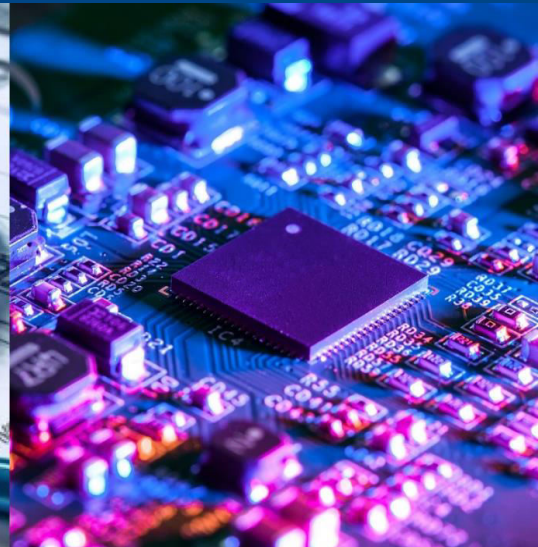
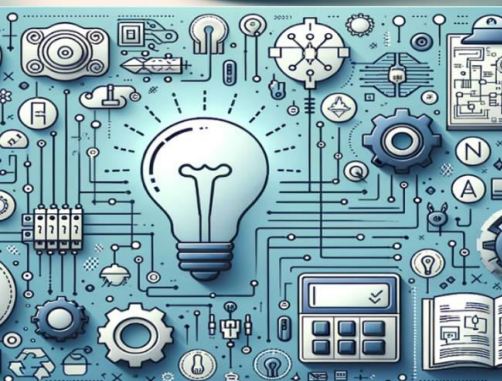




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How Digital Spending and Investing Platforms Influence Financial Behavior: A Systematic Review of Behavioral Biases in Young Consumers and Retail Investors

Adit Bansal

Student, Heritage International Xperiential School, Gurugram, India

ABSTRACT: Digital financial technologies have shifted many financial decisions from periodic, intermediary-led activities to continuously accessible, smartphone-based interactions. This review examines how that shift can influence spending, saving, trading and risk-taking among young consumers and retail investors. The final synthesis draws on 31 academic and institutional sources and is organised around five themes: digital financial platforms and financial behaviour; cognitive and emotional investment biases; social media, investor attention and herding; gamification and platform design; and the financial behaviour of younger users. The quantitative evidence indicates that digital finance is now a mainstream decision environment. The World Bank's 2024 survey of about 148,000 adults across 141 economies found that 79% of adults globally held a financial account, while 62% of adults in low- and middle-income economies made or received a digital payment (Klapper et al., 2025). In the United States, adults aged 18-24 used mobile phones for 45% of all payments in 2024 (Bayeh et al., 2025). Among U.S. Gen Z investors, 48% reported using social media to learn about investing, while 50% reported making an investment because of fear of missing out (CFA Institute et al., 2023). Platform-level studies also report economically meaningful effects. Push-message attention trades carried approximately 19 percentage points more leverage than comparable non-attention trades (Arnold et al., 2022), while smartphone trades were 8 percentage points more likely to involve lottery-type assets and 12 percentage points more likely to involve top-decile past performers (Kalda et al., 2021). Across the literature, overconfidence, loss aversion, anchoring, herding, confirmation bias and related heuristics remain recurrent, although their measurement and magnitude vary considerably by sample and design. The evidence therefore supports a feature-level interpretation: payment friction, notifications, social signals, mobile interfaces and gamified elements can alter attention and choice architecture, but their behavioural effects are context-dependent rather than universal.

KEYWORDS: Digital Financial Platforms; Behavioural Finance; Retail Investors; Mobile Payments; Investor Attention; Gamification; Risk-Taking; Gen Z

I. INTRODUCTION

Digital financial technology has changed not only where financial decisions are made, but also their frequency, speed and psychological context. Mobile wallets, digital banking, online brokerages, robo-advisory services and app-based investment platforms reduce transaction frictions and place payments, market information and execution within the same device. The scale of this transition is substantial. The Global Findex 2025, based on nationally representative surveys of about 148,000 adults in 141 economies conducted during 2024, reports that 79% of adults worldwide now have an account, compared with 74% in 2021. In low- and middle-income economies, 62% of adults made or received a digital payment in 2024, six percentage points above 2021, and 42% made a digital merchant payment, up from 35% in 2021 (Klapper et al., 2025). In the United States, the 2025 Diary of Consumer Payment Choice recorded an average of 48 payments per consumer per month in 2024. Credit cards represented 35% of payments, debit cards 30%, and cash 14%; mobile phones were used for 23% of all payments and 45% of remote payments (Bayeh et al., 2025). These statistics show why the behavioural consequences of digital finance can no longer be treated as a niche issue.



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Figure 1. Digital financial environments and their potential influence on financial behaviour.

Behavioural finance provides a useful framework for studying this environment because conventional models of financial choice assume relatively stable preferences and rational processing, while observed behaviour often reflects cognitive shortcuts, emotional responses and limits to attention. Overconfidence, loss aversion, anchoring, herding, confirmation bias, mental accounting and the disposition effect can influence both investment and consumption decisions. Digital interfaces may interact with these mechanisms by increasing immediacy, reducing payment salience, repeatedly directing attention and displaying social information at the point of choice. Younger users are especially relevant because their financial behaviour is highly mobile-centred. In the Federal Reserve's 2024 diary data, adults aged 18-24 used a mobile phone for 45% of all payments, the highest rate of any age group (Bayeh et al., 2025). In a cross-country survey of 2,872 respondents, 56% of U.S. Gen Z adults aged 18-25 reported owning at least one investment, and 48% of U.S. Gen Z investors used social media to learn about investing (CFA Institute et al., 2023). This review therefore asks not simply whether digital access expands participation, but how particular digital features are associated with spending intensity, trading behaviour, risk-taking and behavioural biases.

II. RATIONALE AND OBJECTIVES

Rationale

Young consumers and retail investors increasingly move between payments, savings, market information and investment execution inside a connected digital ecosystem. Yet the evidence is usually divided into separate research streams. Consumer studies focus on payment salience and spending, behavioural-finance studies focus on investor biases, and financial-technology studies often focus on adoption or interface design. A combined review is useful because the same user may experience several mechanisms in sequence: low-friction payment, algorithmically prioritised information, social proof, a push notification and near-instant transaction execution. Existing evidence also varies greatly in unit of analysis. Some studies use controlled experiments with fewer than 250 participants, others use nationally representative surveys with tens of thousands of respondents, and some analyse more than a million trading observations. Treating these designs as equivalent would be misleading. The purpose of this review is therefore to synthesise both the direction and the magnitude of reported effects while distinguishing experimental findings, observational associations and large-scale descriptive statistics. This approach is especially important when interpreting claims about younger users, whose high digital adoption does not necessarily imply high financial literacy or uniform risk preferences.



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Objectives

1. To systematically review evidence on how digital spending and investing platforms are associated with financial behaviour among young consumers and retail investors, with particular attention to sample size, effect magnitude and research design.
2. To identify and synthesise the principal behavioural biases associated with digitally mediated financial decision-making, including overconfidence, loss aversion, herding, anchoring, confirmation bias, representativeness and related heuristics.
3. To examine how specific platform mechanisms, including payment friction, mobile execution, notifications, social signals and gamification, relate to spending, trading and risk-taking, and to identify where the quantitative evidence remains limited or inconsistent.

III. METHODOLOGY

This study uses a structured systematic narrative review based on secondary evidence. Google Scholar served as the core discovery database, supplemented by direct publisher and DOI verification for journal articles and by official institutional reports when population-level digital-finance statistics were required. Searches combined terms such as "digital payments", "mobile payment", "online investing", "retail investor", "behavioural bias", "overconfidence", "herding", "loss aversion", "investor attention", "gamification", "smartphone trading", "Gen Z" and "financial behaviour". The review prioritised English-language peer-reviewed research published primarily from 2018 onward, while retaining earlier or working-paper evidence when it directly quantified a mechanism central to the research question. Sources were included when they addressed at least one of four elements: a digital financial channel, an observable financial behaviour, a behavioural mechanism or bias, or a relevant consumer or retail-investor population. The final reference set contains 31 academic and institutional sources.

For synthesis, each source was assessed for population and setting, sample or observation count where reported, platform or technology studied, behavioural mechanism, outcome variable, direction of association and numerical effect size when available. Quantitative evidence was not pooled into a formal meta-analysis because the outcomes are not commensurable: studies measure constructs ranging from willingness to pay and payment pain to credit-card behaviour, leverage, asset selection, trading frequency and self-reported risk tolerance. Instead, the review reports percentage-point effects, sample sizes and behavioural shares in their original context and avoids converting observational relationships into causal claims. This distinction is particularly important in mobile-payment and social-media studies, where self-selection can be substantial. The review also separates broad adoption statistics, which establish the scale of digital exposure, from behavioural estimates, which speak to mechanisms. All claims were checked against the cited source, and inconsistent or weakly specified evidence was treated cautiously rather than generalised across platforms or populations.

IV. LITERATURE REVIEW

Digital financial behaviour sits at the intersection of behavioural finance, consumer psychology, financial technology and retail-investment research. The literature is already quantitatively broad. Badola et al. (2024) systematically reviewed 71 peer-reviewed articles published from 2007 to 2021 and identified 24 behavioural biases affecting individual investors. In a separate review of 69 peer-reviewed papers, de Oliveira Cardoso et al. (2024) identified 37 biases; overconfidence, herding, anchoring, representativeness and loss aversion were among the most prevalent. That review also found that most measurement instruments were ad hoc, typically assessed no more than nine biases and reported no more than four forms of psychometric evidence, leaving no accepted gold-standard instrument. These findings matter for digital-finance research because platform effects are often estimated through different behavioural measures. The following five themes organise the evidence and place individual findings within their sample, design and quantitative context.

The following five themes organise the literature relevant to this review.

Theme 1: Digital Financial Platforms and Changing Financial Behaviour

Digital financial platforms reduce the time and effort required to move from intention to transaction. The macro-level shift is visible in payment data. In the United States, consumers made 48 payments per month on average in 2024; 35% were credit-card payments, 30% debit-card payments and 14% cash payments. Mobile phones accounted for 23% of all



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payments, and adults aged 18-24 used a mobile phone for 45% of their payments (Bayeh et al., 2025). Globally, 79% of adults held an account in 2024, while digital merchant payments reached 42% of adults in low- and middle-income economies, up seven percentage points from 2021 (Klapper et al., 2025). These figures measure adoption rather than bias, but they establish the scale at which interface design and payment salience can influence everyday financial choices.

Experimental and household-level evidence suggests that the payment mechanism itself can affect behaviour. See-To and Ngai (2019) found that payment technology significantly changes subjective transactional awareness and can moderate the psychological pain of paying. Liu et al. (2021) tested mobile versus cash payment in two studies, one with 192 participants and a second with 46 students, and found greater willingness to pay under mobile payment under specific conditions. The association is also visible in larger survey data. Meyll and Walter (2019), using more than 25,000 U.S. households from the 2015 National Financial Capability Study, reported that mobile-payment users were 4.9 percentage points more likely to exhibit costly credit-card behaviour after controls. Among mobile-payment users, frequent users were approximately 5.0 percentage points more likely than infrequent users to exhibit such behaviour. These results do not imply that mobile payment mechanically causes overspending, but they indicate that reduced salience and transaction friction can be financially relevant and should be analysed alongside user characteristics such as literacy, income and credit access.



DIGITAL PAYMENT USAGE: ALL CONSUMERS VS. MILLENNIALS



* Aged 23-26 earning \$70K or more annually

Source: <https://theinfiniteand.com/78052/payments-trends-banking-future/>

Figure 2. Relationship between digital payment technologies and consumer spending behaviour.



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Theme 2: Cognitive and Emotional Biases in Retail Investment Decisions

Behavioural finance explains why greater access to information and faster execution do not necessarily produce more rational decisions. The evidence base itself shows substantial heterogeneity. Badola et al. (2024) identified 24 distinct biases across 71 studies, while de Oliveira Cardoso et al. (2024) identified 37 biases across 69 studies. The recurrence of overconfidence, herding, anchoring, representativeness and loss aversion across both reviews suggests that these are not isolated constructs. At the same time, measurement remains a major limitation. In de Oliveira Cardoso et al. (2024), most instruments assessed nine or fewer biases and provided four or fewer types of psychometric evidence. Consequently, a reported increase in a particular bias should be interpreted in light of how that bias was operationalised rather than treated as directly comparable across every study.

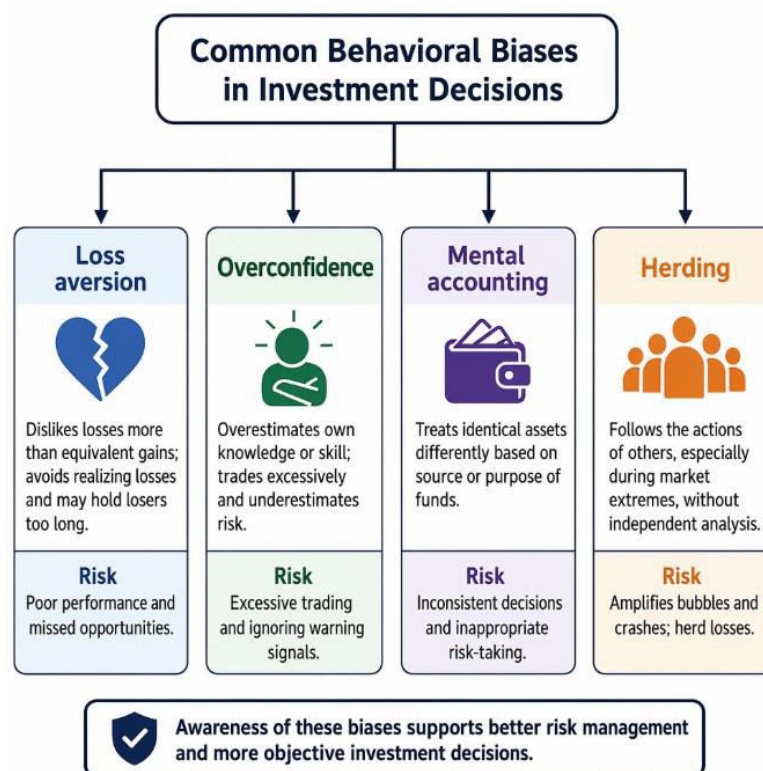


Figure 3. Major behavioural biases influencing individual investment decisions.

In digital investing, overconfidence can interact with continuous market access by encouraging investors to overestimate their information advantage or forecasting ability. Loss aversion can influence reluctance to realise losses or willingness to increase risk after losses, while anchoring can keep attention fixed on prior purchase prices or salient reference points. Representativeness can lead investors to extrapolate recent patterns, and herding can shift attention toward the actions or opinions of others rather than independent analysis (Ahmad & Shah, 2020; Rasool & Ullah, 2020). Digital platforms can make these reference points unusually visible through real-time price movements, watchlists, rankings and social discussion. The important quantitative insight is therefore not that every digital investor exhibits the same bias, but that digital design can change the frequency and immediacy with which bias-relevant cues are encountered. This is consistent with the broader systematic-review evidence showing many coexisting biases and no single measurement standard.

Theme 3: Social Media, Investor Attention and Herding

Social media has changed both the volume and the social structure of financial information. In the 2023 CFA Institute and FINRA Investor Education Foundation survey, which included 2,872 Gen Z, millennial and Gen X respondents across the United States, Canada, the United Kingdom and China, 48% of U.S. Gen Z investors said they used social media to learn about investing. Internet searches were used by 47% and parents or family by 45% (CFA Institute et al.,



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2023). The same U.S. Gen Z investor group displayed substantial risk-oriented behaviour: 50% reported having made an investment because of fear of missing out, and 46% said they were willing to take substantial or above-average financial risks. These are self-reported measures rather than realised portfolio outcomes, but they quantify the extent to which social and attention-based mechanisms can coexist with investment decisions among younger users.

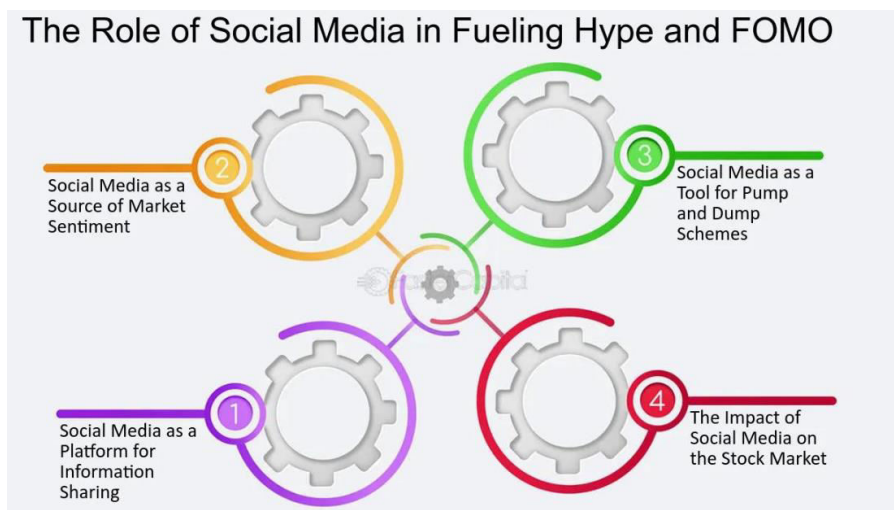


Figure 4. Social media, investor attention and herding behaviour in digital investment environments.

The behavioural mechanism is not simply information abundance. Digital platforms attach salience indicators such as likes, comments, view counts, rankings and repeated exposure to already popular securities. Attention research suggests that when many investors observe the same salient signal, individual decisions can become more correlated, creating conditions for herding (Hsieh et al., 2020). Online discussion-board activity around episodes such as GameStop further illustrates how digital attention and trading can move together, although causal attribution remains difficult because investors self-select into both information communities and trades (Betzer & Harries, 2022). Digital information therefore has a dual role. It can reduce search costs and broaden access to research, while also concentrating attention on a narrow set of visible ideas. For younger investors, the distinction between information access and information quality is critical: high platform familiarity does not remove confirmation bias, overconfidence or social influence, and repeated exposure can amplify rather than diversify the information set.

Theme 4: Gamification, Platform Design and Risk-Taking

Platform design increasingly functions as part of the behavioural environment rather than as a neutral delivery layer. Gamification includes badges, rewards, progress indicators, rankings, animations, celebratory feedback, social-comparison elements and prompts that make financial actions more engaging (Bhatia et al., 2020). The empirical literature does not support a single directional effect. Şenol and Onay (2023), using a stock-market simulation, found that greater participation in a gamified environment could reduce some biases, including overconfidence and the disposition effect, while familiarity and status-quo bias increased. This mixed pattern is important because it shows that the same design family can improve engagement or learning while simultaneously shifting other dimensions of decision-making. The appropriate unit of analysis is therefore the specific feature and behavioural outcome, not the broad label "gamification".



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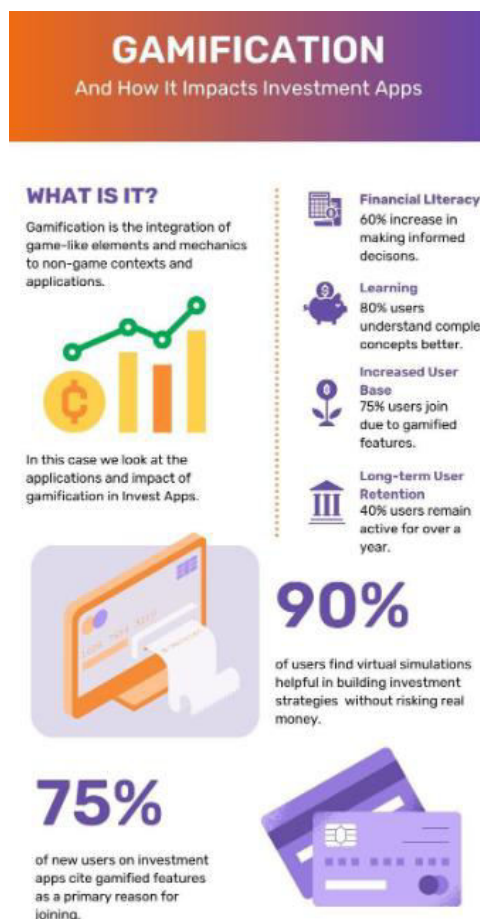


Figure 5. Influence of gamification and digital platform design on investment engagement and behaviour.

The strongest quantitative evidence comes from platform-level trading data. Arnold et al. (2022) studied standardised brokerage push messages in a difference-in-differences framework and found that trades made within 24 hours of an attention trigger carried, on average, 19 percentage points more leverage than comparable non-attention trades. The coefficient represented 12.5% of the average within-investor variation in leverage, and the median time from message transmission to an attention trade was only 1.35 hours. The effect was stronger for younger, male and less experienced investors. Device choice also matters. Using transaction-level data from two German banks and comparing trades by the same investor in the same month, Kalda et al. (2021) found that smartphone trades were 8 percentage points more likely to involve lottery-type assets under their most restrictive specification, an increase equal to 67% of the relevant unconditional mean. Smartphone trades were also 12.0 percentage points more likely to purchase assets in the top decile of recent performance, equivalent to 70.6% of the unconditional mean. These estimates are setting-specific, but they show that interface, device and attention triggers can produce effects large enough to matter economically.

Theme 5: Young Consumers, Retail Investors and Research Gaps

Young consumers and retail investors are a particularly important population because digital payments, financial information and investing are often managed through the same smartphone. In the 2023 cross-country Gen Z study, 56% of U.S. respondents aged 18-25 owned at least one investment. Among U.S. Gen Z investors, 55% held cryptocurrency, 41% individual stocks and 35% mutual funds; the median amount invested was \$4,000 (CFA Institute et al., 2023). The same report found meaningful within-group differences: the median amount invested was \$3,000 for Gen Z women versus \$5,000 for men, and \$2,000 for investors of colour versus \$5,000 for White investors. These descriptive gaps should not be read as causal effects of digital platforms, but they demonstrate why age alone is an inadequate



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segmentation variable. Income, wealth, financial knowledge, experience and demographic context can materially change how the same digital feature is used.

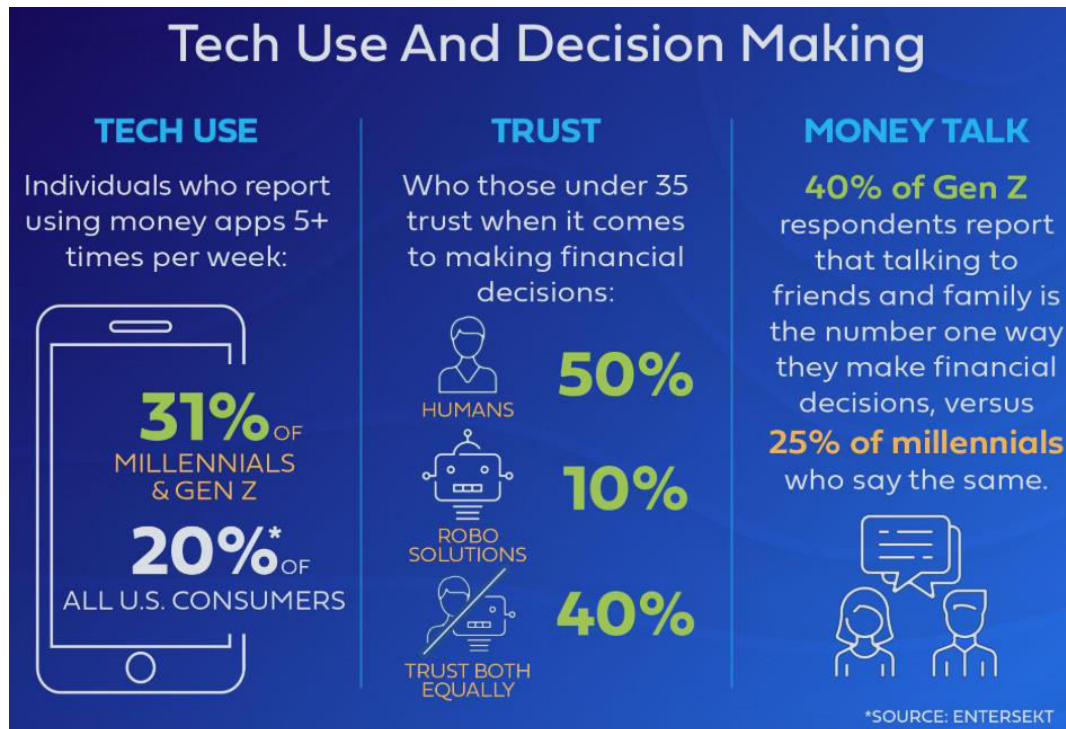


Figure 6. Young consumers and retail investors in the digital financial ecosystem.

Several research gaps follow from the combined evidence. First, spending and investing are still usually studied separately even though users move between both activities within a common device and attention environment. Second, many bias studies rely on self-reported scales while the most behaviourally precise studies use transaction records; future work should connect validated bias measures to observed spending and portfolio outcomes. Third, platform categories are too broad. A push notification, a social ranking, one-tap execution and a celebratory animation are different interventions and should be tested separately. Fourth, effect heterogeneity needs to be designed into the analysis. Arnold et al. (2022) found stronger attention-trigger effects among younger and less experienced investors, while the Gen Z survey data show large differences in portfolio composition and invested amounts within the same age cohort. Finally, longitudinal evidence is needed to distinguish short-run attention effects from persistent behavioural change. A stronger research design would combine objective transaction logs, platform-feature exposure, repeated measures of financial literacy and bias, and pre-specified subgroup analysis.

V. CONCLUSION

The literature shows that digital financial platforms influence behaviour through more than convenience alone. Adoption data establish the scale of exposure: 79% of adults globally held a financial account in 2024, and 62% of adults in low- and middle-income economies made or received a digital payment (Klapper et al., 2025). Among U.S. consumers, adults aged 18-24 used mobile phones for 45% of all payments in 2024 (Bayeh et al., 2025). Behavioural studies then show that specific digital mechanisms can have measurable effects. Mobile-payment use was associated with a 4.9 percentage-point higher likelihood of costly credit-card behaviour in a sample of more than 25,000 U.S. households (Meyll & Walter, 2019). Brokerage attention triggers were associated with 19 percentage points higher leverage (Arnold et al., 2022), while smartphone trading increased the probability of buying lottery-type assets by 8 percentage points and recent top performers by 12 percentage points in within-investor comparisons (Kalda et al.,



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2021). These magnitudes are too large to dismiss as purely cosmetic interface effects, but they are also too context-specific to justify a claim that digital finance is uniformly harmful or beneficial.

A more defensible conclusion is that digital platforms can intensify, redirect or occasionally mitigate behavioural tendencies by altering friction, salience, timing and social visibility. Overconfidence, loss aversion, anchoring, herding and related biases remain important, yet the literature contains 24 to 37 distinct bias constructs depending on the review and still lacks a common measurement standard (Badola et al., 2024; de Oliveira Cardoso et al., 2024). For young consumers and retail investors, the research priority should therefore move from asking whether "digital platforms" affect behaviour to identifying which feature affects which user, through which mechanism, by how much and for how long. Future studies should favour longitudinal designs, transaction-level outcomes, feature-specific experiments and transparent subgroup analysis. Such evidence would make it possible to separate useful engagement from excessive attention, and financial access from behavioural vulnerability, without assuming that the same interface produces the same response for every user.

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