



FINANCIAL LITERACY AND FINANCIAL MANAGEMENT IN MINERAL-MINING SMALL AND MEDIUM-SIZED ENTERPRISES OF BALOCHISTAN, PAKISTAN

Kalsoom Khan¹

DOI: <https://doi.org/10.63544/jbii.v5i10.270>

Affiliations:

¹ Masters of Business Administration,
University of Sunderland,
United Kingdom
Email: kalsoomkakar12@gmail.com

Corresponding Author's Email:

¹ kalsoomkakar12@gmail.com

Copyright:

Author/s

License:



Article History:

Received: 27.09.2026

Accepted: 18.10.2026

Published: 31.10.2026

Abstract

Small and medium-scale enterprises (SMEs) in the mineral mining sector in Balochistan are deployed in a financially constrained environment where capital intensity, low cash flow, commodity price fluctuations, regulatory requirements, and lack of managerial specialization expose the SMEs to financial constraints. In this study, the researchers investigate whether SME owner/managers' financial literacy improves financial management in this regard. The concept of financial literacy is regarded as a multi-dimensional managerial competence of financial knowledge, financial attitude, financial skills, and financial behaviour, and financial management refers to budgeting, liquidity management, investment appraisal, financial planning, financial risk management, capital decision, and financial control. The experimental design that was adopted was positivist, cross-sectional quantitative design. A structured questionnaire was used to collect data from the 83 owners, owner-managers, managers, and financial managers of mineral-mining SMEs in Balochistan, which were analysed in SPSS software. The reliability was acceptable for all constructs, with a Kaiser-Meyer-Olkin statistic of .953, which is considered to have good sampling adequacy. The multiple regression model was statistically significant with a value of $F(4,75)=93.344$, $p<.001$ (83.3% variance explained; adjusted $R^2=.824$) for financial management. Financial skills were the strongest predictor ($\beta=.397$, $p<.001$), followed by financial attitude ($\beta=.227$, $p=.001$) and financial behaviour ($\beta=.222$, $p=.006$). The financial knowledge variable had a positive correlation with the dependent variable, but this correlation was insignificant at the 5% level ($\beta=.178$, $p=.053$). The results reveal that financial capability which goes beyond knowledge but applied is the key to good financial management in mining SMEs.

Keywords: Financial Skills, Financial Management, Financial Literacy, SMEs, Mining

1. Introduction

SMEs play a crucial role in developing economies by turning entrepreneurial initiatives into jobs, local value-added, and market participation. However, their contribution is very dependent on the quality of managerial decisions made when resources are scarce. Financial management is particularly important because the choices of cash, working capital, debt, investment, cost control, and risk are critical to whether or not an enterprise will be able to continue its operations if there is a variation in revenue or uncertain conditions in the external environment. The field of financial literacy is a growing area of research that has come to view financial literacy in more than a financial way, as a productive skill for managing one's finances. This perspective allows financially knowledgeable decision makers to more effectively process information,



evaluate options, evaluate risk, and apply their knowledge of finance to their decision-making process. The recent literature has consistently shown that financial literacy is associated with better financial knowledge, financial resilience, financial opportunity recognition, access to finance, and financial performance of enterprises (Anwar et al., 2020; Lusardi & Mitchell, 2023; Rekha et al., 2025).

This need is further increased in SMEs involved in mining. Before revenues are received, repeated investments of cash are necessary for equipment, fuel, labour, transport, licensing, safety, working capital, maintenance, etc. in the mineral extraction and processing sector. The activities also give companies a risk of interruptions in production, operational risks, price changes, and regulatory changes. The mineral sector is known to have a significant resource potential but is hampered with institutional, fiscal, information, and management constraints that make it difficult to invest and develop in the sector (Ashraf & Cawood, 2019). The structural problems that these involve demand more of the owners and managers of enterprises in terms of their liquidity management, cost forecasting, record keeping, loan appraisal, contingency planning, and investment decisions. For the financially weak decision process, such consequences could go beyond accounting inefficiency and include limiting a firm's ability to weather uncertainty, meet obligations, plead with lenders, or invest in productive assets. Other studies on financial literacy and SMEs in developing economies also confirm that financial literacy is related to planning, bookkeeping, use of financial services, financial sustainability, and financial performance of SMEs (Mabula & Dongping, 2020; Yakob et al., 2021; Ye & Kulathunga, 2019).

Financial literacy is most helpful to the current study by being considered in multifaceted ways. Financial knowledge relates to the knowledge of interest rates, inflation, financing costs, risk, cash flow, and financial statements. Financial attitude is the orientation of decision makers in terms of financial planning, saving, control, prudence, and the impact of future financial decisions. Financial skills are defined as the ability to use knowledge in a practical way including budgeting, record keeping, cost analysis, assessment of investments, and other financial activities. Financial behaviour represents repeated behaviours like cash flow tracking, record-keeping, plan reviews, saving, reinvesting, and planning changes. Recent empirical research has provided some evidence that these dimensions are correlated, but not synonymous. Financial knowledge has a positive impact on financial judgment, but knowledge translated into financial judgment may not necessarily translate into financial behaviours; attitudes influence financial planning and control decisions of entrepreneurs; and repeated financial behaviours result in institutionalization of financial discipline in the business (Goyal et al., 2024; Hirawati et al., 2021; Khawar & Sarwar, 2021).

The empirical problem associated with the present study is thus not only whether entrepreneurs have financial information, but whether the various aspects of financial literacy account for financial management in the mineral-mining SMEs in Balochistan. Although there has been significant research on the household, consumer, microenterprise, general SME population, and service-sector SMEs, there is still little evidence available for mineral-mining SMEs. A recent systematic review shows that financial-literacy research for SMEs is growing at a fast pace, but is not yet consolidated in terms of measurement or is not uniform across industries and regions (Rekha et al., 2025). The relationship between financial literacy and entrepreneurial performance and financial behaviour has been linked by some studies in Pakistan, but these studies are limited to contexts other than mineral mining (Khawar & Sarwar, 2021; Nisar et al., 2022). The problem of the study is that there is a lack of context-specific evidence that demonstrates the impact of each of the four dimensions of financial knowledge, attitude, skills, and behaviour on financial management among SMEs in the mining industry in Balochistan, Pakistan. The objective of the study is to examine the individual and collective impact of the four dimensions of financial knowledge, attitude, skills, and behaviour on financial management among the SMEs of mining industry in Balochistan, Pakistan. The research questions are how each of the four dimensions individually predicts financial management and which of them has the most significant impact, and why the study is significant because if weak financial decisions pose threats to the continuity, investment readiness, and resilience of the SMEs in the mining industry in Balochistan, Pakistan, then the more precisely the financial managers are trained, the more effectively the enterprises are supported, and the more effective the financial management-development interventions are. The context-specific problem of the study is that



there is a lack of evidence that demonstrates the impact of individual and collective effects of each of the four dimensions of financial knowledge, attitude, skills, and behaviour on financial management among SMEs of mining industry in Balochistan, Pakistan. The objective is to examine how each of the four

The research focuses specifically on owner-level and managerial financial capability because the authors believe that these are the areas where the majority of the banks are likely to have the greatest impact. It does not consider financial literacy to be an alternative to capital and stable regulation, market demand, infrastructure, and technical mining skills. Rather, it explores an internal managerial capacity which has the potential to shape SME reactions to these external factors. This is significant because while individual companies may not be able to influence their external environment, the practices of budgeting routines, record keeping, cash-flow monitoring, financial planning, risk preparedness, and investment analysis are practices that are improved. Research also shows that interventions with the aim of improving financial education are more likely to have downstream effects when they create practical skills rather than just impart off-the-shelf information (Kaiser et al., 2022). The present study is important in that it examined four of the components at the same time to provide evidence on whether applied skills and behaviours are more explanatory than knowledge alone in the financial management of mineral-mining SMEs.

2. Literature Review

2.1 Financial Literacy as a Managerial Capability

Financial literacy has shifted from knowing about your own financial situation to the ability to understand and make effective financial choices. Lusardi and Mitchell (2023) view financial knowledge as a type of human capital since it is built and applied in the decision-making process. It is more challenging to describe financial literacy in the SME context than in the context of typical household finance, as the owner-managers have to apply financial concepts to cash flows, loans, investment, taxes, cost structure, working capital, and risk in the context of an SME. In a review of the literature on financial literacy of SMEs and MSMEs, Rekha et al. (2025) found that knowledge, awareness, and skills are consistently identified as the key components, and there has yet to be a standardized measurement approach for financial literacy. This is consistent with the multidimensional operationalization used in the current study where financial knowledge, attitude, skills, and behaviour are conceptualized as separate but interrelated parts of financial ability.

2.2 Financial Literacy and SME Financial Management

The financial literacy of SMEs is now increasingly related to financial practices within the organization, as shown in evidence. A study done by Mabula and Dongping (2020) on financial knowledge of SME managers in Tanzania found that financial knowledge was found to be a significant factor in financial attitude and behaviour, which in turn had an impact on financial planning and control, bookkeeping, and utilization of financial services. These are valuable in linking directly literacy to concrete, firm practices without merely considering it as an individual attribute. The same finding was reported by Hirawati et al. (2021), which found that there was a positive correlation between financial literacy, risk tolerance, and the way microenterprise actors manage their finances. Literacy, as an enterprise resource that helps managers grasp debt, saving, insurance, and investment, was found to have a positive effect on SME performance, with financially literate owner-managers outperforming others, in Malaysia, according to Yakob et al. (2021). All these studies suggest that financial literacy has an effect on financial management and that effect is mediated by improving analysis and/or by improving the discipline of financial management.

2.3 Financial Knowledge

Financial knowledge is part of financial literacy that involves the cognitive aspect. It covers topics such as financial statements, factors affecting interest rates, inflation, financing options, cost of debt, risk-return relationships, cash flow principles, and financial implications of investment decisions, for SME owners and managers. Knowledge is required as without that the managerial decisions cannot be assessed in a scientific manner as decision makers cannot decipher the underlying financial statements. The study by Goyal et al. (2024) confirms that financial knowledge is a part of financial literacy of micro entrepreneurs and the study by Khawar and Sarwar (2021) concludes that there is a positive significant financial literacy–financial behaviour relationship in Pakistan. However, there is also literature that indicates that knowledge alone is not



enough. On a much larger scale, Kaiser et al. (2022) find that education is effective in increasing knowledge and subsequent behaviour, however that the change from knowledge to action depends on the quality and applicability of learning. This is particularly important for SMEs in mining because it is not a concept that has much relevance if the manager is not able to predict when there will be a liquidity problem and take action.

2.4 Financial Attitude

Financial attitude relates to values and orientations towards money, planning, risk, control, and future financial consequences of an owner/manager. A positive attitude helps the person to see financial management as an ongoing management task, not a crisis management task. In a firm it is manifested as: readiness to make budgets, keeping reserves, reviewing expenses, investing profits, making plans for contingencies, and obtaining reliable financial information. Financial attitude is related to financial planning, financial control, financial bookkeeping, and service utilization of SMEs (Mabula & Dongping, 2020) and attitude is one of the major factors in which the financial literacy of micro-entrepreneurs changes (Goyal et al., 2024). The relevance for the mineral-mining SMEs is direct as cash commitments are frequently made before output revenue is realized: a short-term or fire-fighting financial approach exacerbates liquidity and financing constraints, whilst a planning approach helps in earlier detection of financial exposure.

2.5 Financial Skills

Financial skills are practical competences in the field of finances. They convert knowledge into the operational knowledge of management. This might involve such activities as developing a realistic budget, making a cashflow forecast, keeping financial records, establishing unit costs, evaluating financing options, analysing investment options, tracking working capital, and interpreting performance reports. This dimension is more critical in SMEs as the owners are likely to have multiple financial functions which would be assigned to various departments in larger companies. Research from enterprises indicates that there is a strong correlation between practical capability and enterprise outcomes. Anwar et al. (2020) revealed that financial literacy is significant in opportunity recognition and better SME performance, and Yakob et al. (2021) argued that financial literacy in understanding and applying financial concepts impacts the performance of the SME. Research and systematic reviews also reveal skills as a common core component of SME financial literacy (Rekha et al., 2025). The results indicate that skills might have a relatively high association with financial management as they are the most similar to the managerial tasks measured.

2.6 Financial Behaviour

Financial behaviour reflects observable and recurring practices that translate financial intentions into practices: providing for payments promptly, watching transactions, making records, distinguishing between business and personal funds, checking the results of the finances, saving money for future, supervision of unnecessary spending, and adjusting plans when circumstances alter. Financial literacy is shown to have positive association with financial behaviour in Pakistan-based evidence by Khawar and Sarwar (2021), which shows a practical implication of literacy on financial behaviour. Mabula and Dongping (2020) found that behaviour was significantly related with bookkeeping and financial services utilization of SME managers. Financial literacy and risk taking are also correlated to financial management of microenterprises (Hirawati et al., 2021). For a mining SME, financial discipline is especially crucial since lack of regular monitoring or documentation of funds causes a worsening cash situation to be unnoticed until the company is facing financial challenges.

2.7 Financial Literacy, Access to Finance, and Enterprise Performance

The financial literacy/financial management link also has wider literature on access to finance/enterprise performance connections. Based on data from SMEs in Ghana, Frimpong et al. (2022) found financial literacy and access to digital finance to be related to SME performance. Nisar et al. (2022) found that financial literacy, risk tolerance, and entrepreneurial competencies were related to entrepreneurial financial performance through psychological and managerial mechanisms using data collected from 541 SMEs in Pakistan. Financial literacy also positively and significantly influences SME performance as reported by Yakob et al. (2021) in Malaysia. Literacy does not guarantee the absence of financing constraints, but these studies suggest that if individuals are able to prepare information, consider funding options, communicate



with financial institutions, and distribute funds, they may be better equipped to do so if they are financially capable. This link is important for SMEs as funding decisions may require large amounts of capital and the impact of a bad debt deal may last for long.

2.8 Financial Literacy and Sustainability Resilience

Financial literacy, as a capability, has also been mentioned as an enabler to enhance SME sustainability and resilience. Financial literacy helps improve sustainability of SMEs in a developing country context as it affects access to finance and risk-related capacities, according to Ye and Kulathunga (2019). The resilience mechanism is easily applicable to mineral-mining enterprises as the operating context of these enterprises includes uncertainty in output, fluctuations in input prices, transportation pressures, and regulatory requirements. A firm that has financial records, cash flow forecast, financial reserves, and makes downside scenarios would have more options when something goes wrong as opposed to a firm that doesn't keep financial records, has no cash flow forecast, no financial reserves, and no downside scenarios. Financial literacy should thus be seen as a financial efficiency predictor as well as a financial preparedness and adaptive decision-making capability. This view aligns with the latest research on financial literacy from the financial-literacy field, which links greater financial literacy to more positive and purposeful financial results (Lusardi & Mitchell, 2023).

2.9 SMEs in Mineral-Mining Sector in Pakistan

The context of Pakistan's mineral sector is unique and is used to analyse the financial capacity of its managers. Ashraf and Cawood (2019) note the flaws in the country's mineral-policy and institutional environment and recommend having better systems that facilitate and encourage mineral development and investments. Their activities are at the policy level, although the impact of their work will be felt by SMEs as the informational and planning burden associated with institutional and regulatory uncertainty will be higher for them. There is a risk of costly mistakes faced by mining enterprises in their equipment, leases, working capital, compliance, labour, transport, and financing choices. Unlike large organizations, SMEs do not often have an in-house finance department, so the skills and knowledge of the owner and/or business manager are a major component of organizational capability. This context further reinforces the need for conducting tests on the dimension of literacy which makes the maximum contribution to financial management in Balochistan and not taking the findings from the service firms or households for granted.

2.10 Empirical Gap and Hypotheses

The literature reviewed overwhelmingly supports a financial literacy–entrepreneurial outcomes relationship, but three gaps are pertinent to the current study. First, there has been a lack of research specifically on the internal financial management practices of mining SMEs. Second, research often employs a composite financial-literacy measure, making it difficult to determine which aspect of financial literacy—knowledge, attitude, skill, or behaviour—best explains the results. Third, although the financial and institutional environment in Pakistan is unique, the evidence on the roles of SMEs in various sectors is still scant. Four hypotheses are tested in this study:

H1: There is a significant positive relationship between financial knowledge and financial management.

H2: There is a significant positive relationship between financial attitude and financial management.

H3: There is a significant positive relationship between financial skills and financial management.

H4: There is a significant positive relationship between financial behaviour and financial management.

The hypotheses are supported by the observations that the dimensions of literacy affect planning, behaviour, funding, and SME outcomes in various contexts of developing economies (Frimpong et al., 2022; Mabula & Dongping, 2020; Nisar et al., 2022).

2.11 Financial Education to Financial Practice

Another strand in the literature in recent years is around the difference between financial education and the creation of financial capability. It's relevant for SMEs since a training that results in an easy identification of new jargon but doesn't change the way the enterprise plans budgets, keeps accounting, assesses loans, or tracks liquidity will have limited value. Based on extensive evidence, Kaiser et al. (2022)



demonstrate that financial education is seen to impact financial knowledge and later financial behaviours, but the effectiveness of financial education interventions are influenced by the nature of the financial education intervention and the financial behaviour that is targeted. The economic benefits of financial literacy also depend on better decisions, not just on financial literacy scores; this is the focus in Lusardi and Mitchell (2023). But for SMEs, the question is: Does financial learning influence managerial routine? In the present model, this argument is used to distinguish between the four components of knowledge, skills, attitude, and behaviour. It also argues that education in the sectors is better than general education. It is best for a mining owner-manager to become familiar with how to develop a cash-flow projection for fuel purchases, payroll, equipment maintenance, transport expenses, and slow customers than to go to a lecture on how to save. Similarly, debt education is more beneficial to educate managers to run comparisons of effective financing costs, repayments, collateral requirements, and cash-flow coverage. It is implied that financial literacy should be evaluated as a capability pathway: knowledge gives concepts, attitude gives willingness to plan and control, skills give the ability to apply, and behaviour gives the repeated application of the skills to the organization. This pathway aligns with the recent SME literature that focused on financial literacy as a multi-dimensional antecedent of financial health and performance (Mabula & Dongping, 2020; Rekha et al., 2025).

2.12 Theoretical Framework

The Resource-Based View (RBV) is the theoretical framework for this study, which is based on the idea of firm heterogeneity and how resources and capabilities help firms to conduct their activities more effectively than their competitors. For the SME context, financial literacy is seen as an intangible managerial skill internalized by the owner-manager that is transferred to SME practices, financial control, budgeting, record keeping, financing, and/or investment evaluation. Contemporary SME studies have been leveraging the RBV for financial literacy, which has advocated that financially literate managers have a capability that enhances the allocation of limited organizational resources and thus facilitates better performance (Yakob et al., 2021). It is especially relevant to mineral-mining SMEs because the smaller ones have less slack to allocate cash, have tight budgets and control of costs, must manage financing, and have to deal with risk, and do all of these in such a manner that they can't afford to do them less well. In a framework, financial knowledge refers to a cognitive resource, financial attitude is a managerial orientation towards financial resources, financial skills are the capability of using financial resources, and financial behaviour is the routine use of financial resources. The model thus suggests that stronger financial literacy should lead to better financial management, and that the four dimensions might have different effects because the ability to use the financial literacy constructs may be more closely related to financial outcomes than the constructs of knowledge.

3. Research Methodology

The study was based on positivist philosophy and quantitative and cross-sectional research design to test the relationship between financial literacy and financial management of the mineral-mining small and medium-sized enterprises (SMEs) in Balochistan, Pakistan. The study population included SME owners, owner-managers, managers, and financial managers engaged in mineral extraction, mineral processing, mining services, and a combination of mineral extraction and product making activities. The choice of Balochistan was made because the mineral-based enterprises are subjected to various pressures such as capital, liquidity, operational, and regulatory pressures which makes financial management very relevant. The sampling frame focused on SMEs, and at the design stage, stratified random sampling was planned to ensure representation of small and medium enterprises with the aim of maximizing cross-sector coverage of the field sampling in administration. Based on the above assumptions a minimum of 77 observations was indicated, and 83 responses were collected. The instrument comprised a structured questionnaire, which was available in English and Urdu. Financial literacy consisted of four dimensions: financial knowledge, financial attitude, financial skills, and financial behaviour; financial management comprised liquidity, budgeting, planning, investment, capital structure, risk management, profitability, and financial decision making. Most items used were measured on 5-point Likert scales. Descriptive statistics like frequencies and percentages were used to analyse the data about the respondent, whereas internal consistency, sampling adequacy, and factorability of the data were determined through the use of Cronbach's alpha, and hypothesis testing was carried out using



multiple linear regression. The estimated model is $FM = \beta_0 + \beta_1 FK + \beta_2 FA + \beta_3 FS + \beta_4 FB + \epsilon$, respectively, financial management, financial knowledge, financial attitude, financial skills, financial behaviour and error term. The level of $\alpha = .05$ was the main level used to determine statistical significance. The fact that participation was voluntary, the emphasis upon confidentiality and respondents' awareness that the data collected were for academic purposes decreased the sensitivity of the data and facilitated more open answers on the questionnaires in the field, which did not request personally identifying information, such as business information and profit figures. The analysis of data and results.

4. Analysis of Data and Results

The analysis is based on 83 respondents (who come from managerial positions in mineral-mining small and medium scale enterprises). Findings are presented first by the characteristics of the respondents and enterprises, followed by the reliability and validity of the measurement, overall model fit, regression coefficients, and making decisions on the hypothesis. The original statistical outputs were kept and significance is interpreted based on the traditional 5% level of significance. This is significant for financial knowledge, $p = .053$ is only marginally below $p < .05$.

4.1 Distribution of the Respondents Regarding Enterprise Profile

Table 1

Respondent and Enterprise Characteristics (N = 83)

Characteristic	Category	Frequency	Percentage
Position in business	Owner	41	49.4
	Financial manager	12	14.5
	Manager	14	16.9
	Owner-manager	16	19.3
Years in operation	Less than 3 years	16	19.3
	3–5 years	39	47.0
	6–10 years	23	27.7
	More than 10 years	5	6.0
Type of business	Mineral extraction	40	48.2
	Mineral processing	11	13.3
	Mining services	15	18.1
	Mineral extraction and product making	17	20.5
Number of employees	1–9	21	25.3
	10–50	37	44.6
	51–100	21	25.3
	More than 100	4	4.8

As it is seen in the respondent profile, the sample is very owner-led. The majority of respondents were owner-managers (19.3%) followed by owners (49.4%), managers (16.9%), and financial managers (14.5%). A high percentage (over two thirds) of respondents were financial decision makers in an ownership position, a factor which is substantively important because in SMEs, financial decisions are often made by the owner and not by specialist departments. The percentage of firms with three to five years in operation (47.0%) and less than three years (19.3%) also reflects a relatively young industry. 6.0% had been in business for over a decade. The sample consisted of mineral extraction (48.2%), mineral extraction and product making (20.5%), mining services (18.1%), and mineral processing (13.3%). The employment size of the sample is also consistent with the designation of an SME (44.6% of the sample had 10–50 employees, 25.3% had 1–9 employees and 25.3% had 51–100 employees, with only 4.8% reporting over 100 employees). The distributions suggest that most of the results are from relatively small, owner-controlled mines, and relatively young in age.



4.2 Reliability and Validity

Table 2

Reliability and Sampling Adequacy

Construct/Test	Items	Statistic	Interpretation
Financial knowledge	5	Cronbach's $\alpha = .845$	Good
Financial attitude	5	Cronbach's $\alpha = .727$	Acceptable
Financial skills	5	Cronbach's $\alpha = .832$	Good
Financial behaviour	5	Cronbach's $\alpha = .738$	Acceptable
Financial management	10	Cronbach's $\alpha = .869$	Good
KMO	—	.953	Excellent sampling adequacy
Bartlett's test	—	$\chi^2(435) = 1617.221, p < .001$	Factorable correlation matrix

The results of the measurement show good internal consistency. Financial knowledge showed a Cronbach's alpha of .845, while financial attitude showed .727, financial skills .832, financial behaviour .738, and financial management .869. Most scores are higher than the commonly used .70 limit with financial management and financial knowledge having especially high internal consistency. The KMO measure was .953 (excellent), and Bartlett's test of sphericity was statistically significant, $\chi^2(435) = 1617.221, p < .001$. These results validate the appropriateness of the item set for multivariate analysis and suggest that the variables have a sufficient amount of common variance to then perform regression analysis.

4.3 Multiple Regression Model

Table 3

Model Summary and Overall Significance

R	R ²	Adjusted R ²	SE estimate	F	p	Durbin-Watson
.913	.833	.824	.26137	93.344	< .001	2.347

The multiple regression model has good explanatory power. The multiple correlation coefficient was $R = .913$, the $R^2 = .833$ and adjusted $R^2 = .824$. The four financial-literacy dimensions, therefore, accounted for 83.3% of the total variance in financial management in the sample under study. The standard error of the estimate was .26137, and the Durbin-Watson statistic was 2.347. The result of the ANOVA test showed that the model was statistically significant with $F(4,75) = 93.344$ and $p < 0.001$. In substantive terms, the result suggests that financial knowledge and attitude, skills and behaviour, if considered simultaneously, are mostly related to the differences.

4.4 Regression Coefficients and Hypothesis Testing

Table 4

Regression Coefficients and Hypothesis Decisions

Predictor	B	SE	β	t	p	Tolerance	VIF	Decision
Financial attitude	.227	.066	.227	3.412	.001	.503	1.988	H2 supported
Financial skills	.341	.079	.397	4.299	< .001	.261	3.831	H3 supported
Financial behaviour	.195	.068	.222	2.857	.006	.369	2.710	H4 supported
Financial knowledge	.152	.077	.178	1.964	.053	.270	3.699	H1 not supported at $\alpha = .05$

The regression coefficients indicate that there are differences in the contribution of the four dimensions. The standardized coefficient (β) was the highest for financial skills ($B = .341$, $SE = .079$, $t = 4.299$, $p < .001$). Financial attitude was also significant ($\beta = .227$, $B = .227$, $SE = .066$, $t = 3.412$, $p = .001$), as was financial behaviour ($\beta = .222$, $B = .195$, $SE = .068$, $t = 2.857$, $p = .006$). Financial knowledge had a positive coefficient ($\beta = .178$, $B = .152$, $SE = .077$, $t = 1.964$) but its p value was .053. So, it is not at the



standard .05 level and H1 is not accepted in terms of significance at the 5% level, but just barely so at the 10% level. H2, H3, and H4 supported. Collinearity statistics were tolerable, with the VIF values all within acceptable limits (between 1.988 and 3.831), suggesting that the predictors were correlated, but not sufficiently to make the interpretation of the coefficients difficult. This pattern is theoretically significant as the dimension most directly related to conducting real-life financial operations is most predictive.

The findings combine to provide answers to the main empirical questions of the study. Financial literacy significantly and collectively explained financial management in the surveyed mineral-mining small and medium enterprises. Secondly, the four dimensions are not equal. Evidence is strongest for financial skills with financial attitude and financial behaviour coming as the second and third. Thirdly, and most importantly, with the other three dimensions controlled simultaneously, there is only marginal statistical evidence that financial knowledge is important. This does not mean that knowledge is not relevant but that it might have an impact in part through attitudes, skills, and behaviours. Comprehending a financial concept does not mean that the liquidity management or investment practice changes, as is the case in an owner-led SME, unless the information is transformed into routines and actions of the decision maker. The results thus support the concept of financial literacy based on capability, in which practice and competent application are closer to effective financial management, rather than the concept of financial literacy based purely on knowledge.

5. Discussion

Strong evidence of financial literacy being associated with financial management in mineral-mining SMEs of Balochistan has been found but the bond between the two is structurally imbalanced in dimensions of financial literacy. The overall model accounts for 83.3% of the variance in financial management which suggests that the four dimensions are able to provide a significant proportion of the variance in managerial ability and capacity related to budgeting, liquidity control, investment decisions, planning, risk management, and other aspects of financial management. This finding aligns with the general findings from international SME literature regarding financial literacy and emphasizing that it is a managerial tool, not an individual characteristic. In Tanzania, positive correlations between financial literacy and business practices, access to finance, opportunity recognition, financial behaviour, or business performance have been reported (Frimpong et al., 2022; Mabula & Dongping, 2020; Nisar et al., 2022; Yakob et al., 2021).

The present research takes this trend a step further into a segment where financial decisions are intimately linked with capital needs, the continuity of operations, and the facing of uncertainty. The best empirical evidence relates to financial skills. Financial skills were more strongly correlated with financial management than attitude, behaviour, or knowledge with a $\beta = .397$ and $p < .001$. The plausibility of this finding is reasonable given that skills are the 'applied' aspect of financial literacy. Knowing cash, debt, or investment only helps a mining SME that is run by an owner or manager who creates budgets, understands what the records mean, makes cost estimates, predicts liquidity, compares financing alternatives, and gauges investment decisions. The outcome aligns with the overall finding: financial literacy is beneficial if it is transferred to become a capability of the organization to guide decision making and allocation of resources (Rekha et al., 2025; Yakob et al., 2021). The study also aligns with the studies of Anwar et al. (2020), which indicated that financial literacy enhances opportunity recognition and better performance of SMEs. In the Balochistan mining scenario, this suggests that in smaller companies, practical skills might be particularly relevant as they are unlikely to have specialist finance teams, and the owners of the business may need to make operational decisions based on financial information.

The second strongest significant predictor was financial attitude with a $\beta = .227$, $p = .001$. This argues for the fact that, besides technical skills, managerial attitudes towards planning, restraint, risk, and future consequences also play a role in financial management. Businesses with a manager that sees financial planning as a crucial component of doing business are more likely to have buffers, to review spending, to consider financing charges, and to plan for negative outcomes. Similar findings were discovered in Tanzania by Mabula and Dongping (2020), who concluded that financial attitude was significantly associated with financial planning and control, bookkeeping, and utilization of financial services. Attitude is another significant aspect of the financial literacy of micro-entrepreneurs identified by Goyal et al. (2024). The present study thus



provides an argument for the interpretation that having knowledge and skills available may not necessarily translate to their being mobilized because of attitude. While a short-term approach might promote reactive financing in mining SMEs, where the income of the investment is uncertain, a forward-looking approach could rather promote risk preparation and disciplined financing.

Financial behaviour also was a statistically significant predictor ($\beta = .222$, $p = .006$). The outcome highlights the significance of repetitive activities. There is no single decision that produces financial management; it is the result of ongoing monitoring and record keeping, payment discipline, saving, reinvestment, review, and adjustment. In the study of Khawar and Sarwar (2021), it was observed that financial literacy has a positive correlation with financial behaviour, based on evidence from Pakistan. Financial behaviour was also related to bookkeeping and financial-service use in a similar manner by Mabula and Dongping (2020). It is assumed that in this context good behaviour will lead to better timeliness and reliability of information for the owner-manager. For instance, a manager that keeps an eye out on cash flow each week is more likely to know if they are running low on cash before the payrolls or fuel payments are due. A manager who is aware of expenses and keeps records in an organized manner will be able to better tell the difference between inefficiency in running the operation and a one-time difference in revenue. Such behaviour patterns could then be the means by which financial literacy is observed in real-life management.

The outcome concerning financial knowledge is more complex to interpret. When skills, attitude, and behaviour are included in the same model, its standardized coefficient was positive ($\beta = .178$), but it is not statistically significant at the 5% level due to the value of $p = .053$. This is not contrary to the latest research, however. Kaiser et al. (2022) demonstrate that financial education enhances knowledge and downstream behaviours, suggesting that there could be a sequence where knowledge has an impact via later competencies and behaviours. Further, there is significant variation in the dimensions that are used to measure financial literacy of SMEs, as reported by Rekha et al. (2025), indicating that financial literacy is part of a larger construct and that it involves more than just knowledge. This present result may be a result of mediation or overlap in that financial concepts that are understood by the owner may also lead to the development of the other dimensions; as applied dimensions become entered in the regression simultaneously, the unique contribution of knowledge becomes smaller. This is a better defense than saying that knowledge isn't important.

The result is also in contrast to other studies, which have reported positive direct links between financial knowledge and enterprise results. Frimpong et al. (2022) proved the relevance of financial literacy to SME performance and access to digital finance, and Nisar et al. (2022) demonstrated that financial literacy and its entrepreneurial attributes impact financial performance of SMEs in Pakistan. This contrast could be a difference in dependent variables and/or model specification. There are connections between the three outcomes—performance, financial inclusion, and financial management—but they are not necessarily the same. Even if one measure of literacy has a weak association with the composite literacy index, the other measures may more than compensate so the composite index has a strong association. The characteristics of the sectors are also relevant. Special operational decisions for small-medium enterprises in the mining sector demand special skills and applied financial skill might be nearer to a successful day-to-day handling than abstract knowledge. In the present results, then, is a contribution of nuance to the literature, indicating that the overall positive relationship between literacy and management doesn't imply a positive relationship for all of its dimensions.

This is confirmed by the structure of the sample with respect to the demography. Almost half of the respondents were business owners and an additional 19.3% were owner-managers. About one in eight (14.5%) were financial managers. The focus in this concentration is on financial power being held by the entrepreneur, rather than in a dedicated finance function. In an organization with centralization, personal managerial ability becomes very significant. It also implies that the owner's lack of financial acumen is a lack of financial acumen on an enterprise level as well, if there's no dedicated department to make up for the lack of a good finance partner. The relative youth of these companies (nearly half had been in business 3 to 5 years) compounds the vulnerability. Younger SMEs might not have established procedures, practices, and formal



arrangements yet. It is noted that literature on SMEs always highlights managerial skills as one of the most important factors that determine performance in thin organizational structures and limited resources (Yakob et al., 2021; Anwar et al., 2020).

The explanatory power of the model is to be understood in both a theoretical and a methodological way. The R^2 of .833 is very high for a behavioural and managerial survey research. It may be indicative of the conceptual similarity between the predictor and the dependent variable because the four dimensions of literacy are conceptualized in a way that there is a conceptual similarity with financial management, which includes planning, control, and behaviour. It is also due to common method variance since both predictor and outcome were measured in the same way, namely from the same people, at the same time via a questionnaire. Therefore, it would be wrong to conclude that an 83.3% improvement in management is inevitably linked to an increase in financial literacy. The model indicates that the differences between the four financial-literacy dimensions are highly correlated with the differences between self-reported financial management in this sample. Further research using objective financial data, multi-source measurement, or longitudinal data would be helpful to test more rigorously causal effects.

In terms of the Resource-Based View, the pattern of results makes sense. Financial literacy is strategically useful in increasing the utilization of limited resources. The influence of skills is strongest based on the fact that skills constitute a basis for actionable capability, while attitudes provide the motivational basis for using capability, behaviour forms the routine basis for using capability, and knowledge provides the information basis for using capability. The layered interpretation corresponds to previous SME research on financial literacy and financial performance based on the concept of resource-based logic (Yakob et al., 2021). It also explains why financial-literacy programs cannot be considered as a point-in-time awareness-raising event. When the goal is better financial management, it is essential to develop specific skills, such as cash-flow forecasting, budgeting in conditions of uncertainty, cost classification, debt-service assessment, investment appraisals, and scenario planning. However, Kaiser et al. (2022) offer additional evidence that effective financial education has a broader ability to impact knowledge as well as downstream behaviours, which adds support to the applied training approach.

The results of the study also have relevance for lending institutions, business associations, and enterprise-support institutions. Financially savvy borrowers will likely be better record keepers and will grasp financing costs as well as consider their ability to repay better. This enhances not just the company's financial habits but additionally the communication with financial providers. Frimpong et al. (2022) demonstrate that financial literacy and access to digital finance are pertinent to SME performance, providing evidence that it is possible to have a complementarity between capability and financial access. Interventions may thus not just be about providing access to finance but could also include useful financial-management assistance for Balochistan's mining SMEs, taking into account that there are many constraints on enterprises beyond simply accessing credit. Content of training should be customized to the cashflow of the sector and presented in a language that is accessible to the audience with worked examples based upon equipment purchases, fuel costs, delay in receivables, royalty and/or licensing requirements, and mineral-price scenarios.

Last but not least, the results of the study should be given within the general boundary of the mineral sector. A lack of infrastructure, market volatility, regulatory uncertainty, security concerns, and/or technical capacity cannot be overcome by financial literacy. Enterprise-level capability is embedded in a wider system, as Ashraf and Cawood (2019) point out; in the case of Pakistan, a coherent institutional and mineral-policy framework is essential. This is the power of the study: to identify one of the levers that an owner/manager of an SME pulls. The findings demonstrate that applied skills, positive attitude, and disciplined behaviour have a stronger relationship with financial management than knowledge; this is a good support for the approach which is proposed as targeted and realistic one: increasing the managerial capacity by improving the planning, control, and adaptation of scarce financial resources to uncertainty.

6. Conclusion

In this study, the effect of financial literacy on financial management of mineral-mining small and medium enterprises (SMEs) of Balochistan (Pakistan) was investigated where financial literacy was broken



down into four components of financial knowledge, financial attitude, financial skills, and financial behaviour. The results answer the principal research question, what is the relationship of the four dimensions with financial management? and indicate that the four dimensions have strong and statistically significant relationship with financial management. The regression model accounted for 83.3% of the variance in financial management and was significant at $p < .001$. This shows that the financial capability of the owners and managers is significantly related to the financial planning, control, allocation, and monitoring of the owners and managers of the surveyed SMEs. The study also provides responses to the dimension-specific research questions. Financial skills was the highest predictor, signifying that the proficiency in using financial principles in budgeting, record keeping, cashflow, cost analysis, and investment evaluation is very significant. Financial attitude and financial behaviour also contributed significantly positively, indicating that the attitude and financial behaviour towards the future are an important part of good financial management. There was a positive but not statistically significant effect ($p = .053$), and thus no significance at the conventional 5% level, of financial knowledge. The finding is significant, as it illustrates that knowledge is not sufficient in itself to be a manager. The impact of knowledge is increased when it is transferred into skills, attitudes, and repeated financial practices. In response to the study objectives, the research identifies the literacy components, quantifies the effect of these components, and determines their relative importance, followed by providing the evidence sector-wise for Balochistan's Mining SMEs. The findings confirm the Resource-Based View as financial literacy is an intangible managerial ability which has the value to enhance the utilization of scarce enterprise resources. Financial-literacy interventions focus on skill-focused, financial routines learning—not just awareness for practice. Cash-flow forecasting, budgeting, liquidity control, financing, investment appraisal, cost monitoring, contingency planning, and the interpretation of financial records are all crucial areas of training for owners and managers.

Ethics Statement

This study adhered to all ethical standards of research during the conducting of this study. We collected data from secondary sources, and no human participants were involved in the collection of data. Therefore, there is no conflict of interest of any human participant to this study.

Author's Contributions

All authors participated in ideation, development, and writing the manuscript. All authors read and approved the final manuscript.

Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding Statement

The authors did not receive financial support from any funding agency or external organization for the research, authorship, or publication of this article.

Informed Consent

Informed consent was obtained from all participants prior to data collection. Participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without any consequences. The confidentiality and anonymity of respondents were guaranteed throughout the research process.

Data Availability

The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request. The authors are committed to transparency and will provide detailed methodological information and analysis protocols upon request.

References

- Anwar, M., Shuangjie, L., & Ullah, R. (2020). Business experience or financial literacy? Which one is better for opportunity recognition and superior performance? *Business Strategy & Development*, 3(3), 377–387. <https://doi.org/10.1002/bsd2.103>



- Ashraf, H., & Cawood, F. (2019). Implementation plan for a new mineral policy development framework and mining cadastre system for Pakistan. *Journal of Science and Technology Policy Management*, 10(2), 371–403. <https://doi.org/10.1108/JSTPM-10-2017-0052>
- Frimpong, S. E., Agyapong, G., & Agyapong, D. (2022). Financial literacy, access to digital finance and performance of SMEs: Evidence from Central Region of Ghana. *Cogent Economics & Finance*, 10(1), Article 2121356. <https://doi.org/10.1080/23322039.2022.2121356>
- Goyal, M., Aggarwal, R., & Bhagat, S. (2024). Do demographic characteristics influence the financial literacy of microentrepreneurs? *Global Business and Organizational Excellence*, 44(1), 32–46. <https://doi.org/10.1002/joe.22265>
- Hirawati, H., Sijabat, Y. P., & Giovanni, A. (2021). Financial literacy, risk tolerance, and financial management of micro-enterprise actors. *Society*, 9(1), 174–186. <https://doi.org/10.33019/society.v9i1.277>
- Kaiser, T., Lusardi, A., Menkhoff, L., & Urban, C. (2022). Financial education affects financial knowledge and downstream behaviors. *Journal of Financial Economics*, 145(2), 255–272. <https://doi.org/10.1016/j.jfineco.2021.09.022>
- Khawar, S., & Sarwar, A. (2021). Financial literacy and financial behavior with the mediating effect of family financial socialization in the financial institutions of Lahore, Pakistan. *Future Business Journal*, 7, Article 27. <https://doi.org/10.1186/s43093-021-00064-x>
- Lusardi, A., & Mitchell, O. S. (2023). The importance of financial literacy: Opening a new field. *Journal of Economic Perspectives*, 37(4), 137–154. <https://doi.org/10.1257/jep.37.4.137>
- Mabula, J. B., & Dongping, H. (2020). SME managers' financial literacy on firm practices in Tanzania. *International Journal of Knowledge Engineering and Data Mining*, 6(4), 376–394. <https://doi.org/10.1504/IJKEDM.2019.105266>
- Khan, W., Nisar, Q. A., Nasir, N., Nasir, S., & Siddiqui, Y. (2022). Empirical nexus between financial and psychological entrepreneur characteristics and its analogy to entrepreneurship financial performance. *Kybernetes*, 51(2), 745–767. <https://doi.org/10.1108/K-09-2020-0611>
- Rekha, I. S., Sriram, K. V., & Hungund, S. (2025). MSME/SME financial literacy: A systematic literature review and bibliometric analysis. *Journal of the Knowledge Economy*, 16, 14378–14405. <https://doi.org/10.1007/s13132-024-02472-0>
- Yakob, S., Yakob, R., Hafizuddin-Syah, B. A. M., & Rusli, R. Z. A. (2021). Financial literacy and financial performance of small and medium-sized enterprises. *The South East Asian Journal of Management*, 15(1), 72–96. <https://doi.org/10.21002/seam.v15i1.13117>
- Ye, J., & Kulathunga, K. M. M. C. B. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability*, 11(10), Article 2990. <https://doi.org/10.3390/su11102990>