



Evaluating the Effectiveness and User Adoption of Digital Financial Planning Tools: A Study with Reference to Individual Investors

Kokila N^{1*} and Madhumathi T.K²

¹ Research Scholar, School of Economics and Commerce, CMR University, Bangalore, India

² Assistant Professor, School of Economics and Commerce, CMR University, Bangalore, India
kokila.n@cmr.edu.in

Abstract. The rapid proliferation of financial technology (FinTech) has fundamentally transformed how individual investors engage with financial planning and wealth management. This paper evaluates the effectiveness and user adoption of digital financial planning tools among individual investors, with particular reference to the Indian context. The proposed study identified perceived benefits, easy to use the technology, trust, financial literacy and perceived risk factors as a determinant of the behavioral and adoption intention technology based financial planning system. The framework is situated within India's distinctive demographic and economic landscape characterized by a young, digitally engaged workforce, rising income levels, and accelerating financial market participation which provides fertile ground for FinTech growth while simultaneously posing challenges related to trust, risk sensitivity, and financial competence. The paper makes theoretical contributions to the FinTech adoption literature provides insightful ideas for developers, policymakers, and financial advisors.

Keywords: Digital Financial Planning; FinTech; Technology Acceptance Model; Financial Literacy; Robo-Advisors; Investor Behavior; Behavioral Intention; UTAUT; India

1. Introduction

The global financial services industry is undergoing a structural transformation driven by the convergence of digital technologies and evolving behavioural patterns among retail investors. Digital financial planning tools encompassing robo-advisors, mobile investment platforms, algorithm-driven portfolio management systems, and artificial intelligence (AI)-powered advisory engines have emerged as pivotal instruments reshaping investment decision-making at the individual level. By offering personalized, data-driven guidance at a fraction of the traditional cost, these platforms have effectively democratized access to sophisticated financial services once reserved for high-net-worth individuals and institutional investors. India presents a particularly compelling context for examining this transformation. With approximately 34% of its population aged 15 to 34 years and a median age of 28 years as of 2024 (United Nations, 2024), India possesses one of the world's youngest and most economically active demographic profiles. India's changing economic landscape with the growth of middle class to higher income class improved the saving and investing capacity create the opportunity for digital financial planning

investment services. Increased purchasing power across the Tier II and II broadened the potential market, estimated the rise of 458 million investors in 202 to 608 million by 2029, signifies the notable transformation in the investment potentials with diverse investment opportunities. Dun & Bradstreet (2025) proposed that demographic strength and sustained growth accelerated the acceptance of technology driven investment platforms and traditional barriers have been reduced due to the mobile connectivity and user-friendly applications.

Digital financial planning is being increasingly accessed by the users as a result of behavioral context rather than the technological benefits. The willingness to accept the digital platforms are affected by the credibility of the service provider in safeguarding the personal and financial information. Fluctuations in the financial markets affect the investors' confidence and cybercrime and data security threat affect the likelihood of technology adoption. Comprehensive adoption process creates the more inclusive, trustworthy ecosystem facilitates broader investors participation.

Against this backdrop, the present paper pursues four objectives:

- To examine the perceived effectiveness of digital financial planning tools among individual investors.
- To identify the influencing factors on user adoption of digital financial planning platforms.
- To explore the interrelationships among perceived usefulness, perceived ease of use, trust, perceived risk, and behavioral intention within an integrated conceptual framework.

2. Literature Review

2.1 Technology Acceptance and FinTech Adoption

The Technology Acceptance Model (TAM), originally developed by Davis (1989), contends that intentions of individuals to applying the new technology is primarily determined by two cognitive appraisals: perceived usefulness (PU) the belief that using the technology will enhance performance and perceived ease of use (PEOU) the belief that use will require minimal effort. TAM has compiled number of empirical supports across diverse technological and demographic contexts, including extensive validation in financial technology adoption (Venkatesh & Davis, 2000; Pikkariainen et al., 2004).

Recognizing that financial services carry unique characteristics high monetary stakes, regulatory complexity, and pronounced emotional salience researchers have extended TAM to incorporate context-specific constructs such as trust, security concerns, and financial literacy. These extensions acknowledge that generic

technology adoption models, while theoretically powerful, require adaptation when applied to high-stakes financial environments.

The Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2000), synthesizes elements from TAM, the Theory of Planned Behaviour, and several motivational models into a unified framework organized with the constructs of performance expectancy, effort expectancy, facilitating and social influences. UTAUT has demonstrated superior explanatory power relative to constituent models and has been largely utilized in FinTech studies, particularly in emerging economies where sociodemographic moderators including age, gender, and prior technology experience exert significant influence on adoption outcomes.

2.2 The Digital Financial Planning Landscape in India

India's investment landscape has undergone a structural shift toward digital-first platforms across asset classes. In the mutual fund segment, digital platforms distributing direct plans account for approximately 47% of mutual fund Average Assets Under Management (AAUM) as of March 2025. In equities, digital-first brokers now command 76–78% of active clients on the National Stock Exchange (NSE) in FY2025, a dramatic increase from a mere 6–8% in FY2015 (NSE India, 2025). Platforms such as Zerodha, Groww, and Smallcase have redefined investor experience through simplified account opening, micro-ticket investing, thematic portfolio construction, real-time analytics, and embedded risk management tools.

Nevertheless, this growth trajectory is subject to meaningful constraints. Regulatory recalibrations by the Securities and Exchange Board of India (SEBI) including modifications to derivatives contract lot sizes, weekly expiry consolidation, and running account settlement norms alongside competitive pressures from legacy brokerages and new entrants, macroeconomic volatility, and cybersecurity risks, collectively shape the viability and sustainability of the digital financial planning ecosystem. In November 2025, the Reserve Bank of India (RBI) moved toward regulatory simplification by withdrawing 9,445 circulars and consolidating 244 Master Directions, signaling a broader institutional commitment to reducing compliance burdens and improving regulatory clarity (Dun & Bradstreet, 2025). These developments form an important contextual backdrop against which individual adoption behavior must be understood.

3. Conceptual Framework

3.1 Framework Overview

The proposed conceptual framework integrates TAM, UTAUT, and financial literacy perspectives into a unified model of digital financial planning tool adoption. The framework posits that six independent constructs rooted in technology perceptions, relational trust, and cognitive financial competencies collectively determine behavioral intention, which in turn mediates actual adoption behavior.

3.2 Independent Variables

3.2.1 Perceived Usefulness (PU)

Drawing directly from TAM (Davis, 1989), PU reflects the degree to which an individual believes that using a digital financial planning tool will enhance their investment decision-making performance. In the present context, PU is operationalized through four key dimensions: (a) portfolio optimization capability; (b) quality and timeliness of real-time market insights; (c) cost efficiency relative to traditional advisory channels; and (d) breadth of comparative product analysis. Higher levels of PU are hypothesized to positively predict behavioral intention to adopt

3.2.2 Perceived Ease of Use (PEOU)

PEOU captures the extent to which a user perceives a digital tool as free of cognitive or operational burden. Platform intuitiveness, mobile-responsiveness, interface clarity, and onboarding simplicity are primary indicators. Digital-first platforms have invested substantially in user experience design a factor widely credited for their market share gains. Consistent with TAM, PEOU is expected to exert both a direct positive effect on BI and an indirect effect mediated through PU

3.2.3 Trust

In the context of digital financial services, trust encompasses user confidence in the platform's data security architecture, privacy practices, regulatory compliance posture, and the reliability of algorithmic recommendations. Given the high monetary and reputational stakes inherent to financial services, trust is hypothesized to exert a particularly strong influence on adoption intention and to partially attenuate the negative effect of perceived risk on BI

3.2.4 Financial Literacy (FL)

FL refers to an individual's comprehension of core financial concepts including the mechanics of compounding, principles of diversification, risk-return trade-offs, and tax implications that enable informed engagement with financial planning tools. Higher FL is expected to enhance the perceived utility of algorithmic recommen-

dations, reduce adoption resistance born of unfamiliarity, and moderate the negative effect of perceived risk on behavioral intention

3.2.5 Digital Financial Literacy (DFL)

DFL extends FL to encompass competencies specific to digital financial environments, including the ability to navigate online investment platforms, critically evaluate digital financial products, and manage digital security risks. Digital Financial Literacy (DFL) is the ability to access the digital platforms and use the application, and services confidently. Transition of financial transaction to the digital channels demands the digital capabilities to handle the digital financial services. Sound financial literacy strengthens the users perception about the value of digital financial services and enhances the confidence in using the digital financial tools. This DFL enhances the digital competency and maximises the likelihood of accepting the sustained engagement with digital financial services.

3.2.6 Perceived Risk (PR)

Perceived Risk (PR) refers to the evaluation of possible financial losses, unauthorized access to personal information and misuse of sensitive data and negative consequences while using the digital financial services. It is strongly recommended to assess the safety, reliability of system to protect the financial interest, this will influence the confidence in managing the digital financial activities. Perceived risk is expected to negatively affect the individual's intention to accept the digital financial technologies. Financial literacy and trust play a crucial role in creating confidence and minimizing the potential risk.

3.3 Mediating Variable: Behavioural Intention

Behavioral Intention (BI) reflects probability of an individual's willing to engage with digital financial services and take conscious decisions. This is not indicating the actual behavior but the reflect the conscious decision to perform the action. Individuals' intention is influenced by the trust, financial literacy, perceived ease of use and perceived risk and these variables connect the final behavioral outcome. Strong intention to accept or adopt will be converted to actual usage and serves as a foundational pathway to convert the competency to acceptance of digital financial technologies.

3.4 Dependent Variable: Adoption

Adoption indicates the continuous use of digital financial platforms in the daily investment activities and the financial decisions. Integrating the financial analysis and invest-

ment decision to the digital financial system depends on the delivery values, user expectation satisfaction, performance. Positive experience of using digital services encourage regular usage and negative experience force the users to discontinue from the platform. Positive observation and experience provides the stronger evidence of genuine adoption and adoption of digital platform.

4 Discussion

4.1 Theoretical Contributions

The proposed framework contributes to the existing knowledge on the factors affecting the individual's decision to accept the digital financial planning platform and offers comprehensive perspective and theoretical foundation on the adoption of technology. A major contribution for the effect of financial literacy on the digital financial adoption and effect of information, usefulness on the investment decision. Financial literacy strengthens the digital financial platform usage confidence and reduces the uncertainty in the decision-making process. This perspective also evidenced that knowledge and digital competency informed the behavioral intention of adopting the technology. Potential benefits and risk do not just act as a obstacle but also creates uncertainty in adoption of digital financial planning platforms. Trust and perceived risk offer and foundation in addressing the issues like privacy, cybersecurity and system reliability issues. Evolving cyber security challenges and regulatory frameworks are offering comprehensive support to encourage adoption of digital financial planning.

4.2 Practical Implications

For FinTech Firms and Platform Developers

The framework highlights trust-building mechanisms as primary strategic levers. Platforms should invest in transparent data governance policies, third-party cybersecurity certifications, and accessible regulatory compliance disclosures presented in language accessible to retail investors as these directly address the trust and perceived risk dimensions that gate adoption. On the interface design dimension, platforms that minimize cognitive load (enhancing PEOU) while maximizing informational value (enhancing PU) are likely to achieve superior adoption and retention outcomes. Gamified financial literacy modules embedded within the platform experience represent an additional opportunity to simultaneously build DFL and deepen platform engagement.

For Policymakers

The framework underscores the strategic importance of financial literacy programs

both traditional and digital as enablers of equitable FinTech adoption. Targeted investment in digital literacy infrastructure, particularly among underserved demographic segments such as first-generation investors, semi-urban populations, and lower-income cohorts, can simultaneously reduce perceived risk, enhance perceived usefulness, and accelerate adoption. Regulatory frameworks that mandate clear, standardized risk disclosures for digital advisory platforms would further reduce perceived risk and lower adoption barriers. The RBI's ongoing consolidation of regulatory circulars is a positive step; analogous simplification efforts by SEBI in the investor-facing advisory and mutual fund distribution spaces would complement these gains.

For Financial Advisors

The proliferation of digital financial planning tools presents incumbent financial advisors with both a competitive challenge and a strategic opportunity. Advisors who integrate digital tools into hybrid service models augmenting algorithmic efficiency with human judgment, contextual understanding, and relational trust are likely to achieve superior client outcomes and retention. The framework suggests that advisors can serve as trust intermediaries, helping clients navigate the perceived risk of digital platforms while leveraging the cost efficiency and analytical power these platforms provide.

Contextual Considerations

The framework acknowledges that adoption is not a static outcome but a dynamic process shaped by contextual volatility. Market volatility, geopolitical developments (including trade policy shifts and regional conflicts), regulatory changes by SEBI and RBI, and macroeconomic factors such as inflation trajectories and taxation policy modifications can materially alter the perceived risk and perceived utility calculus of individual investors. Foreign Portfolio Investor (FPI) net investment data which have shown significant volatility across recent financial years, including net equity outflows of approximately INR 1,27,041 crore in FY2024–25 and continued outflows in FY2025–

26 reflect broader market sentiment dynamics that influence retail investor confidence and platform engagement (NSDL FPI Data, 2026). The framework implicitly calls for longitudinal and adaptive research designs capable of capturing how these contextual dynamics interact with adoption behavior over time.

5. Conclusion and Future Research

This paper has developed a theoretically grounded conceptual framework for understanding the adoption of digital financial planning tools among individual investors, with a primary focus on the Indian context. By integrating TAM, UTAUT, and financial literacy perspectives, the framework identifies perceived usefulness, perceived ease of use, trust, financial literacy, digital financial literacy, and perceived risk as key determinants of behavioural intention, which in turn mediates actual adoption. The framework situates these behavioural mechanisms within India's distinctive macro-structural context characterized by a demographic dividend, rising affluence, accelerating digitization of investment markets, and a dynamic regulatory environment providing a theoretically rich and practically relevant foundation for future empirical research.

The paper contributes to the growing body of knowledge on digital finance and investor behaviour, offering a conceptual architecture for empirical investigation and actionable insights for FinTech platforms, policymakers, and financial advisors. As digital financial planning tools become increasingly central to the investment ecosystem, understanding the behavioural and structural conditions that govern their adoption is not merely an academic exercise but a practical imperative for building more inclusive and effective financial markets.

References

- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Prentice-Hall.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Dun & Bradstreet. (2025). *Indian FinTech and digital finance market insights*. Dun & Bradstreet Research.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. <https://doi.org/10.2307/30036519>
- Hasan, M., Le, T., & Hoque, A. (2021). How does financial literacy impact on inclusive finance? *Financial Innovation*, 7(1), Article 40. <https://doi.org/10.1186/s40854-021-00259-9>
- Kim, G., Shin, B., & Lee, H. G. (2008). Understanding dynamics between initial trust and usage intentions of mobile banking. *Information Systems Journal*, 19(3), 283–311. <https://doi.org/10.1111/j.1365-2575.2007.00269.x>
- Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of

- TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, 8(3), 130–141. <https://doi.org/10.1016/j.elcrap.2008.11.006>
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5–44. <https://doi.org/10.1257/jel.52.1.5>
- National Stock Exchange of India. (2025). NSE market statistics: Active client data FY2025. NSE India. <https://www.nseindia.com>
- NSDL. (2026). FPI net investments—Financial year data (as at 6 May 2026). National Securities Depository Limited. <https://www.fpi.nsdl.co.in/web/Reports/Yearwise.aspx?RptType=6>
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnla, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research*, 14(3), 224–235. <https://doi.org/10.1108/10662240410542652>
- Potrich, A. C. G., Vieira, K. M., & Mendes-Da-Silva, W. (2016). Development of a financial literacy model for university students. *Management Research Review*, 39(3), 356–376. <https://doi.org/10.1108/MRR-06-2014-0143>
- Securities and Exchange Board of India. (2024–2025). Various circulars on derivatives regulation, mutual fund distribution, and investor protection. SEBI.
- United Nations, Department of Economic and Social Affairs. (2024). World population prospects 2024. United Nations.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

