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ROLE OF GAMIFIED VIRTUAL TRADING PLATFORMS IN SHAPING INVESTOR READINESS AMONG STUDENTS

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Abstract
The study investigates the impact of gamified virtual trading platforms on investor who are investing for the first time and assessing their readiness in Mumbai, India. As fintech innovations rapidly expand in various areas like educational tools combining with experiential learning with engagement through features like leaderboards, badges, Tutorials, Market new Analysis, Confetti celebrations and rewards. This study aims to determine whether these tools genuinely enhance financial literacy, risk awareness, and disciplined investment behavior. A survey was conducted among 142 students aged 16–23 using convenience and snowball sampling. 50% of the Respondents prefer to use virtual trading before actually invest. Findings suggest that gamified simulators, when responsibly designed, can effectively prepare young investors for real market participation, though excessive gamification may risk overconfidence.
Keywords: Gamification, Virtual Trading Simulators, Financial Literacy, Investor Readiness, Fintech Education, Student Investors.

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1. Introduction

Gamified virtual trading simulators have become increasingly popular within India's fintech ecosystem, particularly among young adults and students. These platforms enable users to experiment with trading in a risk-free setting by using virtual money, while incorporating engaging elements such as a mascot/ Digital Avatar to guide, rewards for trading, badges for praises and status achieved by investing, streaks, leaderboards, and competitive tasks. Marketed as tools for investor education, they are designed to connect theoretical learning with practical market exposure by offering a realistic yet consequence-free environment. For many first-generation investors especially students who do not come from families with stock market experience explore these simulators often represent their initial interaction with investing. This study seeks to investigate whether using such gamified trading platforms actually contributes to improved financial literacy, better risk understanding, disciplined investment behaviour, and stronger investor readiness among students in Mumbai.

In this context, **investor readiness** refers to an individual's ability to enter financial markets in an informed, responsible, and confident manner. It includes not only the desire to invest but also the necessary knowledge, analytical skills, attitudes, and behavioural discipline required to make sound financial decisions.

The evolution of fintech in India has revolutionized access to financial markets, particularly for younger demographics. India has over 65% of the population below 35 years. Around 58% of India's population is in the working age. A recent Behaviour Index Survey conducted on 50,000

respondents found about 81% of young Indians (below 35 years) have invested in the Equity Market. 45% of young Indians prefer stocks as primary investment choice. (IBEF). 42% of non-investors cite a lack of financial knowledge as their main reason for avoiding stocks. 44% aspiring investors seek step-by-step guidance. AI-powered insights, real-time data, and virtual trading have lowered entry barriers, with nearly 49.6% of first-time investors opting for virtual money practice before real investments. (IBEF).

Gamified virtual trading simulators—platforms mix real-time market data with rewards, badges, leaderboards, and competitions—are increasingly used to teach finance. They are engaging, inexpensive, and accessible. However, research shows they have **both educational benefits and behavioural risks.**

Gamified virtual trading platforms integrate a range of interactive and reward-based features to enhance user engagement and learning. These include

- opportunities to earn real or redeemable monetary rewards through performance-based achievements, and group challenges where participants build high-return portfolios or predict stock movements.
- Platforms often host daily or periodic competitions with real-money prizes and AI-driven recognitions at hourly, weekly, or monthly intervals.
- Users can earn achievement badges, unlock higher competition levels, and track performance through leaderboards and scoreboards.
- Additional elements such as social networking features, discussion forums, interactive quizzes, customizable avatars, and team-based tournaments further promote collaboration, motivation, and sustained participation in simulated financial environments.

There is no official SEBI data, but industry estimates show 40–50 million young Indians have tried virtual trading apps, mostly through StockGro, Moneybhai, or campus competitions. Virtual trading platform adoption is very high among students, but actual equity market participation in India is still ~9–10% of households.

Category	Platform	Region	Approx. Users
Cash-Based Trading Apps (Real Money)	eToro- (with optional virtual mode)	Global	30M+
	Interactive Brokers	Global	Millions worldwide
	TD Ameritrade- (paperMoney simulator included)	USA	Millions
Non-Cash Virtual Trading Simulators (No Real Money)	StockGro	India	35M+
	Moneybhai (Moneycontrol)	India	8M+
	TradingLeagues / StockPe- (fantasy-style)	India	5–7M
	Dalal Street Virtual (DSIJ)	India	Lakhs of users
	Investopedia Simulator	Global	10M

Gamified virtual trading simulators—such as StockGro, Moneybhai, Stockpe and TradingLeagues, Moneybhai – by Moneycontrol, TradingView Paper Trading: —enable students to engage in real-time trading using virtual currency while integrating game elements like rewards, badges, and leaderboards, confetti celebrations etc. These platforms claim to enhance investor education by bridging theoretical finance knowledge with practical experience.

Gamified Simulators Help Students Learn Finance

1. Safe, Low-Stakes Learning Environment -Students can experiment with equities, derivatives, crypto, and short-selling without risking real money. This allows exploration of concepts they would normally find intimidating or financially risky.
2. Higher Engagement Through Instant Feedback -Gamified elements—rankings, badges, streaks—create immediate feedback loops.
3. Proven Academic Improvement -A controlled study at Georgia State University (2023) showed that students using stock-market simulators scored 15% higher on finance tests compared to those learning via traditional lectures. This suggests simulations help translate theory into applied understanding.
4. Experiential Learning Advantage - students learn by doing. This often results in better retention of concepts like diversification, volatility, and order types.

Gamified Simulators Can Mislead or Harm Investor Behaviour

1. Reward System Encourages Frequency, Not Skill - Gamification promotes activity, not quality, which contradicts the principles of long-term investing.
2. Dopamine Loops & Addictive Behaviour -Badges, streaks, push notifications, and time-pressured challenges create dopamine loops similar to mobile games.
3. Overconfidence Spillover into Real Markets -A students who performed well in virtual trading take twice as much risk when they shift to real money. This is because they internalize success in a consequence-free environment.
4. Distorted Understanding of Costs & Risks Simulators often ignore: taxes, brokerage fees, liquidity constraints, slippage, Students may wrongly assume real trading is cheap and frictionless.
5. Behavioural Biases Amplified-Gamified cues can strengthen: Overconfidence, herd behaviour, loss aversion, fear of missing out (FOMO), These effects can impair investor readiness rather than improve it.

The rapid rise of gamified financial applications has raised global regulatory concerns due to their influence on young and inexperienced investors. The U.S.-based platform Robinhood became a landmark case when it was fined USD 7.5 million in 2024 for using game-like features that encouraged impulsive trading. In India, a similar situation emerged in 2024 when platforms such as StockGro and StockPe offered gamified stock contests using real-time market data and cash rewards. In response, SEBI issued a circular on 24 May 2024 directing stock exchanges to discontinue live price feeds to any third-party platform offering cash-based stock contests; although no fines were imposed, this resulted in a de-facto shutdown of such models by mandating delayed data and eliminating cash rewards, reinforcing the need to examine whether gamified simulators enhance investor readiness or promote speculative behaviour.

2. Literature Review

Virtual trading simulators allow users to trade securities using virtual money in real-time market conditions. These platforms are based on experiential learning theory **(Kolb, 1984),** which emphasizes learning through doing. **Harter and Harter (2010)** find that stock market games improve students' understanding of market mechanisms and terminology. Several studies in business education report that simulation-based learning enhances conceptual clarity and practical exposure compared to traditional classroom methods. However, research by **Gao and Lin (2015)** indicates that simulator users may develop overconfidence, as virtual losses do not carry real

financial consequences. **Barber and Odean (2001**) show that overconfident investors tend to overtrade in real markets, leading to lower net returns. This suggests that simulators could unintentionally reinforce risky behaviour if not properly guided.

Gamification refers to applying game design elements—points, badges, and challenges—to non-game contexts to boost engagement **(Deterding et al., 2011**). Studies done by **Dichev & Dicheva (2017) and Hamari et al. (2014)** show that gamification enhances learner motivation and retention. In financial contexts, platforms use rewards and feedback loops to make investing approachable for beginners. Yet, scholars like **Kapp (2012)** caution that excessive gamification can shift focus from meaningful learning to reward-seeking.

Financial literacy drives sound investment decisions. **Lusardi & Mitchell (2014)** identified literacy as key to financial well-being. In India, SEBI and RBI highlight persistent literacy gaps despite fintech expansion **(Agarwal et al., 2020).** Hence, evaluating whether gamified tools genuinely enhance knowledge is essential.First-time investors are vulnerable to cognitive biases like overconfidence and herd behavior **(Kahneman & Tversky, 1979).** Gamified cues may amplify such biases by rewarding frequent participation, making it vital to distinguish engagement from preparedness.**Barber and Odean (2001)** document that individual investors frequently trade excessively, driven by overconfidence, reducing their net returns.

The **Ontario Securities Commission (OSC),** in collaboration with the Behavioural Insights Team, found in survey of 24,000 retail investors that social and competitive gamification features significantly influenced trading behavior. For instance, the "copy trading" option—allowing users to replicate the trades of top performers—led to an 18% increase in the purchase of promoted stocks. Similarly, features such as social norms and leaderboards, which expose participants to peer activity and rankings, encouraged herd-like behavior and speculative trading patterns. While these elements increase engagement, they often rely on non-expert signals, leading to overtrading, poor diversification, and higher risk exposure (Ontario Securities Commission & Behavioural Insights Team, 2022).

Research Gap

While globally studies have been done on fintech and stimulators and investors' engagement, there is a lack of empirical evidence in the Indian context, especially in Mumbai, on whether gamified virtual trading simulators actually enhance investor readiness or merely increase confidence and speculative tendencies among students.

Objectives

1. To examine the impact of gamified virtual trading simulators on students' financial literacy and market understanding.
2. To analyze whether simulator users demonstrate higher investor readiness compared to non-users.

3. Hypotheses

- H1: Simulator users have significantly higher financial literacy than non-users.
- H2: Simulator users demonstrate higher investor readiness (risk awareness and disciplined behavior) than non-users.

4. Research Methodology

Research Design-Descriptive and analytical research using a **comparative cross-sectional design**.

Population-Undergraduate and postgraduate students studying in colleges and universities across **Mumbai**.

Sample Size- 142 students, including (Users): Students who prefer to use gamified simulators (e.g., StockGro, Moneybhai) and Non-users): Students who don't prefer to use simulator experience

Primary Data: Structured questionnaire with Likert-scale items (1–5). Samples were collected by Convenience Sampling and Snowball Sampling.

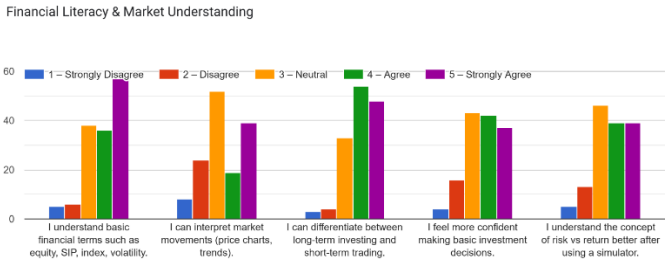
Secondary Data: IBEF, Ontario Securities Commission (OSC), SEBI, RBI reports, academic journals, and fintech literature

Independent **Variable**	Investors Prefer to use and not Prefer to use Simulator prior Investment
Dependent **Variable**	Financial literacy score, risk awareness scale, discipline index

Data Analysis tool- Descriptive statistics (mean, %)- hypotheses compare the mean financial literacy and investor readiness between two independent groups, simulator users and non-users. Since the dependent variables are treated as approximately continuous composite scores (average of multiple Likert items), an independent-samples t-test is appropriate

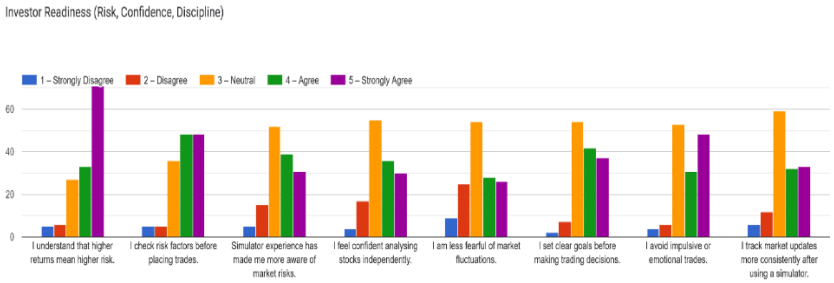
5. Analysis and Interpretation

- 74 male and 65 female students voluntarily participated in the survey.
- In reply to the question Have you preferred to use a virtual stock trading simulator before you start with actual investment 72 respondents (50%) said yes and 70 respondents (49%) said they don't want to use Gamified Virtual investment Apps
- The chart indicates that 61.3% of students have used virtual trading simulators at varying frequencies, while 38.7% have never used them. Nearly 28.8% of students engage with simulators regularly, suggesting significant exposure to market concepts and experiential learning
- In response to the question, which features they like the most, following reply were received
- Students primarily use informational features such as market news (58.8%) and portfolio analytics (58.1%), highlighting a focus on learning and decision-making. Educational tools like tutorials are also widely used (44.7%).

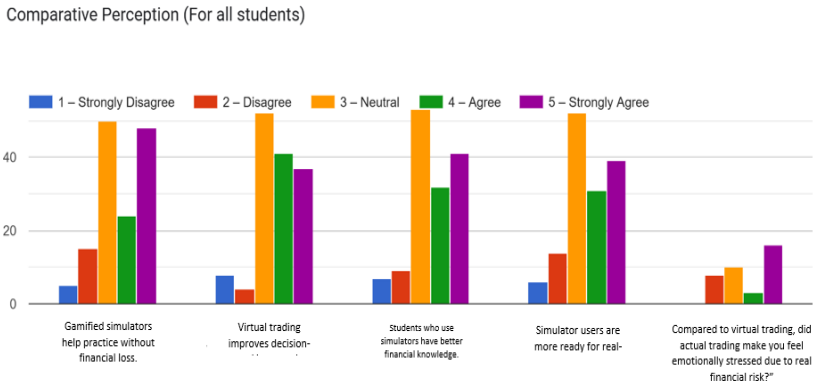


- The chart indicates a strong positive trend in financial literacy, with most respondents selecting "Agree" or "Strongly Agree" across all statements. Students report better understanding of financial terms, market movements, investment horizons, and the risk–return relationship after

using simulators. Overall, the findings support Hypothesis H1, confirming that simulator users demonstrate significantly higher financial literacy than non-users.



• The chart shows high levels of agreement across investor readiness statements, indicating improved risk awareness, confidence, and disciplined behaviour among simulator users. Students report greater attention to risk factors, reduced impulsive trading, consistent market tracking, and clearer goal setting. These findings support Hypothesis H2, confirming that simulator users demonstrate higher investor readiness than non-users.



• The chart indicates an overall positive perception of both gamified simulators and virtual trading platforms, with most responses clustered around "Agree" and "Neutral." A notable proportion of students also selected "Strongly Agree," suggesting that many perceive these tools as beneficial for learning and engagement, while negative responses are minimal. Overall, the findings support the relevance of simulators in enhancing students' financial understanding and investment preparedness.

Independent Samples t-test for Financial Literacy & Investor Readiness

Variable	t-statistic	p-value
Understanding financial terms	**3.99**	**0.00013**
Interpreting market movements	**4.65**	**0.000009**
Long-term vs short-term investing	**2.53**	**0.013**
Confidence in investment decisions	**2.92**	**0.0043**
Understand risk vs return	**4.15**	**0.000061**
Risk–return awareness	**2.26**	**0.026**
Checking risk before trades	**3.39**	**0.00098**
Simulator improves risk awareness	**4.32**	**0.000035**

Confidence in analyzing stocks	**3.71**	**0.00033**
Less fearful of fluctuations	**3.66**	**0.00037**
Goal setting before trades	**2.90**	**0.00445**
Avoiding impulsive trades	**3.66**	**0.00036**
Tracking market updates	**4.65**	**0.000009**

In hypothesis testing: $p \leq 0.05 \rightarrow$ Result is statistically significant → Null hypothesis is rejected → Research hypothesis is accepted. All p-values lie between 0.000009 and 0.026, which falls well within the acceptable range for hypothesis acceptance all reported p-values are below the conventional significance level of 0.05, indicating statistically significant differences between the two groups.

5. Conclusion and Recommendations

Gamified virtual trading platforms provide significant guidance as experiential learning tools for financial education. This study establishes empirical support for their role in enhancing investor readiness among students. However, design ethics are critical—platforms should balance engagement with education, incorporate reflective feedback, and discourage excessive risk-taking.

Recommendations: Integration of Virtual Trading Simulators in Early Education

Schools and Universities should incorporate gamified trading simulators into finance and management programs to provide students with hands-on, risk-free exposure to market dynamics. Aligning these tools with course objectives will strengthen financial decision-making skills and bridge the gap between classroom theory and real-world investing.

SEBI-Certified Gamified Financial Literacy Programs

In partnership with fintech platforms and academic institutions, SEBI should promote interactive, gamified financial literacy programs. Using features like leaderboards and challenges can make financial education more engaging and effective, improving both knowledge and behavioral discipline among young investors.

Regulations for Responsible Gamification

Regulators such as SEBI and RBI should develop ethical frameworks to ensure gamified platforms prioritize learning and investor safety over speculative behavior. Clear guidelines would encourage responsible innovation and foster a balanced, transparent digital investing ecosystem.

References

1. Agarwal, Amit, et al. *Financial Literacy and Investment Behaviour in India*. SEBI, 2020.
2. Barber, Brad M., and Terrance Odean. “Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment.” *The Quarterly Journal of Economics*, vol. 116, no. 1, 2001, pp. 261–292.
3. Deterding, Sebastian, et al. “From Game Design Elements to Gamefulness: Defining ‘Gamification.’” *Proceedings of the 15th International Academic MindTrek Conference*, 2011, pp. 9–15.
4. Dichev, Christina, and Darina Dicheva. “Gamifying Education: What Is Known, What Is Believed, and What Remains Uncertain.” *International Journal of Educational Technology in Higher Education*, vol. 14, 2017.

5. Gao, Hong, and Bin Lin. "Learning in Virtual Stock Markets: Evidence of Investor Overconfidence." *Educational Technology & Society*, vol. 18, no. 3, 2015, pp. 108–118.
6. Hamari, Juho, et al. "Does Gamification Work?—A Literature Review of Empirical Studies on Gamification." *Hawaii International Conference on System Sciences (HICSS)*, 2014, pp. 3025–3034.
7. Harter, C. L., and J. F. Harter. "Teaching Financial Literacy: The Stock Market Game Experience." *Journal of Economic Education*, vol. 41, no. 1, 2010, pp. 68–78.
8. Kahneman, Daniel, and Amos Tversky. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica*, vol. 47, no. 2, 1979, pp. 263–292.
9. Kapp, Karl M. *The Gamification of Learning and Instruction*. Wiley, 2012.
10. Kolb, David A. *Experiential Learning: Experience as the Source of Learning and Development*. Prentice Hall, 1984.
11. OECD. *OECD/INFE Toolkit for Measuring Financial Literacy and Financial Inclusion*. OECD, 2018.