Influence of App Attributes on Customer Experience and Brand Loyalty in Online Stock Trading Platforms

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ABSTRACT

Purpose: This study investigates the role of modifiable attributes in mobile-based financial applications, namely personal financial assistance, ease of transactions, user interface, and security and their influence on customer experience and app loyalty in the Indian fintech landscape.

Design/Methodology/Approach: An empirical approach was employed, drawing responses from 190 users of financial apps across the Delhi-NCR region using a structured online survey. Constructs were measured using validated scales, and data was analyzed using Structural Equation Modeling (SEM). Reliability and validity were confirmed via CFA, and model fit was assessed using indices recommended by Hair et al. (2010).

Findings: The results revealed statistically significant relationships between all four app attributes and customer experience. In turn, customer experience showed a strong positive impact on app loyalty. Among the predictors, user interface and personal financial assistance demonstrated the highest influence, followed by transactional ease and security.

Practical Implications: App developers and brokerage firms should prioritize design simplicity, accessibility features, personalized guidance tools, and robust security mechanisms to enhance engagement and foster customer retention. Experience-centered innovations can create sustainable competitive advantages in the rapidly growing digital finance sector.

Originality/Value: The research contributes to fintech literature by offering a validated multi-construct model that links app features to experiential and behavioral outcomes. It addresses a gap in understanding customer-centric design strategies for mobile financial services in emerging markets.

Keywords: *Fintech, Mobile Trading Apps, Customer Experience, App Loyalty, Structural Equation Modeling, User Interface, Personal Financial Assistant, Ease of Transactions, Digital Security, India*

INTRODUCTION

Stock trading refers to the buying and selling of shares in publicly listed companies, where ownership of stocks equates to partial ownership of the firm. While individuals can trade independently, professional traders categorized as informed, uninformed, or intuitive, often operate on behalf of financial institutions. These professionals are supported by *stockbrokers*, who execute trades and offer services such as equity research, portfolio management, and market advice (Sharma & Kapoor, 2023).

The concept of brokerage in India dates back to the 1850s, when informal trading began under a banyan tree near Mumbai Town Hall. This evolved into the Bombay Stock Exchange (BSE) in 1875, Asia's oldest stock exchange (Erudit Finance, 2024). With the introduction of Sensex, SEBI, and the National Stock Exchange (NSE) in 1992, India's stock market became organized, transparent, and digitized (Trendy Traders, 2024).

The advent of the internet and mobile technology has revolutionized retail trading. *Online brokers* or *e-brokerage firms* offer faster, more cost-effective services than traditional brokers, overcoming inefficiencies like

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time delays and manual errors (Credence Research, 2024). The rise of Information and Communication Technologies (ICT) has made the market more competitive and efficient, especially post-pandemic.

According to FinTech reports, India's FinTech market is projected to reach $2.1 trillion by 2030, with online stock broking technologies expected to grow from $9.2 billion in 2022 to over $74 billion (Mordor Intelligence, 2024). This surge is largely driven by millennials and Gen-Z investors using mobile trading apps such as Zerodha, Angel One, Upstox, Groww, and Binomo.

These apps offer a range of features, *educational tools* like cue-based tutorials and recommendations, *cosmetic design* for ease of use, *security protocols* like biometric authentication, and *performance capabilities* such as multilingual support and fast navigation. These attributes collectively shape customer experience, which in turn influences customer loyalty (Verma et al., 2024; Sharma & Bhargav, 2023).

The objectives of this study are twofold: first, to examine how specific features of mobile trading apps impact customer experience; and second, to assess whether a positive customer experience leads to increased app loyalty. The study proposes a multi-layered conceptual model to explore these relationships, offering strategic insights for brokerage firms and app developers. The paper concludes with theoretical and managerial implications, bridging academic research with industry practice.

CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

App Attributes and Customer Experience

Stock trading, being a domain rooted in analysis and interpretation, demands digital platforms that simplify complex financial decisions. Mobile trading apps that integrate features such as financial literacy tools, robust security protocols, and intuitive user interfaces have proven to significantly enhance user engagement and satisfaction (Verma et al., 2024; Sharma & Bhargav, 2023). These attributes not only reduce cognitive load but also foster trust and long-term loyalty among users. Despite the rapid digitalization of financial services, financial literacy remains alarmingly low in India. According to the Asian Development Bank (2022), only 27% of adults and 24% of women meet the minimum financial literacy standards set by the Reserve Bank of India. This gap underscores the importance of accessible, embedded learning mechanisms within trading apps. Many platforms now offer cue-based educational content including short vlogs, interactive tutorials, and data-driven recommendations that empower users to make informed investment decisions without incurring risk (Lusardi & Messy, 2023). Such features not only democratize access to financial knowledge but also contribute to a memorable and trustworthy customer experience, especially when users feel supported in their learning journey. By aligning app design with behavioral cues and personalized insights, brokerage firms can transform passive users into confident investors.

Personal Financial Assistant and Customer Experience.

In recent years, cue-based financial literacy has emerged as a dynamic approach to improving financial decision-making by embedding learning into real-time, context-sensitive interactions (Kruger et al., 2024). Unlike traditional financial education models, cue-based systems rely on behavioral triggers such as transaction alerts, bill reminders, or spending insights to prompt users toward informed financial actions (Sharma & Kapoor, 2023). This approach aligns closely with the rise of personal financial assistants in mobile applications, which deliver just-in-time financial guidance tailored to individual user behavior (Dhal et al., 2024). These assistants function as embedded literacy tools, translating abstract financial principles into actionable cues that enhance customer experience through personalization, responsiveness, and convenience (Shareef et al., 2025). As financial institutions increasingly adopt AI-driven assistants to foster engagement and trust, the integration of

cue-based literacy mechanisms becomes central to redefining customer-centric service models in digital banking ecosystems (Gupta & Sharma, 2023). Hence, we hypothesize:

H1. *Cue-based financial literacy, as delivered through personal financial assistants embedded in mobile applications, has a significant impact on customer experience.*

Security & Privacy and Customer Experience

In the evolving landscape of mobile and internet-based applications, security and privacy have become non-negotiable elements of customer trust. Users increasingly expect platforms to safeguard their personal data, financial information, and behavioral patterns with robust, transparent mechanisms (Kaasinen, 2005). When these expectations are unmet, users often disengage either by deleting apps or avoiding adoption altogether (Kindberg, Sellen, & Geelhoed, 2004; Malhotra, 2020). Research consistently highlights that outdated or insufficient security features erode user confidence and diminish perceived value (Balapour et al., 2020; Levenson, 2016). In contrast, advanced security protocols, such as biometric authentication, multi-factor verification, and incognito browsing are increasingly viewed not just as protective measures but as enhancers of customer experience, offering both peace of mind and seamless usability (Harris, Brookshire, & Chin, 2016). As mobile trading and financial apps compete for user attention, the strategic integration of security features becomes a key differentiator in shaping user satisfaction, loyalty, and long-term engagement. Hence, we hypothesize:

H2. *The security provided by apps has a significant impact on customer experience.*

Ease of Transactions in Apps and Customer Experience

In the competitive digital trading ecosystem, ease of transactions has become a pivotal feature influencing customer experience. Mobile trading apps that prioritize intuitive functionality, seamless personalization, and accessibility such as push notifications, screen reader support, and scalable text enable broader adoption across diverse user groups (Molinillo, 2022). Additionally, performance attributes like fast load times, minimal lag, multi-device compatibility, and competitive brokerage fees contribute to a frictionless and gratifying trading experience (Kadir, 2024; Maulana et al., 2024). As convenience and clarity drive higher engagement levels, ensuring transactional ease becomes essential to building trust and satisfaction. Hence, we hypothesize:

H3. *Ease of transactions provided by apps has a significant impact on customer experience.*

User Interface and Customer Experience

The user interface (UI) defines the quality of interaction between users and the digital platform, shaping not just usability but emotional perception. Well-structured UIs marked by intuitive navigation, responsive design, clear labeling, and logical flow reduce user friction and create a seamless experience (Pratama et al., 2020; Kumar et al., 2023). Further, multilingual support and accessibility features like speech-to-text elevate inclusivity, enabling trading apps to connect with a wider demographic (IJERT, 2024). When UI design meets user expectations, it directly enhances engagement and satisfaction. Hence, we hypothesize:

H4. *User interface has a significant impact on customer experience.*

User Experience and App Loyalty

Beyond usability, user experience (UX) captures the emotional and cognitive resonance of a customer's interaction with the app. A fulfilling experience makes customers feel empowered and valued, leading to increased trust, retention, and loyalty (Majumder, 2025; Verma et al., 2024). Features that deliver personalization, intuitive support, and responsive performance contribute to lasting satisfaction and a sense of having chosen the "right platform." This trust, once nurtured, translates into long-term app usage and advocacy, reinforcing brand allegiance through emotional and pragmatic engagement (Ajith et al., 2025; MoldStud, 2025). Hence, we hypothesize:

H5. *The user experience with apps has significant impacts on their loyalty towards apps.*

RESEARCH METHODOLOGY

The present study adopts an empirical design to assess customer experiences with financial applications, with a particular focus on users in the Delhi-NCR region of India. The target population consisted of individuals actively engaging in transactions through financial apps. Data was gathered through a structured survey instrument, administered digitally to ensure broad reach and efficiency.

To facilitate widespread participation, a Google Forms link was developed and distributed via email invitations, WhatsApp broadcasts, and social media platforms. This online dissemination strategy was selected to maximize accessibility and rapid response rates among tech-savvy users. Of the 215 responses initially recorded, 190 were deemed suitable for analysis following a thorough screening process; 15 entries were excluded due to incomplete submissions. The study employed a hybrid sampling technique, combining purposive sampling to target respondents who met the inclusion criteria and snowball sampling, wherein existing participants referred others within their networks. This dual approach allowed for a focused yet organically expanding respondent base.

Measurement Development

The survey instrument was structured into two main sections. The first section captured the demographic profile of participants, including variables such as age, gender, and usage familiarity with financial applications. The second section was designed to evaluate the study's core constructs, focusing on users' perceptions of financial apps and their associated loyalty behaviours.

Six constructs were evaluated in total:

- Personal Financial Assistant (PFA): Items adapted from Nicola et al. (2017)
- User Interface: Items sourced from Bianchi et al. (2015)
- Ease of Transaction: Measurement scale from Verma (2020)
- Security: Adapted from Barrera et al. (2012)
- User Experience: Based on scales used by Dirin & Laine (2018)
- App Loyalty: Measured using items from Baek & Yoo (2018)

Prior to full deployment, the reliability of all constructs was assessed using Cronbach's alpha. The results indicated satisfactory internal consistency across all latent variables, confirming the robustness of the measurement model and justifying its application in the main survey.

RESULTS

Demographic Profile of the Sample

The demographic characteristics of the respondents are summarized in Table 1. The final sample comprised 190 valid responses, after excluding 15 incomplete submissions from the initial pool of 215 collected via online survey.

Table 1 provides a detailed overview of the demographic profile of the respondents who participated in the study. Out of 190 valid responses, the majority were male (66.98%), with a significant concentration in the 26–45 age group. Most respondents reported annual incomes between ₹4–12 lakh, indicating a mid-income bracket. Employment-wise, 40.2% were salaried professionals, while a notable portion were self-employed or unemployed. Usage frequency varied, with monthly and weekly engagement being the most common. Financial apps were primarily used for peer-to-peer payments, financial planning, and credit monitoring, highlighting diverse adoption patterns across income and occupational segments.

Table 1: Demographic Profile of Respondents (N = 190)

Element	Category	No. of Respondents	Percentage (%)
Gender	Male	144	66.98
	Female	71	33.02
Age	16–25	24	11.16
	26–35	62	28.83
	36–45	52	24.19
	46–55	48	22.33
	56 and above	29	13.49
Employment Status	Employed	67	40.20
	Student	14	6.51
	Self-employed	45	20.93
	Unemployed	59	27.44
	Retired	30	13.95
Annual Income (INR)	0–2 Lakh	6	2.79
	2–4 Lakh	16	7.44
	4–8 Lakh	76	35.35
	8–12 Lakh	71	33.02
	Above 12 Lakh	46	21.40
Frequency of App Usage	Once a week	47	20.93
	Once a month	62	27.90
	Several times a month	49	21.86
	Quarterly	29	12.55
	Several times a year	37	16.74
Purpose of App Usage	Peer-to-peer payments	58	26.97
	Budgeting and expense tracking	32	14.88
	Investing	29	13.48
	Debt management	19	8.83
	Financial planning	40	18.60
	Credit monitoring	37	17.20

Measurement Model

To examine the relationship between various attributes of financial apps and their impact on customer experience, this study employed Structural Equation Modeling (SEM). SEM is a robust multivariate technique used to validate conceptual frameworks by analyzing latent variable relationships. The methodology followed a two-step approach, beginning with the assessment of the measurement model, followed by testing the structural model.

For the measurement model, Confirmatory Factor Analysis (CFA) was performed to evaluate reliability and validity across six constructs. As shown in Table 2, the reliability indicators—Cronbach's alpha (α), Composite Reliability (CR), and Average Variance Extracted (AVE)—all met the recommended thresholds (α > 0.7, CR > 0.7, AVE > 0.5), thereby confirming both convergent validity and scale reliability.

Table 2: Construct Reliability and Validity

Construct	Items	Factor Loadings	α	CR	AVE
Personal Financial Assistant	PFA1–PFA4	0.781–0.863	0.872	0.882	0.653
Ease of Transaction	ET1–ET3	0.874–0.929	0.881	0.919	0.766
User Interface	UI1–UI4	0.530–0.905	0.815	0.856	0.606
Security	SE1–SE3	0.662–0.883	0.845	0.847	0.734
User Experience	EX1–EX5	0.605–0.839	0.884	0.929	0.690
App Loyalty	AL1–AL3	0.787–0.894	0.876	0.879	0.708

To confirm discriminant validity, a correlation matrix was generated, shown in Table 3, where the square root of AVE (diagonal values) for each construct is greater than its inter-construct correlations, satisfying the Fornell-Larcker criterion.

Table 3: Discriminant Validity (Correlation Matrix)

	PFA	ET	UI	SE	EX	AL
PFA	0.778					
ET	0.471	0.831				
UI	0.529	0.482	0.808			
SE	0.270	0.137	0.193	0.857		
EX	0.470	0.656	0.634	0.168	0.841	
AL	0.283	0.288	0.310	0.544	0.319	0.851

The model fit indices also confirmed the adequacy of the measurement model: Cmin/df = 2.14, CFI = 0.907, TLI = 0.872, AGFI = 0.803, RMSEA = 0.084, all aligning with recommended thresholds (Hair et al., 2010).

Structural Model

Following validation of the measurement model, the structural model was estimated to test the proposed hypotheses. Model fit indices confirmed that the structure was acceptable, with values meeting recommended thresholds suggested by Hair et al. (2010): Cmin/df = 2.228, CFI = 0.916, TLI = 0.889, AGFI = 0.794, and RMSEA = 0.081. These results collectively indicate that the structural model provided a good fit to the data.

Path analysis was then conducted to assess the significance and strength of the relationships between independent and dependent variables. Standardized estimates, standard errors (S.E.), critical ratios (C.R.), and p-values for each hypothesis are presented in Table 4.

Table 4: Hypothesis Testing Results

Path	Estimate	S.E.	C.R.	p-value	Hypothesis Outcome
PFA → EX	0.394	0.147	5.71	***	H1: Supported
ET → EX	0.314	0.107	4.07	***	H2: Supported
UI → EX	0.448	0.050	5.20	***	H3: Supported
SE → EX	0.356	0.074	4.81	***	H4: Supported
EX → AL	0.532	0.097	5.48	***	H5: Supported

Note: ***p < .001. All hypotheses are statistically significant and supported.

DISCUSSION

The findings of the study underscore a growing preference among users particularly men for financial apps that facilitate peer-to-peer payments, investment decisions, and personalized planning. While prior research has often sidestepped the nuanced features of financial apps, this study places a spotlight on the influence of app attributes, namely personal financial assistance, ease of transaction, user interface, and security in shaping the user experience and enhancing app loyalty.

The user interface (UI) emerged as a critical component. A poorly designed interface can lead to confusion, disrupt engagement, and dissuade continued use. In contrast, a streamlined layout with intuitive navigation fosters accessibility and encourages repeat interactions.

Personal financial assistants (PFA) also play a decisive role in guiding users especially in domains requiring financial literacy and informed investment decisions. These intelligent modules help users interpret complex data and make confident choices, functioning as educational touchpoints within the app ecosystem.

Security, as expected, remains a core concern. With users entrusting sensitive financial information to these platforms including bank account details and payment credentials robust security measures like encryption and biometric verification are imperative to build trust.

Ultimately, when these attributes work in synergy, they elevate user experience, creating a seamless and reliable ecosystem that users feel comfortable returning to. As the study illustrates, positive experiences significantly influence loyalty, driving sustained engagement and deepening the relationship between users and financial apps.

MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

Based on the findings of this study, several managerial implications emerge with direct relevance to the strategic development and optimization of financial apps. Foremost, app developers and brokerage firms should prioritize the integration of contextual financial guidance through AI-powered personal financial assistants. These tools not only support transaction-related decisions but also deliver real-time, personalized financial literacy cues that enhance user confidence. Ensuring transactional ease via fast processing, low friction navigation, and device compatibility must also be central to the design philosophy, as it directly influences user satisfaction and repeated usage. In parallel, the user interface should be inclusive, intuitively navigable, and accessible across linguistic and demographic boundaries, incorporating regional language support and assistive technologies like text scaling and speech-to-text features. Security remains a pivotal concern, and firms must embed multi-layered authentication protocols and transparent data privacy controls to establish user trust. Collectively, these attributes contribute to elevated user experiences that not only satisfy functional needs but also build emotional and pragmatic loyalty. Therefore, managers should treat user experience as a strategic lever for long-term retention, employing post-transaction feedback loops, community-building features, and behavioral incentives that transform app use from a utility into a relationship.

LIMITATIONS AND FUTURE SCOPE

While the study presents a strong model for evaluating the relationship between app attributes and customer experience, it is not without limitations. The geographical scope was restricted to the Delhi-NCR region, which may limit generalizability across India's diverse financial user base. The sample also showed gender and income imbalances, which may influence adoption behaviour patterns. Moreover, the cross-sectional nature of data does not capture longitudinal shifts in app usage or loyalty trends.

Future research could expand by incorporating comparative analyses across regions, including Tier-2 and Tier-3 cities. A longitudinal design would help track how experience evolves over time and how loyalty may be influenced by updates, external events, or market dynamics. Additionally, exploring AI-driven personalization, gamification elements, or the role of trust-building design features could deepen understanding of what truly drives retention in digital financial platforms.

CONCLUSION

This study bridges an important gap in understanding how modifiable attributes of mobile-based financial applications affect user experience and loyalty. It confirms that features such as personal financial assistance, secure interfaces, seamless transactional flows, and intuitive UI design play a decisive role in shaping customer satisfaction. By establishing statistically significant relationships through a validated structural model, the research contributes both theoretical value and practical direction. In an era where digital transformation dominates financial services, crafting apps that are not only functional but behaviourally intelligent can be a game-changer. A thoughtfully designed app can educate, engage, and retain users—converting transactions into trust.

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