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# Impact of Gamification in Financial Apps on User Engagement and Investment Frequency in Coimbatore

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**ABSTRACT:** The digital transformation of financial services has introduced innovative engagement strategies within investment platforms, among which gamification has gained considerable attention. Financial applications today embed interactive elements such as reward systems, achievement recognition, competitive rankings, and goal-oriented progress indicators to attract and retain users. While these features create more appealing user experiences, questions remain about their true influence on investor behavior. Young and digitally active individuals increasingly turn to such platforms as their primary gateway into financial markets, making it important to understand what drives their participation. This study explores how the incorporation of game-inspired design elements within financial applications shapes user motivation, platform interaction, and investment consistency. It further investigates whether such features nurture financially sound habits or inadvertently encourage reactive and impulsive decision-making. Ultimately, the research seeks to offer practical direction for fintech professionals aiming to develop engagement frameworks that are both effective in retaining users and responsible in guiding their financial choices.

## I. INTRODUCTION

Personal finance has experienced a remarkable reinvention in the modern era, driven largely by the penetration of digital technology into everyday life. Activities that previously demanded considerable time, effort, and physical presence have been compressed into a few taps on a mobile screen. Visiting a bank, consulting a broker, or manually tracking investment portfolios now seems distant compared to the fluid, always-available experience offered by contemporary financial applications. This convenience has not simply made existing investors more efficient — it has opened the doors of financial participation to entirely new segments of the population. Individuals who previously lacked access to professional guidance or sufficient starting capital can now explore investment opportunities independently, armed with nothing more than a smartphone and an internet connection. The engine behind this change is the broader FinTech movement, which has woven advanced technology into the fabric of financial services, making them faster, cheaper, and more widely accessible than at any previous point in history.

Within this evolving landscape, mobile investment platforms have emerged as particularly influential. These applications consolidate a wide range of financial capabilities — from real-time market monitoring and instant transaction execution to portfolio tracking and educational content — into unified, user-friendly environments. Their growing popularity among younger generations reflects a broader cultural shift toward self-directed financial management. Yet despite the obvious advantages of digital accessibility, participation remains uneven. Psychological hurdles such as fear of loss, uncertainty about financial concepts, and anxiety around decision-making continue to discourage many potential investors from engaging consistently. Acknowledging these obstacles, platform developers have shifted their strategic focus from purely functional improvements toward designing experiences that actively motivate and retain users over time.

## GAMIFICATION AS A BEHAVIORAL STRATEGY IN FINANCIAL PLATFORMS

Confronted with the dual challenge of attracting new users and sustaining their involvement, financial application developers have drawn inspiration from an unexpected source — the principles that make games compelling. Gamification, at its core, is the practice of applying design elements associated with games into contexts that have



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nothing to do with play. It does not transform an investment platform into an entertainment product, but rather introduces specific psychological triggers that make routine interactions feel more rewarding and purposeful.

The mechanics deployed vary across platforms but generally share a common intent. Milestone badges celebrate user achievements, turning a first investment into a moment of recognition rather than a quiet transaction. Visual indicators of goal progress satisfy the human desire to witness forward movement. Streak-based incentives tap into commitment tendencies, nudging users to return daily rather than sporadically. Competitive rankings introduce a social dimension, allowing individuals to measure their activity relative to a broader community. Each of these features is carefully constructed around well-established psychological principles. The notion that rewarded behavior tends to recur forms one theoretical pillar, while the understanding that people are motivated by feelings of competence, autonomy, and belonging provides another.

Leading platforms across global markets have demonstrated the commercial viability of this approach. By softening the intimidating aspects of financial decision-making and replacing them with familiar, interactive cues, gamification has helped draw previously hesitant individuals into active financial participation. For younger investors especially, whose expectations of digital products are shaped by years of engaging with highly interactive technology, a platform that feels static or purely transactional holds little appeal. Gamification bridges this gap, creating environments where financial growth and engaging experience coexist.

### USER ENGAGEMENT, INVESTMENT BEHAVIOUR, AND THE ETHICS OF GAMIFIED DESIGN

The relationship between gamification and user engagement represents one of the more nuanced dimensions of modern financial platform development. Engagement, in this context, goes beyond simply logging into an application. It encompasses the depth of interaction a user maintains — how attentively they monitor their investments, how willingly they explore new financial tools, and how consistently they return to the platform over extended periods. Gamification strengthens these behaviors by delivering immediate acknowledgment of user actions, creating structured pathways toward visible goals, and sustaining motivation during periods when market conditions might otherwise discourage participation. Users who remain engaged over time tend to build familiarity with financial concepts, develop greater confidence in their choices, and gradually form more disciplined investing habits.

Yet the picture is not without complexity. Greater activity on a financial platform does not automatically translate into sounder financial decisions. When reward mechanisms become the primary driver of investment actions, users risk prioritizing platform interaction over thoughtful portfolio management. Competitive features may encourage individuals to follow crowd behavior rather than strategies aligned with their personal financial circumstances. The psychological mechanisms that make gamification so effective at capturing attention are identical to those that, when misapplied, can amplify impulsive tendencies and short-sighted decision-making.

This tension places a significant responsibility on the shoulders of platform designers. Financial applications wield considerable influence over the choices of their users, and the manner in which motivational features are constructed carries tangible consequences for financial wellbeing. A thoughtfully designed gamification framework can nurture healthy investing habits, reduce anxiety for first-time participants, and support long-term wealth building. A poorly conceived one, however, risks prioritizing platform metrics over genuine user benefit. Navigating this distinction — understanding precisely where motivational design adds value and where it introduces risk — lies at the heart of the present research, which investigates how gamification shapes user engagement patterns and investment frequency within digital financial applications.

## II. REVIEW OF LITERATURE

Gamified financial apps improve learning and participation among new investors Xu et al (2017). Gamification indirectly affects investment decisions via engagement Li & Fang (2020). Gamified incentives increase transaction frequency Zhang et al (2019). Gamified reminders increase regular investing behaviour Niveditha & Rao (2021). Gamified investing apps boost investment frequency among youth Bajaj & Sharma (2022). Gamification leverages psychological drivers like rewards and status Zichermann (2011). Personalized gamification improves sustained engagement Bitrián et al (2021). Gamification attracts first-time stock market participants Agarwal & Dixit (2020).



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Gamification simplifies financial decision-making for beginners Kumar & Herger (2019). Gamification improves perceived usefulness and satisfaction Hwang & Choi (2020)

### III. METHODOLOGY

#### NEED FOR THE PRESENT STUDY

Financial services have undergone a sweeping transformation over the past decade, with digital platforms becoming the preferred gateway through which individuals manage, monitor, and grow their wealth. Mobile investment applications have made it possible for ordinary individuals, many of whom had no prior exposure to financial markets, to participate in investment activity with minimal barriers. Alongside this surge in digital participation, fintech companies have woven interactive design elements into their platforms to sustain user interest and encourage habitual usage. Reward mechanisms, visual achievement systems, competitive rankings, and progress-based incentives have become familiar features across a wide range of investment applications.

Despite the visible popularity of these design choices, their actual consequences for investor behavior remain poorly understood. The gap between how widely gamification has been adopted commercially and how thoroughly it has been examined academically is striking. A substantial portion of existing research tends to treat either technology adoption or behavioral psychology in isolation, rarely bringing these threads together in a way that reveals how gamification concretely shapes financial outcomes. Whether these interactive features genuinely guide users toward sound, consistent investing or whether they simply produce surface-level activity without meaningful financial benefit is a question that remains largely unanswered.

This research gap becomes especially significant when considered within the Indian context. India has emerged as one of the most dynamic environments for retail investment growth globally, fueled by widespread smartphone ownership, affordable data connectivity, and a rapidly expanding base of young first-time investors. Gamified financial platforms are finding particularly fertile ground among this demographic, whose expectations of digital products are shaped by years of engagement with interactive technology. Understanding how these platforms influence the financial behavior of such users carries broad implications — for individual wealth outcomes, for the design philosophy of fintech companies, and for regulatory frameworks seeking to balance innovation with investor protection.

The present study is motivated by the need to generate reliable, evidence-based insights into this relationship. By examining how gamification features within financial applications affect user engagement and investment frequency, it seeks to contribute meaningfully to both academic discourse and practical decision-making in the fintech space.

#### PROBLEM STATEMENT

A new kind of investor has emerged in the digital era — one who discovers, learns about, and executes financial decisions entirely through mobile applications. To attract and hold the attention of this growing audience, financial platforms have turned to gamification as a central engagement tool. Interactive rewards, achievement milestones, daily streak incentives, and peer comparison features now sit alongside core investment functionalities on many widely used platforms. The stated intention behind these additions is to lower psychological barriers, encourage habitual financial participation, and make the investment experience more enjoyable for users who might otherwise find it daunting.

Yet a deeper and more critical question sits beneath these developments. When users engage with a financial platform primarily because its design feels stimulating or rewarding, it becomes unclear whether that engagement reflects genuine financial intent or merely a response to motivational triggers embedded in the interface. A user who logs in daily to maintain a streak or claim a reward may be developing a productive investment habit or may simply be responding to the platform's behavioral nudges without making any meaningful progress toward financial goals. These two outcomes look similar on the surface but differ substantially in their implications for long-term financial wellbeing.

Compounding this ambiguity is the unequal way in which gamification appears to affect different types of users. For some, structured incentives may cultivate discipline and consistency in their investment routines. For others, the same features may introduce a competitive or reward-seeking mindset that encourages hasty, emotionally driven decisions



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disconnected from sound financial reasoning. The mechanisms that make gamification effective at capturing attention are closely related to those that, when misapplied, can amplify impulsive tendencies and short-term thinking.

A further dimension of the problem lies in the scarcity of research that examines these dynamics in an integrated manner. Studies that assess both user engagement and investment frequency together — within a single empirical framework and specifically in the context of gamified financial applications — are notably absent from the existing literature. Without such evidence, those responsible for designing, regulating, and educating around these platforms are left without a solid basis for informed decision-making.

This study therefore directs its attention toward a focused and practically relevant problem — examining how gamification features shape the engagement patterns and investment frequency of financial application users, and determining whether these features serve as genuine catalysts for disciplined investing or function primarily as tools that elevate usage metrics without improving the quality of financial behavior.

### IV. OBJECTIVES OF THE STUDY

1. To analyse the usage behavior and experience of financial application users by examining the types of platforms they engage with, the frequency of their app usage, and their overall familiarity with digital investment tools, in order to establish a foundational understanding of user interaction patterns before assessing gamification's influence.
2. To identify and examine the presence of gamification elements such as rewards, badges, leaderboards, streak systems, and achievement milestones within financial applications, and to evaluate the extent to which users are aware of and actively interact with these features during their investment journey.
3. To investigate how gamification features influence user motivation, emotional engagement, and regularity of interaction with financial platforms, determining whether these interactive design elements genuinely encourage sustained behavioral commitment or produce only temporary interest among users.
4. To evaluate the overall impact of gamification on investment frequency, user confidence, and satisfaction, assessing whether game-inspired incentives foster disciplined and informed financial decision-making or contribute to impulsive investment behavior that may compromise long-term financial wellbeing.

### SAMPLING METHOD AND SAMPLE SIZE

Determining an appropriate sampling strategy required careful consideration of the study population. Since no comprehensive record exists of all individuals currently using gamified financial applications, identifying a precise sampling frame was not feasible. A non-probability approach was therefore adopted, with convenience sampling selected as the most practical method given the constraints of time, resources, and accessibility.

Respondents were drawn from among individuals who were actively using financial or investment applications and were willing to share their experiences through a structured questionnaire. A total of 100 participants were included in the final sample. While modest in size, this number provided sufficient data to conduct meaningful statistical examination and draw reasoned inferences about the relationship between gamification and user behavior. The sample was predominantly composed of young adults and students, a demographic that closely mirrors the target audience of most gamified financial platforms currently operating in the Indian market.

### Primary Data

The foundation of the empirical investigation rests on primary data gathered through a purpose-built structured questionnaire. The instrument was constructed to address each of the study's specific objectives and covered a range of topics including respondent background, application usage habits, familiarity with gamification features, perceived motivational impact of those features, and self-reported investment behaviour.

Response options were designed using a combination of categorical choices and Likert-scale formats, enabling both descriptive and attitudinal measurement. The structured format ensured uniformity across all responses and made the data well-suited to statistical processing. Participation was entirely voluntary, and respondents were approached through accessible channels to ensure that their answers reflected authentic personal experiences rather than prompted or influenced opinions.



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### Secondary Data

Alongside the primary investigation, secondary data were gathered to construct a robust theoretical and contextual foundation for the study. Academic journals, peer-reviewed research articles, published books on behavioural finance and digital consumer behaviour, industry reports on fintech developments, and credible online publications formed the primary sources of secondary information.

These materials served several important functions within the research process. They helped situate the present study within the wider body of existing knowledge, revealed the gaps that this investigation seeks to address, and provided conceptual anchors for interpreting the patterns observed in the primary data. Both international scholarship and India-specific research were consulted to ensure that the theoretical grounding was both globally informed and locally relevant. The combination of primary and secondary data sources created a well-rounded evidential base from which the study's conclusions were developed.

### V. RESULTS AND DISCUSSION

The results and discussion may be combined into a common section or obtainable separately. They may also be broken into subsets with short, revealing captions. An easy way to comply with the conference paper formatting requirements is to use this document as a template and simply type your text into it. This section should be typed in character size 10pt Times New Roman.

**Table 1.** Demographic Profile of the Respondents

SN.	AGE GROUP	FREQUENCY	PERCENTAGE
1	18-25	88	88%
2	26-35	10	10%
3	36-45	15	15%
4	45 and above	8	8%
	<b>Total</b>	<b>100</b>	<b>100%</b>
	<b>GENDER</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
1	Female	57	57%
2	Male	43	43%
	<b>Total</b>	<b>100</b>	<b>100.00%</b>
	<b>OCCUPATION</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
1	Homemaker	2	2%
2	Salaried Employee (Private)	17	17%
3	Self-employed	13	13%
4	Student	68	68%
	<b>Total</b>	<b>100</b>	<b>100.00%</b>
	<b>MONTHLY INCOME</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
1.	No Income	64	64%
2.	Below 25,000	8	8%
3.	25,000-50000	11	11%
4.	50,001-1,00,000	8	8%
5.	1,00,000 and Above	9	9%
	<b>Total</b>	<b>100</b>	<b>100.00%</b>

### Source: Primary data

A closer look at the demographic data highlights some interesting patterns among the surveyed population. Young adults between 18 and 25 years dominate the sample, accounting for 88% of total respondents, suggesting that digital financial platforms resonate strongly with this generation. Gender representation leans slightly toward females at 57%, while males constitute the remaining 43%. Among occupational categories, students form the overwhelming majority



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at 68%, which naturally connects to the income distribution, where 64% of participants report earning nothing. Salaried and self-employed individuals together contribute 30% of the sample. The remaining respondents are spread across modest to higher income brackets. Collectively, these figures paint a picture of a predominantly young, student-driven, financially dependent participant group whose attitudes toward gamified investing form the core perspective of this research.

**Table 1.2.** Comparison of Impact on Investment Behaviour

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	74.42	1	74.42	83.7415322	7.0168E-17	3.888852933
Within Groups	175.96	198	0.888686869			
Total	250.38	199				

**SOURCE: Primary source**

The ANOVA results reveal a calculated F-value of 83.74, which substantially exceeds the F-critical value of 3.889, indicating a statistically significant difference between the groups under examination. The P-value of 7.02E-17 falls drastically below the accepted significance level of 0.05, leading to a firm rejection of the null hypothesis. This confirms that the grouping variable meaningfully influences respondents' perception and experience of gamification features within financial applications. Different user categories demonstrate notably distinct attitudinal and behavioural responses toward interactive elements such as rewards, badges, and leaderboards. Overall, the findings strongly suggest that gamification does not impact all users in a uniform manner, and that individual characteristics play a considerable role in shaping engagement and investment behaviour.

**Table 1.3.** Comparison of Effect of Monthly Income on Overall Gamification Behaviour

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	9.245	1	9.245	6.751909	0.010069	3.8888529
Within Groups	271.11	198	1.369242			
Total	280.355	199				

**SOURCE: Primary source**

The ANOVA table indicates a calculated F-value of 6.75, which surpasses the F-critical value of 3.889, confirming that a statistically significant difference exists between the two groups being compared. The P-value of 0.010, remaining below the standard significance threshold of 0.05, further supports the rejection of the null hypothesis. This suggests that the grouping variable under examination has a meaningful influence on how respondents perceive and respond to gamification features within financial applications. However, compared to previous ANOVA results, the F-value here is relatively moderate, indicating that while the difference between groups is statistically significant, its magnitude is less pronounced. Overall, the findings confirm that user characteristics considerably shape attitudes toward gamified elements, though the degree of variation across groups is comparatively smaller in this instance.

**Table 1.4.** Comparison of Impact on Investment Behaviour

	df	SS	MS	F	Significance F
Regression	4	20.50404706	5.126011764	7.656061973	2.16541E-05
Residual	95	63.60595294	0.669536347		
Total	99	84.11			



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### SOURCE: Primary source

The regression output presents a four-predictor model that yields an F-statistic of 7.656, comfortably crossing the critical boundary and establishing the model as statistically sound. A Significance F of 2.17E-05 sits far beneath the widely accepted 0.05 benchmark, offering compelling evidence that the chosen independent variables are not coincidentally associated with the outcome but rather drive it in a meaningful direction. Of the total observed variation amounting to 84.11, approximately 20.50 is accounted for by the gamification-related predictors, representing a noteworthy explanatory contribution. The remaining residual value of 63.61 reflects the natural influence of external factors that fall outside the boundaries of this particular model. Collectively, these figures paint a coherent picture — gamification elements embedded within financial platforms serve as statistically credible and practically relevant predictors of how users engage with and respond to investment activities.

**Table 1.5.** Comparison of Investment Frequency Increase

	df	SS	MS	F	Significance F
Regression	4	27.73002168	6.932505419	7.723562593	1.96744E-05
Residual	95	85.26997832	0.897578719		
Total	99	113			

### SOURCE: Primary source

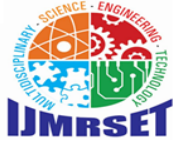
The regression model comprising four independent variables generates an F-statistic of 7.724, comfortably surpassing the critical threshold and confirming the model's overall statistical credibility. The Significance F of 1.97E-05 rests considerably below the 0.05 benchmark, providing strong evidence that the predictor variables collectively drive genuine and meaningful variation in the dependent variable. Out of a total observed variation of 113, the regression accounts for 27.73, reflecting a reasonable explanatory contribution from the gamification-related predictors toward understanding user behaviour. The residual value of 85.27 naturally acknowledges that influences operating outside the boundaries of this model also shape investment patterns and engagement levels. The contrast between the regression Mean Square of 6.933 and residual Mean Square of 0.898 further highlights the model's ability to distinguish meaningful patterns from unexplained noise. Overall, these figures confirm that gamification features serve as statistically significant and practically relevant predictors of user engagement and investment behaviour within financial applications.

## VI. CONCLUSION

The present study set out to investigate how gamification features embedded within financial applications shape user engagement and investment frequency, and the evidence gathered points toward a clear and affirmative answer. Interactive design elements such as reward systems, achievement recognition, progress indicators, and competitive features do meaningfully influence how users interact with financial platforms, particularly among younger and first-time investors who form the dominant segment of the digital investing population.

Survey responses reflected a broadly positive attitude toward gamified features, with a notable proportion of participants acknowledging that such elements heightened their motivation and encouraged more consistent financial participation. Statistical examination reinforced these perceptions, revealing significant behavioural variation across different user groups and confirming a moderate but genuine connection between gamification exposure and investment activity.

However, the findings also carry an important cautionary message. Since gamification explains only a portion of the variation in investment behaviour, it cannot be treated as a standalone solution. External factors including financial knowledge, income levels, risk awareness, and market conditions continue to exert considerable influence over how individuals invest. Gamification therefore works best not as an isolated engagement trick but as one thoughtfully designed component within a broader framework that prioritises financial literacy and investor wellbeing. When



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developed and deployed responsibly, gamification holds genuine promise as a force for expanding financial participation and nurturing disciplined, long-term investing habits across diverse user communities.

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