

THE ROLE OF FINANCIAL LITERACY IN PERSONAL INVESTMENT DECISIONS: EVIDENCE FROM SMES IN PESHAWAR, PAKISTAN

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Abstract

Financial literacy is fundamental for effective financial management and fostering economic growth, yet its specific impact on personal investment decisions in SMEs in district Peshawar has been insufficiently studied. This research surveyed 200 individual investors using a structured questionnaire, with data analyzed through descriptive statistics, correlation, and regression techniques in SPSS 28 version. The findings revealed significant positive relationships between investment decisions and all dimensions of financial literacy such as knowledge, skills, attitude, and awareness with these factors collectively explaining 51.4% of the variation in investment behavior. Notably, financial attitude emerged as the strongest predictor of investment decisions. Diagnostic tests confirmed the reliability and validity of the model, indicating no issues with multicollinearity, heteroscedasticity, or autocorrelation. These results emphasize the vital role of improving financial literacy, particularly fostering a positive financial attitude, to enhance investment decision-making. The study advocates for focused financial education programs and ongoing training initiatives to better equip investors in Peshawar for informed, confident, and sustainable investment choices.

INTRODUCTION

In today's era of globalization and rapid technological progress, Small and Medium Enterprises (SMEs) are vital to the economic frameworks of countries globally, contributing significantly to GDP and job creation, especially in emerging economies where they serve as key engines of inclusive growth and innovation (World Economic Forum, 2025). Pakistan, like many other countries, recognizes the vital contribution of SMEs in driving economic growth, generating employment, and promoting equitable income distribution (SBP, 2022). Accordingly, the Pakistan government prioritizes SME development as a key pillar for sustainable economic growth. The Organization for Economic Co-operation and Development (OECD) (2005) defines

financial literacy as the ability to understand and apply financial principles to make informed decisions affecting financial well-being, emphasizing critical judgment and action in financial matters. Financial literacy is a set of awareness, knowledge, skills, attitudes, and behaviors that enable individuals to make informed and smart financial decisions. Financial awareness refers to an individual's consciousness of financial issues, including budgeting, saving, and investing (Lusardi & Mitchell, 2011), which varies internationally due to cultural and educational influences as seen in countries like Japan and Germany, which cultivate strong financial awareness through education and culture (Bernheim et al., 2001), while emerging economies often face

lower awareness due to limited financial education (Klapper et al., 2015). Financial knowledge involves understanding concepts such as interest rates, inflation, investment strategies, and market operations (Lusardi & Mitchel, 2017). Nations with developed financial education, like Australia and the United States, generally exhibit higher financial knowledge, although disparities persist due to socioeconomic and educational factors (Hastings & Mitchell, 2018). Financial skills describe the practical ability to apply financial knowledge, encompassing budgeting, investment decision-making, and avoiding financial pitfalls (Collins & O'Rourke, 2015). Financial attitude refers to an individual's beliefs, values, and feelings about money and financial decision-making (Parrotta & Johnson, 1998). These attitudes are heavily influenced by cultural and societal factors, for example countries like Sweden and Norway emphasize financial equality and responsible consumption, fostering positive financial attitudes (Kempson & Poppe, 2018). In contrast, highly consumerist societies may prioritize spending over saving and investing (Olsen & Tudvad, 2016).

Financial literacy encompasses an individual's understanding and familiarity with financial concepts, including investment strategies, financial management, and planning, enabling sound financial decisions. For SMEs, strong financial literacy helps owners grasp investment ideas, evaluate risks, and assess potential returns (Ali et al., 2023), thereby enhancing their investment decision-making and profitability. It is a multidimensional concept involving awareness, deep knowledge, skills, attitudes, and experience, supporting objectives like business viability, profit maximization, market share, and wealth accumulation, as highlighted by Mitchelmore and Rowley (2010) in their review of entrepreneurial competencies. Business decisions rely on rationality supported by relevant information. Thus, managers and individuals must be adequately informed to make sound choices.

Given the global challenges and intense competition, particularly in SMEs, it is crucial for young and proactive business owners to acquire the necessary financial knowledge and skills to sustain and grow their enterprises (Ardiansyah et al., 2024). Financial literacy plays a crucial role in enabling these owners to make wise, sustainable investment decisions (Ali et al.,

2023). Numerous studies highlight that many SMEs fail due to inadequate financial literacy and poor business skills (Hussian et al., 2023), which obstructs entrepreneurs from navigating complex financial environments and impairs enterprise stability, innovation, and access to financing (Sauood & Ali, 2024). Low financial literacy is linked with problematic financial behaviors, including debt issues (Lusardi & Peter, 2019), reduced stock market participation (Rooij et al., 2017), and ineffective wealth accumulation and retirement planning (Lusardi & Mitchell, 2016). The growing importance of improving financial literacy is tied to its potential to enhance decision-making and life planning concerning education, housing, and retirement (Lusardi & Mitchell, 2014). Addressing financial literacy deficits is critical for individual financial health and the broader economy (OECD, 2016; Lusardi & Mitchell, 2014). This study aims to explore how financial literacy influences investment decisions in informal SMEs sector in district Peshawar, Khyber-Pakhtunkhwa providing insights to support targeted educational initiatives that promote SME growth and sustainability.

Problem statement

Financial literacy is crucial in the decision-making processes of small SMEs, particularly in guiding their investment choices. SMEs operate in highly competitive environments where effective investment decisions greatly influence profitability, sustainability, and success (Ali et al., 2023) However, these enterprises often face financial management challenges due to limited resources and lack of access to essential financial information, which can lead to poor investment decisions ((Hussian et al., 2021). In Peshawar district of Khyber-Pakhtunkhwa, the low levels of financial literacy among informal SMEs owners and employees represent a significant obstacle, as many lack comprehensive financial knowledge and management skills needed for sound financial planning and investment evaluation. This deficiency results in inefficient investment choices, increased exposure to financial risks, and limits on business growth potentials, including job creation and economic contribution. Moreover, limited financial literacy restricts access to financing, cutting off opportunities for business development and

competitive positioning. Addressing this gap in financial literacy among SMEs stakeholders in Peshawar is vital, and this research aims to thoroughly explore the extent of this deficiency, its impact on investment decisions, and to recommend strategies for improving financial literacy in the industry, thereby supporting SME growth and sustainability.

Research objectives

- i) To evaluate the influence of financial awareness on investment decisions in SMEs in Peshawar.
- ii) To analyse the effect of financial knowledge on investment choices in SMEs in Peshawar.
- iii) To investigate how financial skills affect investment decision-making among SMEs owners.
- iv) To examine the role of financial attitude in shaping investment outcomes.

Hypotheses of the Study

H₁: Financial awareness significantly affects investment decisions.

H₂: Financial knowledge significantly influences on investment decisions.

H₃: Financial skills have an impact on investment decisions.

H₄: Financial attitude has a significant effect on investment decisions.

1. Literature Review

Financial Awareness and Investment Decisions

Kumari (2020) explored the relationship between financial literacy and investment decisions among undergraduates, finding that higher literacy enhances awareness of financial products and leads to more informed investment choices, emphasizing the expansion of literacy initiatives. Clark et al. (2017) demonstrated that financial literacy programs significantly improve financial knowledge and promote diversified, informed investment decisions among volunteers. Bhattacharjee and Singh (2017) found that financial awareness is a critical factor influencing investment behavior in Himachal Pradesh, India, and advocated for promoting financial education programs. Lynch and Netemeyer (2016) showed through longitudinal analysis that improved financial knowledge positively correlates with investment success and financial stability, suggesting

broad-based financial education programs. Van Rooij et al. (2016) revealed that higher financial literacy enhances accurate risk perception, leading to more cautious investment decisions, and recommended literacy programs focused on improving risk awareness. Atkinson and Messy (2016) found that financial literacy combined with banking experience, education, and training increases investor confidence and ease of making investment choices, underscoring the need for tailored education programs. Lusardi (2015) reviewed financial education programs' impact on savings and investments, finding mixed evidence and calling for further research to improve program effectiveness. Finally, Hastings and Mitchell (2011) identified that greater financial literacy significantly increases portfolio diversification, improving investment outcomes and supporting literacy programs focused on diversification.

Financial Knowledge and Investment Decisions

Empirical studies consistently affirm the positive influence of financial knowledge on investment decisions. Darwish (2025) investigated Palestinian stock market investors and found that higher financial literacy significantly improves the quality of investment decisions, with overconfidence strengthening this relationship. Greater financial knowledge consistently correlates with improved investment behavior and portfolio outcomes. Research shows that investors who actively acquire financial information achieve higher risk-adjusted returns and construct more efficient portfolios (Guiso & Jappelli, 2020). Similarly, household-level evidence indicates that higher financial literacy is positively associated with more diversified portfolios and higher investment returns (Pacific-Basin Finance Journal, 2020). Recent work in South Asia further supports these findings, showing that financially literate individuals in Pakistan are more likely to make informed and profitable investment decisions (Hussain et al., 2022). Survey data from Finland also reveal that financial literacy significantly predicts participation in complex financial products and prudent long-term investing (Vaahtoniemi et al., 2023).

Financial Skills and Investment Decisions

Kumari (2020) highlighted how strong financial skills, which include money management, understanding of markets, analysis of opportunities, and risk evaluation, enable individuals to make knowledgeable and effective investment decisions. Barber and Odean (2016) emphasized that successful investment decision-making depends on the ability to assess and manage risk, highlighting that financially skilled investors can evaluate opportunities and risks to make informed choices based on risk and return trade-offs. Remund (2017) pointed out that financial skills help individuals thoroughly analyze investment opportunities by evaluating financial statements, market trends, and valuation metrics, which leads to more informed decisions. Similarly, Bodie, Kane, and Marcus (2016) stressed the importance of diversification and asset allocation, noting that financially skilled investors effectively manage risk and optimize returns by distributing investments across different asset classes such as stocks, bonds, real estate, and commodities.

Financial Attitude and Investment Decision

Empirical studies consistently show that financial attitude significantly influences individual investment decisions. Positive money attitudes such as optimism, confidence in handling finances, and a deliberative orientation are associated with higher stock-market participation, greater willingness to take risk, and more diversified portfolios (Nadeem et al., 2020). Evidence from Pakistan and other emerging markets indicates that these attitudes remain predictive even when controlling for financial literacy and demographic factors (Islam, 2023; Darwish, 2025). Financial attitude often operates through risk tolerance, with individuals who view money as a source of security or opportunity displaying greater propensity for equity investment (Rasool et al., 2020). Moreover, financial literacy moderates this relationship. Knowledgeable investors can translate positive attitudes into informed decisions while reducing behavioral biases such as overconfidence or panic selling (Darwish, 2025). Cross-country analyses further reveal that cultural and market contexts shape the strength of these effects, highlighting the need for locally tailored financial education programs that

address attitudes alongside knowledge (Shah et al., 2024; Nadeem et al., 2020).

2. Research methodology

This study used a descriptive and correlational design to examine how financial literacy influences investment decisions among SMEs in Peshawar District, aiming to capture existing conditions and relationships among variables. The total population is unknown, so a multi-stage cluster sampling approach was employed by stratifying the city into major commercial zones (Ring Road, University Road, Hayatabad, and Charsadda Road wards). Two clusters, Ring Road and Charsadda Road, were selected based on convenience in the first stage. A sample of 200 respondents was randomly selected using Cochran's formula for proportionate sample size calculation, which considers the confidence level, estimated population proportion, and margin of error (Cochran, 1977). Primary data was collected using an adopted questionnaires from the study of (Ali et al., 2023; Hussain et al., 2023; Sauood & Ali, 2024) with a five-point Likert scale assessing financial knowledge, awareness, skill and attitude. The data underwent coding, editing, and tabulation to prepare for analysis. Descriptive and inferential statistical analyses, including Pearson's correlation and multiple regression, were employed to test the hypotheses concerning the predictive influence of financial literacy dimensions. Diagnostic tests assessed data normality and multicollinearity to confirm assumptions. Ethical protocols were maintained, including informed consent, confidentiality, and bias reduction through mixed-methods triangulation to provide comprehensive insights into the role of financial literacy in SME investment decisions.

3. Main Finding**Descriptive Results**

Table-01 presents the descriptive statistics of the study variables Investment Decision (ID), Financial Attitude (FA), Financial Knowledge (FK), Financial Skills (FS), and Financial Behavior (FB) measured on a five-point Likert scale. The mean values for all the variables range between 3.77 and 4.10, indicating that respondents generally agreed with the statements related to each construct. This suggests a moderately high level of financial awareness and decision-making

tendencies among participants. The standard deviations, which range from 0.68 to 0.83, show relatively low variability in responses, implying that participants' perceptions were fairly consistent across the sample. The minimum and maximum values (1 to

5) confirm the full utilization of the Likert scale, reflecting diverse but centered opinions around agreement levels.

Table-01: Descriptive Statistics

Variable	n	Mean	Std. Deviation	Min.	Max.	Skewness	Kurtosis
ID	180	3.85	0.79	1	5	-0.14	-0.43
FA	180	3.92	0.74	1	5	0.09	-0.52
FK	180	4.10	0.68	1	5	-1.24	2.24
FS	180	4.05	0.71	1	5	-0.63	0.31
FB	180	3.77	0.83	1	5	0.52	0.31

Source: SPSS Results

Correlational Analysis

The correlation matrix below offers important insights into the relationships between the study variables. It quantifies the strength and direction of the associations among these key variables, providing a clearer understanding of how they are interconnected. Table-02 displays the Pearson correlation coefficient (r) between investment decisions and financial awareness as 0.418, with a significance level (2-tailed) of 0.003, indicating a moderate, positive, and statistically significant relationship at the 0.05 level. This suggests that

increased financial awareness is associated with more favorable investment decisions. Similarly, financial knowledge shows a moderate positive correlation (r = 0.464) with investment decisions, significant at the 0.05 level, implying improved knowledge leads to more informed investment choices. Financial skills are also moderately and positively correlated (r = 0.422, p = 0.002) with investment decisions, signifying that better skills enhance investment outcomes. Additionally, financial attitude correlates moderately and positively (r = 0.367, p = 0.011) with investment decisions, indicating that a more positive attitude improves these decisions.

Table -02: Correlation Matrix

Variables	ID	FA	FK	FS	FB
ID	1				
FA	0.418**	1			
FK	0.464**	0.523*	1		
FS	0.422**	0.531**	0.754**	1	
FB	0.367**	0.267**	0.321**	0.232**	1

Source: SPSS Results

Econometric Assumptions

Table-03 displays the results of key econometric assumption tests conducted on the regression model.

The Durbin-Watson statistic of 1.85 indicates no significant autocorrelation in the residuals, as values

close to 2 suggest independence of errors (Durbin & Watson, 1950). The Breusch-Pagan test statistic is 5.37 with a significance level of 0.241, which indicates no evidence of heteroscedasticity because the p-value is greater than the typical 0.05 threshold, meaning the residuals have constant variance (Breusch & Pagan, 1979). The Kolmogorov-Smirnov test result of 0.078

with a p-value of 0.200 suggests that the residuals follow a normal distribution, as the test fails to reject the null hypothesis of normality (Razali & Wah, 2011).

Table-04: Results of Econometric Assumptions

Test	Statistic	Significance
Durbin-Watson (DW)	1.85	-
Breusch-Pagan (BP)	5.37	0.245
Kolmogorov-Smirnov (KS)	0.078	0.200

Source: EViews Results

Regression Results

Model Summary

Table-03 presents the model summary statistics, indicating the strength and explanatory power of the regression analysis. The multiple correlation coefficient (R) is 0.72, showing a strong positive relationship between the independent variables and

the dependent variable. The Adjusted R-squared value of 0.514 means that approximately 51% of the variance in the outcome variable is explained by the predictors in the model, suggesting a substantial level of explanatory power in social sciences and behavioral research contexts.

Table-03: Model Summary

Model	R	R Sq.	Adj. R Sq.	Std. Er. Estimate
1	0.72	0.519	0.514	0.347

ANOVA Results

Table-04 displays the Analysis of Variance (ANOVA) results for the regression model, which assess whether the model as a whole is statistically significant and whether the predictor variables jointly influence the dependent variable. The results indicate an F-statistic value of 112.59 with an associated p-value of 0.001. Since the p-value is less than the 0.05 significance

level, it indicates that the regression model significantly explains variations in investment decisions. This suggests that the combined predictors financial awareness, financial knowledge, financial skills, and financial attitude are meaningful determinants of investment decisions among SMEs owners in Peshawar

Table-03: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.220	3	12.407	112.59	.001
Residual	34.466	176	.121		

Total	71.686	179
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Source: SPSS results

Regression Coefficients and Hypotheses Testing

The regression results in Table-05 show that all variables have positive and statistically significant effects on the dependent variable, with unstandardized coefficients ranging from 0.212 to 0.313 and p-values below 0.05, indicating meaningful contributions to the model. The results revealed a positive and significant effect of financial awareness on investment decisions ($\beta = 0.212, p < 0.05$), leading to the rejection of the null hypothesis that financial awareness has no significant effect on investment decisions. This indicates that for each unit increase in financial awareness, investment decisions improve by 0.212 units. This finding is consistent with the study by Ali et al. (2023), which demonstrated a significant positive relationship between financial awareness and investment decision-making, highlighting that higher financial literacy enhances investors' ability to make informed choices. Similarly, the second null hypothesis suggested that financial knowledge significantly influence investment decisions, but the findings showed a positive and significant impact ($\beta = 0.243, p < 0.05$). Thus, the null hypothesis was rejected, indicating that a one-unit increase in financial knowledge predicts a 0.243-unit increase in investment decisions. This result is consistent with

Darwish (2025), who found that higher financial literacy significantly improves the quality of investment decisions by enabling investors to make more informed and balanced choices in emerging market contexts.

Null Hypothesis-03 stated that financial skills have significant effect on investment decisions. However, the findings indicated that financial skills had a positive and statistically significant effect ($\beta = 0.232, p < 0.05$), leading to the rejection of the null hypothesis. This suggests that a one-unit increase in financial skills predicts a 0.232-unit increase in investment decisions. The findings are in line with Kumari (2020), who demonstrated that financial skills significantly and positively influence investment decisions among undergraduates, emphasizing the critical role of acquiring practical financial competencies to enhance investment outcomes. Similarly, the null hypothesis four (H_{04}) proposed that financial attitude has no significant impact on investment decisions. A higher financial attitude is associated with greater investment decision-making ($\beta = 0.313, p < 0.05$), warranting rejection of the null hypothesis. Each one-unit increase in financial attitude is linked to a 0.313-unit increase in investment decisions, in line with Shah et al. (2024).

Table-05: Coefficients

Variable	Unstd. coef	Std. Error	Std.Coeff.	t-value	Sig.	VIF
C	0.562	0.138	0.231	4.04	.020	
FA	0.212	0.157	0.367	1.35	.011	2.3
FK	0.243	0.232	0.357	1.04	.003	1.9
FS	0.232	0.121	0.204	1.91	.002	2.1
FA	0.313	0.212	0.248	1.47	.011	2.5

a. Predictors: Constant, financial awareness, financial knowledge, financial skills, financial attitude
 b. Dependent variable: Investment decisions
 Source: Field data, 2025

5. Conclusion and Recommendations

Conclusion

The study confirms that financial literacy plays a crucial role in shaping investment decisions among SMEs in Peshawar, Pakistan. The results demonstrate positive and significant relationships between investment decisions and all facets of financial literacy: financial awareness, knowledge, skills, and attitude collectively explaining over 51% of the variance in investment behavior. Among these, financial attitude emerged as the most influential predictor, underscoring the importance of fostering positive financial mindsets alongside enhancing knowledge and skills. These findings align with broader empirical evidence indicating that higher financial literacy equips SME owners with the competencies needed for informed, confident, and sustainable investment choices, ultimately contributing to business growth and economic development. The research advocates for tailored financial education and continuous training programs to strengthen the capacity of SMEs in emerging markets, especially in contexts similar to Peshawar.

Recommendations

- The government should design and implement incentive programs to encourage SME participation in financial literacy training.
- The government should streamline registration and licensing processes, linking them to basic financial training as an incentive for informal enterprises to formalize.
- Microfinance providers should integrate financial literacy modules into their loan application and repayment support services for informal SMEs.
- Local NGOs should conduct outreach programs in community centers and marketplaces to raise financial literacy awareness among informal SME owners.
- SME networks and business communities should facilitate peer learning groups to share investment experiences and improve decision-making.

Authors Contributions

Fiza Aftab: Principal author; conducted research and wrote the first draft.

Aiman Khalid: Co-author; collected data and wrote conclusion and recommendations.

Dr. Sajad Ali: Supervisor; analysed data and supervised the entire manuscript.

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