of scholarly visibility and engagement within academic literature. Studies were excluded if they were not published in English, were unrelated to FA, had no citations, or were published prior to 2016.

To ensure transparency, reproducibility, and comprehensive documentation of the review process, the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement were followed (Moher *et al.*, 2010). Figure 1 illustrates the study identification and selection process. A structured data extraction protocol was developed, which included a defined search strategy, screening criteria, and coding framework, which was established prior to the literature search. Following the eligibility screening, the full texts of all included studies were systematically coded following an inductive-deductive coding approach, where findings from the papers were grouped into themes and then mapped to service system entities. Subsequently, based on key FA activities mentioned throughout the papers, six core FA system functions were proposed, and the findings from the review were categorized accordingly. The screening and eligibility assessment were conducted by the author between 21 and 28 February 2026, following a two-stage process consisting of title and abstract screening followed by full-text review. To ensure analytical consistency, the coding process was conducted iteratively, with themes refined as additional studies were examined. The initial search returned 366 records, of which 239 were removed due to irrelevant titles, abstracts, or the paper having fewer than one citation. After title, abstract, and citation screening, 128 articles remained for full-text review. Each article was assessed for methodological relevance and conceptual contribution to value co-creation within FA services. As illustrated in Figure 1, the 128 papers were reduced to 26 articles in the final sample, as the rest of the papers' content not adequately relevant to the review's objectives, or the articles were unattainable. This relatively small number of studies was considered to highlight FA as a niche research field, often subsumed within the broader financial services literature, which tends to focus predominantly on institutional banking contexts. Each of the 26 selected articles were comprehensively reviewed by the author and further analyzed using Bibliometrix (Aria and Cuccurullo, 2017).

As included in the Appendix, a structured data extraction table (Table 2) was developed to systematically capture key characteristics of each included study, including the research lens applied, conceptualization of FA, derived value co-creation perspective, and the FA activities identified. This data extraction process was conducted through a service system perspective to identify core entities, actions, and interactions involved in the FA value co-creation process. This analytical process enabled the synthesis of insights across the reviewed studies and facilitated the identification of key functional components of FA systems.

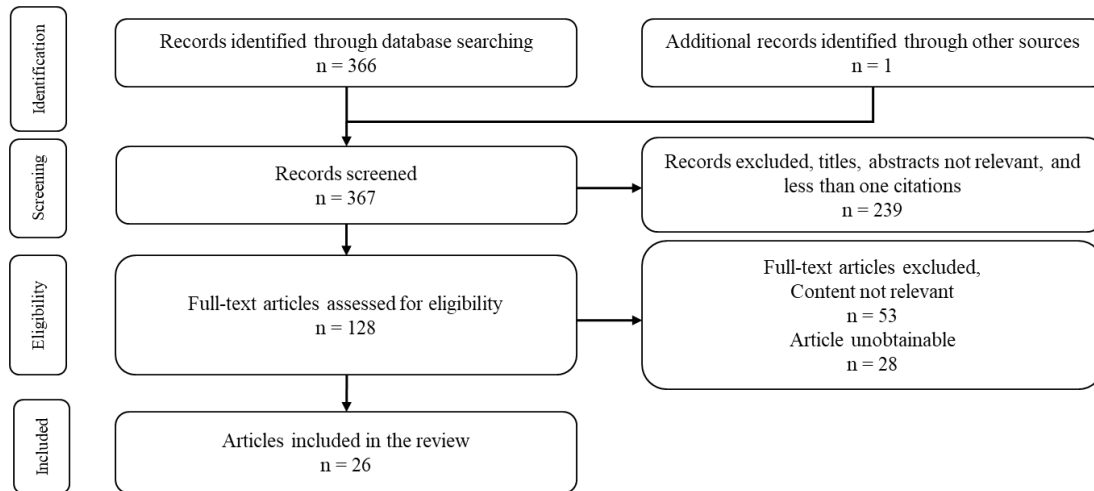


Figure 1: The study selection process presented through the PRISMA flow diagram

3. Results and Discussion

The presentation of results follows the sequence of the study objectives. First, value co-creation is conceptualized by examining how it is defined and operationalized within the FA service system, thereby addressing Objective 1. Second, the analysis identifies and classifies the core functions of the FA service system in order to address Objective 2. This is followed by a section synthesizing the reviewed literature into a proposed literature-derived conceptual architecture of the FA system, which aims to be a tool for future FA-focused value co-creation studies, thereby addressing objective 3. Finally, dominant methodological, analytical, and thematic lenses applied to study FA are identified, thereby fulfilling Objective 4.

3.1 Descriptive overview of papers

The included papers were first classified by document type. It was found that 72.0% were original articles, 24.0% were review papers, and 4.0% were short surveys. These studies span a range of subject areas, with 34.8% falling under Business, Management and Accounting, 32.6% under Economics, Econometrics and Finance, 8.7% under Computer Science, 10.9% under Social Sciences, 6.5% under Decision Sciences, and 6.5% under Engineering. The reviewed papers were produced by authors across diverse geographical contexts, as illustrated in Figure 2. Although the review included 26 papers, a total author frequency of 46 was recorded, reflecting multi-authored publications with contributors from different countries. Authors affiliated with the United States contributed the largest share, followed by Spain, India, and China. Eight additional countries each accounted for two author affiliations, namely Australia, Egypt, Indonesia, Nepal, South Korea, Thailand, the United Kingdom, and Ukraine. Germany, Greece, North Macedonia, and Saudi Arabia were each represented by a single author affiliation. Notably, no studies within the final sample were conducted in the African or South African context, suggesting that this geographical area remains underrepresented in the current body of research.

Authors Country	Freq.	Authors Country	Freq.
United States	11	United Kingdom	2
Spain	6	Ukraine	2
India	5	Germany	1
China	4	Greece	1
Australia	2	North Macedonia	1
Egypt	2	Saudi Arabia	1
Indonesia	2		
Nepal	2		
South Korea	2		
Thailand	2		

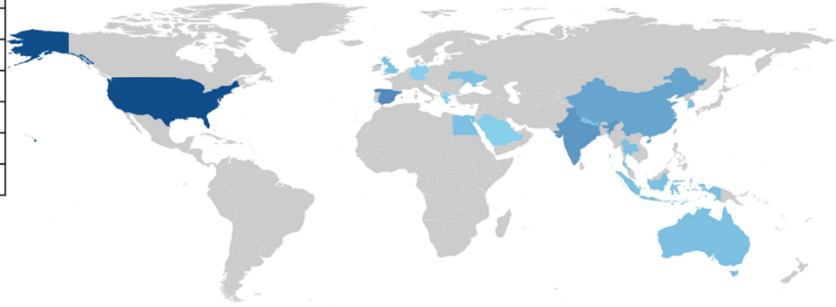


Figure 2: Geographical distribution of author affiliations across reviewed studies

Annual scientific production shows a fluctuating yet upward trajectory overall. Output began at three documents in 2016, fell to zero in 2017 and 2018, then recovered and accelerated markedly after 2022, reaching a peak of five documents in the most recent year. The recent growth in publications coincides with growing academic attention of FA and value co-creation. Keyword analysis, as illustrated in Figure 3, reveals that “artificial intelligence” is the dominant term with seven occurrences, reflecting the growing scholarly interest in exploring how emerging AI technologies may be leveraged in financial services. This is followed by “fintech”, “risk management”, “robo-advisor”, and “wealth management”, each appearing three times, indicating a secondary research focus on digitally enabled advisory mechanisms and technology-driven portfolio management practices. Terms such as “behavioral finance”, “economic growth”, “finance”, “financial literacy”, and “financial planning”, each occurring twice, suggest that human decision-making, client capability development, and broader economic considerations remain present but comparatively less central themes.

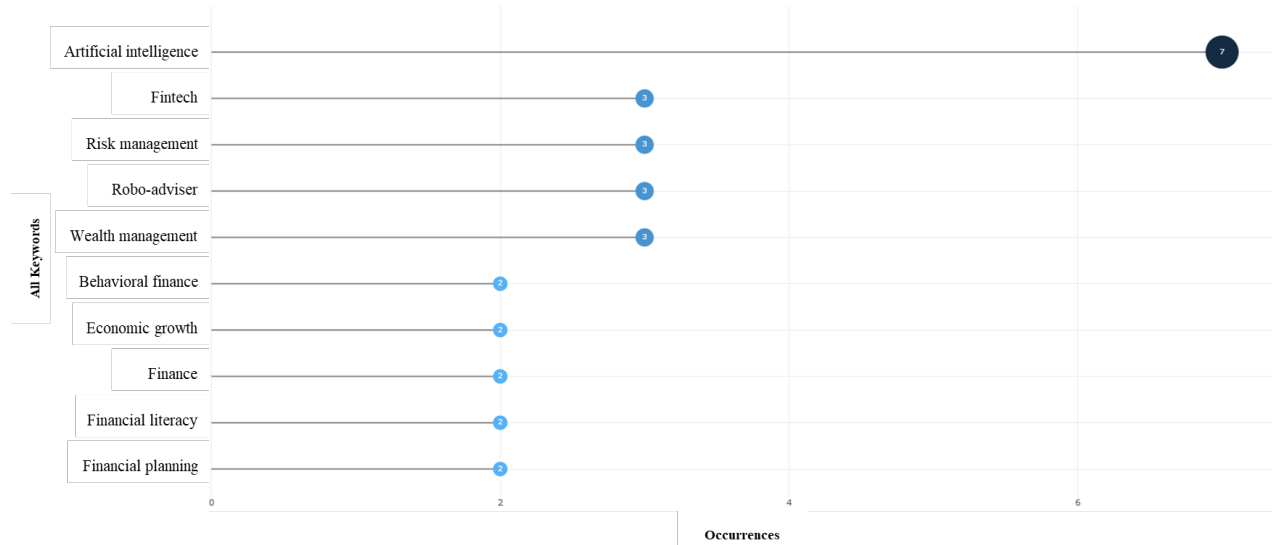


Figure 3: Most frequent keywords identified in the reviewed papers

Collectively, these results suggest that the current literature is increasingly technology-oriented, with research attention shifting toward automation, algorithmic advisory, and digital financial ecosystems. At the same time, the lower frequency of behavioral and planning-related keywords indicates that the human and relational dimensions of FA remain underexplored relative to technological innovation. This distribution implies an emerging research imbalance in which technological capability development is advancing more rapidly than integrative perspectives that combine technological, behavioral, and systemic aspects of FA value creation.

3.2 Conceptualizing FA value co-creation

Objective 1 seeks to *conceptualize how value co-creation is defined and operationalized within FA*. The reviewed studies conceptualize FA value co-creation as a socio-technical process emerging from interactions among multiple entities within service systems. Using the service system engineering framework (Spath et al., 2007), the findings from the reviewed literature were categorized into nine interacting service system entities, namely, customers, goals, inputs, outputs, processes, human enablers, physical enablers, information enablers, and the environment. The key topics and findings from the reviewed papers were categorized according to these nine entities and are discussed below.

Customers

In a co-creative system, the customer functions as an operant resource, an active agent whose attributes directly dictate the system’s efficacy and value creation capacity. Literature emphasizes that customers’ attitudes toward technology and their perceptions of utility are critical for the successful deployment of advanced digital and AI-enabled systems (Zhang, 2024). Beyond technical adoption, the customer’s psychological profile, specifically behavioral biases such as overconfidence and the illusion of control, serves as a primary variable in the FA interaction (Asaad, 2020). Furthermore, the level of financial and stock market literacy was mentioned to act as a prerequisite for meaningful participation, as high literacy levels empower customers to mitigate psychological biases, such as herd behavior, thereby facilitating rational value co-creation (Subedi and Bhandari, 2024; Ode Sabaruddin, 2025). These findings

indicate that financially advised customers function as active entities whose knowledge, preferences, behaviors, and interpretations directly influence value creation.

Goals

The objectives of the FA system have expanded from narrow capital optimization to holistic goal attainment. Jaiswal et al. (2025) mention how co-creation is operationalized when the system aligns stakeholder interactions with ethical and sustainability values, driving the uptake of sustainable investing. Arsyad et al. (2025) mention how in specialized sectors, such as Islamic banking, goals are often defined by local compliance requirements and the promotion of financial inclusivity. At a technological level, Zhou *et al.* (2022) indicate that an overarching goal of digital-first FA is to develop trustworthy technology characterized by fairness, interpretability, and robustness, ensuring that the system's trajectory remains aligned with long-term societal stability. These findings highlight how the goals of FA systems are co-created through the alignment of stakeholder values, institutional objectives, and technological capabilities. Rather than being provider-defined, advisory objectives evolve through interaction, reflecting shared understandings of financial performance, ethical considerations, and trust in system outcomes.

Inputs

The included papers indicate that inputs to FA systems are no longer limited to financial capital or historical market data. The literature suggests that value co-creation necessitates the integration of complex behavioral diagnostics, including psychological assessments of a client's mood, distress, and emotional profile (Lonkani et al., 2025). Jaiswal et al. (2025) mention how these subjective inputs should be synthesized with objective data, such as environmental, social, and governance metrics, even mentioning social media sentiment, to inform the FA process. Furthermore, Torno et al. (2021) and Arsyad et al. (2025) suggest that the client's knowledge and experience serve as input when combined with professional expertise, enabling the configuration of personalized investment strategies. Therefore, these findings suggest that inputs to the FA system extend beyond financial data to include experiential, behavioral, and contextual resources contributed by multiple actors. Thus, it may be deduced that co-creation occurs through the integration of customer knowledge and preferences with professional expertise and analytical data, enabling personalized advisory outcomes.

Processes

The process system entity represents the mechanism through which value co-creation is operationalized. This involves iterative cycles of deliberation, decision-making, and the continuous updating of relevant technologies. Yang and Lee (2024) suggest that Generative AI (GenAI) models used in FA services should be continuously updated based on user feedback. Furthermore, Stringham and Clark (2020) emphasize the importance of private governance processes that facilitate commerce between distant-acting entities by establishing appropriate frameworks and technology-based assurances. Asaad (2020) and Ode Sabaruddin (2025) emphasized the importance of human-centric processes that focus on overcoming cognitive biases through shared decision-making, where the financial advisor and customer engage in education and risk evaluation to refine strategies collaboratively. These findings serve as examples indicating that FA processes operationalize value co-creation through iterative exchanges of information, feedback, and adaptation among system components, such as financial advisors and technologies, and how continuous entity interaction and learning ensure that FA-related decisions evolve collaboratively over time.

Outputs

The outputs of a co-creative system are defined by *value-in-use* rather than the mere delivery of a product. Grönroos and Gummerus (2014) define value-in-use as “*The value for customers created by them during their usage of resources. Value is both created and determined by customers.*”

The included literature indicates that enhanced financial product purchase intentions are driven by reduced perceived risk (Deng and Chau, 2021) and that the realization of financial benefits is positively influenced by ethically aligned investing (Jaiswal *et al.*, 2025). Critically, a key output is mentioned to be the generation of high-quality, robust financial decisions that are resistant to fraud and counterparty risk in electronic commerce (Stringham and Clark, 2020; Zhou et al., 2022), which, from a customer perspective, influences their sense of financial transaction and investing confidence, as well as the perceived usefulness of the advisory service (Zhang, 2024). These findings indicate that FA outcomes represent value-in-use only when customers interpret and apply recommendations within their own contexts.

Human Enablers

Despite technological proliferation, the included papers make it clear that human enablers remain essential for ethical and emotional mediation within FA. Asaad (2020) notes that human advisors serve as behavioral safeguards, fulfilling a fiduciary role in protecting clients from self-defeating biases. Lonkani et al. (2025) indicate that financial advisors are responsible for overseeing the management of complex psychological profiles and ensuring that both manual and automated recommendations remain empathetic and contextually relevant. Furthermore, Torno *et al.* (2021) mention how human experts facilitate the training of robo-advisors and robo-advisor mediation to ensure a hybrid synergy between machine efficiency and human judgment is upheld. Thus, human enablers facilitate co-creation by mediating interpretation, trust, and ethical judgment in FA interactions, thereby enabling shared decision-making among system participants.

Physical Enablers

Physical enablers provide the environmental interface for value co-creation. Deng and Chau (2021) mentioned that in digitalized advisory, the design of the user interface is paramount, and that anthropomorphic visual cues in robo-advisory platforms have been shown to increase trust and reduce perceived risk. Beyond the interface, Stringham and Clark (2020) and Torno et al. (2021) mention the importance of infrastructure, such as payment processors, front-office systems, and the underlying computing connectivity required for real-time service delivery. Lastly, Zhang (2024) mentions how customer-facing platform interoperability and device integration are functional requirements that determine the user's ability to engage with the FA system. Thus, both physical and digital infrastructures provide the interaction spaces that enable participation and engagement, and support co-creation by facilitating communication and collaborative decision processes.

Information Enablers

Information enablers represent the technological core of the FA service system, and include technologies such as AI, Decision Support Systems (DSS), and predictive analytics (Zhang, 2024). Arsyad et al. (2025) add that FA tools may be augmented by Regulatory Technology (RegTech) and Supervisory Technology (SupTech) to ensure compliance and data integrity. While Yang and Lee (2024) indicate that modern information enablers, such as GenAI, facilitate value co-creation by providing personalized recommendations that mimic human empathy, thereby enhancing the authenticity of the service experience. Thus, information enablers support value co-creation within the FA system by enhancing insights, improving process supervision, and personalizing customer experiences.

Environment

The FA co-creation process is bounded by the external environment, including regulatory frameworks, economic volatility, and cultural norms (Arsyad *et al.*, 2025). Zhang (2024) demonstrates that the technological environment, characterized by data security challenges and the rapid evolution of AI, dictates the level of trust required for customer adoption. Stringham and Clark (2020) mention that in contexts where legal regulatory systems are insufficient or lagging, the environment necessitates the emergence of private governance mechanisms to manage counterparty risk in online commerce. Furthermore, the external environment shapes value co-creation by defining regulatory (Brown, 2019), cultural (Sivasankaran and Selvkrishnan, 2023), and economic conditions (Di Tommaso and Piluso, 2018) that influence FA participation and trust. This indicates that value outcomes emerge through the system's collective adaptation to its broader context.

3.3 FA system functions

Objective 2 seeks to identify and classify the functions of a FA services system. Among the papers reviewed was Zvi Bodie's (2019) paper, *Robert C. Merton and the Science of Finance*. In this paper, Merton's functional perspective on the financial system is discussed and it posits that financial system functions are more stable than the institutions that perform them, meaning they vary less across borders and change less over time. This framework, built on the premise that form follows function, treats institutional structures as endogenously shaped by competition and innovation to perform six exogenous core functions more efficiently, namely, (1) clearing and settling payments, (2) pooling resources and subdividing shares, (3) transferring resources across time and space, (4) managing risk, (5) providing information, and (6) dealing with incentive problems. This perspective is particularly well-suited to the FA system, for as mentioned in the previous section, the FA system may be viewed as a configurable socio-technical system structured by nine stable entities. While entity forms evolve and enablers shift, the fundamental functions of the FA system are believed to remain mostly constant. As synthesized from the reviewed literature, Merton's six functions have been tailored toward the FA system and are derived based on the key functions outlined in the reviewed literature.

Implementation of Financial Advice

The literature frames implementation as the set of workflows and systems that translate financial recommendations into executable operations, including portfolio construction, rebalancing, and trade execution. Torno et al. (2021) describe these as the core operational steps within robo-advisory platforms. In addition, Méndez-Suárez et al. (2019) highlight that many online FA platforms rely on constrained product menus centred on low-cost ETFs and simplified investment offerings. They further note that flat fee schedules and reduced operational friction lower the barriers that often prevent advice from being implemented in practice (Méndez-Suárez *et al.*, 2019). Furthermore, the literature emphasises the increasing role of institutional-grade execution and risk tools, which professionalize trade execution and enhance risk management capabilities. Furthermore, continuous portfolio monitoring and automated adjustments supported by machine-learning models that track thousands of risk factors are documented by Zhou et al. (2022), while embedded tax-optimization techniques, such as tax-loss harvesting, are emphasized in more recent work by Hesami (2025). Finally, Stringham and Clark (2020) explain that execution reliability is strengthened through rule-based “if-then” logic and technology-based assurances that mirror settlement processes, thereby reducing the potential gap between financial advice and action. These insights highlight that financial advice contains a significant operational component and that the mechanisms used to implement recommendations have become an important area of academic attention. The implementation function, therefore, ensures that financial recommendations are translated into concrete, executable actions that align with a client’s goals and constraints. From this perspective, implementation represents the stage where strategic financial planning is operationalized through portfolio transactions, monitoring processes, and governance mechanisms. As a result, the function integrates technological systems, regulatory considerations, and human judgement to ensure that financial advice is not merely theoretical but is delivered consistently, accurately, and in the client’s best interest.

Democratizing Access to Capital Markets

The literature emphasises that digital FA platforms expand participation in financial markets by lowering the traditional barriers to entry faced by retail investors. (Méndez-Suárez et al. (2019) and Flavián et al. (2022) explain that many platforms prioritize low-cost structures and reduced minimum investment requirements, enabling participation from the *long tail* of retail investors who were historically excluded from capital markets. In addition, Flavián et al. (2022) note that digital onboarding processes significantly compress account sign-up times, often allowing investors to begin participating in markets within minutes. The literature further highlights that simplified access to diversified portfolios and fractional exposures allows micro-investors to hold shares of broad asset classes without requiring large amounts of capital, as discussed by (Torno *et al.*, 2021). Complementing these mechanisms, educational tools embedded within financial system architectures are identified by Zhou et al. (2022) as supporting individuals with limited financial literacy and helping underserved groups engage with investment decisions. Regulatory protections also play a role in enabling broader participation; for example, fair disclosure requirements reduce information asymmetry between institutions and retail clients, as highlighted by Wilson and Campbell (2016). Finally, research indicates that digital networks and platform-based governance structures can facilitate financial exchange among previously disconnected market participants, even in environments characterized by low institutional trust or limited banking infrastructure, as explained by Stringham and Clark, (2020); Zhang, (2024); and Hesami, (2025). These insights illustrate how FA systems contribute to widening participation in capital markets by systematically lowering the financial, technological, and informational barriers that traditionally restricted access. The democratization function, therefore, enables a broader segment of society to participate in investment activities through accessible platforms, simplified investment structures, and protective regulatory frameworks. In this sense, FA services act as a bridge between individuals and capital markets by connecting retail investors to diversified portfolios, retirement vehicles, and other investment instruments that were historically limited to affluent or institutional participants. While delivery channels and technologies continue to evolve, the underlying function to expand fair, transparent, and scalable access to financial markets, thereby supporting broader financial inclusion and long-term wealth creation, remains constant.

Life-Cycle Wealth Management and Preservation

The literature frames life-cycle wealth management and preservation as an end-to-end advisory journey that spans accumulation, maintenance, and decumulation. Torno et al. (2021) discuss how saving plans and long-term goal setting are integrated into client profiling. Khan and Pandey (2023) examine retirement planning and systematic drawdown strategies, and Zhou et al. (2022) highlight estate and intergenerational planning. Zvi Bodie (2019) mentions life-cycle models and dynamic hedging approaches for mitigating longevity risk, while Reverchuk et al. (2020) position insurance and protection as financial stabilizer mechanisms at both macro and household levels. Furthermore, Asaad (2020) mentions how preservation of real wealth is tied to diversification and inflation-protection literacy. Lastly, Lonkani et al. (2025) notes that psychological assessment tools help maintain strategy adherence as clients progress

through life stages. Thus, this function centers on guiding individuals through financial decisions that change over the life course. The FA system operationalizes this by aligning saving and investment strategies with shifting income patterns and personal objectives, incorporating tax-efficient structures, prudent withdrawal rules, insurance overlays, and longevity-aware hedging where appropriate. Wealth preservation, therefore, emphasises protecting real returns, managing sequencing and longevity risks, and sustaining behavioral consistency via tailored financial planning. Although specific products and institutional actors evolve, the core function to help households build, maintain and transition wealth across their lifetime, preserving financial resilience and continuity for individuals and their heirs remains constant.

Manage Market Volatility and Investor Cognitive Biases

The literature describes FA responses to market turbulence as a mix of behavioral coaching, diagnostic assessment, and rule-based automation. Subedi and Bhandari (2024) find that coaching and targeted financial-literacy interventions measurably improve decision quality during turmoil, while Ng et al. (2016) show that FA communication styles stabilize client behavior. Diagnostic work on investor biases, namely, overconfidence, herding, loss aversion and recency effects, is emphasized by Asaad (2020), Subedi and Bhandari (2024) and reinforced in recent empirical studies by Lonkani et al. (2025), which recommend targeted education and psychometric profiling to maintain strategy adherence. At the implementation level, rules-based strategies and automation (for example, auto-rebalancing and technical-signal execution) have been mentioned to reduce emotionally driven timing errors (Torno *et al.*, 2021; Alsulmi & Al-Shahrani, 2022) and how system-level safeguards, such as stop-loss/take-profit rules, bound downside exposure (Alsulmi & Al-Shahrani, 2022). Together, these findings position financial advice as a behavioral-stabilization function. This function, therefore, blends human judgement (coaching, scenario planning, framing) with technological and market insights to enable clients to remain aligned with long-term financial objectives. By moderating cognitive biases and bounding downside risk, the FA system protects client outcomes and promotes financial resilience even under extreme market stress.

Delivery of Actionable, Explainable Guidance

FA systems must transform raw market and client data into information that is both understandable and directly actionable for decision-makers. Yang and Lee (2024) and Zhang (2024) explain that advisory technologies increasingly rely on data-processing and AI capabilities to convert complex financial information into clear recommendations. In particular, generative AI and financial informatics tools can produce empathetic, tailored and decision-ready suggestions, often structured through conditional “then–if” reasoning that links client circumstances to specific actions (Yang & Lee, 2024). Complementing these capabilities, explainable AI (XAI) techniques provide visualizations and dashboards that reveal the reasoning behind algorithmic recommendations, enabling users to understand how conclusions are derived (Zhang, 2024). In addition, interactive tools such as smart question-and-answer interfaces and chatbots offer plain-language explanations of complex financial products and personalized responses to client queries, as highlighted by Zhou et al. (2022). Furthermore, Holzhauser et al. (2016) note that regulatory disclosure standards require financial advice to be communicated clearly and transparently, thereby supporting objective risk identification and informed decision-making. Then, Yang and Lee (2024) mention systems that justify their recommendations and demonstrate learning or improvement over time help build trust in automated financial advice. Finally, user-interface research by Deng and Chau (2021) indicates that anthropomorphic and trust-centred design features can reduce perceived risk and encourage clients to follow through on provided financial recommendations. These insights indicate that the FA system performs an essential translation function that converts complex financial analysis into clear, practical guidance that clients can confidently act upon. In this sense, the delivery of actionable and explainable guidance ensures that advice is not only technically accurate but also accessible, transparent, and decision ready. Regardless of whether financial advice is delivered through human advisors, hybrid advisory models, or AI-driven platforms, the underlying function to provide evidence-based recommendations that are tailored to client goals and communicated in a form that supports informed, confident decision-making remains constant.

Fiduciary Trust and Protection from Overconfidence

The literature consistently highlights that FA systems must incorporate governance mechanisms that safeguard clients and maintain alignment with their best interests. Zhou et al., (2022) emphasize that trustworthy AI frameworks that incorporate security, privacy protection, and algorithmic interpretability, are essential to protect users from misaligned automated systems. Similarly, Flavián et al. (2022) note that fiduciary and best-interest obligations remain central even in digital advisory environments, requiring transparency around how algorithms manage recommendations and potential conflicts of interest. Early stages of the advisory process also incorporate safeguards to reduce information asymmetries between clients and institutions. For example, structured suitability assessments and risk-profiling tools,

enable advisors to align portfolio strategies with client risk tolerance and financial objectives (Holzhauer *et al.*, 2016; Torno *et al.*, 2021). Furthermore, governance structures that manage conflicts of interest, such as, incentive-alignment help ensure that financial advisors objectives remain consistent with client outcomes, rather than their personal incentives (Di Tommaso and Piluso, 2018). Emerging regulatory and governance innovations, including consumer data rights frameworks, RegTech and SupTech oversight, and ethical standards such as Shariah-compliant financial principles, highlight mechanisms that strengthen fiduciary alignment and transparency within financial systems (Arsyad *et al.*, 2025; Hesami, 2025). Finally, behavioral research emphasises that financial advice must actively counter investor overconfidence and herd behavior through the integration of education and psychological diagnostics (Asaad, 2020; Subedi & Bhandari, 2024; Lonkani *et al.*, 2025). Taken together, these contributions demonstrate that FA performs an extended fiduciary protection. By embedding ethical governance, transparent decision processes, behavioral safeguards, and regulatory oversight, advisory systems protect clients from conflicts of interest, excessive speculation, and cognitive biases such as overconfidence. This function ensures that financial decisions remain aligned with long-term client welfare rather than short-term incentives or behavioral impulses. As a result, fiduciary trust becomes a foundational pillar of the advisory system by reinforcing loyalty, prudence, and accountability while enabling clients to rely on advice that is both technically sound and ethically grounded. Thus, although technologies, regulatory frameworks, and institutional actors continue to evolve, the function of providing trustworthy guidance that safeguards clients' financial well-being and mitigates the enduring behavioral risks associated with financial decision-making are believed to remain constant.

3.4 Proposed conceptual architecture of FA value co-creation based on literature review

Objective 3 seeks to synthesize the reviewed literature into a literature-derived conceptual architecture of FA value co-creation. By synthesizing the reviewed papers, Figure 4 proposes a conceptual service-system architecture for the FA system. It aims to illustrate that FA system value is not produced by individual system entities alone but is co-created through interactions among multiple entities within a service system. Collectively, the literature indicates that financial advice operates as a layered socio-technical architecture embedded within a broader environmental context shaped by political, economic, social, technological, environmental, and legal forces. These external conditions influence regulation, technological adoption, market dynamics, and client expectations, thereby defining the operating boundaries of advisory services. Accordingly, Figure 4 presents a literature-derived conceptual architecture that organizes prior findings into a proposed integrated system view of FA that aims to act as a tool to further assess value co-creation.

The architecture consists of three interrelated layers. The Support Layer provides the enabling conditions for advisory activities through human enablers, information enablers, and physical enablers. The Transformation Layer represents the operational core in which inputs such as market information, regulation, knowledge, and investment capital are converted through advisory processes into outputs such as portfolio recommendations, performance reporting, and customer financial outcomes. Guiding these activities, the Steering Layer captures directional influences through customer attributes and system goals, which shape how advice is designed and delivered. Importantly, entities across and within the layers influence one another bidirectionally through continuous feedback and adaptation, enabling value to be co-created and refined over time.

This paper proposes that value co-creation emerges from continuous interaction and feedback across these layers. Support Layer enablers make Transformation processes possible, while Steering Layer priorities influence how those processes are executed and evaluated. In turn, outputs generated through advisory activities reshape customer perceptions, organizational objectives, and regulatory expectations, creating iterative feedback loops that drive system adaptation over time. Furthermore, the Merton-derived FA system functions serve as stable functions that all system entity evolution should aim to align with and enhance to ensure production system advancement in the face of system entity and FA institutional change.

Thus, this proposed architecture is positioned in this paper as a synthesis of insights derived from the reviewed literature. In subsequent research, the architecture will be empirically validated and refined through stakeholder interviews, surveys, and practitioner engagement to develop a practically applicable SSE framework for designing and governing FA systems amongst ongoing change.

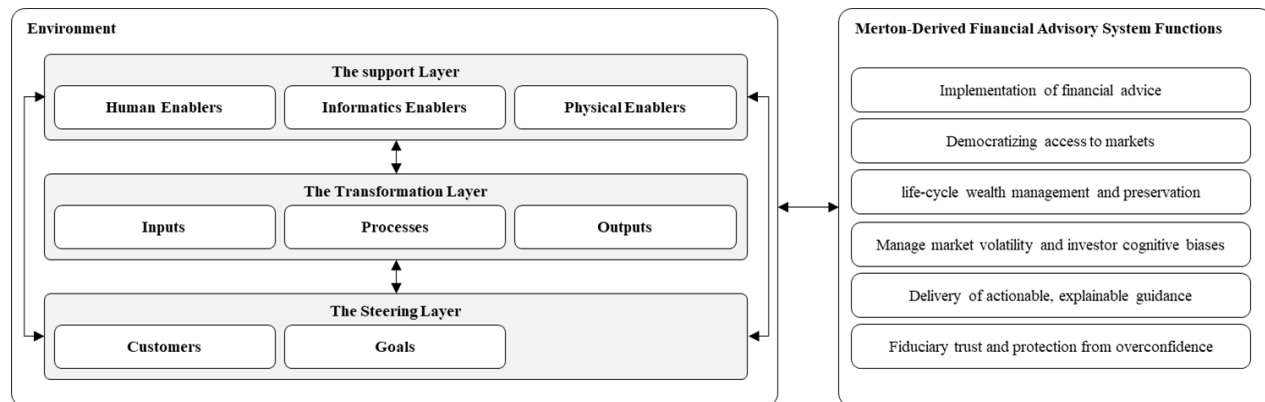


Figure 4: Proposed service-system architecture of FA value co-creation derived from the reviewed literature

3.5 Dominant methodological, analytical, and thematic lens applied to study FA services

Objective 4 seeks to identify the dominant methodological, analytical, and thematic lens applied to study FA services. The reviewed papers approach FA through several distinct analytical lenses, each shaping how the FA function is conceptualized and studied. The majority of studies adopt a governance and regulatory lens, conceptualizing FA primarily as a financial intermediation mechanism that facilitates allocation of resources, manages risk, and reduces information asymmetry among market participants. Representative contributions in this stream include (Decker and Lange, 2016; Wilson and Campbell, 2016; Zheng et al., 2019; Zvi Bodie, 2019; Reverchuk et al., 2020; Stringham and Clark, 2020; Kondovski, 2021; Zhou et al., 2022; Konstantakopoulou, 2023; Arsyad et al., 2025; Hesami, 2025; Jaiswal et al., 2025) which together frame advisory services as institutional functions that improve market stability mobilize savings support investment activity and ensure compliance with regulatory and ethical standards. A second dominant stream applies a behavioral lens and conceptualizes advisory as a corrective mechanism that helps investors overcome behavioral biases, emotional influences, and misjudgments in financial decision-making. Work by (Holzhauer et al., 2016; Asaad, 2020; Eichler and Schwab, 2024; Subedi and Bhandari, 2024; Awad, Aziz and Shma, 2025; Lonkani et al., 2025; Ode Sabaruddin, 2025) illustrates how advisory is studied as a structured feedback process that seeks to improve risk perception, financial literacy, and investment discipline. Another group of studies examines advisory through a technology-oriented lens, treating FA as technology-driven decision support and information processing capability. Key studies in this stream include (Méndez-Suárez et al., 2019; Torno et al., 2021; Flavián et al., 2022; Yang and Lee, 2024; Zhang, 2024), which emphasize data driven forecasting, automated portfolio allocation, and intelligent systems that augment human judgement. A trust-centred relational perspective also recurs in the literature with (Deng and Chau, 2021; Khan and Pandey, 2023; Sivasankaran and Selvakrishnan, 2023) framing advisory as a confidence-building interpersonal process. Together, these studies reveal a partially fragmented academic focus in which institutional, behavioral, technological, and relational approaches illuminate different components of FA provision. Therefore, an SSE lens offers integration by viewing advisory as a socio-technical system in which actors, technologies, institutional arrangements, and decision processes interact to produce FA outcomes, thereby unifying the disparate conceptualizations observed in the reviewed research.

4. Conclusion

This PRISMA-guided systematic literature review synthesized 26 peer-reviewed studies published between 2016 and 2026 to examine value co-creation in FA services, classify core system functions, and identify dominant academic lenses. The paper conceptualizes FA as a socio-technical process in which value emerges from iterative interactions among customers, technologies, human expertise, and institutional arrangements rather than from unidirectional service delivery. Empirically, studies rely predominantly on quantitative modelling of technology adoption, behavioral considerations, and regulatory compliance, analyzed through four recurring lenses, namely, governance and regulation, behavioral finance, technology-oriented, and trust-relational. Authorship is concentrated in developed economies, with African and South African contexts absent and engineering-oriented perspectives conspicuously scarce. Reinterpreted through the integrated lens of SSE and Robert C. Merton's functional perspective, the reviewed works reveal FA not as fragmented practices or isolated technologies but as a configurable socio-technical service system. Nine interacting entities, namely, customers, goals, inputs, outputs, processes, human, physical and information enablers, and environment, are organized within a three-layer FA system architecture to deliver six stable core functions, namely, implementation of financial advice, democratizing access to capital markets, life-cycle wealth management and

preservation, management of market volatility and investor cognitive biases, delivery of actionable and explainable guidance, and fiduciary trust with protection from overconfidence. Although entities and enablers evolve rapidly under AI, digital platforms, and intensified regulation, these functions remain comparatively constant because they fulfil invariant economic purposes. This synthesis reconciles technological, behavioral, and regulatory silos and demonstrates that resilient system design requires alignment of evolving entities with enduring functions rather than treating institutions or tools as ends in themselves. The review nevertheless exposes key imbalances, namely, technological capability development has outpaced integrative system-level analysis, engineering perspectives remain underrepresented, and geographically diverse contexts are neglected. The paper proposes that future research should therefore validate and refine the proposed service-system architecture through mixed-methods empirical studies, stakeholder co-creation workshops, engineering-led prototyping, and validating the six FA functions through survey of practicing financial advisors. Despite its PRISMA-compliant design, this review has two limitations. First, the search was limited to Scopus, potentially missing studies indexed only in other academic databases. Second, the final sample of 26 articles, although justified by the niche focus on FA and SSE, remains modest. These limitations notwithstanding, the proposed architecture and six stable functions provide a foundation for future work. However, by adopting this SSE-functional framework, subsequent work may validate and refine the model and generate actionable blueprints for resilient, inclusive, and trustworthy FA systems, thereby strengthening the contribution of industrial engineering and operations management to the design and governance of digitally mediated financial services.

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Biographies

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Appendix

Table 2: Data Extraction Table

Authors	Source Title	Research Lens Applied	Conceptualization of FA	Derived Value Co-Creation Perspective	FA Activities Identified
(Arsyad <i>et al.</i> , 2025)	AI and Islamic finance industry: problems and oversight	Governance / regulatory lens	An automated system to improve operational efficiency and ensure strict compliance	Stakeholder collaboration where technical specialists and compliance integrate expertise to harmonize innovation with religious ethical standards	Credit scoring, sentiment analysis to monitor compliance
(Asaad, 2020)	Investor confidence: Are you your own worst enemy?	Behavioral finance lens	A feedback mechanism where advisors protect individual investors from the "Behavior Gap" and miscalibrated self-knowledge	Shared decision-making between advisor and client to mitigate overconfidence and correct behavioral errors	Providing feedback, talking through the decision process, assessing subjective and actual literacy
(Awad <i>et al.</i> , 2025)	Investment Behavior in the Egyptian Stock Market: The Impact of Social Media on Investor Decision-Making	Behavioral finance lens	The influence of social dynamics on investor decision-making in a developing economy	Peer-to-peer social platform interaction, where validation and market narratives are discussed in online communities and drive investment choices	Information dissemination, peer-to-peer discussion, reactive trading based on rapid updates
(Decker and Lange, 2016)	The global field of multi-family offices: An institutional perspective	Governance / regulatory lens	Specialized institutions that preserve Enterprising family fortunes across generations and international borders	Configuration of activity systems based on family involvement in governance and value propositions of exclusiveness and transparency	Asset management, family governance, philanthropic advisory, frequent reporting
(Deng and Chau, 2021)	Anthropomorphized Financial Robo-advisors and Investment Advice-taking Behavior	Trust-based relational lens	Delivery of advice through automated algorithms using human-like visual cues to influence user acceptance	Dyadic interaction where heuristic cues increase trust and decrease perceived risk during advice adoption	Self-assessment questionnaire, personalized portfolio recommendation, communication of strategy
(Eichler and Schwab, 2024)	Evaluating robo-advisors through behavioral finance: a critical review of technology potential, rationality, and investor expectations	Behavioral finance lens	Algorithmic systems providing data-driven strategies while struggling to replicate human relationships	Reduced customer participation where the automated agent replaces thinking to free up deliberate evaluation	Automated portfolio optimization, questionnaire risk assessment, continuous rebalancing
(Flavián <i>et al.</i> , 2022)	Intention to use analytical AI (AI) in services – the effect of technology readiness and awareness	Technology oriented lens	Autonomous technology performing analytical tasks traditionally carried out by humans	Paradoxical co-creation through reduced participation; value arises because the client doesn't need to play an active role in complex tech tasks	Automated investment management, market evaluation, task execution on user behalf

(Hesami, 2025)	Navigating the AI-driven transformation of personal finance: opportunities, challenges, and ethical imperatives	Governance / regulatory lens	A tool for democratizing financial services while managing ethical risks like algorithmic and automation bias	Human-AI collaboration where AI handles routine tasks, such as, tax-loss harvesting, while human oversight ensures ethical alignment	Dynamic portfolio rebalancing, expense tracking, creditworthiness assessment, bias mitigation
(Holzhauer <i>et al.</i> , 2016)	RiskTRACK: the five-factor model for measuring risk tolerance	Behavioral finance lens	A scientific framework to isolate five factors affecting risk tolerance to improve advice accuracy	Joint interaction through specialized questionnaires to align expert suggestions with the client's psychological profile	Measuring risk tolerance factors through scientific assessment of capacity
(Jaiswal <i>et al.</i> , 2025)	Environmental, social and governance-type investing: a multi-stakeholder machine learning analysis	Governance / regulatory lens	Use of big data and ML to align investments with non-financial pillars, namely, Environmental, Social, and Governance	Stakeholder-centric governance involving public engagement and social media feedback to ensure corporate accountability	Sentiment analysis of market trends, ESG disclosure reporting, impact investing evaluation
(Khan and Pandey, 2023)	Exploring fire for financial independence retire early (FIRE): a netnography approach	Trust-based relational lens	A journey toward early retirement fund accumulation through aggressive savings and self-service tools	Client as co-designer of offerings; proactive clients use their own analysis tools to share knowledge with the advisor community	Retirement fund accumulation, DIY analysis (Excel sheets), knowledge sharing in workshops
(Kondovski, 2021)	The Innovative Impact of Insurance for Economic Growth: The Evidence from New EU Member States	Governance / regulatory lens	A financial intermediation function that provides risk transfer and indemnification while mobilizing domestic savings to support macroeconomic stability	Reciprocal risk sharing where insurers and clients co-create value by organizing communities at risk to reduce transaction costs and information asymmetry	Providing means of risk management, mobilization and allocation of resources, and product development
(Konstantakopoulou, 2023)	Financial Intermediation, Economic Growth, and Business Cycles	Governance / regulatory lens	Intermediaries as delegated monitors solving asymmetric information problems between savers and borrowers	Mutual resource pooling where savers co-create value by accessing safe, diversified investments through the monitor	Asset monitoring, resource pooling, investment diversification
(Lonkani <i>et al.</i> , 2025)	The effect of investors' emotional and depressive states on perceived returns and risk	Behavioral finance lens	Interdisciplinary model integrating mood intensity and depressive states into expected return forecasts	Advisory firms developing products co-created around the emotional and psychological profiles of individual investors	Psychological evaluation, mood assessment, personalized strategy adaptation
(Méndez-Suárez <i>et al.</i> , 2019)	AI modelling framework for financial automated advising in the copper market	Technology oriented lens	Active data-driven investment management using neural networks to forecast price changes in advance	Automated implementation of strategy; algorithms act ahead of market shifts to reposition portfolios with high accuracy	Five-day-ahead price forecasting, portfolio repositioning, and active trading simulations

(Ng <i>et al.</i> , 2016)	Professional Service Providers' Resource Integration Styles (PRO-RIS): Facilitating Customer Experiences	Service-dominant logic lens	Facilitation of customer experiences through flexible advisor roles	A joint merger of production and consumption, where advisors provide appropriate resources to match the client's participation style	Decision-making, educating, motivating, connecting to networks, and frequent updating
(Ode Sabaruddin, 2025)	Human Touch Experience: A Strategy for Reducing Consumer Switching Behavior in The Financial Service Industry	Behavioral finance lens	Stock market literacy as a multidimensional construct to improve the quality of investment decisions	Cognitive reflection where clients apply knowledge to participate actively in markets and attain personal well-being	Budgeting, risk management, applying advanced strategies, retirement planning
(Reverchuk <i>et al.</i> , 2020)	Investment activities of banks, insurance companies, and non-government pension funds in Ukraine	Governance / regulatory lens	The process of transforming investment potential into income through specialized intermediaries to improve a country's investment climate	Joint resource integration where institutions accumulate participant contributions to fund industrious activities, thereby co-creating economic development	Portfolio management, providing long-term housing finance, acting as custodians, traders, and consultants
(Sivasankaran and Selvakrishnan, 2023)	Family demographics sway with a role of financial advisor in risk tolerance and investment decision of women working in it	Trust-based relational lens	Advisor as a guide providing literacy and awareness tailored to demographic and socioeconomic profiles	Joint family system endorsement where advisors enhance client confidence and risk tolerance through awareness	Literacy training, risk tolerance assessment, monitoring client interests
(Stringham and Clark, 2020)	The crucial role of financial intermediaries for facilitating trade among strangers	Governance / regulatory lens	Intermediaries as providers of private governance (blockchain/smart contracts) to facilitate secure trade among strangers	Automated execution of exchanges using self-enforcing agreements to mitigate fraud and counterparty risk	Clearing and settling payments, fraud prevention, smart contract settlement
(Subedi and Bhandari, 2024)	Impact of psychological factors on investment decisions in Nepalese share market: a mediating role of financial literacy	Behavioral finance lens	De-biasing investors through financial literacy to improve rational decision-making in volatile markets	Use of evidence-based strategies alongside advisor guidance to navigate emotional reactions and biases	Mitigating cognitive bias, thorough security analysis, long-term financial planning
(Torno <i>et al.</i> , 2021)	Robo-What?, Robo-Why?, Robo-How? – A Systematic Literature Review of Robo-Advice Twenty-fifth Pacific	Technology oriented lens	An automated financial advice process that uses algorithms to guide investors through portfolio assignments and rebalancing	Human-Machine interaction featuring "hybrid advice" where automation augments human expertise and uses digital nudges to manage user behavioral biases	Initiation and profiling, matching and customization, monitoring and rebalancing
(Wilson and Campbell, 2016)	Financial functional analysis: a conceptual	Governance / regulatory lens	Integration of six core functions that	Institutional form following function where banks and tech	Reducing transaction costs, clearing

	framework for understanding the changing financial system		persist regardless of technology	companies compete to deploy resources efficiently	payments, managing asymmetric information
(Yang and Lee, 2024)	Enhancing FA Services with GenAI: Consumer Perceptions and Attitudes Through Service-Dominant Logic and AI Device Use Acceptance Perspectives	Technology oriented lens	Conversational financial advice that adapts to user financial situations and emotional cues	Collaborative experience enabled by personalization, human-like empathy, and continuous learning for "value-in-use"	Personalizing investment suggestions, demonstrating empathy, continuous improvement of advice
(Zhang, 2024)	Consumer Attitudes towards AI-based Financial Advice: Insights for Decision Support Systems (DSS) and Technology Integration	Technology oriented lens	Decision Support Systems providing specialized insights to revolutionize financial decision-making	Collective influence of perceived utility where accurate forecasts and transparent decisions build trust	Predictive analytics, data-driven forecasting, communicating decision processes
(Zheng <i>et al.</i> , 2019)	FinBrain: when finance meets AI 2.0	Governance / regulatory lens	Implementing Ethical and Trustworthy AI that prioritizes accountability, fairness, and transparency	Proactive governance and Corporate Digital Responsibility frameworks that align technology with societal values	Algorithmic fairness auditing, Explainable AI, ensuring data security and privacy
(Zhou <i>et al.</i> , 2022)	FinBrain 2.0: when finance meets trustworthy AI				
(Zvi Bodie, 2019)	Robert C. Merton and the Science of Finance	Governance / regulatory lens	Primary function to facilitate the temporal and spatial deployment of resources in an uncertain environment	Functional anchors serving as the foundation for innovation, ensuring system stability across borders and time	Risk management, information provision, dealing with incentive problems