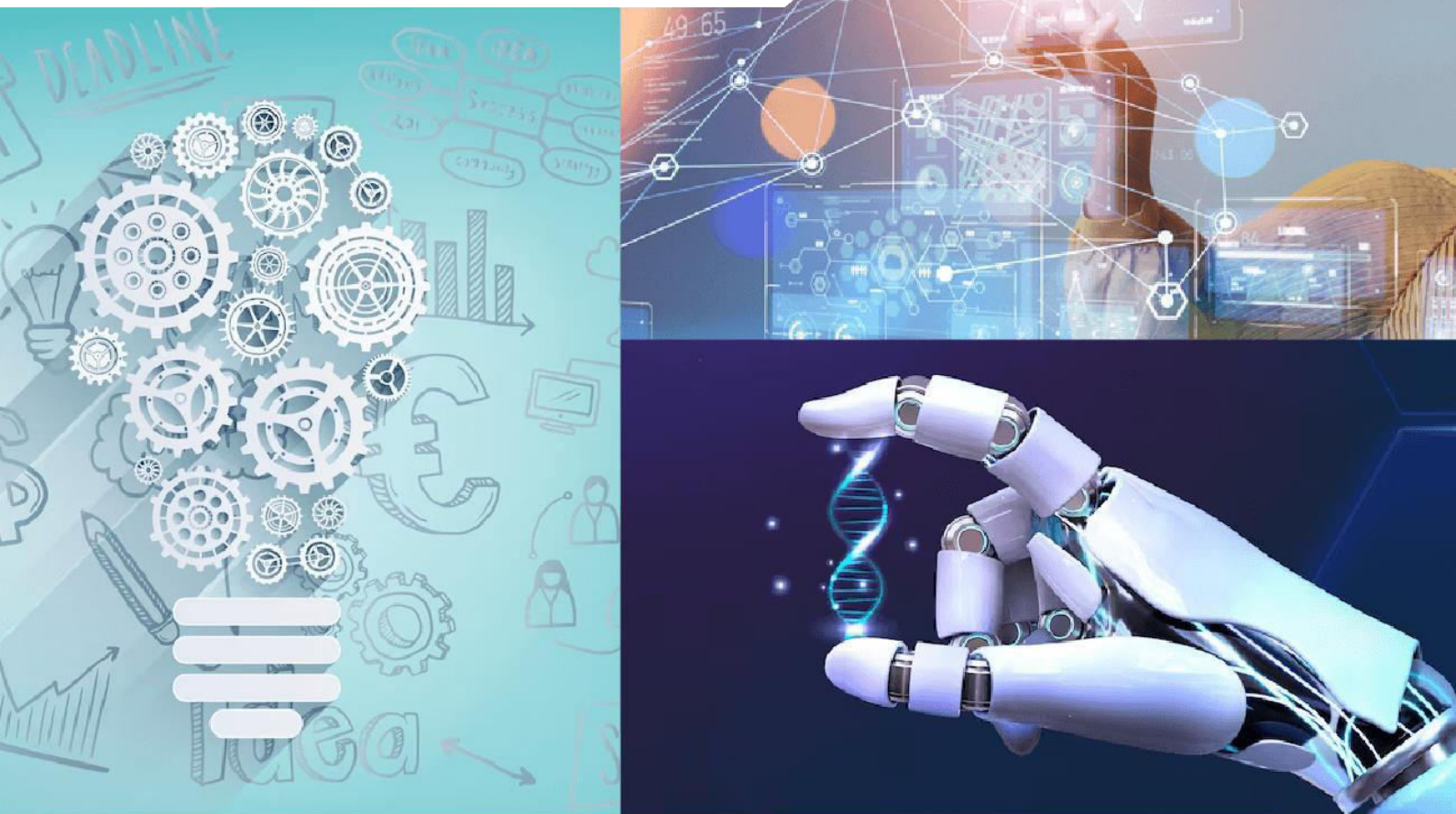




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The Influence of Financial Literacy and Behavioural Biases on Individual Investor Portfolio Performance

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ABSTRACT: This study examines the relationship between financial literacy and behavioural biases and their impact on the portfolio performance of individual investors. In the context of increasing participation of retail investors in financial markets, understanding how financial knowledge and psychological factors influence investment decisions has become highly important. The study focuses on key components of financial literacy, including understanding of financial concepts, risk–return evaluation, diversification, financial planning, and investment confidence. It also analyses major behavioural biases such as herding behaviour, social influence, loss aversion, and anchoring bias.

A quantitative research approach was adopted using primary data collected through a structured questionnaire from 168 respondents. The study employed statistical tools such as descriptive analysis, correlation analysis, and regression analysis to examine the relationships between variables and to test the proposed hypotheses.

The findings of the study indicate that respondents possess a moderate to high level of financial literacy, which positively influences investment behaviour and portfolio performance. However, behavioural biases are also found to significantly affect investment decisions. Herding behaviour and social influence indicate that investors are influenced by others, while loss aversion reflects reluctance to accept losses. Anchoring bias shows dependence on past information while making decisions. The results further reveal that financial literacy and behavioural biases are significantly related, suggesting that even financially knowledgeable investors are not completely free from psychological influences.

The study concludes that both rational factors (financial literacy) and emotional factors (behavioural biases) jointly influence investment behaviour and outcomes. While financial literacy improves decision-making ability, behavioural biases may lead to deviations from rational investment choices. Therefore, improving financial literacy alone is not sufficient; there is also a need to create awareness about behavioural biases among investors.

The study provides useful insights for investors, financial advisors, and policymakers to design effective strategies for better investment decisions and improved portfolio performance.

KEYWORDS: Financial Literacy, Behavioural Biases, Investment Behaviour, Portfolio Performance, Individual Investor

I. INTRODUCTION

The increasing participation of individual investors in financial markets represents a significant shift in the global investment landscape. Advancements in technology, the rise of digital trading platforms, and the availability of real-time financial information have enabled individuals to actively engage in investment activities. This transformation has expanded access to financial markets; however, it has also increased the complexity of investment decision-making, requiring investors to possess both financial knowledge and analytical capability to achieve optimal portfolio performance.

Financial literacy has emerged as a critical factor influencing investment behaviour and financial outcomes. It refers to an individual's ability to understand financial concepts, evaluate risk–return trade-offs, and make informed financial decisions. Investors with higher levels of financial literacy are generally more capable of diversifying their portfolios,

managing financial risks, and aligning investments with long-term financial goals. As a result, financial literacy plays a vital role in improving portfolio performance and enhancing overall financial well-being.

Despite the importance of financial knowledge, investment decisions are not always purely rational. Insights from behavioural finance suggest that psychological and emotional factors significantly influence investor behaviour, often leading to deviations from rational decision-making. Behavioural biases such as overconfidence, herding behaviour, loss aversion, and anchoring affect how investors interpret information, assess risks, and respond to market fluctuations. For example, overconfidence may lead investors to overestimate their ability to predict market movements, while loss aversion may cause them to hold losing investments for extended periods. Similarly, herding behaviour can result in investors following market trends without sufficient analysis, increasing exposure to financial risk.

The interaction between financial literacy and behavioural biases presents a complex dynamic in investment decision-making. While financial literacy is expected to enhance rational behaviour, behavioural biases may persist even among knowledgeable investors. This indicates that investment behaviour is influenced by both cognitive understanding and psychological tendencies. Therefore, analysing these factors together provides a more comprehensive understanding of investor behaviour and portfolio outcomes.

In emerging financial environments, the relevance of financial literacy and behavioural biases becomes even more significant. Retail investors often rely on informal information sources and may lack structured financial planning skills, making them more susceptible to behavioural influences. At the same time, increasing financial awareness through education and digital access has the potential to improve investment decision-making. However, the extent to which financial literacy can mitigate behavioural biases remains an area requiring further investigation.

Most existing studies have examined financial literacy and behavioural biases independently, with limited focus on their combined effect on portfolio performance. Furthermore, empirical evidence linking these factors directly to investment outcomes remains insufficient. This study addresses this gap by examining the influence of financial literacy and behavioural biases on individual investor portfolio performance within a unified framework.

The primary objective of this study is to analyse how financial literacy impacts investment behaviour and portfolio performance, evaluate the influence of behavioural biases on investment decisions, and examine the relationship between financial literacy and behavioural biases among individual investors. By integrating both rational and behavioural perspectives, the study contributes to a deeper understanding of investor behaviour and provides practical insights for improving financial decision-making and investment outcomes.

II. RESEARCH OBJECTIVES AND HYPOTHESES

Research Objectives

The study is designed to examine the influence of financial literacy and behavioural biases on the portfolio performance of individual investors. The specific objectives are as follows:

1. To assess the impact of financial literacy on the portfolio performance of individual investors.
2. To analyse the influence of behavioural biases on investment decision-making and portfolio performance.
3. To evaluate the relationship between financial literacy and behavioural biases among individual investors.

Framing of Research Hypotheses

To address the research objectives systematically, the following hypotheses are formulated:

Hypothesis 1 (H₀₁ / H₁₁): Impact of Financial Literacy

H₀₁: Financial literacy has no significant impact on the portfolio performance of individual investors.

H₁₁: Financial literacy has a significant positive impact on the portfolio performance of individual investors.

Hypothesis 2 (H₀₂ / H₁₂): Impact of Behavioural Biases

H₀₂: Behavioural biases have no significant impact on investment behaviour and portfolio performance.

H₁₂: Behavioural biases have a significant impact on investment behaviour and portfolio performance.

Sub-Hypotheses:

- H_{12a}: Overconfidence has a significant impact on portfolio performance.
- H_{12b}: Herding behaviour has a significant impact on portfolio performance.
- H_{12c}: Loss aversion has a significant impact on portfolio performance.

- H_{12d}: Anchoring bias has a significant impact on portfolio performance.

Hypothesis 3 (H₀₃ / H₁₃): Relationship between Financial Literacy and Behavioural Biases

H₀₃: There is no significant relationship between financial literacy and behavioural biases among individual investors.

H₁₃: There is a significant relationship between financial literacy and behavioural biases among individual investors.

III. RESEARCH METHODOLOGY

A quantitative, cross-sectional research design was adopted to examine the influence of financial literacy and behavioural biases on individual investor portfolio performance. The study combines descriptive and inferential statistical techniques to analyse relationships between variables and test the proposed hypotheses.

Research Approach

The study follows a quantitative approach, enabling systematic measurement and analysis of financial literacy and behavioural biases using numerical data. This approach ensures objectivity and facilitates statistical validation of relationships between variables.

Data Collection

Primary data was collected through a structured, self-administered questionnaire distributed using online platforms. The questionnaire was designed using a 5-point Likert scale to capture respondents' perceptions regarding financial literacy, behavioural biases, and investment behaviour.

Sample and Sampling Technique

A total of 168 valid responses were collected from individual investors, including students, working professionals, and individuals with basic exposure to financial markets. Convenience sampling was used due to accessibility and time constraints, ensuring relevant and diverse respondent participation.

Variables of the Study

- Independent Variable: Financial Literacy (financial knowledge, risk–return evaluation, diversification, financial planning)
- Dependent Variable: Portfolio Performance / Investment Behaviour
- Behavioural Variables: Overconfidence, Herding Behaviour, Loss Aversion, Anchoring Bias

Analytical Tools

The study employs the following statistical techniques:

- Descriptive Statistics (Mean, Standard Deviation)
- Pearson Correlation Analysis
- Multiple Regression Analysis
- Reliability Analysis (Cronbach's Alpha)

IV. DATA ANALYSIS AND HYPOTHESIS TESTING

A. Descriptive Overview of Respondents and Key Variables The sample comprises 168 respondents, with a majority belonging to the younger age group (Below 25: 55.4%), indicating a digitally active and financially aware population. Female respondents constitute 62.5% of the sample, while 71.4% of respondents are postgraduates, reflecting a highly educated respondent base. The majority fall within lower to middle-income categories, which may influence investment capacity and risk-taking behaviour.

Descriptive statistics indicate that respondents exhibit a relatively high level of financial literacy, with an overall composite mean of $M = 3.82$, suggesting that most individuals possess adequate understanding of financial concepts, risk evaluation, and investment planning. Behavioural biases are also present at a moderate level ($M = 3.50$), indicating that psychological factors continue to influence investment decisions despite financial awareness.

B. Hypothesis 1 — Impact of Financial Literacy on Portfolio Performance

Regression Analysis Results

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The regression model examining the impact of financial literacy on investment behaviour and portfolio performance is statistically significant ($F = 77.9$, $p < 0.001$). The model explains approximately 32.3% of the variation ($R^2 = 0.323$) in the dependent variable, indicating a substantial explanatory power.

Financial literacy shows a strong positive and statistically significant effect ($\beta = 0.569$, $p < 0.001$), confirming that higher levels of financial knowledge lead to improved investment behaviour and portfolio outcomes.

Interpretation

Financial literacy is significantly above the neutral threshold ($M = 3.82$), indicating a well-informed respondent base. The positive regression coefficient suggests that financially literate individuals are better equipped to evaluate risk–return trade-offs, diversify investments, and engage in structured financial planning. The relatively high explanatory power ($R^2 = 0.323$) confirms that financial literacy is a key determinant of investment behaviour.

Decision

H_{01} is rejected and H_{11} is accepted .

Financial literacy has a significant positive impact on portfolio performance.

C. Hypothesis 2 — Impact of Behavioural Biases on Portfolio Performance

Regression Analysis Results

The regression model analysing behavioural biases is statistically significant ($F = 23.4$, $p < 0.001$) and explains 42.2% of the variation ($R^2 = 0.422$) in investment behaviour and portfolio performance, indicating strong explanatory power.

Among the behavioural variables:

- Overconfidence shows a strong positive and significant impact ($B = 0.465$, $p < 0.001$)
- Herding behaviour shows a negative and significant effect ($B = -0.142$, $p = 0.016$)
- Holding losing investments (loss aversion) shows a significant negative impact ($B = -0.344$, $p < 0.001$)
- Social influence and anchoring bias are statistically insignificant ($p > 0.05$)

Interpretation

The results indicate that behavioural biases play a significant role in shaping investment outcomes. Overconfidence enhances investment activity, but may also increase exposure to risk. In contrast, herding behaviour and loss aversion negatively affect portfolio performance, leading to irrational decision-making such as following market trends or avoiding loss realization.

The high explanatory power ($R^2 = 0.422$) suggests that behavioural biases are strong predictors of investment behaviour, sometimes even more influential than financial knowledge.

Decision

H_{02} is rejected and H_{12} is accepted .

Behavioural biases have a significant impact on investment behaviour and portfolio performance.

D. Hypothesis 3 — Relationship Between Financial Literacy and Behavioural Biases

Correlation Analysis Results

Pearson correlation analysis reveals a moderate positive relationship between financial literacy and behavioural biases ($r = 0.505$, $p < 0.001$), which is statistically significant at the 1% level.

Interpretation

The positive correlation indicates that as financial literacy increases, behavioural biases also tend to increase. This finding suggests that financial knowledge does not eliminate psychological biases. Instead, financially literate individuals may participate more actively in financial markets, increasing their exposure to behavioural influences.

This challenges the traditional assumption that financial literacy leads to fully rational decision-making and highlights the coexistence of cognitive and emotional factors in investment behaviour.

Decision

H_{03} is rejected and H_{13} is accepted.

There is a significant relationship between financial literacy and behavioural biases.

E. Reliability Analysis

Reliability testing using Cronbach's Alpha indicates:

- Financial Literacy: 0.820 (Good reliability)
- Behavioural Biases: 0.548 (Moderate reliability)

- Portfolio Performance: 0.780 (Acceptable reliability)

Interpretation

The results confirm that the measurement scales used in the study are reliable and suitable for statistical analysis. The moderate reliability in behavioural biases reflects the diverse and independent nature of psychological factors.

V. FINDINGS AND RECOMMENDATIONS

Key Findings

1. Financial Literacy Significantly Enhances Investment Behaviour and Portfolio Performance

Financial literacy demonstrates a strong and statistically significant positive impact on investment behaviour ($R^2 = 0.323$, $\beta = 0.569$, $p < 0.001$). Respondents exhibit a relatively high level of financial literacy ($M = 3.82$), indicating that individuals with better financial knowledge are more capable of evaluating risk–return trade-offs, diversifying investments, and making informed financial decisions.

2. Behavioural Biases Strongly Influence Investment Outcomes

Behavioural biases explain a substantial proportion of variation in portfolio performance ($R^2 = 0.422$, $p < 0.001$), indicating their critical role in shaping investment decisions. Among the biases, overconfidence shows a strong positive impact, while herding behaviour and loss aversion exhibit significant negative effects on investment outcomes.

3. Overconfidence Encourages Investment Activity but May Increase Risk Exposure

Overconfidence bias is found to have a significant positive effect on investment behaviour ($B = 0.465$, $p < 0.001$), suggesting that confident investors are more likely to participate actively in financial markets. However, excessive confidence may also lead to overtrading and increased exposure to financial risk.

4. Herding Behaviour and Loss Aversion Reduce Decision Quality

Herding behaviour ($B = -0.142$, $p = 0.016$) and loss aversion ($B = -0.344$, $p < 0.001$) negatively affect portfolio performance. Investors influenced by others tend to follow market trends without adequate analysis, while loss-averse individuals avoid realizing losses, leading to suboptimal investment outcomes.

5. Financial Literacy and Behavioural Biases Coexist

A moderate positive relationship is observed between financial literacy and behavioural biases ($r = 0.505$, $p < 0.001$), indicating that financially knowledgeable individuals are not completely free from psychological influences. This highlights that rational knowledge and behavioural tendencies operate simultaneously in investment decision-making.

6. Behavioural Factors Can Be Stronger Predictors than Financial Knowledge

The higher explanatory power of behavioural biases ($R^2 = 0.422$) compared to financial literacy ($R^2 = 0.323$) suggests that psychological factors may have a stronger influence on investment behaviour than financial knowledge alone.

VI. RECOMMENDATIONS

1. Integrate Financial Literacy with Behavioural Awareness Programs

Financial education initiatives should not focus solely on improving financial knowledge but must also address behavioural biases. Training programs should include practical insights on recognising and managing biases such as overconfidence and loss aversion to enhance rational decision-making.

2. Promote Structured Investment Planning

Investors should be encouraged to adopt goal-based financial planning and disciplined investment strategies. The use of systematic investment plans, diversification techniques, and periodic portfolio reviews can help reduce the impact of behavioural biases.

3. Encourage Data-Driven Investment Decisions

Investors should rely more on financial analysis, market fundamentals, and objective data rather than following market trends or peer behaviour. This can reduce the negative effects of herding behaviour and improve decision quality.

4. Develop Behavioural Advisory Support

Financial advisors and institutions should incorporate behavioural finance principles into their advisory services. Providing personalised guidance and behavioural insights can help investors avoid irrational decision-making and improve portfolio performance.

5. Enhance Investor Awareness through Digital Platforms

Digital investment platforms can play a key role in educating investors by providing tools, alerts, and insights that

highlight common behavioural mistakes. Interactive learning modules and behavioural nudges can support better investment decisions.

6. Focus on Long-Term Investment Orientation

Investors should be encouraged to adopt a long-term perspective rather than reacting to short-term market fluctuations. This approach can help mitigate the effects of loss aversion and anchoring bias, leading to improved financial outcomes.

VII. CONCLUSION

This study examines the influence of financial literacy and behavioural biases on the portfolio performance of individual investors, providing a comprehensive understanding of how rational knowledge and psychological factors jointly shape investment behaviour. Based on empirical analysis of 168 respondents, the study presents several important conclusions.

First, financial literacy plays a significant and positive role in enhancing investment behaviour and portfolio performance. The findings confirm that individuals with higher financial literacy are better equipped to evaluate financial risks, diversify investments, and make informed decisions. However, the explanatory power of financial literacy, while substantial, is not sufficient to fully capture investor behaviour, indicating the presence of additional influencing factors.

Second, behavioural biases emerge as strong determinants of investment outcomes. Biases such as overconfidence, herding behaviour, and loss aversion significantly influence decision-making processes, often leading to deviations from rational investment strategies. While overconfidence may increase market participation, biases such as herding and loss aversion negatively impact portfolio performance by encouraging irrational and emotionally driven decisions.

Third, the study highlights that financial literacy and behavioural biases coexist rather than operate independently. The positive and significant relationship between the two variables suggests that even financially knowledgeable investors are not immune to psychological influences. This finding challenges the traditional assumption that financial literacy alone ensures rational decision-making and underscores the importance of incorporating behavioural perspectives in financial analysis.

Overall, the study concludes that portfolio performance is shaped by a combination of rational and behavioural factors. While financial literacy improves decision-making capability, behavioural biases continue to influence investor actions and may limit the effectiveness of financial knowledge. Therefore, improving financial outcomes requires not only enhancing financial literacy but also developing awareness and control over behavioural biases.

The findings of this study provide valuable insights for investors, financial advisors, and policymakers. By integrating financial education with behavioural awareness, it is possible to promote more rational investment behaviour and improve portfolio performance among individual investors. Future research may extend this study by incorporating longitudinal data, additional behavioural variables, and comparative analysis across different investor segments to further strengthen understanding in this domain.

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