Original Researcher Article

Consumer Financial Decision-Making in the Digital Age: Behavioral Insights into Saving, Spending and Investment Patterns.

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ABSTRACT

The study examines how digital financial tools shape consumer decision-making across saving, spending, and investment activities in an increasingly technology-driven financial landscape. The research responds to the growing need to understand how digital interfaces, automated features, and algorithmic cues influence financial behavior, either by supporting rational choices or amplifying cognitive biases. A quantitative cross-sectional survey was conducted with 362 active users of digital financial services, using a structured online questionnaire to measure saving habits, spending tendencies, investment confidence, digital literacy, and behavioral influences. Descriptive statistics, correlation analysis, and regression models were employed to identify patterns and relationships among the variables. The findings show that digital saving tools particularly automated transfers and goal-setting features positively contribute to consistent saving behavior by simplifying long-term planning. In contrast, frictionless payment systems and real-time promotional notifications increase impulsive spending, suggesting that convenience-oriented digital design can reduce users' self-regulatory control. Investment behavior reveals a mixed pattern: educational cues and digital tutorials enhance confidence, while risk perception continues to deter participation, indicating that traditional behavioral biases remain influential despite technological support. The study contributes to theoretical discussions by highlighting how behavioral responses evolve within digital ecosystems, and by identifying emerging digital triggers that shape financial decisions beyond classical economic models. Practical implications emphasize the need for responsible digital design, consumer protection mechanisms aligned with behavioral risks, and updated financial literacy programs that address digital-era challenges. Although the study offers valuable insights, it acknowledges limitations related to self-reported data and its cross-sectional scope, underscoring the need for future experimental and longitudinal research.

Keywords: digital finance, behavioral decision-making, saving behavior, impulsive spending, digital investment, consumer behavior.

1. INTRODUCTION:

The quick transition to digital financial systems has reenacted how people interact with money, how they approach daily financial endeavors, and how they intend on long-term objectives. The popularity of FinTech apps, artificial banks, algorithmic advisory services and data-driven banking systems have facilitated a new reality where digital tools are not some optional add-ons to consumer financial interactions but core ingredients.

These changes are indicative of a larger shift of financial institutions where digitalization has become a strategic consideration that is motivated by efficiency, personalization and providing services in real time. Recent studies point to the fact that the continuous reorganization of finance using artificial intelligence, automation, and platform-based services has increased access in addition to transforming the logic of individual-level financial decision-making (Liang, 2023; Pal, 2022).

Especially robo-advisors and AI-enabled financial products and services have started to displace conventional advice platforms by recommending tailored advice, rebalancing investments automatically, and providing complex risk-evaluation systems (Onabowale, 2024; Jung et al., 2018). These technologies left decision environments, in which consumers are constantly guided on the decisions they have to take, previously as a professional undertaking. Simultaneously, the bigger revolution in banking is described as the integration of digital processes, evolved risk management, and greater emphasis on consumer experience as the paradigm shift to technology-based architectures (Park, 2025; Siddquee, 2025). The appearance of interconnected digital ecosystems as financial services become embedded in technological, social, and entrepreneurial networks is also triggered by the FinTech disruption that has fundamentally changed the pattern of consumption and institutional dynamics (Novak, 2025; Barykin et al., 2020; Elia et al., 2020).

They are digital ecosystems that are socio-technical environments that define and influence behavior based on the interface design, information flows, and algorithmic signals. As consumers are moving through these technologically rich environments, they make financial judgments that are affected by both their personal tastes and the hidden messages in the digital systems. Frictionless payments, automated savings and instant options of investments can be used to foster productive financial behavior, but the same mechanisms can also help to promote impulsive spending, short-term decision-making, or risk-seeking behavior. The two-sidedness of digital spaces that can optimize rational decision-making and at the same time increase behavioral biases offers a complicated situation to the consumer. The difficulty in this is how digital architectures can either counteract cognitive limitations or reinforce either a present bias, loss aversion or an overconfidence tendency.

Despite the broad scope of studies on digital finance based on technological, institutional, and strategic prisms, studies that would bridge the research gaps with actual behavioral consequences are relatively scarce. The available literature is inclined to consider individual financial behaviors as saving, spending, or investment behaviors in isolation and pay no attention to interactions between these choices in a coherent digital environment. With digital platforms combining a variety of financial services into a single platform, it is becoming more important to understand how individuals will act across the various linked areas. Also, the existing research has devoted much attention to the technical capacity of online systems instead of the behavioral processes that appear when buyers interact with algorithmic recommendations, interactive dashboard, and live financial notifications. Although the recent research on the topic of digital ecosystems acknowledges the social and institutional aspects thereof, the consequences of these phenomena on the individual financial decision-making have not been thoroughly examined (Dulsrud and Bygstad, 2022).

2. Literature Review

2.1 Theoretical Foundations

2.1.1 Prospect Theory

Prospect Theory offers a theoretical framework through which individuals tend to value gains and losses on uncertain situations especially on technologically medicated financial contexts. Consumers are exposed to fast feedback loops, market real-time information, and constant notifications in the digital world, which increases the salience of possible losses. Since people are more likely to overestimate losses compared to the equal gains, digital interfaces would inadvertently increase risk-averse behavior during unsteady conditions. According to the recent debates concerning cognitive and algocognitive cultures, digital ecosystems increase sensitivity to perceived losses because of the continuous flow of algorithmically suggested information, which enhances asymmetrical risk preferences (Kuimov et al., 2023). In that way, Prospect Theory still holds center stage in understanding the impact on behavioral shifts of digital decision-making settings amid financial changes.

2.1.2 Mental Accounting

Mental Accounting describes the ways in which the income, expenses, and investments decisions are grouped into cognitive accounts by individuals despite the fact that this division does not have an economic basis. Digital financial products enhance this effect by providing personalized dashboards and spending categories and breakdowns, which motivate users to think of financial activities in separate mental categories. The budgeting apps and digital payment systems reinforce mental segregation by offering color-coded, or gamified details of spending, potentially impacting a user on their saving and spending priorities. According to the research on digital financial behavior, the system promotes compartmental thinking, which makes mental accounting more prominent due to the interface structure, and therefore influences the desire of consumers to save or invest (Gurusamy and B, 2024; Chen et al., 2024).

2.1.3 Hyperbolic Discounting

The Hyperbolic Discounting is used to define how people tend to prefer short-term gratification over long-term gains which is of great relevance to workplaces or other settings that are conducive to instant payments. Digital finance increases this short-term orientation as the fictions to purchase are minimal, and exposure to consumption stimuli is increased. One-lick transactions, seamless payment infrastructures, and push notifications are part of impulsive decision patterns, in which short-term satisfaction prevails over long-term financial ambitions. Research on digital finance highlights the point that these technological characteristics engage with the underlying discounting bias and it is more difficult to have a consistent behavior of long-term saving or investment among consumers (Chuahan and Chavda, 2024; Ali, 2025).

2.1.4 Herding and Social Influence in Digital Platforms

Digital ecosystems generate a space in which social signals, peer reviews, and other aggregated behavioral information have a strong impact on the decisions that individual make. Customers can copy financial behaviors of others, including spending behavior or investment decision-making depending on social feeds, community-based investment forums, or popularity signals built into financial app. According to the research of behavioral finance, the impact of social influence is especially strong when algorithms emphasize trending activities and create coherent patterns of behavior even without independent assessment (Kubińska et al., 2023). This means that digital herding is influencing investment behavior as well as saving discipline and consuming decision-making.

2.2 Digital Financial Ecosystems

2.2.1 FinTech Savings Tools

Savings apps powered by FinTech have also presented automated deposits, goal setting and behavioral nudges, which help their users achieve their long-term financial goals. These tools can be used to track the spending behavior and suggest the optimal savings plans through machine learning and a behavior tracker. The research on digital ecosystems emphasizes that these tools are the component of a bigger technological change, in which the algorithmic intelligence becomes a part of decision-making processes of consumers (Kuimov et al., 2023). The research on financial literacy also indicates that customized digital systems can play a significant role in increasing awareness and knowledge of saving behavior in persons by reducing the complexity of financial data into practical knowledge (Koskelainen et al., 2023; Abiodun et al., 2021).

2.2.2 Digital Wallets and Spending Apps

The spread of mobile payment applications and digital wallets has changed the character of consumer spending through eliminating the friction of transactions. These tools make the payment process simpler and convenience and speed are placed in the middle of the consumer experience. Although these technologies help to enhance efficiency, they also allow purchasing more and more often and impulsively, since it is necessary to use fewer cognitive resources to spend. The research results show that the design of the digital wallets induces a more smooth and even less conscious purchasing behavior, both affecting the short-term consumption patterns and long-term financial results (Gurusamy and B, 2024). The change is one of increasing intersection between interface design and user reactions in online consumption.

2.2.3 Investment Platforms and Robo-Advisors

Democratization of gaining access to wealth management has occurred through the use of robo-advisory systems and digital investment platforms which offer algorithmically generated advice, automated rebalancing of a portfolio, and low-cost investment options. These platforms are largely based on artificial intelligence, risk profiling models, and predictive analytics in decision making by investors. The literature highlights that digital investment settings present users with advanced tools that reinforce informed decision-making or make users more vulnerable to cognitive bias in the case of information overload (Saygı & Saygı, 2021; Gomber et al., 2017). Ethical and governance issues have also been brought up by AI-assisted personalization, as corporate digital responsibility in the context of financial services is of importance to provide a just, transparent, and bias-free system (Tóth and Blut, 2024).

2.3 Behavioral Insights on Financial Decision-Making

2.3.1 Saving: Commitment Devices and Goal-Based Nudges

Commitment devices used by digital savings platforms, which include automatic transfers, locked savings and milestone reminders are to encourage users to overcome barriers to long-term saving. These applications utilize the behavioral science knowledge to minimize procrastination, offset the immediate gratification, and support disciplined savings behavior. Goal oriented nudges such as visual progress monitors or customised messages are also important in keeping the motivation high. The studies on digital financial literacy also note that personalization of behavior positively affects the sustainability of the saving behavior of users by making financial activities easier and less cognitively demanding (Abiodun et al., 2021; Koskelainen et al., 2023).

2.3.2 Spending: Frictionless Payments and Impulse Triggers

Psychological Barriers to spending are reduced by frictionless payment systems made possible by tap-to-pay, mobile wallets and biometric authentication. Elimination of tangible money, and ease of online payments can decouple consumers to the value exchange experience, which creates spontaneous consumption. Literature emphasizes that the digital purchasing atmosphere is marked by instantaneous confirmation, a promotion-triggering stimulus, and an algorithmic stimulus that prompt the impulse buying (Challoumis, 2024; Gurusamy and B, 2024). These characteristics are interplayed with cognitive biases, which may increase the short-term decision-making at the cost of financial sustainability in the long-term.

2.3.3 Investment: Risk Perception and Learning via Digital Cues

The perception of risk is determined by digital investment platforms in terms of interface design, performance visualization, volatility, and algorithmic recommendations. These risk levels displayed in the form of colors, predictive graphs and simulations of the scenario all affect the manner in which individuals perceive the market conditions. Studies of digital decision-making indicate that risk assessment can be biased by information overload and cognitive limitations especially with less experienced investors (Ali, 2025; Saygı & Saygı, 2021). Simultaneously, the use of

educational cues e.g. tutorials or guided questions embedded within platforms promotes financial learning and makes people more informed about their investment behavior. According to behavioral finance literature, such cues assist the users in building a better idea of market behavior and long-term investment policies (Kubińska et al., 2023).

3. Methodology

3.1 Research Design

The research design of the study is quantitative, it explores the impact of digital financial tools on the saving, spending, and investment behavior. To collect standardized data of a large scale sample, a structured online questionnaire is applied since it enables the collection of data on a large number of participants. The design is suitable in terms of measuring behavioral patterns and determining associations among various variables in digital financial decision-making. The article concentrates on the actual users of digital financial services to make sure that the results are not of hypothetical behavior.

3.2 Participants and Sampling Technique

The sample of this study is adults over 18 years old and involving active use of the digital financial applications. The purposive sampling technique is used to make sure that only people who have a regular experience using digital saving tools, digital wallets, and online investment platforms are included. The inclusion criteria are that the respondents have to use some digital financial tool at least once a week. The final sample of 300-400 respondents is aimed at due to the stereotypical reliability of the statistics and sufficient coverage of various population segments.

3.3 Data Collection Procedure

The data will be gathered by a simple online questionnaire that will be spread via the social media, email distribution lists and financial literacy groups. The questionnaire to be filled in the survey is user-friendly and has a secure link. Participants were then informed by reading a short introduction on the purpose of the study and their right to withdraw at any time before responding. The poll will be conducted within a set time of three weeks to give a reasonable time to respond to the survey. All of the answers will be anonymous, and nothing about the personal identification will be gathered. This method guarantees an effective, efficient and ethical process of data collection.

3.4 Research Instrument and Measures

The research instrument is the structured questionnaire, which is needed to measure the behavior in saving, spending, and investing in digital financial environments. Saving behavior is measured by items concerning the use of digital saving features, goal-setting tools, and automatic savings options, and spending behavior is measured by items on impulse buying, a response to

digital payment notifications, and frequency of frictionless payments. Items used to measure the investment behavior are associated with the perception of risk, the comfort of using the digital investment tools, and the dependence on automated advice. Everything is rated on a five-point Likert scale between strongly disagree and strongly agree. Demographic information like age, gender, education and income is also sought and the questionnaire is examined on its clarity and relevancy and finally distributed.

3.5 Data Analysis

The statistical methods of data analysis are clear-cut and simple. To start with, descriptive statistics will be used to describe the characteristics of the participants and their trends on digital financial use. Second, a correlation analysis will be done to find the relationship between saving, spending and investment behavior. Lastly, the multiple regression analysis is employed to establish the significance of digital financial tools and behavioural issues on the effectiveness of financial decision making. Such analysis tools supply straight forward and understandable findings without adding extraneous complexity.

3.6 Ethical Considerations

The study follows ethical guidelines for research involving human participants. Informed consent is obtained electronically before participants begin the survey. Participation is voluntary, and respondents may exit the survey at any time. No names, contact details, or sensitive personal information are collected, and all data are kept confidential. The study is carried out solely for academic purposes.
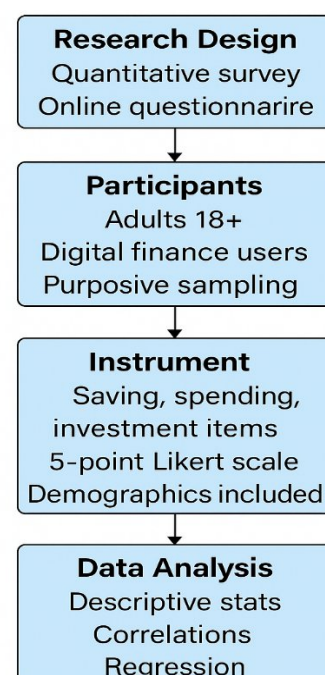
Figure 1: Flowchart of the Research Methodology

The flowchart outlines the study's methodological steps, starting with the quantitative research design and participant selection, followed by instrument development and data analysis. It visually summarizes how data were collected, measured, and examined to understand digital financial behaviors.

4. Results

4.1 Descriptive Statistics

Descriptive analysis provides an overview of respondents' demographic characteristics and digital finance usage. As shown in Table 1, a total of 362 participants completed the survey, with the majority aged between 18 and 45 years (Figure 2). Digital financial tools were widely used, with most respondents reporting frequent engagement with digital wallets and saving applications.

Table 1. Descriptive Statistics of Respondents

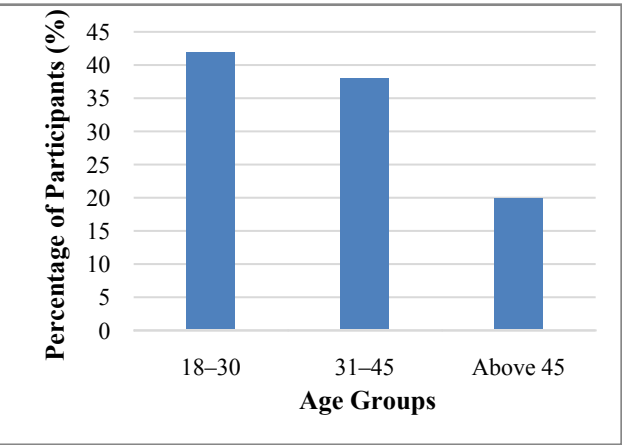| Variable	Categories	Percentage (%)
Age	18–30	42
	31–45	38
	Above 45	20
Gender	Male	53
	Female	47
Digital Wallet Use	3+ times/week	78
Digital Saving App Use	Regular (weekly)	65
Digital Investment Platform Use	Occasional/Regular	49

Figure 2: Age Distribution of Respondents

The chart shows the age distribution of survey participants. Most respondents are between 18–30 years, followed by those aged 31–45, while individuals above 45 represent a smaller proportion of the sample.

4.2 Saving Behavior Findings

Results indicate that digital saving features have a significant influence on saving discipline. As shown in Table 2, the majority of respondents agree that automatic transfers and goal-setting tools help improve their saving consistency Figure 3. This is supported by correlation results, which show a moderate positive relationship between digital saving tools and saving discipline (r = 0.46).

Table 2. Saving Behavior Responses

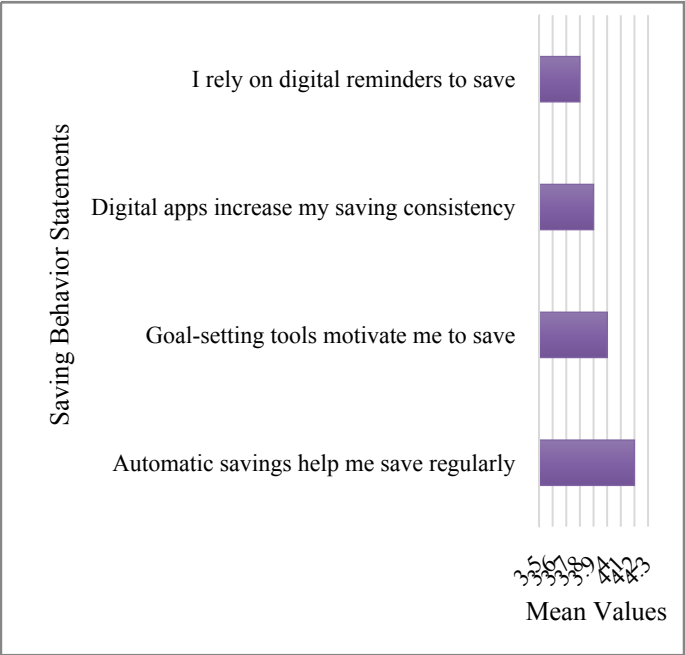| Saving Item	Mean	Interpretation
Automatic savings help me save regularly	4.2	Agree
Goal-setting tools motivate me to save	4.0	Agree
Digital apps increase my saving consistency	3.9	Neutral–Agree
I rely on digital reminders to save	3.8	Neutral–Agree

Figure 3: Mean Scores for Saving Behavior Items

The chart shows that automatic savings received the highest mean score, indicating strong user agreement, followed by goal-setting tools and digital app consistency. Digital reminders scored slightly lower but still reflect moderate support for improving saving habits.

4.3 Spending Behavior Findings

The results show that frictionless payments significantly impact spending habits. As mentioned in Table 3, 68% of

respondents reported making unplanned purchases through digital wallets, and impulse buying was strongly influenced by alerts and promotional notifications Figure 4. A strong positive association was found between digital payment notifications and impulse spending (r = 0.52).

Table 3. Spending Behavior Responses

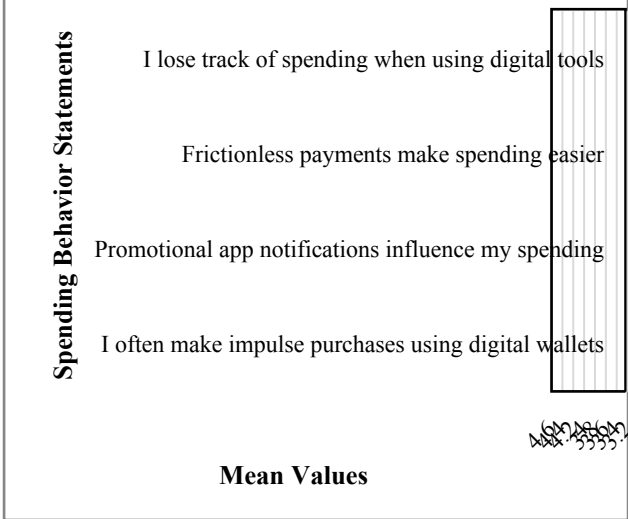| Spending Item	Mean	Interpretation
I often make impulse purchases using digital wallets	4.1	Agree
Promotional app notifications influence my spending	4.3	Agree
Frictionless payments make spending easier	4.4	Agree
I lose track of spending when using digital tools	3.7	Neutral–Agree

Figure 4: Mean Scores for Spending Behavior Items

The chart indicates that frictionless payments have the strongest influence on spending, followed by promotional notifications and impulse purchases. Losing track of spending has a slightly lower mean but still shows that digital tools affect spending awareness.

4.4 Investment Behavior Findings

Investment decisions show mixed levels of confidence among digital users. As illustrated in Table 4, 54% of respondents trust robo-advisory tools, while risk perception remains a major barrier (Figure 5). Higher perceived risk significantly reduces willingness to invest (β = –0.31). Educational features within investment platforms also show a positive effect on investor confidence (r = 0.40).

Table 4. Investment Behavior Responses

Investment Item	Mean	Interpretation
I feel confident using digital investment platforms	3.6	Neutral
I trust automated investment advice	3.8	Neutral–Agree
Digital tutorials help me understand investing	4.0	Agree
I perceive digital investments as risky	4.1	Agree

- I feel confident using digital investment platforms
- I trust automated investment advice
- Digital tutorials help me understand investing
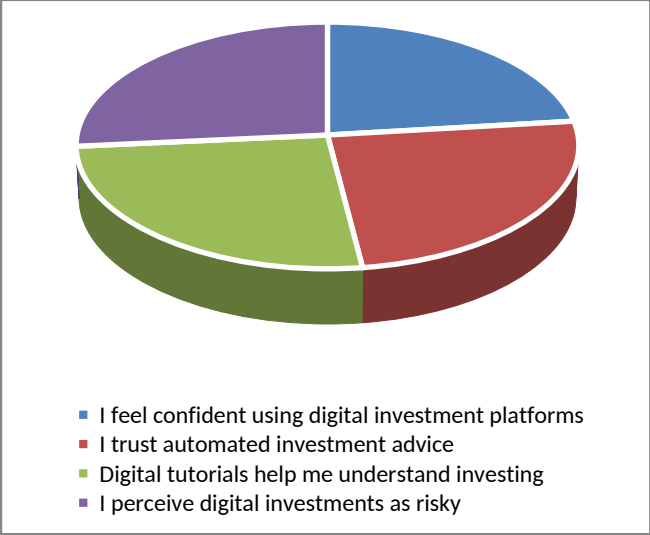- I perceive digital investments as risky

Figure 5: Distribution of Investment Behavior Responses

The chart shows how respondents view digital investment tools. Many trust automated advice and find tutorials helpful, while a notable portion still perceives digital investments as risky. Confidence in digital platforms is present but varies across users.

4.5 Relationships Among Saving, Spending, and Investment

Regression analysis reveals that digital literacy plays a significant role in all three areas of financial behavior. As summarized in Table 5, higher digital literacy scores predict better saving habits, more controlled spending, and increased investment confidence. Additionally, impulse spending negatively affects investment willingness (β = –0.27), meaning individuals who frequently make impulsive digital purchases are less likely to invest consistently.

Table 5. Regression Summary of Relationships Among Key Variables

Predictor Variable	Outcome Variable	β Coefficient	Significance
Digital Literacy	Saving Behavior	0.41	p < 0.01
Digital Literacy	Spending Control	0.36	p < 0.01

Digital Literacy	Investment Confidence	0.39	$p < 0.01$
Impulse Spending	Investment Behavior	−0.27	$p < 0.01$
Saving Consistency	Investment Behavior	0.29	$p < 0.05$

5. Discussion

The results of this research indicate that digital financial tools influence the decision to save, spend, and invest in a manner that is both behaviorally strong and weak. The participants who used automated savings, goal-setting, and digital reminders exhibited more disciplined saving behavior, which confirms the results of previous studies that claimed that digital environments may reinforce positive behavior when presented with cues and structures (Dallery et al., 2015). Simultaneously, the findings indicate that lack of friction scheme of payment systems and real-time promotional messages prompt impulsive consumption. This finding is consistent with a study that outlines the effects of digital interfaces in reducing cognitive load, shortening the time to make decisions, and exposing people to persuasive cues, and has the effect of enhancing already existing biases that exist (such as immediacy and reward susceptibility) (Kozyreva et al., 2020). The trend of investment behavior followed the same two-step pattern: digital guidelines and interactive charts ensured that the end-user could comprehend the risks in the market, but high perceived uncertainty continued to lower the participation of a large percentage of respondents, a pattern that had long been supported by behavioral economics data suggesting that behavioral biases like loss aversion and heuristic-based judgments remain dominant even in digitally structured systems (Umeaduma, 2024). Combined, these findings indicate that digital financial tools can make rational decision-making stronger in the instances when they are structured and comprehensive, and they can contribute to bias enhancement in the cases when they stimulate speed, emotions, or uncontrolled interaction.

The research has theoretical value by underlining the development of traditional behavior constructs in the digital form. Added features like interface prompts, auto routines, and automatic algorithmically-driven cues are signalling behaviours that we familiar with in a financial application, as an addition to earlier nudging and commitment theory (Dallery et al., 2015). These digital triggers are an example of a new form of behavioral influence that functions based on design and pattern of interaction and not just based on internal thought. This finding should be favored by the latest requests to integrate behavioral finance and digital user experience models to render the technological factors that increasingly influence financial decision-making (Agudelo Aguirre & Agudelo Aguirre, 2024). These results are also in line with the discourse on digital vulnerability indicating that the information, speed, and choice architecture may facilitate or discredit user autonomy depending on how these settings are designed (Herzog et al., 2022). The paper thus contributes to the increasing understanding that behavioral consequences of digital finance are impossible to interpret outside of the frameworks of interface design and algorithmic mediation.

These findings have a number of practical implications. In the case of FinTech developers, it is evident that there should be an effort to ensure responsible products development by balancing the convenience with the protection that can enable users to control their decisions. This will interfere with open communications, clear indicators of spending and risk descriptions that enhance the capacity of users to judge decisions. Behavioral analytics can also be integrated by developers to make financial advice personalized in the way that helps to promote long-term savings and make better investment choices (Josyula, 2023; Aramide, 2023). To the policymakers, the findings support the need to enhance the consumer protection mechanisms that tackle the behavioral risks in algorithm-based financial services. Digital space requires regulatory advice on transparent disclosure, fair notification traditions and ethical risk communication due to the possibility of designing products and services with influence on behavior (Cho & Park, 2021). These findings can also be applied by the financial educators to improve the digital-era literacy programs by educating the users on how to recognize the traps of their cognition in online interfaces, where to be cautious about automated advice, and how to control the impulse to act based on the real-time financial indications (Kozyreva et al., 2020).

Irrespective of these contributions, the study is limited in a number of ways. Purposive sampling can also restrict the applicability of the findings as not all people are active users of digital financial tools and, therefore, might not represent the overall population. The cross-sectional design only captures behavior at a single point in time, and does not allow the researcher to study how the habit of users changes with increased experience or changes in digital platforms. Self-report tools are also vulnerable to biasness, because a respondent can distort or oversimplify his or her financial conduct. These are typical shortcomings of the research based on the data of surveys instead of the direct monitoring of behavior and analytics of digital systems (Weiß et al., 2025).

The limitations of this study should be addressed in future by conducting cross-cultural comparative designs to explain the impact of cultural values and digital adoption patterns on financial behavior among different countries. The effects of particular design features, including payment friction or risk framing, on user behavior, could be more precisely isolated by the use of experimental studies with simulated (or real) digital interfaces. Longitudinal studies would help to create a better picture of the formation and stabilization of digital financial habits over time, in particular, with the introduction of new options, including AI-based recommendations or personalized dashboards (Mahmoodi et al., 2023; Ilyas et al., 2023). The combination of real user interaction data in financial applications would make behavioral insights more accurate and help continue working on the quality of the digital behavioral data (Weiß et al., 2025).

6. Conclusion

The research aimed to know how online financial tool is going to influence consumer behaviour in saving, spending and investing and the findings reveal that the products have become powerful determinants of day-to-day financial activities. As the evidence shows, digital platforms are capable of upholding desirable financial behaviour when they are designed with structure, clarity, and frequent use like the effective role of automated savings, goal-setting, and easy-to-understand tracking interfaces in facilitating a routine saving process. Meanwhile, the results demonstrate the tendency of some characteristics, in particular the absence of friction payments and fast-selling offers to break the cognitive barriers that previously retarded the choice of spending, allowing users to act on an impulse and lose awareness of the financial limits. Investment behaviour demonstrates a comparable trade off: digital tutorials, dashboards and advice tools assist a number of players to feel more at ease in financial markets, but perceived risk and uncertainty still constrain other players indicating that technology alone cannot substitute established behavioural patterns. By combining these findings, one can conclude that the digital financial environment does not merely transform the tools that consumers make their choices with; it transforms the circumstances that are involved in the process of making financial decisions by modifying the speed, visibility, and feedback of each decision. This holds significant implications to financial wellbeing and the necessity to be digitally responsibly in design, provide better consumer protections and more holistic approaches to financial education that take into consideration digital triggers and cognitive shortcuts. Although the research provides valuable information, it has acknowledged its weaknesses which are mainly cross-sectional nature and use of self-reported data that can be improved in the future by longitudinal observation, experimental interfaces and cross-cultural comparisons. All in all, the results highlight that the application of technology, human cognition, and behavioral context in the digital age has resulted in the continuous interaction of consumer decision-making.

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