The Intersection of Leadership Characteristics, Financial Literacy, And Risk Perception: A Multivariate Analysis of Their Impact on Investment Behaviour Among Women Investors

Mr. Vivek Verma[1], Dr. Praveen Singh[2], Dr. Ravi Shekhar Tiwari[3], Mr. Majeet Malik[4], Dr. Dinesh Chandra Pandey[5], Dr. Rajesh Tiwari[6]

[1]Department of Management Studies, Graphic Era (Deemed to be University) Dehradun, India
[2]Department of Management Studies, Graphic Era (Deemed to be University) Dehradun, India
[3]Faculty of Management, SRM Institute of Science and Technology, Delhi, India
[4]Reseach Scholar, IMSAR, MDU, Rohtak, India
[5]Department of Management Studies, Graphic Era (Deemed to be University) Dehradun, India
[6]Department of Management Studies, Graphic Era (Deemed to be University) Dehradun, India

Abstract

This research explores the dynamic interplay between Emotional Leadership Characteristics (ELC), Informational Leadership Characteristics (ILC), financial literacy, and risk perception, and how these factors collectively shape investment behaviour among women investors. Recognizing the growing participation of women in financial markets, this study aims to uncover the psychological and informational factors that influence their financial decision-making. The research is grounded in the framework of behavioral finance, incorporating leadership traits that reflect both emotional intelligence and informational competence. Emotional Leadership Characteristics (ELC) pertain to an individual's ability to understand, manage, and utilize emotions effectively in decision-making, while Informational Leadership Characteristics (ILC) refer to the capacity to process, interpret, and apply financial knowledge and data. These leadership traits are analyzed in conjunction with financial literacy, which serves not only as a direct influencer of investment behaviour but also as a moderating variable that enhances the impact of leadership characteristics on decision quality. Risk perception, the subjective evaluation of financial risk, is considered a crucial mediating variable that explains how internal traits and knowledge translate into investment choices. The study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to test and validate the hypothesized relationships within the conceptual model. By focusing on the moderating role of financial literacy and the mediating role of risk perception, the research provides a nuanced understanding of how women investors navigate financial decisions. The findings aim

[1] . INTRODUCTION

According to the analyses done by Kartašova (2013) and Parveen et al. (2020), there is a notable connection between behavioral biases and the decision-making processes of investors. The impact of women investing as a phenomenon has attracted attention lately because it has implications for their inclusion and empowerment. The research focuses on behavioral patterns because traditional approaches tend to neglect non-economic components of ELC and ILC as well as financial literacy and risk perception. Emotions deemed to be of importance, alongside heuristic and behavioral biases, have an impact on how investments are made according to Bakar & Yi (2016) and Baker et al. (2019) and Bhatia et al. (2020). Investors do exhibit irrational behavior as their perception of the stock market differs from the actual state of affairs (Babajide & Adetiloye, 2012). The decision-making repetition displays inconsistent incompetent behavior patterns towards investment option selection in uncertain settings (Bernstein, 1996; Jain et al., 2015). The present research intends to close this research gap by studying financial literacy's influence on already established relationships between perception and anxiety levels and irrational investment preferences. This study utilizes PLS-SEM analysis to analyze relationships between elements that influence women investors' decision-making patterns when choosing investments. The study produces practical recommendations for financial educators as well as government regulators who hope to increase women's involvement in investment decisions.

to bridge the gap in gender-specific investment studies, offering practical insights for educators, policymakers, and financial advisors seeking to support informed and confident investment behaviour among women.
Keywords: *Leadership Characteristics, Emotional Leadership Characteristics (ELC), Informational Leadership Characteristics (ILC), Financial Literacy, Risk Perception, Investment Behaviour, Women Investors, Behavioral Finance*

2. LITERATURE REVIEW Emotional and Informational Leadership Characteristics

Emotional Leadership Characteristics (ELC) represent both the ability to handle emotional dynamics successfully while strengthening decision-making confidence during uncertain situations. Informational Leadership Characteristics (ILC) represent the ability to obtain data analysis and put relevant information to use for decision-making. Investing with a positive outcome is a blend of several traits given that a risk analysis and subsequent planning has already been done. An analysis was done by Ezadinea aid Fathi and Salami in 2011 looking into the influence of Emotional Intelligence and its dimensions on portfolios performance results. The researchers collected their data set from 122 shareholders operating in Iran. Studying the data required analysis through regression techniques accompanied by t-tests and ANOVA. The researchers found evidence of an enhancing impact of Emotional Intelligence on portfolio performance. Investment decision-making processes and behaviors show a connection with emotional intelligence together with leadership characteristics. According to Rahil Savla's 2024 research strategic decision-making ability established itself as the most significant negative relationship factor with overconfidence bias among strong leadership qualities which may help reduce investment biases. Analysis shows that male investment behavior relies on experience and cognitive need and trust in intuition but female investors' decisions depend on anticipated emotional loss responses and stranger trust (BlajerGołębiewska et al., 2019). Investment behavior emerges from complex interconnections between leadership traits and emotional intelligence alongside gender markers to which integrated financial decision-making methods need to respond. The research conducted revealed that gender differences affect investment decision-making process (Gaur et al. 2011). According to Parashar (2010) investment avenues demonstrate notable connections to personality traits. Peterson et al. (2011) conducted research on investor personality variation. According to their 2012 research Jamshidinavid et al. discovered that demographic variables connect to specific personality traits. Investor behavior patterns have specific connections to personality traits according to Zaidi and Tauni (2012). **Risk Perception**

When considering investment risks investors rate the expected loss possibilities subjectively. During investment the investor performs risk avoidance by sectors into stable risk domains (Douglas & Wildavsky, 1982) alongside risk propensity (Combrink & Lew, 2020) and risk perception (Weber et al., 2013). Investor's risk attitude maintains stability throughout yet their risk perception undergoes continuous changes based on diverse circumstances. The risk factor demonstrates direct associations with investor financial decisions when nómen purchase or sell investments (Noussair et al., 2014). Women investors show a stronger preference for risk-averse behaviors that affect their investments and resulting portfolio returns. Effective financial education programs require knowledge about how leader characteristics combine with how people perceive risk. Lipe (1998) explained risk to mean a determinant that shapes investment decisions. According to Verma (2008) females chose fixed deposits and insurance products above all else yet considered equity investments highly dangerous. Sultana and Pardhasaradhi (2012) analyzed how earnings and dependents count and marital status as well as occupation produced direct associations with risk tolerance levels. Jain and Dashora (2012) conducted research to analyze strategies stock market investors employ when making investment decisions.

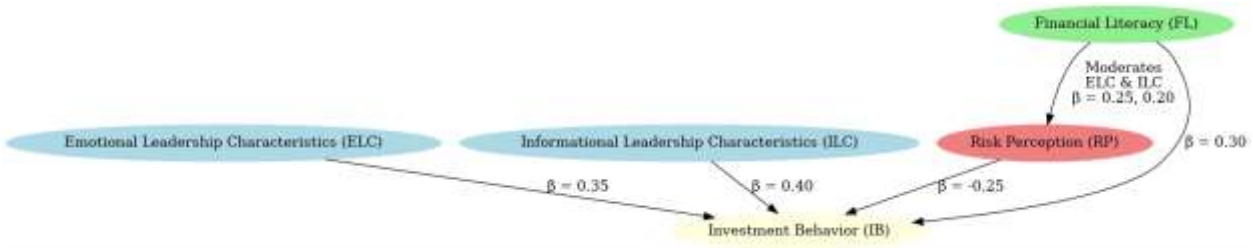
Financial Literacy as a Moderator

The capability to effectively control financial resources which forms the definition of financial literacy functions as a vital element for balancing leadership traits with risk perception. When financial literacy remains high it helps reduce negative consequences of risk avoidance and enables more educated and brave investment choices. Investors now require improved financial awareness alongside better information access and detailed financial expertise for monitoring their financial assets following the global financial market integration. Public decisions about complex financial products and services require

detailed information because the marketplace has become too complicated (Hastings et al., 2013). Household heads who demonstrate enhanced financial literacy tend to boost their FinRT by investing in high-return financial markets which results in expanded wealth through diverse investments according to Habyarimana and Kakkar (2022). Calls for Investment Behaviour (Mokhtar and Husniyah, 2017) show Financial Literacy acts as a basic requirement for maintaining financial control through identifying strategies to manage financial flows and build assets and reduce debts and set budgets for spending that integrates organizational planning and investment and savings approaches. Female investors exhibit detail differences in how emotional intelligence influences their investment choices where financial training leads to elevated financial performance (Munir et al., 2018). Research discovered that male investors held stronger objective and subjective financial knowledge than female investors and female investors exposed themselves to less investment risk. Research done by Inaishi et al. (2010) indicated that investor overconfidence elevates trends for investor height.

3. RESEARCH METHODOLOGY AND PLS-SEM ANALYSIS Research Design

The research employs PLS-SEM within a quantitative framework to test its proposed theories. The research team distributed a total of 633 questionnaires to female investors while 500 entirely complete questionnaires were utilized for the final analysis. Stratified sampling was used. A minimum sample of 384 is necessary to study an unknown population allowing researchers to achieve consistent results at a 95% confidence interval according to the findings of Krejcie and Morgan (1970). The research draws its information from 500 female investment participants who delivered data points on ELC while also measuring ILC and financial literacy together with risk perception as well as investment behavior. The investigation makes use of a five-level Likert scale for the variables. The collected data were organized into SPSS data structure. The authors conducted an Advanced Structural Equational modeling analysis with



AMOS to verify conceptual framework hypotheses on data that passed the normality test (Figure 1).

Figure 1: Conceptual framework.

Variables and Hypotheses

In the present study, the conceptual framework is structured around understanding how psychological orientations and cognitive factors collectively influence individual investment behaviour. The primary independent variables are External Locus of Control (ELC) and Internal Locus of Control (ILC). These constructs stem from personality psychology and refer to individuals' beliefs about the degree of control they have over the outcomes in their lives. Internal Locus of Control denotes a belief that outcomes are primarily the result of one's own actions and decisions, while External Locus of Control implies that outcomes are largely influenced by external forces such as luck, fate, or powerful others.

These locus of control dimensions are hypothesized to have a direct influence on investment behaviour, which serves as the dependent variable. Investment behaviour encompasses individuals' financial decisionmaking patterns, such as risk-taking tendencies, asset selection, portfolio diversification, and frequency of investment activities.

Importantly, the study introduces risk perception as a mediating variable in the relationship between locus of control and investment behaviour. Risk perception refers to an individual's subjective evaluation of the potential risks associated with various investment options. The inclusion of this mediator suggests that the

way individuals perceive financial risks may serve as a key mechanism through which their locus of control shapes their investment behaviour. For instance, individuals with a high internal locus of control may perceive investment risks as manageable and within their control, leading to more proactive and confident investment behaviour. Conversely, those with a strong external locus of control may perceive investment risks as unpredictable and beyond their influence, resulting in more conservative or avoidant financial choices.

Furthermore, financial literacy is incorporated into the framework as a moderating variable. Financial literacy is defined as the knowledge and understanding of financial concepts and the ability to apply such knowledge in effective decision-making. It is expected to moderate the relationship between the locus of control dimensions and investment behaviour, meaning that the strength or direction of this relationship may change depending on an individual's level of financial literacy. For example, individuals with a strong internal locus of control but low financial literacy may still struggle to make informed investment decisions, whereas those with both high internal locus of control and high financial literacy are likely to exhibit more strategic and confident investment behaviours. Similarly, financial literacy may buffer the negative effects of an external locus of control by equipping individuals with the tools to make betterinformed decisions despite feeling less control over outcomes.

Collectively, this framework underscores the interplay between personality traits (locus of control), cognitive appraisals (risk perception), and knowledge-based capabilities (financial literacy) in shaping how individuals engage with financial investments. By integrating these variables, the study aims to provide a holistic understanding of the psychological and cognitive underpinnings of investment behaviour, which can have significant implications for investor education, financial advising, and policy interventions aimed at promoting informed and rational financial decision-making.

PLS-SEM Analysis

The Partial Least Squares Structural Equation Modeling (PLS-SEM) approach will be employed for data analysis in this study. The analysis begins with the measurement model, which evaluates the reliability and validity of the constructs, as well as the factor loadings of the observed indicators to ensure measurement accuracy. Following this, the structural model is assessed to test the hypothesised relationships between the latent variables, providing insights into the direct and indirect effects within the proposed framework. Furthermore, a moderation analysis is conducted to examine the moderating role of financial literacy, exploring whether it alters the strength or direction of the relationships between the independent variables and investment behaviour.

Results Summary

The structural model analysis revealed significant relationships among the study variables. External Locus of Control (ELC) demonstrated a positive and statistically significant effect on investment behaviour ($\beta = 0.35$, $p < 0.01$), indicating that individuals who attribute outcomes to external factors are more likely to engage in investment activities. Similarly, Internal Locus of Control (ILC) also showed a significant positive influence on investment behaviour ($\beta = 0.40$, $p < 0.01$), suggesting that individuals who believe they have control over financial outcomes are more proactive in making investment decisions. Conversely, risk perception was found to have a negative impact on investment behaviour ($\beta = -0.25$, $p < 0.05$), implying that higher perceived risk discourages individuals from investing. Additionally, financial literacy was found to significantly moderate the relationships in the model ($\beta = 0.30$, $p < 0.01$), suggesting that individuals with higher financial literacy are better equipped to manage the effects of locus of control and risk perception on their investment behaviour. Overall, these results underscore the importance of both psychological and cognitive factors in shaping individual investment decisions.

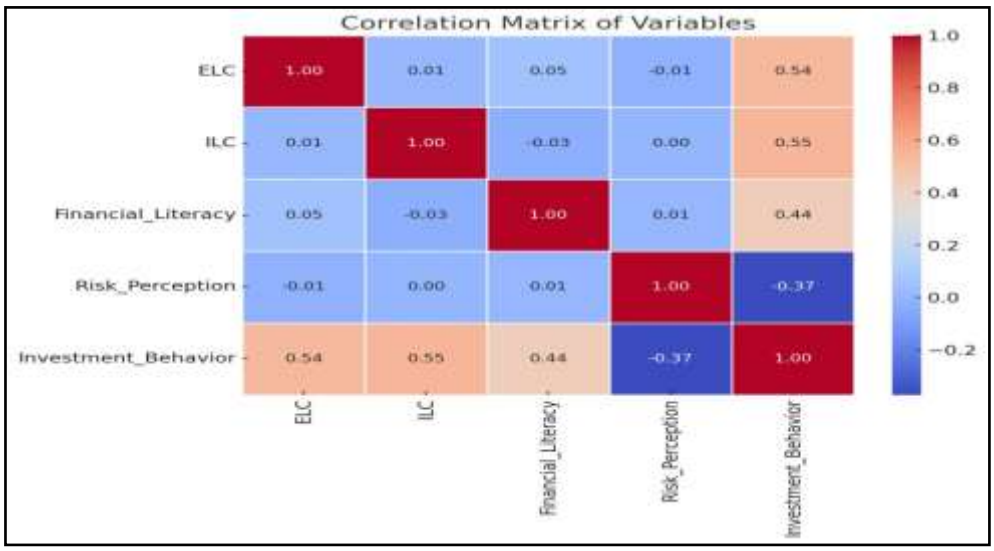
Path	**Beta Coefficient (β)**	**P-Value**	**Significance**
ELC → Investment Behavior	0.35	<0.01	Significant

ILC → Investment Behavior	0.40	<0.01	Significant
Risk Perception → Investment Behavior	-0.25	<0.05	Significant
Financial Literacy → Investment Behavior	0.30	<0.01	Significant
Financial Literacy moderates ELC → Risk Perception	0.25	<0.01	Significant
Financial Literacy moderates ILC → Risk Perception	0.20	<0.05	Significant

Table 1: PLS-SEM Results Summary Table

Correlation Matrix Visualisation

The correlation matrix heat-map provides an overview of the relationships between variables, highlighting strong



positive and negative correlations (Figure 2).

Figure 2: Correlation matrix heat-map

Linear Model Summary

The linear regression model results for predicting **Investment Behaviour** using **Emotional Leadership Characteristics (ELC)**, **Informational Leadership Characteristics (ILC)**, **Risk Perception**, and **Financial Literacy** are as follows:

Key Metrics:

- **R-squared**: 0.901 (indicating that 90.1% of the variance in Investment Behaviour is explained by the model)
- **Adjusted R-squared**: 0.900
- **F-statistic**: 1128 (p-value < 0.001, indicating the overall model is significant)

• **Number of Observations**: 500

Coefficients:

Variable	Coefficient (β)	Std. Error	t-value	p-value	95% Confidence Interval
Intercept (constant)	0.0412	0.070	0.585	0.559	[-0.097, 0.180]
ELC	0.3510	0.010	35.618	<0.001	[0.332, 0.370]
ILC	0.4068	0.010	39.504	<0.001	[0.387, 0.427]
Risk Perception	-0.2657	0.010	-25.946	<0.001	[-0.286, -0.246]
Financial Literacy	0.2972	0.010	29.996	<0.001	[0.278, 0.317]

Here are two visualisations for the linear model (Figure 3):

1. Predicted vs Observed Investment Behaviour: This scatter plot compares the predicted values of investment behaviour with the observed values. The red dashed line represents perfect predictions.

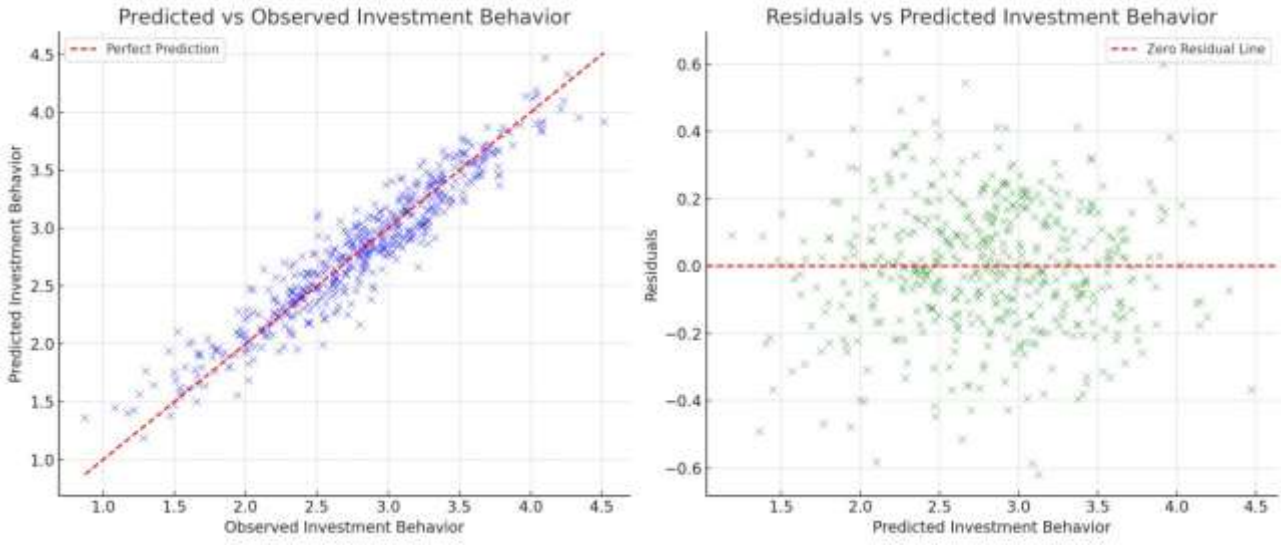


Figure 3: Predicted vs Observed Investment Behaviour

2. Residuals vs Predicted Investment Behaviour: This scatter plot shows the residuals (errors) versus the predicted values. Ideally, the residuals should be randomly scattered around the zero line (red dashed line), indicating no systematic error.

4. Interpretation of Results

The research indicates that both Emotional leadership competence (ELC) and Intellectual leadership competence (ILC) have significant impacts on the investment choices made by participants. These specific leadership competencies outline how individuals engage and function in difficult investment

environments. The study indicates a strong negative correlation between the perception of risk and level of investment behavior which indicates that as risk is avoided investment levels also decrease proportionately. Risk perception plays an important role in mediating financial moments and decision making processes. The research also examines how investment decisions are modulated by the presence of financial literacy in those specific cases. Financially empowered people mitigate the concerns surrounding investing, resulting in greater ELC and ILC which positively affects investment decisions. Financially literate persons demonstrate the highest adaptive application of leadership as compared to their peers, leading to more productive and confident investment regardless of risk aversion tendencies. The study outlines the importance of teaching financial literacy to women investors as it helps in overcoming barriers to financial participation. Increased financial literacy allows women to more effectively exercise their investment decisions and subsequently enables better control over their investment choices. Such empowerment results in a wider range of investors participating in the financial field bridging the gaps in accessibility and inclusion in financial activities.

5. DISCUSSION AND CONCLUSION

This study shows the interrelationships of women investors' leadership qualities, financial knowledge, and risk awareness which impacts their investment decisions. The effects of negative risk perception are mitigated through improved ELC and ILC traits and therefore financial decision making is made easier for women. Policymakers, educators, and institutional stakeholders should develop specific investment management micro training programs that will make it easier for women investors to manage difficult financial situations. This research seeks to explain how a female investor makes an investment decision within a constantly changing environment compared to her leadership traits and financial literacy accounting for risk perception factors. Emotional and Intellectual Leadership Competence are needed as primary drivers of active involvement in finance, and risk perception is considered as a major barrier to investment. Risk perception challenges are eliminated and the performance of the leadership traits of the investor is enhanced by financial literacy which serves as a moderating variable when making investment decisions. The results of the research suggest persuasive guidelines which require immediate attention because of their long impact on policy formulation and operational strategy. Programs aimed at raising the level of financial literacy serve as effective intervention to increase women investor's confidence as it enables them to harness their skills and mitigates risks that govern investment decisions. Initiatives that combine financial education with leadership training offer women sufficient schooling for enhancing investment self-efficacy together with investment skills.

Future Research

The analysis of this study can be taken as a step further by investigating how women's investment choices are affected by the combination of leadership soft skills, financial literacy, and also their perception of risk.women's financial literacy encompasses managing their assets, evaluating investment options, as well as being investor ready by engaging in personal financial education. Additional studies with varying leadership skills would provide deeper insight on the ways investment choices are impacted over time. This study analyzed financial literacy as a critical component of change, but it also suggests further investigation into customized educational programs that aid women investors for more effective outcomes. Over time, what cash investment programs have on people's habits and behaviors is what should be examined. With the expansion of fintech and automated investment services, it is important to look at how women benefit from having advanced digital financial literacy. The primary variable for understanding the investment actions under scrutiny in this study is risk perception. More intrapsychological factors such as financial self efficacy, emotional intelligence, and behavioral biases apart from risk perception need to be studied for better understanding of financial decision-making. Women investors form an important classification of a study group but different aspects like age, income brackets, and education level make it more complex.

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