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The effect of elaboration likelihood model components on the stock market investment decisions of individual investors

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Abstract
This study investigates the influence of the components of the Elaboration Likelihood Model (ELM)-specifically central and peripheral processing routes-on the investment decisions of individual stock market participants. Drawing on behavioural finance and persuasion theory, the research explores how factors such as financial literacy, investment experience, social influence, and information overload affect the depth of information processing and decision quality. The findings aim to differentiate rational evaluation from heuristic-driven behaviours like herding, contributing to a more nuanced understanding of investor psychology in emerging markets. A structured questionnaire was used to collect responses from 210 individual investors across major cities in South Karnataka. Statistical tools including descriptive analysis, correlation, multiple regression, and ANOVA were employed. The study revealed that most investors rely on perceived market trends and social influence rather than sound financial literacy or risk assessment. While risk tolerance showed a moderate impact on investment decisions, investor confidence and experience had limited influence. These findings suggest that individual investors often deviate from rational evaluation, reflecting a tendency towards herding behaviour.

Keyword: Herding, ELM, individual investors

Introduction

1.1 Background of the Study

In recent years, stock market participation among individual investors has witnessed remarkable growth, especially in developing economies like India. The widespread availability of digital trading platforms, financial content, and real-time data has empowered individuals to make investment decisions without professional intermediaries. However, this democratization of investing also brings to light a critical question: how do individual investors process the flood of financial information available to them?

Traditional finance theories, such as the Efficient Market Hypothesis (EMH), assume that investors are rational actors who make optimal decisions based on the full evaluation of information. However, behavioural finance has revealed that cognitive biases, social influence, and emotional triggers often drive investment behaviour. One powerful theoretical framework that explains such psychological variability in decision-making is the Elaboration Likelihood Model (ELM).

1.2 Elaboration Likelihood Model (ELM) Overview

Developed by Petty and Cacioppo (1986) [18], the Elaboration Likelihood Model (ELM) explains how people are persuaded and how their attitudes are shaped and changed. It identifies two routes of information processing:

Central Route: Deep, analytical processing where decisions are based on the quality and relevance of information. This route demands high motivation and ability to process data.

Peripheral Route: Shallow processing based on cues such as popularity, endorsements, or emotional appeal. It often occurs when motivation or ability to process information is low. In the context of financial decision-making, this model helps explain why some investors undertake

thorough analysis while others rely on superficial cues like media buzz, influencer opinions, or peer behaviour-often leading to herding behaviour.

1.3 Relevance to Stock Market Investment Behaviour

The application of ELM to stock market behaviour is timely and relevant. While some investors perform in-depth fundamental and technical analysis (central route), others are more influenced by stock tips, online forums, and market sentiment (peripheral route). These behaviours can significantly impact market stability and individual wealth creation.

Understanding whether an investor is driven by central or peripheral cues can:

- Help regulators design better financial literacy programs.
- Help platforms recommend more personalized investment support.
- Help researcher's link psychological models with financial behaviour.

1.4 Research Gap

Although ELM is widely applied in marketing and communication research, its application in the financial investment context remains underexplored, particularly in emerging markets. Existing behavioural studies often highlight herding or overconfidence but fail to explain the route through which information is processed.

2. Review of Literature

The phenomenon of investor decision-making has long been debated within the realms of traditional finance and behavioural finance. While classical economic theories such as the Efficient Market Hypothesis (EMH) posit that investors are rational and markets are efficient, behavioural finance challenges this notion by presenting empirical evidence of cognitive biases, irrational behaviour, and psychological influences.

2.1 Theoretical Perspectives on Rationality and Herding

Barberis, Shleifer, and Vishny (1998) [6] introduced models that incorporate investor sentiment and suggest that overreaction and under reaction to information often distort asset prices. Avery and Zemsky (1998) [7] explored how investors, faced with multidimensional uncertainty, might engage in herding due to information cascades. These models indicate that even rational individuals may herd if they believe others possess superior information.

Shleifer and Vishny (1997) [9] discussed the limits of arbitrage in financial markets, implying that rational actions can be restricted by institutional frictions, thereby creating room for behavioural anomalies like herding to thrive. Bikhchandani and Sharma (2001) [10] synthesized the causes of herding in financial markets, categorizing them into intentional (reputational or informational) and unintentional herding.

2.2 Empirical Studies on Herding Behaviour

Chang, Cheng, and Khorana (2000) [1] provided one of the first extensive cross-country empirical analyses on herding, concluding that it is more prevalent in emerging markets due to lower transparency and information asymmetry. Wermers (1999) [3] focused on mutual funds and found evidence of significant herding, particularly in small-cap stocks.

Grinblatt and Keloharju (2001) [8] used transaction-level data to reveal how cultural and geographical proximity influenced investor behaviour in Finland. Odean (1999) [5] emphasized overconfidence as a behavioural bias that leads to excessive trading and suboptimal outcomes. Graham (1999) [4] studied investment newsletters and found that reputational concerns could lead to herding among analysts.

2.3 Contemporary Findings in a Digital Era

With the rise of digital platforms and social media, herding behaviour has found new vectors. Wu and Lin (2024) [16] examined how sentiment analysis of social media posts correlates with trading patterns in the stock market, confirming that social sentiment significantly affects investor herding. Zhang and Gao (2023) [14] used big data techniques in the Chinese market and found that digital footprints of traders exhibit clear signs of information contagion.

Bouri *et al*. (2019) [12] shifted focus to cryptocurrency markets and showed herding is more intense in high-volatility environments. Thomas and Peterson (2023) [15], through meta-analysis, found consistent evidence of behavioural biases like anchoring, confirmation bias, and herding, particularly in younger and less experienced investors.

Collectively, these studies highlight the importance of understanding investor psychology in financial decision-making. While rationality remains an ideal, herding behaviour is an empirically documented and practically relevant phenomenon that affects market efficiency and investor welfare.

3. Objectives and Hypotheses

3.1 Objectives

- To assess whether investors rely more on cognitive evaluation or herd behaviour.
- To identify demographic and psychological factors contributing to herding.
- To test relationships between rational and irrational investment factors.

3.2 Hypotheses

- **Ha1:** Market trend awareness significantly influences investment decisions.
- **Ha2:** Social influence significantly influences investment decisions.
- **Ha3:** Financial literacy significantly influences investment decisions.
- **Ha4:** Risk tolerance significantly influences investment decisions.
- **Ha5:** Investment experience significantly influences investment decisions.
- **Ha6:** Confidence in market knowledge significantly influences investment decisions.

4. Methodology

4.1 Research Type and Data Collection

This empirical study is based on primary data collected via a Google Forms questionnaire.

4.2 Sampling Design Using convenience sampling, data were collected from 210 individual investors.
4.3 Statistical Tools Descriptive statistics, Pearson correlation, multiple regression, and ANOVA were applied using SPSS.

5. Results and Analysis

5.1 Demographic Profile

Variable	Category	%
Age	18-30 years	45.7%
	31-45 years	39.0%
	46 and above	15.3%
Gender	Male	72.4%
	Female	27.6%
Education	Undergraduate	11.4%
	Postgraduate	76.7%
	PhD	11.9%
Occupation	Employed	60.5%
	Student	28.1%
	Self-employed/Retired	11.4%
Monthly Income	< ₹50,000	38.6%
	₹50,001 - ₹100,000	42.4%
	> ₹100,000	19.0%

5.2 Correlation Analysis

Variable	Correlation (r) with Investment Decision
Market Trend Awareness	0.602
Social Influence	0.491
Financial Literacy	0.271
Risk Tolerance	0.411
Investment Experience	0.189
Confidence in Market Knowledge	0.174

5.3 Regression Analysis

1. Model Summary

- $R = 0.651$
- $R^2 = 0.424$
- Adjusted $R^2 = 0.403$

2. Regression Equation

$$Y = 1.081 + 0.488X_1 + 0.317X_2 + 0.092X_3 + 0.229X_4 - 0.065X_5 + 0.044X_6$$

3. ANOVA

- $F = 20.74$
- p-value = 0.000 (< 0.01) → Model is statistically significant

5.4 Hypothesis Testing

Hypothesis	Variable	p-value	Result
Ha1	Market Trend Awareness	0.000	Accepted
Ha2	Social Influence	0.002	Accepted
Ha3	Financial Literacy	0.094	Rejected
Ha4	Risk Tolerance	0.007	Accepted
Ha5	Investment Experience	0.151	Rejected
Ha6	Confidence in Market Knowledge	0.219	Rejected

Summary of Statistical Findings

A structured questionnaire was administered to 210 individual investors. Descriptive statistics revealed that the majority of respondents were male, postgraduate-educated, and within the age group of 18-45 years—characteristics typically associated with increased access to and interest in financial markets.

Correlation analysis showed a strong positive relationship between market trend awareness and investment decision-making (r = 0.602), indicating that investors are highly influenced by prevailing market conditions. Social influence also had a moderate positive correlation (r = 0.491), suggesting peer effects and media may shape investment behaviour. Conversely, financial literacy (r = 0.271), investment experience (r = 0.189), and confidence in market knowledge (r = 0.174) showed weak correlations with investment decisions.

Multiple regression analysis further confirmed these patterns.

- R^2 value of 0.424 indicated that about 42.4% of the variance in investment decisions can be explained by the six independent variables.
- Significant predictors: Market trend awareness ($p<0.001$), Social influence (p = 0.002), and Risk tolerance (p = 0.007).
- Non-significant predictors: Financial literacy, investment experience, and market confidence, indicating that many investors may not be acting on robust financial understanding.

6. Conclusion

This research set out to examine whether individual investors rely more on rational evaluation or are influenced by herd behaviour in their stock market investment decisions. Drawing from responses of 210 investors and using statistical tools like correlation, regression, and ANOVA, the study concludes that herding behaviour-driven by market trend awareness and social influence-plays a more significant role than rational indicators like financial literacy or investment experience.

The findings underscore the gap between theoretical financial literacy and practical investor behaviour. In today's interconnected digital age, psychological influences and peer actions often overshadow rational analysis. This can result in suboptimal investment outcomes and contribute to market volatility.

6.1 Practical Implications

- **For Investors:** Emphasize self-education, avoid over-reliance on trends or social buzz, and develop long-term financial strategies.
- **For Policymakers and Educators:** There is a pressing need to enhance investor education programs, particularly focusing on behavioural biases and critical thinking.
- **For Regulators:** Monitoring social media-driven trading signals may be vital to maintain orderly markets.

6.2 Limitations and Future Research

While the study was robust in scope, it was limited to self-reported data from a single region and used convenience sampling. Future research should consider longitudinal studies, include a more diverse investor base, and integrate qualitative interviews to gain richer insights into investor psychology.

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