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# From brokers to apps: A bibliometric and thematic review of retail investor adoption and satisfaction with online investment platforms in India

**Kajal Jayantbhai Pandya** [1], and **Dr. Gaurang Prajapati** [2]

[1] Scholar, GLS University, Elisbridge, Ahmedabad, India. Email: kajalpandya71@gmail.com
[2] Faculty of Commerce, GLS University, Elisbridge, Ahmedabad, India. Email: Gaurang.prajapati@glsuniversity.ac.in

**Abstract---**Retail investing in India has shifted from branch offices and telephone dealing desks to smartphone applications in less than a decade. Demat accounts passed 21 crore by the end of 2025, and discount and app-based brokers now serve most active clients on the National Stock Exchange. This narrative review examines what existing research says about why Indian retail investors adopt online investment platforms and what shapes their satisfaction and continued use. Drawing on peer-reviewed studies, regulatory reports, and industry disclosures published mainly between 2016 and 2026, the review organises the literature into four themes: technology acceptance and adoption drivers; trust, risk, and security; service quality, satisfaction, and continuance; and behavioural biases, platform design, and investor protection. Four cases (Zerodha, Groww, SEBI's derivatives reforms and the Robinhood enforcement action in the United States) illustrate how platform design and regulation interact. The review finds that adoption research is mature but concentrated on intention rather than actual behaviour, that satisfaction is rarely linked to investment outcomes, and that evidence on non-metro, older and women investors remains thin. Implications for platforms, regulators and educators are discussed, and a research agenda is proposed.

**Keywords---**online investment platforms, retail investors, technology adoption, investor satisfaction, India.

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## 1. Introduction

An Indian household looking to buy shares in the 20th century would have to use a full-service broker, fill out paperwork, and wait for paper certificates. Paper was eliminated with the beginning of dematerialisation, starting in 1996 with the establishment of NSDL and in 1999 with the establishment of CDSL. Online broking eliminated the branch. The smartphone and India's digital public goods (Aadhaar identity, e-signatures, DigiLocker, and the Unified Payments Interface) later lifted most remaining impediments. A first-time investor can open an account, verify their identity and execute a trade in the course of a single app session.

This is reflected in official figures. As of December 2025, India has approximately 21.6 crore demat accounts, with 17.3 crore held at the Central Depository Services Limited (CDSL) and 4.3 crore at the National Securities Depository Limited (NSDL) (Capital Market, 2026). By the end of 2025, the National Stock Exchange (NSE) reported that there were 12.2 crore unique registered investors, while over 24 crore client accounts were holding NSE-listed companies, with individual investors holding the largest 18.75% of the market by the end of 2025 (National Stock Exchange of India [NSE], 2025b). Additionally, the investor base is younger – NSE reported a median investor age of 32 in January 2025, with approximately 40% of investors aged younger than 30 and nearly a quarter being women (NSE, 2025a).

The increase in accounts has not been matched by widespread and/or good participation. According to SEBI's Investor Survey 2025, a gap remains between awareness and investment in securities markets: 63% of households are aware of at least one product offered by securities markets, but only 9.5% invest in securities markets (SEBI, 2025b). Meanwhile, SEBI's research on equity futures and options found that over 1 crore individual investors suffered losses exceeding ₹1.8 lakh crore (SEBI, 2024a) in the 3 years starting FY22. The online platforms are at the core of both narratives. They have also increased accessibility, making high-risk trading and high-frequency trading easier.

This tension is of relevance to researchers, firms and regulators. The adoption of trading and investment Apps is the subject of a growing number of studies, typically using technology acceptance models. In contrast, fewer studies address satisfaction and continued use. These studies are dispersed across finance, IS, and marketing journals; they use various constructs and are not connected. Actual investor behaviour is rarely connected to academic research and is often better captured by regulatory and industry data.

This review addresses this disintegration. The four goals of this research are to: (1) explain the concepts that are most significant for research on online investment platforms; (2) organise the previous research on the adoption and satisfaction with online investment platforms into coherent themes; (3) connect academic research with actual investment platforms and regulatory cases; and (4) highlight research gaps and propose some possible research avenues. It is not a systematic review, and it is not a narrative. Sources were selected for their relevance to Indian retail and online/app-based investors, as well as for being peer-reviewed sources and official reports published between 2016 and 2026, with limited underlying theory. In this context, 'bibliometric' refers to the place and date of publication, rather than formal citation or co-word analysis. The conceptual framework for the review is presented in Figure 1.

## 2. Concepts and definitions

The title of this review joins several terms that are used loosely in practice. Clear definitions matter because studies that appear to examine the same thing often measure different constructs. **Retail investor.** In Indian regulation, a retail individual investor in a public issue applies for securities worth up to ₹2 lakh (SEBI, 2018). In research, the term is used more broadly for individuals who invest their own money in their own name, as distinct from institutions, proprietary traders and foreign portfolio

investors. SEBI's derivatives studies use the category "individual traders" in this broader sense (SEBI, 2024a).

**Online investment platform.** This review uses the term for any internet-based service through which an individual can open an account and buy, sell or hold financial products without a human intermediary placing the order. It covers web and mobile trading terminals of brokers, mutual fund distribution apps, and multi-product apps that combine stocks, funds, IPO applications and payments. Gomber et al. (2018) place such services within the wider "fintech" shift in which technology firms unbundle and rebuild traditional financial services.

**Discount broker.** A broker that charges low flat fees (or none) instead of a percentage of trade value, typically with limited or no advisory service. Zerodha's decision in December 2015 to stop charging brokerage on equity delivery trades is widely treated as the start of this model in India (Kamath, as cited in YourStory, 2022).

**Robo-advisor.** An automated service that recommends or manages portfolios using algorithms, often after a short online questionnaire (Jung et al., 2018). In India, robo-advice is offered mainly through registered investment advisers and fund platforms and is a smaller segment than self-directed trading.
**Adoption.** The decision to begin using a technology. Most studies measure behavioural intention rather than actual use, following the Technology Acceptance Model (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003, 2012).

**Satisfaction and continuance.** Satisfaction is a judgement of the degree to which a product or service fulfils or exceeds expectations. In the context of information systems, Bhattacherjee (2001) found that expectation-confirmation relates to continuance intention, defined as the intention to continue using a system. In investment platforms, satisfaction may be the ease, speed and reliability of the app; may be satisfaction from the service (support, grievance handling); or satisfaction with the investment outcome; studies rarely distinguish between these. Table 1 summarises these definitions and their sources.

**Table 1. Key definitions from the literature**

| Term | Working definition used in this review | Key source |
|---|---|---|
| Retail investor | An individual investing personal funds in their own name, distinct from institutions and proprietary traders | SEBI (2024a) |
| Online investment platform | An internet or app-based service for opening accounts and transacting in financial products without a human order-taker | Gomber et al. (2018) |
| Discount broker | A broker charging low flat fees or zero brokerage, with little or no advice | YourStory (2022); Billionbrains Garage Ventures (2025) |
| Robo-advisor | Algorithm-based portfolio recommendation or management delivered online | Jung et al. (2018); D'Acunto et al. (2019) |
| Adoption (intention) | The stated willingness to start using a platform, shaped by expected usefulness, ease, social influence and enabling conditions | Davis (1989); Venkatesh et al. (2003, 2012) |
| Perceived risk | The user's expectation of possible loss (financial, privacy, performance or security) from using the service | Featherman and Pavlou (2003) |
| Satisfaction | A post-use evaluation of whether the platform | Bhattacherjee |

| Term | Working definition used in this review | Key source |
|---|---|---|
| | met expectations | (2001) |
| Continuance intention | The intention to keep using a platform after initial adoption | Bhattacherjee (2001) |
| E-service quality | The extent to which a digital service supports efficient and effective transactions, including reliability, fulfilment and privacy | Parasuraman et al. (2005) |

**Figure 1. Conceptual framework of the review**

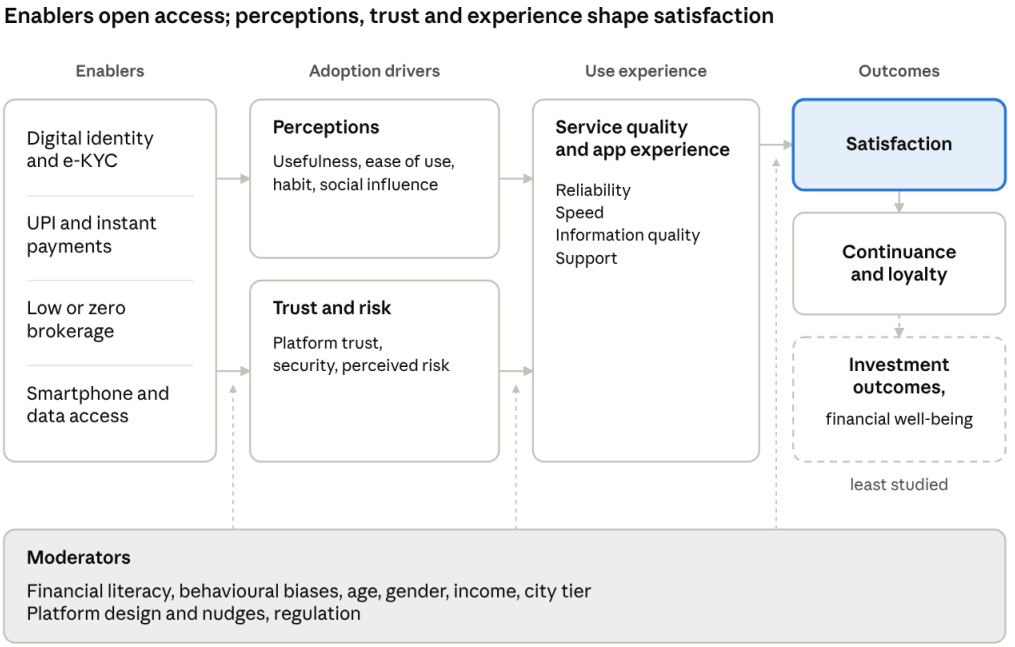



Figure 1 · Conceptual framework of the review

The figure shows the logic followed in the rest of the review: structural enablers lower the cost of entry, perceptions and trust shape adoption, use experience shapes satisfaction and continued use, and individual traits, design and regulation moderate every stage.

## 3. Review of literature

A descriptive reading of the sources gathered for this review shows a clear pattern. Most India-specific empirical studies on trading and investment apps appeared after 2020, following the pandemic-era surge in account openings. They are published across information systems, marketing and finance outlets (for example, *Benchmarking*, *Management Decision*, the *International Journal of Information Management* and the *American Journal of Business*), and nearly all rely on cross-sectional online surveys analysed with structural equation modelling. The strongest evidence on actual trading behaviour, by contrast, comes from regulator datasets in India and from brokerage-account studies in the United States. The literature is grouped below into four themes, shown in Figure 2, and the main studies are summarised in Table 2.

### 3.1 Theme 1: Technology acceptance and adoption drivers

Platform adoption studies are typically focused on technology acceptance. Davis (1989) suggested that attitudes and intentions to a new system are influenced by perceived usefulness and perceived ease of use. Venkatesh et al. (2003) integrated eight previous models to form UTAUT and added hedonic motivation, price value, and habit to the UTAUT model for consumer contexts (Venkatesh et al., 2012). Indian studies generally support these predictors and add constructs related to finance. In 2021, Nair et al. surveyed 507 retail investors. They identified effort expectancy, performance expectancy, and perceived return as the main factors affecting intention to use mobile trading apps, and habit shaping as the factor affecting actual adoption behaviour. Interestingly, perceived risk was less important to respondents than perceived return. Singh et al. (2020) investigated Fintech adoption in India by adapting the technology acceptance model, which revealed that perceived usefulness and social influence significantly affect intention to adopt, with social influence showing a negative effect. In the adjoining area of mobile payments, Patil et al. (2020) modified a meta-UTAUT model by incorporating innovativeness, anxiety, trust, and grievance redressal; the results showed that performance expectancy, intention, and grievance redressal significantly influenced actual use among 491 Indian consumers. Since UPI now allows IPO applications and fund transfers in investment accounts, there is direct applicability for the investment apps as well.

A second strand focuses on structural enablers, not perceptions. In April 2020, SEBI released a circular enabling all online KYC via Aadhaar authentication, e-signatures, DigiLocker, and video-based in-person verification, and eliminating the need for separate in-person verification when Aadhaar-based verification was performed (SEBI, 2020). Previously, SEBI had launched UPI as a payment system for retail IPO applications in January 2019, and all retail IPO applications via intermediaries were to be done using UPI from July 2019 (SEBI, 2019). These changes reduced onboarding costs to the point of making onboarding less relevant, shifting the question from "can investors access the market?" to "why do they choose one app over another, and why do they stay?" Reports also suggest that pandemic lockdowns attracted new retail traders to the markets in the United States. At the same time, NSE has publicly attributed its recent expansion to a standardised mobile trading and KYC process (NSE, 2025b).

### 3.2 Theme 2: Trust, perceived risk and security

Financial services are more concerned with money, personal information, and future products than other technology adoption studies, so trust and perceived risk receive greater consideration. Featherman and Pavlou (2003) demonstrated how financial risk, performance risk, privacy risk, and time risk affect e-services adoption. Investment platforms face three recurring risks in the literature: platform failure during market volatility, misuse of personal and financial data, and fraud by unregistered investment platforms masquerading as brokers/advisors.

Platform failures are well documented worldwide, apart from India. Eaton et al. (2022) used outages at retail brokerages as natural experiments. They concluded that outages increased liquidity and reduced volatility for retail traders on Robinhood, while reducing liquidity and volatility for investors on traditional brokerages. According to SEBI's Investor Survey 2025, awareness of and use of SEBI's grievance redressal system remained low; however, investors who used it reported high satisfaction with the outcomes (SEBI, 2025b). The same survey also found that 62% of investors followed finfluencers' advice and 93% found finfluencers very credible or credible (SEBI, 2025b), suggesting that investors increasingly trust social sources over the platform or the regulator.

One finding across studies is a difference between actual and perceived risk. Although respondents rate security and trust as important, intention-based models typically find perceived risk to have weak or insignificant effects (Nair et al., 2023). One theory is that platform-level risk matters less than speed, cost, and ease because investors feel secure knowing securities are regulated and payments are made via the UPI.

### 3.3 Theme 3: Service quality, satisfaction and continuance

Satisfaction research is smaller and is growing, but is smaller than adoption research. It is theoretically based on the expectation-confirmation model (Bhattacherjee, 2001), the DeLone and McLean (2003) information systems success model (which includes system quality, information quality and service quality as components of use and satisfaction) and the E-S-QUAL scale for electronic service quality (Parasuraman et al., 2005).

One of the few studies in India that directly models satisfaction was conducted by Haripriya and Nandru (2026). From 314 regular users of the AI-based stock trading application, they identified that performance expectancy, social influence, facilitating conditions, self-efficacy, and personal innovativeness increased satisfaction. In contrast, effort expectancy and information quality unexpectedly decreased satisfaction, which in turn predicted continued intention to use. One interesting takeaway from the negative IQ result is that more data and signals might overwhelm less experienced users; the opposite of what we are aiming for.

According to the industry releases, satisfaction and engagement are high on top platforms. According to Groww's offer document, daily active users represented about 56% of monthly active transacting users in FY25, while 77.7% of its active clients had used the platform for more than three years (Billionbrains Garage Ventures, 2025). These metrics measure engagement, but one of the objectives of Theme 4 is to question whether high engagement on a trading app is a measure of investor welfare.

However, Robo-advice research provides a helpful comparison. D'Acunto et al. (2019) examined a robo-advisory service offered by an Indian brokerage firm and identified that the service users experienced less disposition effect and trend chasing effects; previously under-diversified investors experienced a positive effect in terms of diversification, reduction in volatility and return; and previously well-diversified investors exhibited higher trading volume following the introduction of the robo-advisory service. Belanche et al. (2019) surveyed 765 potential users in North America, the UK, and Portugal. They found that attitudes and subjective norms were the most important factors influencing robo-advisor adoption, with familiarity with robots as a potential moderating factor. These studies collectively show that satisfaction with automated advice relates to the user and their initial situation.

### 3.4 Theme 4: Behavioural biases, platform design and investor protection

The fourth theme asks whether easier access leads to better outcomes. There were some early warning signs. Barber and Odean (2002) showed that US investors who shifted to online trading showed increased activity and increased speculation in their trading, and that their trading portfolio returns were worse than market returns. Kumar and Goyal (2015) reviewed overconfidence, herding, disposition, and home bias and concluded that these are pervasive biases among individual investors. Raut (2020) studied an Indian context and concluded that past behaviour (or lack thereof) and financial literacy influence individual investment decisions.

App design plays a part in these biases. Robinhood users showed attention-induced herding toward top-gaining stocks, and their heavy purchases led to negative future returns, as found by Barber et al. (2022). Welch (2022), who examines aggregate Robinhood holdings, finds that the overall Robinhood portfolio timed the market well and beat it between mid-2018 and mid-2020, suggesting the damage is limited to the most active traders, not everyone who uses Robinhood. In 2021, the U.S. Securities and Exchange Commission (SEC) asked for public comment on push notifications, rewards, and game-like features, after acknowledging concern that design influences behaviour.

Data from the Indian regulators highlight the importance of this theme. According to the updated study by SEBI, 93% of the individual traders who traded in F&O between FY22 and FY24 suffered losses,

while more than 75% of the loss-makers continued trading; whereas more than 75% of the individual traders in FY24 reported an annual income less than ₹5 lakh (SEBI, 2024a). This clearly shows how easy access and investor welfare can diverge. On the other hand, behavioural economics holds that platforms can use choice architecture to safeguard customers (Thaler & Sunstein, 2008), and some Indian brokers have included warnings and voluntary trading locks, which Section 4 discusses.

**Table 2. Summary of major studies**

| Author (year) | Context | Method | Key findings |
|---|---|---|---|
| Nair et al. (2023) | Indian retail investors using mobile trading apps | Survey, n = 507; UTAUT with perceived return; PLS-SEM | Effort and performance expectancy and perceived return drive intention; habit drives use; perceived risk weak |
| Haripriya and Nandru (2026) | Indian users of AI-supported trading apps | Survey, n = 314; extended UTAUT; CFA and SEM | Performance expectancy, social influence, facilitating conditions, self-efficacy and innovativeness raise satisfaction; satisfaction predicts intention |
| Singh et al. (2020) | Indian fintech users | Multi-method; adapted TAM | Perceived usefulness and social influence key determinants of intention; social influence negative |
| Patil et al. (2020) | Indian mobile payment users | Survey, n = 491; meta-UTAUT extended with innovativeness, anxiety, trust, grievance redressal | Performance expectancy, intention and grievance redressal predict actual use |
| D'Acunto et al. (2019) | Indian robo-advisor users | Account-level data, users compared before and after adoption | Robo-advice improves diversification for under-diversified investors; mixed effects for others |
| Belanche et al. (2019) | Potential robo-advisor users, North America, UK and Portugal | Survey, n = 765; TAM-based SEM with multisample analysis | Attitude and subjective norms drive adoption; familiarity moderates |
| Barber and Odean (2002) | US investors switching to online trading | Brokerage account data | Trading rose and performance fell after going online |
| Barber et al. (2022) | Robinhood users, US | Holdings and trading data | Attention-induced herding; heavy buying predicts negative returns |
| Welch (2022) | Robinhood aggregate holdings, US | Portfolio analysis | Aggregate crowd portfolio showed good timing and alpha, mid-2018 to mid-2020 |
| Eaton et al. (2022) | US brokerage outages | Natural experiment | Robinhood outages raised liquidity and cut volatility in high-retail-interest stocks; traditional-broker outages did the reverse |
| SEBI (2024a) | Indian individual F&O traders, FY22 to FY24 | Exchange and depository data | 93% lost money; aggregate losses above ₹1.8 lakh crore; most loss-makers kept trading |
| SEBI (2025b) | Indian households | National investor survey | 63% aware of a securities product, 9.5% invest |

**Figure 2. Thematic structure of the literature**

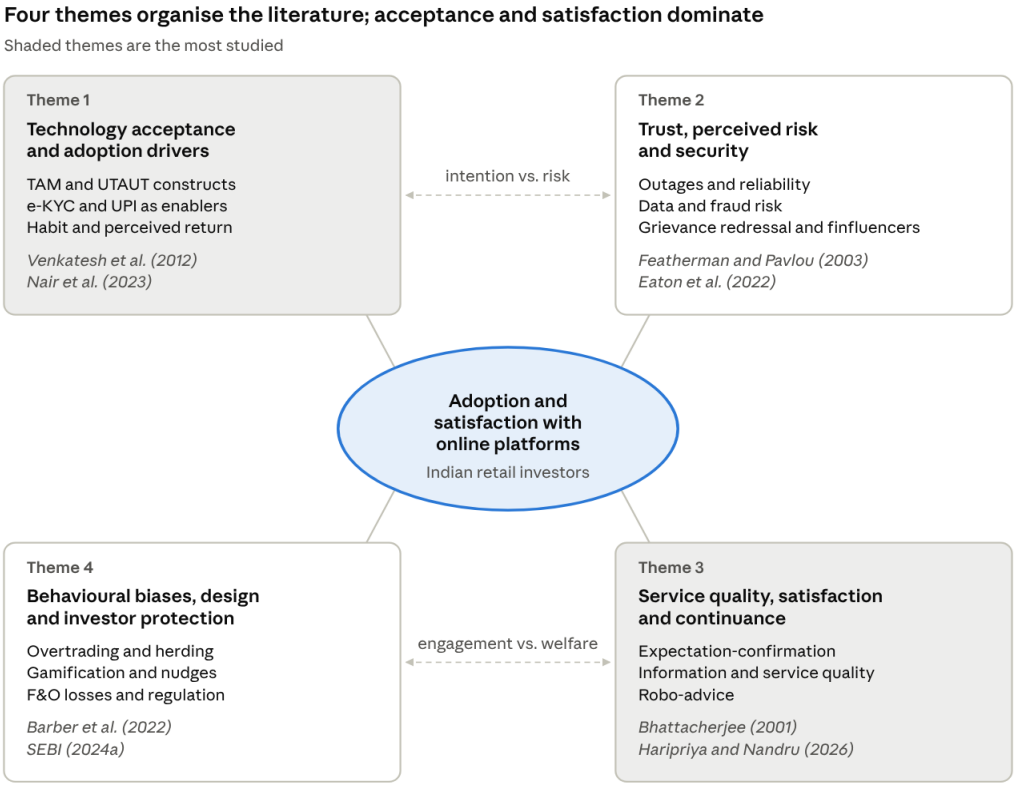



Figure 2 · thematic structure of the literature

Themes 1 and 3 carry most of the published evidence. The dashed links mark the two tensions taken up in Section 5: stated intention versus perceived risk, and engagement versus investor welfare.

## 4. Real-world cases

The four cases below were chosen because each illustrates a different force in the shift from brokers to apps: price disruption, mobile-first scale, regulatory correction and the risks of engagement-driven design. Table 3 compares them, and Figure 3 places them on a timeline.

### 4.1 Zerodha: discount broking and protective design

**Context.** Zerodha was founded in Bengaluru in 2010 by Nithin and Nikhil Kamath as a discount broker, at a time when Indian brokerage was dominated by full-service firms charging a percentage of trade value. The firm was bootstrapped and has not raised outside capital (Christopher, 2022).

**What happened.** Zerodha launched the Varsity education platform in 2014 and its in-house Kite trading app in 2015. In December 2015, it stopped charging brokerage on equity delivery trades, keeping a flat fee for intraday and derivatives trades; the founder has described this as the turning point in the firm's growth (YourStory, 2022). From March 2020, the firm added "Nudges", warnings that discourage or block trades in penny stocks and other risky instruments. Kamath told Rest of World that penny stock volumes as a share of the firm's equity volumes fell by almost 70% after the feature

launched (Christopher, 2022). Zerodha later added a "Kill Switch" that lets traders lock themselves out of one or more segments when they feel they are over-trading (Christopher, 2022).

**Lessons.** Price was the entry point, but design and education shaped how investors used the platform. The Nudge results suggest that simple friction at the moment of decision can change behaviour at scale. The case also shows a tension at the heart of the business: a broker paid per order is paying, in effect, to reduce some of its own revenue, which is easier for a profitable, privately held firm than for a venture-funded one.

### 4.2 Groww: mobile-first scale beyond the metros

**Context.** Groww began in 2016 as a mutual fund app and later added stocks, IPO applications, derivatives, payments and credit. It targeted first-time investors with a simple, mobile-first interface.

**What happened.** According to its offer document, Groww became the largest broker by NSE active clients by September 2023 and had 12.6 million active clients and a 26.3% share of NSE active clients by June 2025 (Billionbrains Garage Ventures, 2025). The same document reported active users in about 98% of Indian PIN codes, with about 81% of active users outside the six largest cities. Groww's shares listed on 12 November 2025 at ₹114 on BSE against an issue price of ₹100 (Business Standard, 2025). Industry data in the offer document put discount brokers' share of active NSE clients at about 76–78% in FY25, up from 6–8% in FY15.

**Lessons.** Simplicity, low cost and a single app for several products can bring large numbers of new investors into the market, including from smaller towns. At the same time, broking remained Groww's main revenue source, and its share of retail derivatives turnover rose sharply in the run-up to listing (Billionbrains Garage Ventures, 2025), linking its growth to the same trading behaviour that SEBI later sought to restrain. Satisfaction and retention metrics are strong, but they say little about whether users' portfolios are doing well.

### 4.3 SEBI's equity derivatives reforms, 2023 to 2025

**Context.** Weekly index options, with low premiums and short expiries, attracted heavy individual trading, and SEBI described trading in them on expiry days as hyperactive (SEBI, 2024b). SEBI's January 2023 study had already found that 89% of individual F&O traders lost money in FY22 (SEBI, 2024a).

**What happened.** In September 2024, SEBI published an updated study showing that 93% of more than one crore individual F&O traders lost money between FY22 and FY24, with losses above ₹1.8 lakh crore (SEBI, 2024a). On 1 October 2024, SEBI issued a circular with six measures (SEBI, 2024b). From 20 November 2024, the minimum contract value for index derivatives rose to ₹15 lakh, each exchange could offer weekly expiry on only one benchmark index, and an additional extreme loss margin was applied to short options on expiry day. From February 2025, brokers had to collect option premiums upfront and calendar-spread margin benefits were removed on expiry day. A SEBI follow-up study found that the number of unique individual traders in equity derivatives fell by about 20% year on year in the six months to May 2025. However, 91% of individual traders still made net losses in FY25 (SEBI, 2025a).

**Lessons.** Regulators can use product design, not only disclosure, to protect investors. The case also shows how platform-level data held by exchanges and depositories can reveal outcomes that survey-based adoption studies cannot. For researchers, it offers a natural experiment to study whether higher friction changes satisfaction, trading frequency, and platform switching.

**4.4 Robinhood (United States): engagement, outages and enforcement**

**Context.** Robinhood popularised commission-free, app-based trading in the United States and attracted many young first-time investors. It is the most studied trading app in the academic literature (Barber et al., 2022; Welch, 2022).

**What happened.** In June 2021, the Financial Industry Regulatory Authority fined Robinhood $57 million and ordered about $12.6 million in restitution, the largest penalty in FINRA's history. FINRA found that the firm had given customers false or misleading information on matters such as margin and account balances, had suffered a series of outages including major failures in March 2020, and had approved some customers for options trading when this was not appropriate (Financial Industry Regulatory Authority [FINRA], 2021). Earlier in 2021, restrictions on buying certain "meme" stocks during the GameStop episode drew wide public criticism and were examined in an SEC staff report on market conditions (U.S. Securities and Exchange Commission, 2021b).

**Lessons.** Rapid growth built on ease and engagement can outpace investment in reliability, customer communication and suitability checks. Trust can be lost quickly when an app fails during volatile markets. For India, where app-based brokers now dominate, the case shows why system resilience, clear disclosures and appropriate product access are part of investor satisfaction, not separate from it.

**Table 3. Comparison of the real-world cases**

| Feature | Zerodha | Groww | SEBI F&O reforms | Robinhood (US) |
|---|---|---|---|---|
| Type | Indian discount broker | Indian multi-product investing app | Regulatory policy | US commission-free trading app |
| Period | 2010 onward | 2016 onward | 2023 to 2025 | 2013 onward; enforcement 2021 |
| Core mechanism | Zero brokerage on delivery; education; behavioural nudges | Simple mobile-first design; one app for several products | Larger contracts, fewer weekly expiries, upfront premium | Zero commission; engagement-oriented app |
| Effect on access | Lowered cost of investing | Brought in first-time and non-metro users | Raised entry threshold for index derivatives | Brought in young first-time traders |
| Effect on protection | Warnings and voluntary trading lock | No comparable protective features found in the sources reviewed | Direct restriction of high-risk trading | Supervisory failures led to record fine |
| Main lesson | Design can reduce harmful trades | Scale and satisfaction do not prove welfare | Product rules can complement disclosure | Reliability and honesty underpin trust |
| Key sources | Christopher (2022) | Billionbrains Garage Ventures (2025) | SEBI (2024a, 2024b) | FINRA (2021); U.S. Securities and Exchange Commission (2021b) |

**Figure 3. Timeline of India's shift from brokers to apps**

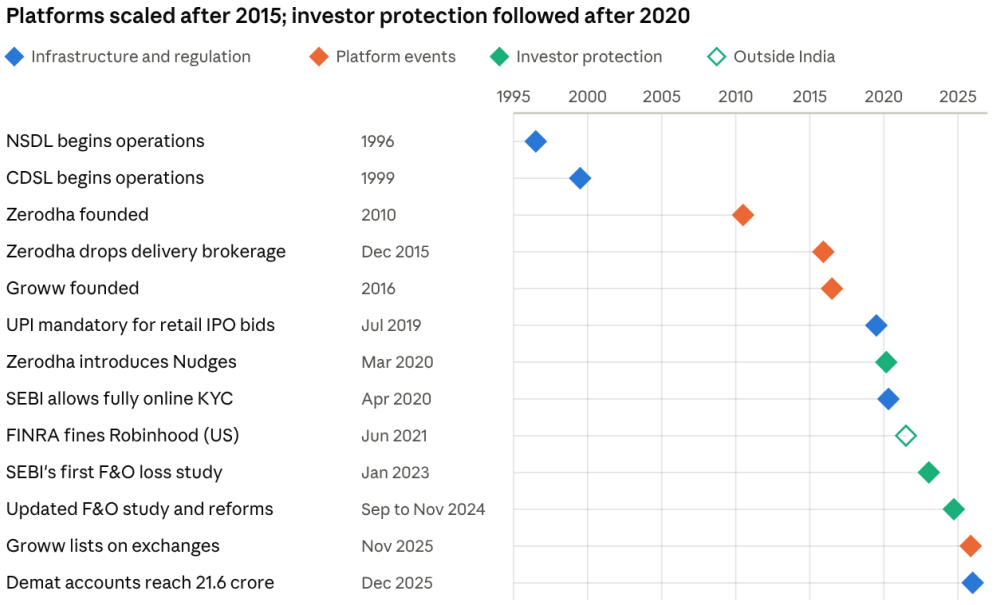



Figure 3 · timeline of the shift from brokers to apps, 1996 to 2025

Each event is placed to scale by date. The depository infrastructure dates from the 1990s, platform growth begins after 2015, and investor-protection measures cluster after 2020. The Robinhood penalty is shown as a hollow marker because it falls outside India.

## 5. Discussion

### 5.1 Main insights

When read alongside the cases, the four themes yield three standout insights.

First, the challenge of accessing investing in India has largely been overcome, but participation has not. Account numbers reflect that opening an account is now nearly free, thanks to online KYC, UPI payments, and zero or low brokerage. However, SEBI's household survey indicates that even when households are aware of investments in securities, access is not the primary concern; rather, lack of understanding and confidence is (SEBI, 2025b). Adoption research that relies on ease of use and usefulness, therefore, helps explain why some people choose to invest, but not why they choose to use an app.

Second, satisfaction with a platform and users' welfare may offset each other. Familiar features of survey studies (speed, ease, habit, and social influence) also facilitate frequent trading. U.S. evidence on online trading (Barber & Odean, 2002) and on Robinhood users (Barber et al., 2022), as well as F&O data from India (SEBI, 2024a), suggest that a smooth experience does not necessarily lead to good results. In some cases, it can lead the investor down the path of losses. Few studies in the literature have measured satisfaction and investor portfolio results for the same investors.

Third, platform design is a dynamic factor, not just a benign conduit. Zerodha's nudges and SEBI's contract-size rules both create friction at certain steps, while engagement-oriented tools help eliminate it. The existing evidence on robo-advice (D'Acunto et al., 2019) indicates that automation can alleviate

some of these biases for certain investors. This implies that research should use design features as variables rather than background characteristics.

### 5.2 Research gaps

These insights reveal several gaps. Most studies in India are snapshots based on online convenience samples, and there is little information on real-world, long-term usage, platform switching, or attrition from the platform/market. Satisfaction is rarely broken down into its app, service and outcome components. While these groups account for a large share of recent growth, evidence of their participation in the stock market is limited, especially for women, older investors, and rural users and investors in non-metro cities (NSE, 2025a). There has been a significant amount of research on the role of vernacular interfaces, finfluencers and social media in adoption and satisfaction, but very little testing. Lastly, Indian research using platform or regulator microdata linking app attributes to trading outcomes remains limited, with the notable exception of studies like D'Acunto et al. (2019).

### 5.3 Challenges

There are practical challenges. Platform data are commercially sensitive, and regulators release data primarily as aggregate reports. Recent market conditions may influence active traders' self-reported satisfaction, and samples collected during bull markets may not generalise. The market is evolving rapidly: New product rules, AI-driven features, and broker acquisitions and mergers can make the process of finding a new product a thing of the past within a couple of years. The main challenge for platforms and regulators is to balance protection of inexperienced investors with the access benefits provided by digital infrastructure.

## 6. Implications

### 6.1 For platforms

The review suggests that a platform should be reliable and effective for communication to be considered satisfactory. The Robinhood incident shows the breadth and speed at which outages and misinformation on accounts can erode trust in the market and among customers, and Eaton et al. (2022) show the impact outages have on markets. Retention investments will likely include system capacity investments for high-volume days, plain-language explanations of margin, charges, and risk, and quick, visible grievance handling.

The same engagement-immersing design strategies can also support better decision-making on platforms. These can be inexpensive tools, and Zerodha's experience demonstrates their potential to influence behaviour at scale (Christopher, 2022), such as warnings before risky trades, cooling-off options, voluntary trading limits or brief explanations at the moment of decision. The study conducted by Haripriya and Nandru (2026) has shown that giving more information could reduce satisfaction levels for some users – information providers should decide how, to whom, and when to provide more information.

### 6.2 For regulators and policymakers

The evidence suggests that disclosure and product-level rules for high-risk segments should continue to move together, as in the 2024 derivatives framework (SEBI, 2024b). The increased frequency of outcome reporting (F&O profit and loss studies) is a good protective measure in itself. It could be expanded to other segments and to broker-level comparisons. According to SEBI (2025b), there is also a low awareness of SEBI's grievance system among the population, despite the majority of the population being satisfied with its usage, presenting yet another easy opportunity – which is to promote redressal channels within broker apps. Given the extent of reliance on finfluencers mentioned in the survey for 2025, rules on unregistered advice and paid promotion need consistent enforcement. Regulators could also review practices akin to digital engagement practices (U.S. Securities and Exchange Commission, 2021a) in India.

### 6.3 For investor educators

Education, given awareness and participation gaps (SEBI, 2025b) and the concentration of losses among young and financially disadvantaged F&O participants (SEBI, 2024a), should focus on understanding risk and long-term investing, not on using an app. The SEBI survey found financial education to be the preferred method, delivered via social media, mobile apps, and digital advertising in the local language (SEBI, 2025b). Investors' existing apps could provide a platform for short, vernacular modules to be co-serviced by educators and platforms.

## 7. Future research directions

The above problems raise questions to be answered in future studies which extend beyond the one-off intention surveys. Table 4 relates each gap to a suggested direction and suitable methods. The best thing that could be done from intention to action would be. Longitudinal panels, which follow the experiences of new investors over two years or longer, or partnerships with brokers to anonymise the information from investors' accounts and link to answers to surveys, would provide information on whether satisfaction is related to increased or decreased success in the portfolio, and whether it is related to increased or decreased likelihood of staying, switching or exiting. The reforms made by SEBI in the derivatives segment in 2024-25 provide a natural experiment to study the impact of additional friction on trading frequency, customer satisfaction and trading platform usage.

A different way is to break down satisfaction. They can assess satisfaction with the user interface of the app, the service and complaints, and the results of the investment separately and then determine which of the three factors is responsible for customer loyalty. The third factor is on under-researched groups such as women investors, older investors, rural users, and vernacular interface users. It would be helpful to be able to analyse the cities by tier, especially since NSE's growth reporting does not correspond to the top ten largest cities (NSE, 2025b).

Finally, new technologies need serious investigation. While AI-driven recommendations and chat assistants in trading apps and algorithmic strategy tools are gaining momentum, early studies (Haripriya & Nandru, 2026) suggest that the effects on satisfaction are not always apparent or predictable. Field experiments can yield causal evidence that survey studies cannot. Field experiments can give causal evidence where survey experiments cannot.

**Table 4. Research gaps and future directions**

| Research gap | Why it matters | Suggested direction | Possible methods |
|---|---|---|---|
| Reliance on stated intention | Intention may not match actual use or outcomes | Link survey responses with actual usage and trading data | Longitudinal panels; broker data partnerships |
| Satisfaction treated as one construct | App, service and outcome satisfaction may diverge | Measure and model satisfaction components separately | Multi-dimensional scales; SEM with comparison of components |
| Satisfaction not linked to welfare | High engagement can coexist with heavy losses | Test links between satisfaction, trading frequency and returns | Matched survey and account data |
| Thin evidence on women, older, rural and non-metro investors | Growth is increasingly coming from these groups | Targeted sampling and subgroup comparison | Stratified surveys; qualitative interviews |
| Limited study of finfluencers and social | Many investors rely on social sources for | Examine how social sources shape adoption, | Content analysis; experiments; surveys |

| Research gap | Why it matters | Suggested direction | Possible methods |
|---|---|---|---|
| media | decisions | trust and trading | |
| Few causal studies of platform design | Nudges and engagement features may help or harm | Test warnings, defaults and friction | Field and online experiments with platforms |
| Effects of regulatory change unclear | Rules such as the 2024 F&O framework change incentives | Evaluate before-and-after effects on participation and satisfaction | Natural experiments; difference-in-differences |
| AI features in trading apps | Rapid adoption with uncertain effects | Study trust, reliance and outcomes of AI tools | Mixed methods; experiments |

## 8. Conclusion

India has one of the fastest growth rates in retail market access globally, from brokers to apps. Account opening has become instant with digital identity, online KYC, and low-cost brokers, as most active investors rely on app-based brokers. This review gathers literature on the reasons for their adoption and satisfaction and categorises it under four themes: technology acceptance, trust/risk, service quality/satisfaction, and behavioural bias/design.

Logically, the literature seems to expand on this idea, suggesting that usefulness, ease, habit, and perceived return on adoption are more relevant to Indian investors than perceived risks. It is less effective at predicting satisfaction and does not predict monetary gains for satisfied users. From a regulatory perspective, especially given SEBI's study on derivatives, this question can't be ignored. Examples like Zerodha, Groww, and SEBI changes show that design choices and the regulatory framework also shape outcomes, alongside investor perceptions.

Future research should assess investor satisfaction with designs over time, include more groups not currently represented, and directly measure design features. Platforms would benefit from creating services that retain users, as users would be more satisfied with the service they receive. Regulators would benefit from safeguarding investors without eroding the access benefits India has achieved.

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