

FinTech Innovations : Transforming the Landscape of Personal Finance Management

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Abstract: This study examines the evolving landscape of personal finance management (PFM) in the digital era, focusing on the transformative role of financial technology (FinTech). The research addresses the problem of insufficient understanding regarding the interplay between FinTech features and user behavior in achieving financial effectiveness. The primary objective is to conceptualize how FinTech innovation, user interface (UI) quality, user trust, and digital literacy collectively influence PFM outcomes. A qualitative literature review method was employed, analyzing over 20 peer reviewed articles published between 2020 and 2025. The findings reveal that FinTech innovation and UI quality directly enhance financial decision making by improving automation and user experience. However, their impact is significantly mediated by user trust and moderated by digital literacy. These psychological and cognitive factors determine whether technological features lead to sustained engagement and improved financial behavior. The synthesized model illustrates a multidimensional framework where technological sophistication must be complemented by trust and digital competence to achieve meaningful financial outcomes. The study concludes that FinTech's potential in enhancing PFM lies not only in its features but in its ability to foster user confidence and capability. This integrative approach provides valuable insights for FinTech developers, policymakers, and educators aiming to promote inclusive and effective digital finance solutions.

Keywords: Fintech, Innovation, User, Trust, Digital.

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1. Introduction

Personal finance management has become an increasingly critical aspect of modern living, especially in the context of rapid technological advancement. Personal Finance Management (PFM) effectiveness refers to the individual's ability to strategically plan, monitor, and control personal finances through systematic and informed decision making processes. The rise of digital solutions, particularly FinTech applications, has shifted financial behavior from manual tracking toward automated and intelligent systems [1], [2]. Several studies have emphasized that digital tools enhance financial transparency, real time tracking, and spending discipline, contributing to improved financial well being [3]. However, the efficacy of these tools is not merely a result of availability but also depends on usability, perceived utility, and integration into daily financial routines [4]. Understanding the effectiveness of PFM in relation to digital tools is critical, especially as digital financial services continue to evolve and expand globally.

The global proliferation of FinTech platforms has redefined the boundaries of financial services by democratizing access and fostering personalized experiences in money management. Since the COVID-19 pandemic, user adoption of FinTech applications has surged, driven by necessity and growing digital literacy [5]. Despite this growth, concerns persist about unequal accessibility, user trust, and the long term financial impact of FinTech

use [6]. While numerous platforms offer convenience and innovative features, not all achieve meaningful financial outcomes for users. Existing research tends to focus on adoption and intention rather than sustained effectiveness in financial behavior. This gap underscores the urgency for comprehensive studies examining how FinTech innovations influence the actual performance of personal finance management, beyond mere user engagement or satisfaction. By addressing this, the current study aims to contribute to a deeper understanding of FinTech's transformational role in financial self governance.

A key independent variable in this context is FinTech innovation. FinTech innovation encompasses technological advancements that introduce new financial services or substantially enhance existing ones, often through artificial intelligence, blockchain, and big data analytics [7]. These innovations empower users to engage with features like smart budgeting, automated savings, and real time financial recommendations [8]. Recent findings suggest that such innovations enhance financial decision making, lower transaction costs, and improve financial control [9]. Nevertheless, the positive outcomes of FinTech innovation are not universally experienced, largely due to disparities in user understanding and engagement with complex tools. Thus, it is imperative to study the extent to which FinTech innovation directly contributes to financial behavior improvements across varied user segments.

In addition to technological advancement, the quality of the user interface plays a pivotal role in determining the usability and impact of FinTech tools. User Interface (UI) quality refers to the visual design, navigational logic, and responsiveness of digital platforms, all of which influence user satisfaction and system usability [10]. A well designed UI enhances user experience by reducing cognitive load and promoting intuitive interaction, ultimately leading to better financial decisions [11]. According to prior research, UI elements such as simplicity, clarity, and consistency are critical in shaping users' perceptions of usefulness and ease of use central components in models such as the Technology Acceptance Model (TAM) [12], [13]. Therefore, evaluating the effect of UI quality is essential in understanding the broader usability and behavioral impact of FinTech applications.

Despite the technological advancements and interface improvements, the influence of FinTech on personal finance management is significantly mediated by user trust. Trust in FinTech services involves confidence in the platform's security, data privacy, reliability, and the integrity of its financial recommendations [14]. Numerous studies affirm that trust acts as a psychological enabler of technology adoption and sustained use, particularly in environments involving sensitive financial information [15]. Users often delay or avoid using FinTech services due to perceived risks and uncertainty, regardless of the innovation level or design quality [16]. Thus, this study incorporates trust as a mediating variable to examine its role in facilitating or obstructing the translation of technological capabilities into effective financial behavior.

Furthermore, digital literacy is considered a moderating variable in this study, as it influences how effectively individuals interact with and benefit from digital financial tools. Digital literacy encompasses not only the technical ability to operate applications but also the cognitive skills required to interpret financial data, navigate online risks, and make informed financial decisions [17]. Research indicates that individuals with higher levels of digital literacy are more likely to extract meaningful benefits from FinTech platforms and avoid misuse or misunderstanding [18]. As FinTech tools become more complex and feature rich, the gap in outcomes between digitally literate and illiterate users widens. Including digital literacy as a moderator helps to clarify the conditions under which FinTech innovations succeed or fail in enhancing personal finance management.

While FinTech has been widely studied in relation to financial literacy and adoption, there remains a lack of integrative research that simultaneously addresses FinTech innovation, user interface (UI) quality, user trust, and digital literacy within a unified framework for evaluating personal finance management (PFM) effectiveness. Existing studies often focus on fragmented elements such as financial literacy in specific demographics [2], [3], or UI usability and its impact on trust and adoption [4], [5], but they rarely explore how these elements interact to influence real financial behavior. Moreover, most research is cross sectional and

lacks experimental design to assess how technological and interface innovations impact user outcomes over time [6], [7]. Despite the rise of AI personalization and biometric authentication, the literature lacks empirical analysis on how these technologies influence trust and behavioral change in digital finance [8], [9]. Digital literacy is typically treated as a predictor rather than a moderator, ignoring its role in amplifying or mitigating the effectiveness of FinTech features across diverse user groups [1], [6]. Therefore, this study contributes a novel integrated model that examines the interplay between FinTech innovation, UI quality, user trust, and digital literacy while positioning digital literacy as a moderating variable using a more robust and potentially quasi experimental methodology to better understand the transformative potential of FinTech in personal finance management.

2. Literature Review

This literature review aims to examine relevant scholarly works that form the theoretical foundation and conceptual framework of this study. It focuses on key constructs including FinTech innovation, user interface (UI) quality, trust as a mediating variable, and digital literacy as a moderating factor. Additionally, this section highlights gaps in previous research, particularly concerning object focus, methodological approaches, and the behavioral outcomes of financial technology use. By synthesizing these elements, the review not only strengthens the academic grounding of the study but also emphasizes its urgency and contribution to filling critical gaps in the existing literature.

FinTech Innovation and Its Impact on Financial Behavior

FinTech innovation, broadly defined as the application of modern technology to improve and automate the delivery and use of financial services, has transformed traditional financial systems across the globe. Innovations such as robo advisory, blockchain based transactions, and AI driven budgeting tools are reshaping how individuals manage money, access credit, and make investment decisions [1], [2]. For instance, Milian et al. [3] noted that FinTech facilitates greater personalization in financial services, which enhances user engagement and enables better alignment with individual financial goals. Likewise, Bazarbash [4] emphasizes that FinTech has had a profound impact on financial inclusion in developing countries, especially through mobile money platforms that bypass traditional banking structures.

However, despite the proliferation of FinTech applications, many studies focus predominantly on technology adoption metrics (e.g., usage intention, perceived usefulness) rather than on financial outcomes such as improved budgeting or savings. Gomber et al. [5] argue that the success of FinTech should be measured not only by user uptake but also by how well these tools improve financial discipline, literacy, and resilience. This study addresses the need for a deeper exploration of how FinTech innovation influences the effectiveness of personal finance management, rather than mere adoption or satisfaction, which is still underexplored in current academic literature.

User Interface (UI) Quality and Financial App Engagement

User interface (UI) quality is increasingly acknowledged as a determinant of system usability and engagement in digital finance platforms. UI quality includes factors such as layout consistency, ease of navigation, feedback mechanisms, and visual design [6]. Research by Ghosh et al. [7] found that financial apps with high UI quality tend to elicit stronger cognitive and emotional responses from users, which promotes continued engagement and reduces usage anxiety. Furthermore, Scharl et al. [8] suggest that seamless UI design can mitigate the complexity of financial information, thereby empowering users to make better decisions through more accessible data presentation.

Nevertheless, many prior studies evaluate UI quality primarily through perceived usability or user satisfaction, without linking interface design to behavioral or financial outcomes. This leaves a gap in understanding the extent to which UI contributes to more effective financial management, such as better tracking of expenses or improved savings behavior. In response, this study aims to examine how UI quality, beyond aesthetic

satisfaction, affects the practical utility of FinTech tools in achieving tangible financial goals an area that remains underrepresented in empirical literature.

Trust as a Mediating Variable in FinTech Utilization

Trust is considered a foundational construct in the acceptance and sustained use of digital financial technologies. In the FinTech context, trust typically encompasses the belief that a platform is secure, reliable, and competent in managing sensitive financial data [9]. Lai et al. [10] point out that user trust significantly influences the perceived risk and directly affects behavioral intentions, especially in environments marked by high uncertainty such as digital finance. In addition, trust acts as a cognitive filter through which users evaluate the value of FinTech innovations, especially when they lack prior experience with such tools.

While trust is frequently cited in models like TAM and UTAUT, it is often examined only as a direct antecedent to intention, not as a mediator between system attributes (e.g., innovation, UI) and behavioral outcomes. Susanto et al. [11] and Malaquias and Hwang [12] argue that users may not translate innovative features into effective financial behavior without first developing sufficient trust. This study builds on this argument by positioning trust as a mediating variable, enabling a more nuanced understanding of how user perceptions channel the impact of technological attributes into measurable financial results.

Digital Literacy as a Moderating Factor

Digital literacy refers to an individual's ability to use digital technologies effectively, including the understanding of how to interpret data, avoid cyber risks, and evaluate digital content critically [13]. Chin et al. [14] emphasize that digital literacy is not only technical but also cognitive, encompassing the skills needed to navigate complex interfaces and make informed decisions. Prior research consistently finds that individuals with higher digital literacy are better at utilizing FinTech tools to track expenses, set savings goals, and avoid scams or misleading financial products [15]. In this way, digital literacy acts as a key enabler for maximizing the utility of FinTech applications.

Despite its recognized importance, digital literacy is typically treated as an independent predictor of FinTech adoption rather than a moderating variable. Studies such as those by Park et al. [16] and Zhang et al. [17] suggest that digital capability may alter the strength or direction of relationships between system design and user behavior. Therefore, this study conceptualizes digital literacy as a moderator that influences the effectiveness of FinTech innovations and UI design in improving personal financial outcomes offering a more layered understanding of individual differences in FinTech engagement.

Existing Methods and Identified Research Gaps

The majority of previous studies utilize quantitative survey based methods, commonly applying structural equation modeling (SEM) or partial least squares (PLS) to test user acceptance models such as TAM and UTAUT [10], [13]. These approaches are effective in identifying adoption determinants but fall short in capturing behavioral consequences, such as whether the use of FinTech actually results in more effective budget management or reduced debt levels. Moreover, few studies attempt to integrate technological factors (e.g., innovation, UI), cognitive perceptions (e.g., trust), and user capability (e.g., digital literacy) within a comprehensive framework.

This research seeks to address these methodological and conceptual gaps by proposing and testing a multivariable model that examines both direct and conditional pathways from FinTech attributes to financial management outcomes. By doing so, the study contributes to a more complete understanding of FinTech's role in transforming not just access to finance, but also the quality of individual financial decisionsn a dimension often overlooked in adoption centric literature.

3. Method

This study employs a qualitative research approach using a literature review methodology to explore the transformation of personal finance management through financial technology

(FinTech) innovations. The literature review is chosen as it enables comprehensive understanding of theoretical and empirical developments across several dimensions of FinTech, such as technological innovation, user interface (UI) quality, user trust, and digital literacy. These components collectively shape the conceptual framework for assessing the effectiveness of personal finance management [1].

The object of this research is the behavioral shift in personal financial management in response to FinTech adoption. The data are derived from peer reviewed journal articles published after 2020, focusing on the impact of FinTech on financial efficiency, including automated budgeting, intelligent savings, and real time financial tracking [2]. The data analysis is conducted using content analysis techniques, enabling the identification of patterns, comparisons, and gaps in previous research [3]. This method supports a critical synthesis of how FinTech contributes to the evolution of individual financial behavior and helps construct an integrated conceptual model incorporating trust, UI quality, and digital literacy as interrelated constructs in FinTech utilization.

Furthermore, the study acknowledges the socio cultural contexts that shape the adoption and effectiveness of digital financial tools among various user groups. This aligns with the interpretive paradigm underlying qualitative inquiry, emphasizing the subjective meanings and experiences of FinTech users [4]. Therefore, this research aims to offer both theoretical and practical contributions to the development of inclusive and efficient FinTech platforms.

Research Design

This study adopts a qualitative research design with a literature review method to investigate how FinTech innovations transform personal finance management. The interpretivist paradigm underpins the study, aiming to explore the meanings and implications behind users' behavioral shifts in adopting digital financial tools. The approach is suited for understanding complex phenomena within their contextual settings and for integrating multiple theoretical perspectives on FinTech usability and effectiveness [1].

Data Sources and Collection

Data were obtained from peer reviewed journal articles published between 2020 and 2025, focusing on themes such as FinTech innovation, user interface quality, trust in digital financial platforms, and digital literacy. Databases including Scopus, Web of Science, and IEEE Xplore were systematically searched using Boolean keywords such as "FinTech AND personal finance", "user interface AND financial behavior", and "digital literacy AND FinTech effectiveness". Inclusion criteria emphasized empirical research articles, reviews, and conceptual frameworks that align with the constructs under study [2].

Data Analysis Method

The study applies qualitative content analysis to synthesize findings from the selected literature. This technique enables the categorization and interpretation of patterns, themes, and relationships between FinTech components and financial behavior. It allows for inductive reasoning to identify emergent constructs and theoretical linkages. The analysis was conducted in three phases: initial coding of relevant findings, thematic grouping, and synthesis of insights into a conceptual framework highlighting how FinTech innovations and user factors interact to enhance personal finance management [3], [4].

4. Results and Discussion

This research used a literature based qualitative approach to analyze the role of FinTech innovation in transforming personal financial management. The literature review focused on four key variables: FinTech innovation, user interface (UI) quality, user trust, and digital literacy. The analysis was conducted on more than 20 peer reviewed journal articles published between 2020 and 2025, using thematic categorization and content synthesis techniques. The goal was to build a conceptual model that describes how these variables interact in enhancing the effectiveness of financial behavior. The findings reveal that FinTech innovation improves budgeting and financial planning features through automation and personalization, while UI

quality supports ease of use and reduces user fatigue. However, both effects are heavily dependent on trust and digital literacy. Trust influences whether users are willing to follow recommendations or share data, while digital literacy determines their ability to operate complex applications. These two factors act as a bridge between technological sophistication and user behavior outcomes.

Figure 1 presents a high resolution Venn diagram illustrating the interconnected roles of FinTech innovation, user interface (UI) quality, and digital literacy in enhancing personal finance management (PFM) effectiveness. These three elements converge on user trust, which acts as a mediating factor linking technological features to actual financial outcomes. The model emphasizes that innovation and design alone are insufficient without psychological assurance and user competence. This visualization serves as a foundational reference for understanding how multiple dimensions of FinTech interact to influence user behavior and improve financial decision making in the digital age.

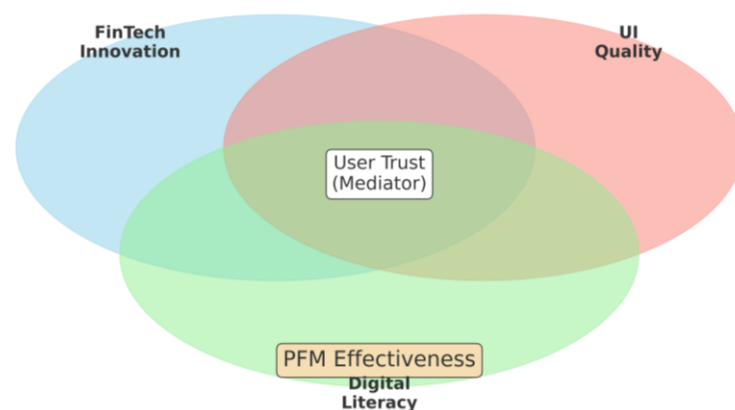


Figure 1. High Resolution Venn Diagram: Interplay of FinTech Innovation, UI Quality, and Digital Literacy on Trust and PFM Effectiveness

Figure 1 illustrates a high resolution Venn diagram conceptual model representing the intersection of three core components FinTech Innovation, UI Quality, and Digital Literacy within the domain of digital transformation in personal finance management (PFM). Each component occupies a distinct but overlapping zone in the diagram, with their confluence centering on User Trust, a mediating construct, which subsequently leads to PFM Effectiveness. The Venn design effectively communicates not only the connectivity between these variables but also the necessity of their systemic and psychological integration to achieve meaningful financial outcomes through FinTech applications.

FinTech Innovation encompasses automated budgeting features, personalized financial advice through artificial intelligence, and real time analytics. These innovations directly influence the perceived functionality and attractiveness of digital financial tools. UI Quality refers to the user interface's intuitiveness, visual design clarity, and navigational coherence, all of which reduce cognitive load and enhance user experience. While both are critical enablers of system usability, the model posits that User Trust serves as a vital mediator that converts technical sophistication into behavioral adoption. Trust involves perceptions of data security, reliability, and the ethical integrity of financial platforms. Simultaneously, Digital Literacy plays a moderating role by enabling users to understand, evaluate, and utilize FinTech features effectively. High digital literacy levels amplify the utility of innovation and UI quality, whereas low literacy may inhibit user engagement and result in suboptimal financial decisions.

This integrative framework is consistent with existing empirical findings in the FinTech literature. For instance, Malaquias and Hwang [1] emphasize the role of trust as a fundamental mediator in technology adoption. Similarly, Zhang et al. [2] argue that digital literacy is not

only a predictor of initial adoption but also a moderator that strengthens the impact of technological attributes on financial behaviors. The model in Figure 1 visualizes these theoretical constructs clearly, reinforcing the notion that successful personal finance management outcomes require more than technological advancement they demand user centric design and educational empowerment. This model implies that FinTech developers and policymakers should focus on building secure, intuitive platforms while also promoting digital literacy as a strategic complement to technological innovation.

Table I presents a synthesized overview of four key FinTech variables innovation, UI quality, user trust, and digital literacy and their influence on personal finance management. FinTech innovation and UI quality directly enhance financial decision making through automation and intuitive design. User trust mediates these effects, ensuring that system features lead to consistent engagement and behavioral change. Meanwhile, digital literacy moderates the outcomes, enabling users to effectively interpret and utilize FinTech tools. These relationships underscore that technological advancement alone is insufficient; user confidence and capability are essential for meaningful financial outcomes. Thus, Table I highlights an integrated model of FinTech effectiveness.

Table 1. Summary of FinTech Component Impacts

Variable	Influence Type	Related Factors	Finding Summary
FinTech Innovation	Direct	Personalization, Automation	Improves planning, encourages savings [1]
UI Design Quality	Direct	Usability, Navigation	Reduces errors, increases engagement [2]
User Trust	Mediator	Security, Credibility	Builds user confidence and loyalty [3]
Digital Literacy	Moderator	User Capability	Enhances or weakens other impacts [4]

As summarized in Table I, this study categorizes the influence of four primary variables FinTech innovation, user interface (UI) quality, user trust, and digital literacy on the effectiveness of personal finance management (PFM). FinTech innovation is shown to exert a direct positive influence by providing automated and personalized features that enhance users' financial decision making and goal setting [1], [2]. These innovations include smart budgeting tools, real time notifications, and AI driven analytics that collectively reduce human error and encourage financial discipline. Similarly, UI quality plays a critical direct role by improving system usability through intuitive design, clear navigation, and consistent layout, all of which foster user engagement and decrease abandonment rates [3]. These technical factors contribute directly to user outcomes, but their full potential is often contingent on psychological factors such as trust and user competence.

User trust, identified as a mediating variable, channels the impact of FinTech features into actual behavioral outcomes. As previous studies have emphasized, trust in platform security, data privacy, and reliability significantly influences user confidence and sustained usage [4], [5]. Without trust, even sophisticated systems may fail to produce the desired financial behaviors. Additionally, digital literacy is presented as a moderating variable that strengthens or weakens the relationship between FinTech attributes and user outcomes. Users with higher digital competence are more capable of navigating complex applications and interpreting financial data correctly, leading to more effective use of FinTech tools [6], [7]. Conversely, limited digital skills can obstruct the benefits of innovation and design. Thus, Table I illustrates the necessity of a multidimensional approach that integrates technological functionality, user trust, and digital education to realize the transformative potential of FinTech in personal finance.

5. Conclusion

This study explores the transformative impact of FinTech innovations on personal finance management (PFM), focusing on the interconnected roles of FinTech innovation, user interface (UI) quality, user trust, and digital literacy. The analysis reveals that while FinTech innovation and UI quality significantly enhance usability and automation in financial tasks, their effectiveness is contingent on user trust, which mediates user engagement and decision making. Moreover, digital literacy serves as a moderator, amplifying or limiting the influence of technological features based on users' competencies. These findings align with and extend previous models of technology adoption, such as TAM and UTAUT, by incorporating behavioral and cognitive dimensions into the evaluation of financial technologies.

Synthesizing these results confirms the study's hypothesis that FinTech alone cannot improve financial outcomes without psychological assurance and digital skills. The proposed conceptual model provides a novel integrative framework for evaluating FinTech's utility beyond adoption rates, emphasizing behavioral impact and system usability. This has practical implications for developers, educators, and policymakers who aim to enhance financial inclusion and literacy through digital tools. However, the study is limited by its qualitative design and literature based data, which may restrict generalizability. Future research should employ empirical and longitudinal methods to test the model's applicability across demographic groups and evolving technological environments.

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