

Behavioral dynamics of continued usage of trading apps among investors in India: an integrated approach using ECM and TAM model

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Abstract

Purpose – The rapid evolution of mobile technologies has driven the widespread adoption of mobile technologies, transforming the delivery and consumption of digital financial services. Consequently, investors are actively engaging in stock trading by utilizing mobile technology for the purpose of making investment decisions and getting investment information. However, investors' initial adoption does not always lead to continued usage of trading apps. Therefore, the goal of this study is to explore the factors affecting initial and post-adoption behavior of investors integrating the technology acceptance model (TAM) and the expectation-confirmation model (ECM).

Design/methodology/approach – Convenience sampling, a non-probability technique, was used to gather data, and a total of 396 validated questionnaires were collected. These data were further analyzed using partial least squares.

Findings – The findings indicate that perceived ease of use, perceived usefulness, satisfaction and attitude have a positive influence on continued usage and satisfaction ($\beta = 0.292$) was found to be the strongest predictor of continued intention. Additionally, the proposed model explains 62.5% of the variance in continued intention ($R^2 = 0.625$). Furthermore, satisfaction and attitude have a partial parallel mediating effect between perceived usefulness and continued intention. Additionally, a partial serial mediating effect of perceived usefulness and satisfaction on the relationship between perceived ease of use and continued usage regarding trading apps was also found.

Originality/value – This study examines a contextual extension of the TAM and the ECM by examining the post-adoption behavior in the context of Indian trading apps. This study also provides important insights by focusing on the indirect effect through parallel and serial mediating effects of satisfaction, attitude and perceived usefulness, a context that has received comparatively limited scholarly attention.

Keywords Trading app, Continued usage, Technology acceptance model, Expectation confirmation model, Investor behavior

Paper type Research article

1. Introduction

In the contemporary, fast-paced world, the service sector is undergoing paradigm-shifting changes driven by technologies such as mobile applications and artificial intelligence (Chen & Zhang, 2024). FinTech is defined as the use of technology by innovative financial institutions to improve efficiency, service accessibility, and the customer experience (Baker & Nassar (2026)). In recent years, the growth of FinTech has been linked with increasing financial services in developing economies (Amofa, Arthur, Horace Lamptey, & Arthur, 2026; Del Sarto & Ozili, 2025). The spike in smartphone usage has resulted in a proliferation of

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mobile trading applications. This enables investors access to market information, as well as the execution of financial trading transactions with greater ease (Chong, Ong, & Tan, 2021). In such digital environments, user engagement is driven by both system-related factors and application features, including interface design and gamification (Hamari & Koivisto, 2015), indicating the multifaceted nature of user behavior.

Existing studies have been extensively undertaken regarding the initial adoption of financial technology in financial services. It was also studied in smart payment applications (Ali and Subramanian, 2024), digital wallets (Lakshmanan & Shanmugavel, 2025), and mobile payment (Sleiman *et al.*, 2022). With respect to the Indian trading apps context, prior studies have largely focused on the initial adoption of these trading apps, neglecting to examine the users' post-adoption behavior (Gupta & Singh, 2024; Thapa, Panda, Ghimire, & Kim, 2024).

Additionally, prior research work has examined post-adoption behavior of users with respect to fintech investment apps using diverse models and theories. Models such as the Unified Theory of Acceptance and Use of Technology (UTAUT), Technology Acceptance Model (TAM), UTAUT 2, and Expectation-Confirmation Model (ECM) have been explored in non-Indian contexts (e.g. Hadi Putra *et al.*, 2022; Lee, 2009). While UTAUT2 and TCT explain performance expectancy, user expectancy, and cost-related factors, they are efficient in explaining initial adoption. Besides, these models give limited explanatory power in determining post-adoption behavior. On the other hand, TAM is designed to explain initial adoption, while ECM is designed to explain post-adoption behavior by confirming users' satisfaction, making it relevant for explaining continued usage intention.

The empirical focus on post-adoption behavior within the Indian trading app ecosystem has received comparatively little scholarly attention, especially compared to research on mobile payments, digital wallets, and mobile banking. The study addresses an important gap in the fintech continuance literature by shifting the subject matter from initial adoption to continued usage intention.

Moreover, by examining parallel and serial mediation effects involving perceived usefulness, satisfaction, and attitude, the study seeks to expand current knowledge, leading to additional explanatory insights into continuance intention formation. Understanding these indirect routes, especially the serial mediation between PU, PEOU, and satisfaction, provides an increasing understanding of the processes that lead to the formation of continuous intention.

Accordingly, the study makes three major contributions. Firstly, it extended the integrated TAM-ECM model to the relatively underexplored context of Indian trading apps. Secondly, most of the prior work focused on initial adoption; existing work shifts its focus to post-adoption behavior. Lastly, it analyzes the parallel and serial measurement mechanisms to provide comprehensive insight into how continued usage is formulated.

2. Literature review

Financial services all over the world have changed the consumption and usage patterns of individuals with the rapid growth of financial technology. Prior studies focused specifically on users' initial adoption of FinTech applications; recent research has increasingly emphasized continuance intention, as the success of fintech services in the long run depends not only on influencing users but also on retaining them. Systematic reviews of FinTech research highlight that continuance intention is impacted by determinants such as perceived usefulness, perceived ease of use, confirmation, satisfaction, trust, and perceived risk. Abed and Alkadi (2025) and Geidam and Hassan (2024) synthesized numerous studies of fintech literature and focused on the rising significance of post-adoption behavior in illustrating individual long-term engagement with digital services.

Empirical analyses have supported these findings across different FinTech contexts. Seyum, Wang, Zhang, and Wang (2025) employed an integrated TAM-ECM framework in Ethiopia and found that perceived usefulness and satisfaction influence FinTech continuance

intention. Using the Expectation Confirmation Model in Indonesia (Geidam & Hassan, 2024) and Vietnam (Rahman, Nguyen-Viet, Nguyen, & Kamran, 2024), these studies further affirmed the importance of post-adoption factors, such as confirmation and satisfaction, in explaining continued technology use. Yet these studies were carried out on mobile payments, digital wallets, internet banking, and e-wallet services. There are several studies that have applied TAM, ECM, and their integrated or extended forms to explain continuance behavior in different FinTech services, as presented in Table 1.

Although FinTech continuance has been widely explored in different contexts, trading apps have received less attention from a post-adoption continuance perspective. Existing studies on trading apps mainly focused on initial adoption using TAM, TPB, UTAUT, UTAUT2, and UTAUT3 (Amin, Hossain, Hossain, & Fang, 2025; Chong *et al.*, 2021; Kaushal, Bhullar, & Kumari, 2026). However, there is a study by Thapa *et al.* (2024) explaining the continuance usage intention of trading apps by using the SOR theory. These adoption studies are better at explaining initial adoption of trading apps, but they provide limited insights into the post-adoption perspective. This differentiation is important because trading apps are distinct from other FinTech services, as they involve investment decisions, financial risk, and market uncertainty. Therefore, results from general FinTech services may not be fully applied to trading apps.

Across the globe, studies used the TAM, ECM, and their extended forms, incorporating other variables such as trust, awareness, subjective norms, and usage habits in different technology-based services (Alshammari, Almankory, & Alrashidi, 2025; Huda, 2023; Ruangkanjanases, Khan, Sivarak, Rahardja, & Chen, 2024). Studies using TAM and ECM across different studies provide mixed findings. For instance, Al-Emran, Arpaci, and Salloum (2020) identified attitude as the strongest predictor of continuance intention, while others have found satisfaction and perceived ease of use (Daneji, Ayub, & Khambari, 2019). These variations indicate that continuance intention may vary according to countries, technological contexts, and the nature of the digital service.

In the Indian context, studies have applied TAM and ECM models to explain technology adoption and continuance behavior, such as in ride-sharing (Pandita, Mishra, & Bhat, 2025). However, limited attention has been given to this integrated framework for the trading apps, particularly for explaining continuance intention through parallel and sequential mediation, creating a gap for the present study. Therefore, this study examined the integrated TAM-ECM framework to explore continuance intention of trading apps among Indian investors.

2.1 Research context

India is rapidly shifting towards a digitalized economy, thereby making it possible to analyze user continued intention behavior. As can be seen, India ranks among the top globally for mobile broadband subscribers, with over 17 GB of data consumption per user per month (Lahoti, 2024).

Table 1. Previous literature employing fintech services

Author (s) and year	Model	Context
Seyum <i>et al.</i> (2025)	TAM-ECM	Fintech services, Ethiopia
Sleiman <i>et al.</i> (2022)	ECM-UTAUT2	Mobile Payments, Sudan
Pasha, Lewaaelhamed, and Fahmy (2026)	TAM2, ECM, HBM	Internet banking, Egypt
Singh, Jaiswal, and Yousaf (2026)	TAM, EECM	Mobile wallet, India
Rahman <i>et al.</i> (2024)	TCT	Mobile wallet, Vietnam
Ali and Subramanian (2024)	UTAUT2, ECM	Smartphone-based payment services, India
Pandian and Ganesan (2025)	TAM, ECM	Digital wallet

The advancement of financial technologies has led investors to use trading apps rather than sticking to conventional sources for assessing financial information, as well as to execute their trading activities. As of September 2024, India’s total demat accounts hit 175 million, with an average of 4 million monthly for the fiscal year-to-date (FY25), reflecting an increasing trend in trading adoption among individuals (Singh, 2024).

Despite an increase in account registrations, recent studies reflect a decrease in the rate of usage of trading apps in India. In January, the total number of registered users of trading apps across platforms decreased by 1.37%, leading it down to 48.97 million from 49.64 million (Kamath, 2025). The decrease in users may be attributed to various reasons, such as difficulties in using the platform, a lack of fintech knowledge, a poor interface, and poor service quality (Le, Kim, & Park, 2024; Yi, Oh, & Kim, 2025). Thus, this digital environment, with regard to Indian trading apps, makes a suitable context for study.

2.2 Theoretical framework:

2.2.1 Technological acceptance model:. TAM has evolved from the Theory of Reasoned Action (TRA), which was established by Ajzen and Fishbein in 1980 (Ajzen, 1991). The TAM model, on the other hand, was established by Fred D. Davis (Davis, 1989). It explains individual technological adoption behavior in order to provide a theoretical context specifically for modeling a user’s willingness to use information systems (ISs) and information technology (IT). The TAM model concentrates on the elements that influence people’s intentions to use or reject new technology when it is offered to them (Chen & Lin, 2018). It explains the user’s new technological adoption behavior with the help of two key elements, i.e. perceived ease of use and perceived usefulness (Barry, Haque, & Jan, 2024). Figure 1 illustrates the TAM model, which helps to identify the factors that lead to the initial adoption of trading apps. Prior studies have used this theory to examine the acceptance of self-service innovation technologies, such as online banking (Estrella-Ramon, Sánchez-Pérez, & Swinnen, 2016), and fintech payment services (Sharma, Jangir, Gupta, & Rupeika-Apoga, 2024).

2.2.2 Expectation -confirmation model. The Expectation Confirmation Model has its origin in Oliver’s Expectation-Confirmation Theory (ECT) (Oliver, 1980), which was initially formulated to examine user repurchase intention. The ECM model, developed by Bhattacharjee (2001), posits that post-purchase satisfaction is determined by expectations and perceived performance, which in turn influence the desire to repurchase (Hsu, Chang, & Chuang, 2015). Figure 2 illustrates the original ECM model. Since the ECM model emphasizes post-adoption behavior, this model investigates individuals’ continuance intention to use trading apps.

2.2.3 Integration of TAM and ECM model:. There are various models and theories that have been used to explain user behavior in financial technology applications, particularly trading apps, such as UTAUT, TAM, Technology Continuance Model (TCT), Theory of Planned

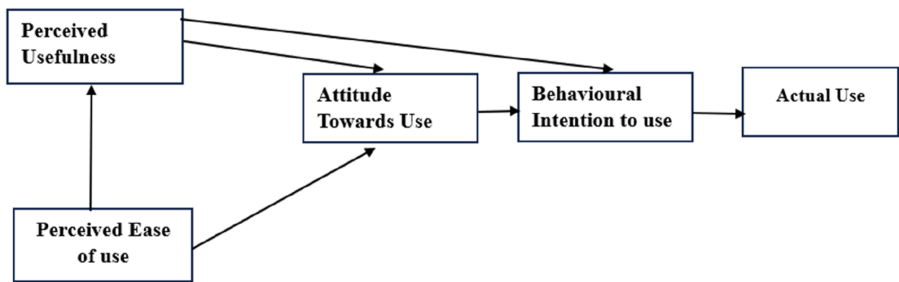


Figure 1. TAM model. Source: Davis (1989)

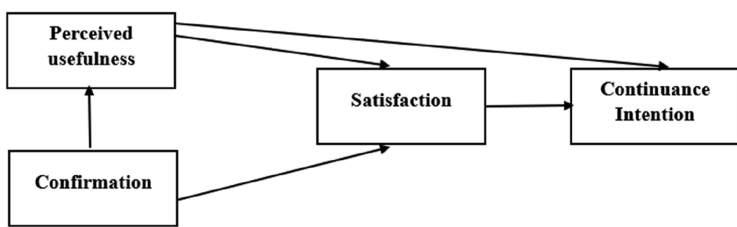


Figure 2. ECM model. Source: Bhattacharjee (2001)

Behavior (TPB), Theory of Flow, UTAUT 2, and ECM (Thapa *et al.*, 2024; Ali & Subramanian, 2024). However, to conduct this research, we have integrated TAM-ECM models, as depicted in Figures 3 and 4. Figure 3 shows the proposed research model for the study, and Figure 4 depicts the mediation paths. The UTAUT/UTAUT2, TPB, S-O-R, Flow Theory, and TCT have not been used because they primarily focus on initial adoption rather than on post-adoption behavior of users, which is best explained by the ECM model. Thus, by blending these two models, we provide a more comprehensive structure for understanding user initial adoption and continued usage behavior of fintech trading apps. The reason is that single-model adoption cannot provide a broad and contrasting picture of user adoption and continued usage behavior (Malik and Singh, 2022a, 2022b).

3. Research variables and proposed hypotheses

3.1 Perceived ease of use:

The concept of perceived ease of use comes from the TAM model, which refers to the tendency of how a particular system is effortless to use by an individual (Malik & Singh, 2022a, 2022b). According to prior researchers, if the information system (IS) is convenient to use, there is a continuance intention to use cloud technology. In the words of Legris, Ingham, and Collerette (2003), PEOU has a direct influence on PU, such as in technological products like electronic commerce platforms (E-commerce) (Ruangkanjanases *et al.*, 2024). In prior literature, the significant influence of PEOU has also been found on customer satisfaction with respect to digital learning and students’ intention to use the learning management system (Al-Mamary, Abubakar, & Abdulrab, 2024). Thus, based on past studies, the following hypothesis is formulated:

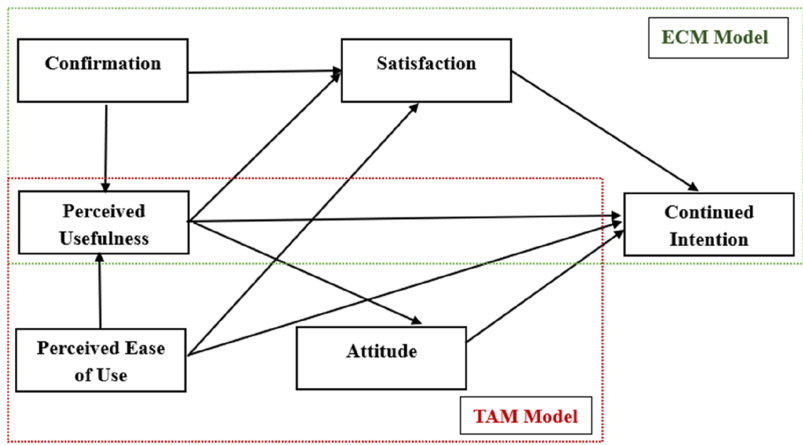


Figure 3. Proposed research model. Source: Authors’ compilation

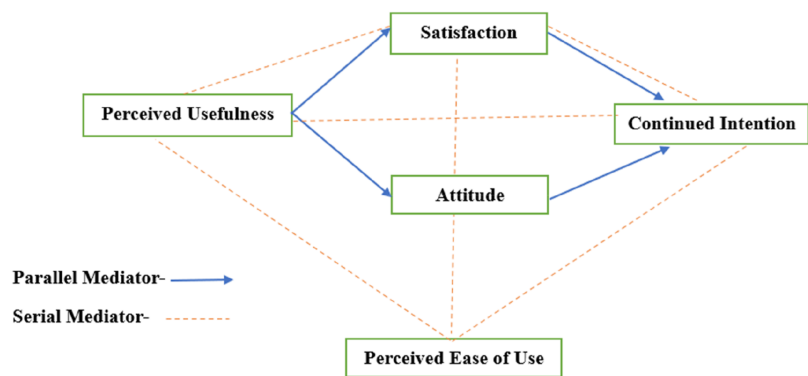


Figure 4. Mediation model. Source(s): Authors’ compilation

- H1. PEOU has a significant positive influence on CI
- H2. PEOU has a significant positive influence on PU.
- H3. PEOU has a significant positive influence on satisfaction

3.2 Perceived usefulness:

Perceived usefulness is the extent to which an information system is deemed to be advantageous for carrying out a particular goal (Song, 2023). It is linked to the operational aspects of IT use, as well as user assessments of the predicted benefits of using IS (Cho and Jeon, 2023). Studies in different contexts derived from the ECM model have confirmed that the usefulness of IS leads to satisfaction with the system (Song, 2023). So, this study assumes that PU affects the satisfaction of using trading apps. PU is also found to be an important determinant of continued usage (Cho & Jeon, 2023). Thus, the following hypothesis is formulated based on past studies.

- H4. PU has a significant positive influence on user attitude.
- H5. PU has a significant positive influence on satisfaction.
- H6. PU has a significant positive influence on CI.

3.3 Satisfaction:

Satisfaction is one of the vital elements of the ECM Model. According to Bhattacharjee (2001), satisfaction is “an ex-post evaluation of consumers’ initial (trial) experience with the service, and is captured as a positive feeling (satisfaction), indifference, or negative feeling (dissatisfaction)”. If the user feels satisfied with the usage of a particular product, it will lead to continued intention. Several past studies have demonstrated a link between satisfaction and continued intention (Hadi Putra et al., 2022; Daneji et al., 2019). Thus, on the basis of the above literature, we hypothesize:

- H7. Satisfaction has a significant positive influence on CI.

3.4 Confirmation:

Confirmation refers to users’ perception of the congruence between their initial expectations and actual use (Bhattacharjee, 2001). Several past studies have shown that confirmation can have an impact on perceived usefulness and satisfaction. If the user’s initial expectation meets

or exceeds the actual use, it will ultimately lead to user satisfaction (Oghuma, Libaque-Saenz, Wong, & Chang, 2016). The perceived usefulness of various fintech apps is significantly influenced by confirmation (Nguyen & Dao, 2024). Therefore, this study assumes that if the expectations of trading app users are met, it will be useful for trading and also satisfy them; thus, we hypothesize:

H8. Confirmation has a significant positive influence on satisfaction

H9. Confirmation has a significant positive influence on PU.

3.5 Attitude

Attitude refers to an individual's positive or negative feelings about performing the target behavior. Previous studies have pointed out that attitude has a significant impact on continued intention (Al-Emran *et al.*, 2020). Thus, the following hypothesis is formulated:

H10. Attitude has a significant and positive influence on CI.

3.6 Mediation

Prior studies have explored the idea that satisfaction plays a mediating role in explaining post-adoption behavior of technology. In past literature, satisfaction has been found to mediate the link between perceived usefulness and continued intention, indicating that those users who perceive a system as useful will develop satisfaction, which ultimately leads to continued intention to use the technology (Nuralam, Yudiono, Fahmi, Yuliaji, & Hidayat, 2024; Olivia & Marchyta, 2022). Similarly, attitude mediates the relationship between perceived usefulness and continued intention (Liesa-Orús, Latorre-Coscolluela, Sierra-Sánchez, & Vázquez-Toledo, 2023), suggesting that a favorable perception of usefulness will lead to a positive attitude towards apps, which subsequently increases their continued usage intention. Thus, we hypothesize:

H11. Satisfaction also mediates the relationship between PU and CI.

H12. Attitude mediates the relationship between PU and CI.

Apart from the above hypotheses, this study also explored whether perceived usefulness and satisfaction serially mediate the relationship between perceived ease of use and continued intention serially. Thus, we formulate this hypothesis in the context of Indian trading apps, where limited attention has been given in earlier studies:

H13. PU and satisfaction serially mediate the relationship between PEOU and CI

4. Research methodology

4.1 Measurement items

A total of 27 items from six constructs were obtained from previously validated research, as reported in Table 2. All items related to the constructs were assessed using 5-point Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree).

4.2 Data collection

Data collection was done with the help of convenience sampling. This strategy was selected because of its high response rate (Bhat, Majumdar, & Mishra, 2020) and the convenient availability of respondents (Etikan, Abubakar Musa, & Sunusi Alkassim, 2016). Although this sampling approach limits the generalizability of the research, this technique was employed as the main purpose of our study was to test the theoretical relationship rather than to predict population parameters. A cross-sectional approach was employed in the current study rather

Table 2. Scales used in the study

Variables	Number of items	Authors
Perceived Usefulness	5	Chong <i>et al.</i> (2021), Venkatesh and Davis (2000)
Perceived Ease of Use	5	Chong <i>et al.</i> (2021), Venkatesh and Davis (2000)
Attitude	8	Davis (1989)
Confirmation	3	Lee (2009), Oghuma <i>et al.</i> (2016)
Satisfaction	4	Bhattacharjee (2001)
Continuance Intention	3	Liao, Palvia, and Chen (2009), Lee (2009)

than a longitudinal approach, as the latter involves a long time period, which was not feasible in the current study due to time constraints. Since respondents had prior usage experience of trading apps, the survey assessed their perception of all constructs based on their experience with trading apps.

An online semi-structured questionnaire was developed to gather responses from users of investment applications across India. Data collection was done from December 2024 to April 2025. The respondents were assured that the information they supplied would be used solely for research and academic purposes. A total of 415 responses were received; however, after excluding incomplete responses, 396 valid responses remained for the analysis. G*Power software was used for the initial power analysis to find out the minimum sample size for analysis in PLS-SEM, based on the number of predictors in the model (Hair, Sarstedt, Matthews, & Ringle, 2016). Thus, taking a medium effect size ($f^2 = 0.15$), a significance level of $\alpha = 0.05$, and a statistical power of 0.80, the minimum required sample size obtained was 114 respondents. Besides this, the sample size considerably exceeds the minimum of 200 instances recommended by Hair (2009) and Thapa *et al.* (2024) for structural equation modeling.

4.3 Demographic profile of respondents

Table 3 summarizes the demographic characteristics of the final sample. Females represent 50.25%. The majority of respondents are younger, belonging to the 19–29 age group. Groww emerged as the most favored investment trading app (42.93%), followed by Zerodha and Paytm Money. Usage frequency varied, with 25.51% using the app only once a month, reflecting a mix of regular and occasional investors.

4.4 Common method bias

Several procedural remedies were implemented to reduce common method bias. Respondents were assured of anonymity and confidentiality; the question items were arranged carefully; and the validated scales were used in previous studies. Additionally, Harman’s single-factor test was evaluated to detect CMB (Harman, 1967). CMB is deemed to exist when a singular variable explains over 50% of the variance in the extraction factor (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Khahar, Vafaei-Zadeh, Hanifah, & Ramayah, 2025). This investigation indicates that a single component represented 47.28%, which is below the threshold limit. As the value is close to the threshold, Harman’s test was not treated as the sole evidence. The results show that CMB is unlikely to severely bias the findings, as other remedies have also been applied.

5. Data analysis

PLS-SEM was determined to be the most effective analytical method rather than CB-SEM, given the non-normal distribution of the data and the study’s expected outcome goal. It is also

Table 3. Demographic profile of respondents

Measures	Variables	Absolute	Percentage
Gender	Male	197	49.75
	Female	199	50.25
Age	19–29	317	80.05
	30–39	59	14.90
	40–49	17	4.29
	Above 50	3	0.76
App Use for Investment	Groww	170	42.93
	Uptock	46	11.62
	Zerodha	81	20.45
	Paytm Money	66	16.67
	Angle One	12	3.03
	Rudra	2	0.51
	Axis Direct	1	0.25
	Kotak811	1	0.25
	PhonePe	4	1.01
	Fundz Bazar	1	0.25
	ICICI Direct	2	0.51
	5 Paisa	1	0.25
	InvesAp	2	0.51
	RIISE App	1	0.25
	IndMoney	1	0.25
	SIP Fund	2	0.51
	Nippon	1	0.25
	NJ Wealth	1	0.25
	Religare	1	0.25
Frequency of Use	More than 7 times a week	80	20.20
	3–6 times a week	89	22.47
	Twice a week	75	18.94
	2–3 times a month	51	12.88
	Once a month	101	25.51

Source(s): Authors' compilation

well-suited for complex research models that include multiple constructs and mediation effects (Elnadi, Troise, Jones, & Gheith, 2024). The following section shows the result of the measurement and the structural model:

5.1 Measurement model

Initially, reliability and construct validity have been assessed in the measurement model, as illustrated in Table 4. For Constructs' reliability, all constructs exhibiting Cronbach's alpha values exceeding 0.6 are generally deemed acceptable (Al-Mamary *et al.*, 2024), as evidenced by Table 3. Furthermore, the composite reliability surpasses the recommended level of 0.70 for all constructs (Hair, Risher, Sarstedt, & Ringle, 2019; Pandita *et al.*, 2025). Additionally, convergent validity has been assessed by the factor loadings of each variable and AVE. The factor loadings for all variables are above 0.6, surpassing the established criterion (Elnadi *et al.*, 2024; Hair *et al.*, 2016), and the AVE values for all variables are over 0.5 (Bhat, Tiwari, Bhaskar, & Khan, 2024). Thus, the findings affirm the model's reliability and validity. Furthermore, discriminant validity has been evaluated using the HTMT and Fornell-Larcker criteria. The Heterotrait-Monotrait Ratio should be less than 0.85, signifying indistinguishable structures (Khahar *et al.*, 2025). The HTMT values, as indicated in Table 5, range from 0.57 to 0.79, which is below the recommended threshold. Additionally, Fornell and Larcker demonstrate that the AVE of each construct exceeds the squared correlation for each pair of

Table 4. Reliability and convergent validity results

Constructs	Items	Loadings	Alpha	CR	AVE
Attitude (AT)	AT1	0.765	0.915	0.932	0.661
	AT2	0.808			
	AT3	0.823			
	AT4	0.841			
	AT5	0.828			
	AT6	0.809			
	AT7	0.816			
Percieved Usefulness (PU)	PU1	0.789	0.865	0.903	0.65
	PU2	0.802			
	PU3	0.834			
	PU4	0.789			
	PU5	0.816			
Perceived Ease of Use (PEOU)	PEOU1	0.742	0.842	0.888	0.614
	PEOU2	0.711			
	PEOU3	0.86			
	PEOU4	0.824			
	PEOU5	0.774			
Confirmation (CON)	CON1	0.85	0.855	0.912	0.775
	CON2	0.899			
	CON3	0.891			
Satisfaction (SAT)	SAT1	0.838	0.887	0.922	0.747
	SAT2	0.88			
	SAT3	0.874			
	SAT4	0.865			
Continued Intention (CI)	CI1	0.874	0.869	0.92	0.792
	CI2	0.909			
	CI3	0.887			

Source(s): Authors' compilation

Table 5. Discriminant validity (HTMT ratio)

Construct	1	2	3	4	5
1. Attitude					
2. Confirmation	0.74				
3. Continued Intention	0.77	0.732			
4. Perceived Ease of Use	0.7	0.626	0.701		
5. Perceived Usefulness	0.681	0.568	0.703	0.691	
6. Satisfaction	0.725	0.79	0.797	0.642	0.662

Source(s): Authors' compilation

constructs, signifying the distinctiveness of each construct (Fornell & Larcker, 1981), as displayed in Table 6. Lastly, the variance inflation factor (VIF) for all study components was derived from the full collinearity test proposed by Kock (2015). The findings indicated the absence of multicollinearity, since the VIF values were below 5, with the maximum VIF value recorded at 2.71 (Hair et al., 2016; Bhat et al., 2024).

5.2 Structural model

Bootstrap resampling estimation in PLS was employed to evaluate the proposed hypotheses of the study (Chin, 1998; Khahar et al., 2025). Since one of the primary statistical aims of SEM is to assess the predictive accuracy of the research model, thus, the coefficient of determination

Table 6. Discriminant validity (Fornell-Larcker criteria)

	AT	CON	CI	PEOU	PU	SAT
AT	0.813					
CON	0.656	0.88				
CI	0.691	0.631	0.89			
PEOU	0.619	0.531	0.602	0.784		
PU	0.608	0.489	0.612	0.593	0.806	
SAT	0.654	0.689	0.7	0.555	0.581	0.864

Note(s): PEOU = perceived ease of use; CI = continued intention; PU = perceived usefulness; SAT = satisfaction; AT = attitude; CON = confirmation

Source(s): Authors' compilation

(R^2) and Stone–Geisser's Q^2 value were examined (Hair *et al.*, 2016). Cohen (2013) classifies R^2 values of 0.26, 0.13, and 0.02 as large, moderate, and weak, respectively. According to the specified threshold values, our model demonstrates substantial explanatory power, as the R^2 values for Attitude (0.370), CI (0.618), PU (0.394), and Satisfaction (0.565) coincide with these parameters. Moreover, predictive importance is also validated by Q^2 , which is above 0 (Hu, Yu, Hu, & Li, 2025), to improve predictability. Effect sizes (f^2) were assessed following Cohen (2013), where 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. The f^2 results indicate large effects for PU → Attitude (0.588) and Confirmation → Satisfaction (0.366), a medium effect for PEOU → PU (0.255), and small effects for all remaining relationships. The NFI and SRMR were employed to gauge the model's fit. An adequate model fit was shown by the SRMR value of 0.050, which was less than the recommended cutoff of 0.08. Furthermore, a satisfactory level of model fit for the suggested model was proven by an NFI score of 0.842.

As demonstrated in Table 7 and Figure 5, the findings indicate that all hypotheses have been accepted. The PEOU positively influences CI ($\beta = 0.133$), PU ($\beta = 0.464$), and satisfaction ($\beta = 0.144$); thus, hypotheses H1, H2, and H3 have been accepted. Moreover, PU significantly influences attitude ($\beta = 0.608$), satisfaction ($\beta = 0.258$), and CI ($\beta = 0.155$), resulting in the support of hypotheses H4, H5, and H6 while regarding the direct influence of confirmation on

Table 7. Structural model assessment

Hypothesis	Relationship	B	SD	T-value	P values	Decision	Mediation
H1	PEOU → CI	0.133	0.057	2.337	0.019	Accepted	
H2	PEOU → PU	0.464	0.058	8.025	0.000	Accepted	
H3	PEOU → SAT	0.144	0.056	2.588	0.010	Accepted	
H4	PU → AT	0.608	0.049	12.444	0.000	Accepted	
H5	PU → SAT	0.258	0.053	4.837	0.000	Accepted	
H6	PU → CI	0.155	0.052	2.963	0.003	Accepted	
H7	SAT → CI	0.292	0.066	4.438	0.000	Accepted	
H8	CON → SAT	0.487	0.046	10.525	0.000	Accepted	
H9	CON → PU	0.243	0.055	4.451	0.000	Accepted	
H10	AT → CI	0.240	0.067	3.564	0.000	Accepted	
H11	PU → SAT → CI	0.089	0.025	3.607	0.000	Accepted	
H12	PU → AT → CI	0.041	0.016	2.638	0.008	Accepted	Partial
H13	PEOU → PU → SAT → CI	0.022	0.008	2.642	0.008	Accepted	Partial

Note(s): PEOU = perceived ease of use; CI = continued intention; PU = perceived usefulness; SAT = satisfaction; AT = attitude; CON = confirmation

Source(s): Authors' compilation

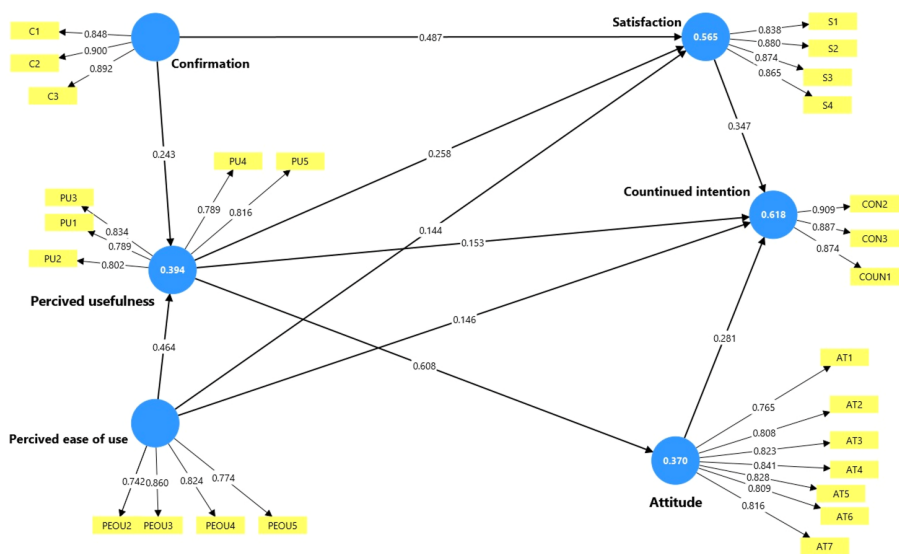


Figure 5. Structural model. Source(s): Authors' compilation

PU ($\beta = 0.292$) and satisfaction ($\beta = 0.487$), the findings demonstrate that confirmation has an impact on both PU and satisfaction, supporting H9 and H8. Lastly, the findings corroborate hypotheses H10 and H7 by confirming that attitude ($\beta = 0.240$) and satisfaction ($\beta = 0.292$) also influence CI.

5.3 Mediation effects

Figure 4 depicts the results of the mediation analysis, indicating that satisfaction and attitude act as parallel mediators between PU and CI, whereas PU and satisfaction serially mediate the relationship between PEOU and CI. Furthermore, the strength of mediation was checked through the variation accounted for (VAF), as recommended by Hair et al. (2016). It is calculated by dividing the specific indirect effect by the total effect. In other terms, partial mediation lacks significance if its VAF value is below 0.2; values between 0.2 and 0.8 often indicate partial mediation, whereas values beyond 0.8 imply full or complete mediation (Hair et al., 2016). The VAF values were 0.665 for the partial mediation and 0.528 for the serial mediation, indicating partial mediation.

6. Discussion

The main aim of the current study is to explore factors influencing the continued intention of trading apps by integrating the TAM and ECM frameworks. The findings provide support for the integrated TAM-ECM in explaining continued usage behavior in digital investment. Rather than only confirming hypothesized relationships, the results show the relative importance of different determinants in shaping continuance intention.

Consistent with the TAM, the effect of PEOU on continued intention is found to be significant. This indicates that if a trading app is easy to use, operate, and learn, users will continue using it for a long time, aligning with the opinions of Huda (2023). Users may feel more confident in executing their investments, since ease of use reduces cognitive effort and operational complexity. However, its relatively smaller effect size compared to PU indicates that investors may prioritize functional performance rather than interface simplicity while

evaluating trading apps. At the same time, PEOU has a strong impact on PU. This shows that simple and effortless trading apps are also perceived as useful for investment purposes. Ease of navigating trading apps may enhance the ability of users to access market information, perform transactions with ease, and monitor portfolios, consistent with previous studies (Ruangkanjanases *et al.*, 2024). However, this is in contrast with the findings of Shrestha and Vassileva (2019), suggesting that, instead of user-friendly apps, other contextual factors may influence users' perceptions of the usefulness of trading apps.

Regarding the effect of PEOU on satisfaction, the findings demonstrate that lower-effort, easy-to-use trading apps enhance users' experience with the apps, thereby reducing the challenges and obstacles associated with their use. Consequently, a reduction in effort and errors will increase their overall satisfaction. These outcomes align with prior studies done by Al-Mamary *et al.* (2024). Furthermore, PU shows the strongest influence on the attitudes of trading app users ($\beta = 0.608$), emerging as the strongest predictor in this model, thereby confirming the TAM model's central role. This aligns with the prior studies, indicating that for trading apps, functional benefits and performance enhancements may be more important to users than an aesthetic interface, as users may choose apps that enhance financial decision-making and portfolio management. When users believe that a trading app is useful and assists them in making better investment decisions, it will broaden their positive attitude toward the app, consistent with TAM-based studies (Rondeau, 2005). Moreover, PU affects both satisfaction and CI, stating that when apps support investors in achieving their investment objective, users may positively evaluate the platforms, ultimately leading to satisfaction and continued intention. Although both are significant, their effect is moderate. The reason may be that, in trading apps, users may often consider other additional variables like system reliability, trust, and risk perception when deciding whether to continue using a platform. These findings provide support for the validity of TAM-ECM integration, as reported by earlier researchers (Huda, 2023; Daneji *et al.*, 2019).

Findings further indicate that satisfaction emerges as the strongest predictor of continued intention. This suggests that investors' decision to continue using trading apps is impacted by their overall experience. As users continuously interact with apps to execute transactions and monitor investments, their satisfaction may be reflected in aspects like transaction efficiency, system design, reliability, and service quality, and this finding aligns with that of Daneji *et al.* (2019).

The ECM model states that when users' initial expectations are met with the actual usage or exceeded, they tend to develop favorable evaluations of the app. The results are consistent with the earlier ECM-based studies (Hadi Putra *et al.*, 2022). This highlights that trading app developers should focus on managing users' expectations and providing better performance. Further, when users' expectations are confirmed by actual experience, it creates a sense of belief in the practical value of apps. This opinion results in a stronger view that the app is an essential tool in their financial decision-making, as supported by Nguyen and Dao (2024).

In addition, the research outcome demonstrates that if a user has an optimistic attitude towards the operation, interface, and utility of the trading app, there is a high chance of retention of the trading app for a long period of time. This finding is supported by prior research (Yadegaridehkordi, Iahad, & Baloch, 2013). Among all the predictors of continued intention to use trading apps, satisfaction is the strongest determinant ($\beta = 0.292$), followed by attitude ($\beta = 0.240$), indicating that developers should prioritize satisfying their app users.

As for the mediating effect, the results provide crucial theoretical insights into the mechanism through which continued intention toward the trading app develops. The study states that satisfaction and attitude mediate the relationship between PU and continued intention in parallel. Although these indirect effects are modest in their effect, they suggest that the impact of PU on continuance behavior is significant. It shows that recognizing functional benefits may not be sufficient in retaining users; rather, these benefits should translate into satisfaction and a positive attitude towards the app. So, service providers should focus not only on usefulness but also on ways to increase users' initial expectations, so that users stick with

the apps for the long-term instead of switching after their initial use. This result extends prior TAM studies by examining post-adoption through parallel mediation in the context of trading apps. This opinion is consistent with previous studies (e.g. [Nuralam et al., 2024](#); [Olivia & Marchyta, 2022](#); [Liesa-Orús et al., 2023](#)).

Furthermore, the study presents insights that PU and satisfaction sequentially mediate the relationship between PEOU and CI. Specifically, this implies that when investors perceive trading apps as easy to use, they are more likely to perceive them as useful for investment. This perception meets or exceeds their initial expectations and ultimately leads to their continued usage of trading apps. This sequential pathway provides an indirect contribution to the effect of TAM-ECM integration in research on Indian trading apps. The consistent support for all hypothesized relationships may reflect the strong theoretical alignment of TAM-ECM constructs in explaining technology continuance behavior. Although all hypotheses are confirmed in this study, the relationships should be interpreted with caution, as this study relies on cross-sectional data and focuses only on Indian trading app users. Overall, the study contributes to the TAM-ECM framework by demonstrating that continuance intention in digital platforms is shaped not only by cognitive evaluations but also by users' post-adoption experiential factors such as satisfaction.

7. Theoretical implications

This research makes an essential contribution to the theoretical understanding of user behavior in the context of financial technologies by combining the ECM and TAM to explain investors' continued use of trading applications. It extends the common application of the TAM model ([Davis, 1989](#)) by examining post-adoption behavior through the lens of expectation confirmation ([Bhattacharjee, 2001](#)). This integration emphasizes that technology adoption is a continuous process influenced by ongoing user experience and satisfaction ([Oghuma et al., 2016](#)). Additionally, the study enriches the literature by identifying both parallel and serial mediation mechanisms. The study provides deeper insights into user behavior by specifically demonstrating satisfaction and attitude as parallel mediators and PU and satisfaction as serial mediators within the TAM-ECM framework. Finally, by contextualizing the framework in Indian trading apps, the study enhances its relevance in emerging digital environments.

8. Practical implication

The findings of the study provide several practical implications for investment platform providers and policymakers. The findings suggest that investment platforms should prioritize reducing the effort required from investors while using the platform. Features such as guided investment journeys, automated portfolio suggestions, simplified risk disclosures, and intuitive dashboards can help investors accomplish investment tasks more efficiently, thereby enhancing both perceived usefulness and satisfaction. The study indicates that investors continue using digital investment platforms when they perceive substantial benefits from their usage. Consequently, platform providers should focus on value-enhancing functionalities, including personalized recommendations, portfolio analytics, goal-based investment tracking, and real-time performance updates. Firms should regularly monitor user experiences through feedback mechanisms, satisfaction surveys, and analyze user engagement to help identify and resolve issues that may hinder investors' willingness to continue using the platform. The results also highlight the critical role of post-adoption experiences in sustaining platform usage. The strongest effect of confirmation on satisfaction suggests that investors' continued usage depends heavily on whether their actual experiences match the pre-adoption expectations. Therefore, platform providers should focus on transparent communication, realistic performance representations, investor education programs, and consistent service delivery to foster positive user experiences. The mediation results provide additional strategic insights. The significant mediating role of satisfaction between PU and CI suggests that

investors must not only perceive value but also experience satisfaction from that value before developing stronger continuance intentions. The study demonstrates that ease of use alone is insufficient to ensure long-term retention. Rather, PEOU enhances CI only when it increases perceptions of usefulness, which subsequently improves satisfaction. Therefore, retention strategies should prioritize user experiences that make investment activities easier, demonstrate practical value, and enhance investor satisfaction.

9. Limitations and future research

Although the study offers several contributions, it still has certain limitations. First, the study is cross-sectional in nature, making it difficult to detect dynamic shifts in user attitudes and satisfaction over time. Future researchers may adopt a longitudinal approach to examine how users' behavior changes over time. Second, the sample was limited to Indian trading app users, which limits the applicability of the results to global contexts where investor behavior may differ due to cultural, economic, or regulatory factors. Future research may conduct cross-country comparisons. Third, the majority of respondents were young, i.e. of age (19–29), which may lead to a lack of generalizability of the outcome. Future work may include respondents of all age groups for a more representative outcome. Fourth, while the reliance on the ECM and TAM model has been justified, it excludes other potentially relevant models, such as the UTAUT or the TCT, which may provide further insights. For the purpose of offering a deeper knowledge of user behavior in digital investment contexts, subsequent research could include these additional theoretical frameworks. Finally, the current work does not incorporate other variables such as trust, risk, digital literacy, and perceived security. Future researchers may include these variables as intervening variables to enhance the explanatory power of the model.

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Ethical considerations

The present study was conducted with strict adherence to ethical research standards to ensure the dignity, rights, and safety of all participants. Prior to participation, the objectives, procedures, and expected outcomes of the research were clearly explained to each participant. Informed consent was obtained, and participants were assured that their involvement was entirely voluntary, with the right to withdraw at any stage without facing any negative consequences.

Confidentiality and anonymity were prioritized throughout the research process. Personal information was not disclosed at any point, and responses were coded to eliminate identifiers. The collected data will be used exclusively for academic purposes and will not be shared with any unauthorized parties.

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