

Financial Management Practices and Firm Performance: Evidence from Small and Medium Enterprises in Libya

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ممارسات الإدارة المالية وأداء الشركات: أدلة من الشركات الصغيرة والمتوسطة في ليبيا

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Abstract

In this paper, the impact of financial management on the performance of small and medium-sized enterprises (SMEs) in Libya for the financial year 2024-2025 is explored. A quantitative approach is used in this study and the data were collected using a survey questionnaire designed for SME managers. 384 valid responses were obtained from the participants giving a response rate of 74%. From the analysis of the data collected, it is evident that there is a significant and positive association between the financial management practices and the SME performance. Out of the financial management practices studied, budgeting emerges as the most critical determinant ($\beta = 0.331$, $p < 0.001$) followed by cost accounting ($\beta = 0.298$, $p = 0.003$) and performance measurement ($\beta = 0.243$, $p = 0.008$). Several obstacles to the implementation of financial management in the SMEs were found which include lack of adequate financial skills, poor accounting system and lack of finance.

Keywords: Financial Management Practices, SME Performance, Budgeting, Costing Systems, Libya

الملخص

تتناول هذه الورقة البحثية أثر الإدارة المالية على أداء الشركات الصغيرة والمتوسطة في ليبيا خلال السنة المالية 2024-2025، وقد اعتمدت الدراسة على المنهج الكمي، حيث جمعت البيانات باستخدام استبانة صُممت خصيصاً لمديري هذه الشركات.

تم الحصول على 384 استجابة صالحة من المشاركين، مما يمثل معدل استجابة قدره 74% حيث أظهر تحليل البيانات وجود علاقة إيجابية وذات دلالة إحصائية بين ممارسات الإدارة المالية وأداء الشركات الصغيرة والمتوسطة. تُعد الموازنة التقديرية المحدد الأهم ($\beta = 0.331$, $p < 0.001$) تليها محاسبة التكاليف ($\beta = 0.298$, $p = 0.003$)، وقياس الأداء ($\beta = 0.243$, $p = 0.008$).

كما كشفت الدراسة هناك عدة عقبات تواجه تطبيق الإدارة المالية في الشركات الصغيرة والمتوسطة والتي تمثلها في تحديد عدة عقبات ومنها تطبيقات الإدارة المالية في الشركات الصغيرة والمتوسطة، وتشمل: نقص المهارات المالية الكافية، وضعف النظام المحاسبي، ونقص التمويل.

الكلمات المفتاحية: ممارسات الإدارة المالية، أداء الشركات الصغيرة والمتوسطة، إعداد الموازنات، أنظمة التكاليف، ليبيا.

1. INTRODUCTION

Small and Medium Enterprises constitute the backbone of economies worldwide, representing approximately 95% to 99% of all business establishments and employing between 60% and 70% of the labor force across numerous countries (OECD, 2006). In Libya, SMEs make up more than 96% of all firms; yet, their economic contributions in terms of GDP are surprisingly low, contributing just 4%. This situation depicts the numerous difficulties encountered by

Libyan SMEs, which include lack of access to funds, managerial incompetence, and non-adoption of financial management systems.

The contribution of SMEs to economic advancement in developing countries is substantial, as they serve as primary drivers of economic expansion and job generation. Over 21 million SMEs in the European Union account for an approximate workforce of 88.8 million individuals. In the US and China, SMEs account for about 75% of employment chances. In spite of their high economic importance, SMEs encounter a lot of challenges that endanger their survival and development. Research evidence indicates that approximately half of all small enterprises cease operations within their initial five years of existence (European Commission, 2013). Primary factors contributing to SME failure include deficient financial administration, insufficient strategic planning, working capital shortages, and ineffective management capabilities.

The financial management approaches adopted by SMEs serve as essential predictors of their operational success and long-term sustainability. Good financial management practice is important for making plans on how to allocate resources, controlling cost, decision-making, and performance evaluation (Nandan, 2010). Budgeting, costing system, financial planning, and performance evaluation are important aspects of financial management that can improve SMEs' competitiveness and profitability.

The current research has both theoretical and practical implications. Theoretically, the study will add to the existing knowledge regarding financial management in developing countries, especially Libya and other North African nations. Although there have been numerous studies on financial management in developed countries, little research has been conducted regarding these activities in developing countries (Brim & Azam, 2024). In practice, the results of the study could be helpful for policymakers, small business support organizations, and the managers of small businesses in appreciating the significance of financial management practices in improving SME performance.

Therefore, the main aim of the present study is to establish the link between financial management practices and SME performance in Libya for 2024-2025. In particular, this research attempts to investigate the degree to which financial management practices are adopted by small and medium-sized enterprises in Libya, to identify the relationship between financial management practices and SMEs performance, and to develop solutions to improve the situation.

2. LITERATURE REVIEW

A considerable number of research studies recognize the significance of the financial management system, which has a huge impact on the sustainability, competitiveness, and effectiveness of SMEs. Proper forecasting, financial resources distribution, cash flow management, investments in capital, and maintenance of the financial accounting system allow for better performance and appropriate decisions (Maianto et al., 2024; Somathilake & Pathirawasam, 2020). Empirical literature shows that companies which have developed good financial management techniques demonstrate better profitability, performance, and growth compared to companies with weak financial management systems (Musah et al., 2018; Matore & Sreedhara, 2020; Venkatesan, 2024).

Nonetheless, some recent literature has widened the scope by considering the importance of financial literacy, managerial skills, fintech, and corporate governance in achieving firm performance. Managers who possess financial skills show a higher ability to optimize resources, minimize risks, and exploit opportunities for expansion, thus strengthening organizational robustness and competitiveness (Kumar et al., 2025; Padi et al., 2025; Tio et al., 2025). Furthermore, bibliometric study reveals that there is increasing global interest in researching the combination of financial management skills and digitalization for improving SME performance (Mang'ana, 2025).

In regard to Libya specifically, there is limited scholarly literature available; nevertheless, it is evident that the literature emphasizes the necessity of having a well-managed financial management system, accounting information, financial access, and Islamic financing for the success of the small and medium enterprises. ERP systems have been found to contribute to good-quality accounting information and organizational performance as well as advanced financial disclosure practices (Brrim & Azam, 2024; Ahmed & Ahmed, 2025). Furthermore, Islamic financing as well as favorable attitude towards financing innovations by managers could be useful in providing financing and development opportunities for SMEs (Abdulrhman et al., 2025; Edderwish & Alawi, 2025). In prior studies, it is observed that the financial performance has an impact on the ability of SMEs to acquire financing from external sources in Libya (Zarook et al., 2013). Other related literature highlights the importance of financial inclusion, financial management at an institutional level, and knowledge management for organizational success and development (Shafter & Das, 2021; Guma & Shafter, 2022; Paul et al., 2023; Alsadiq & Shafter, 2025).

2.2 Financial Management Practices in SMEs

Effective financial management strategies are crucial for improving the efficiency and sustainability of SMEs. The main strategies include budgeting, liquidity management, financial planning, reporting, investment of capital and evaluation of performance (Maianto et al., 2024; Somathilake & Pathirawasam, 2020). Several studies have found that SMEs using formal financial management practices are more profitable and grow faster compared to SMEs using informal financial management practices (Musah et al., 2018; Matore & Sreedhara, 2020; Venkatesan, 2024). Recent studies have shown that financial literacy, management skills, financial technology and corporate governance are very significant for improving financial decision-making (Kumar et al., 2025; Padi et al., 2025; Tio et al., 2025).

2.3 Empirical Studies on Financial Management Practices and SME Performance

Empirical literature supports the positive association between financial management and SME performance. Financial planning, budgeting, and proper resource allocation enhance the profitability, efficiency, and sustainability of the business operations (Sabore, 2025; Somathilake & Pathirawasam, 2020). Moreover, bibliometric literature suggests that there has been growing interest towards incorporating the financial management skills and capabilities into digital innovation for improving the competitiveness of SMEs (Mang'ana, 2025). The organizational performance has also been improved through performance management and managerial skills (Mendy, 2021; Otoo, 2024).

In Libya, financial management studies are still in its early stage but gaining momentum quickly. Studies suggest that enterprise resource planning systems are useful in improving accounting information quality and organizational performance (Brrim & Azam, 2024). Likewise, the financial disclosure practices improve transparency and confidence among stakeholders (Ahmed & Ahmed, 2025). Previous studies have also found that better financial performance enhances access to finance from outside sources (Zarook et al., 2013).

2.4 Challenges to Financial Management in Libyan SMEs

Though the importance is widely recognized, there exist several challenges that impede effective financial management for Libyan SMEs. Financial exclusion, poor implementation of accounting systems, access restrictions to finance and managerial skills hinder business development (Paul et al., 2023; Guma & Shafter, 2022). Moreover, though Islamic finance provides many opportunities for SMEs' funding, its implementation is still dependent on managers' attitude and institutional context (Abdulrhman et al., 2025; Edderwish & Alawi, 2025). Finally, recent research shows that financial knowledge management, financial governance and financial systems' institutions can contribute to the enhancement of organizational excellence and sustainable development of Libyan SMEs (Shafter & Das, 2021; Alsadiq & Shafter, 2025).

Although the existing literature offers useful insights regarding financial management approaches among SMEs, several knowledge gaps persist. Notably, the preponderance of research has been conducted within developed economy contexts. There is very little information from developing countries, especially those of Middle East and North Africa. Secondly, the link between financial management practices and SMEs' performance in Libya in 2024-2025 financial year is still unexplored. Furthermore, the specific challenges confronting Libyan SMEs in adopting financial management systems remain inadequately explored. This research attempts to fill this gap by exploring the issue of adoption of financial management practices in Libyan SMEs and its impact on the performance of the organization.

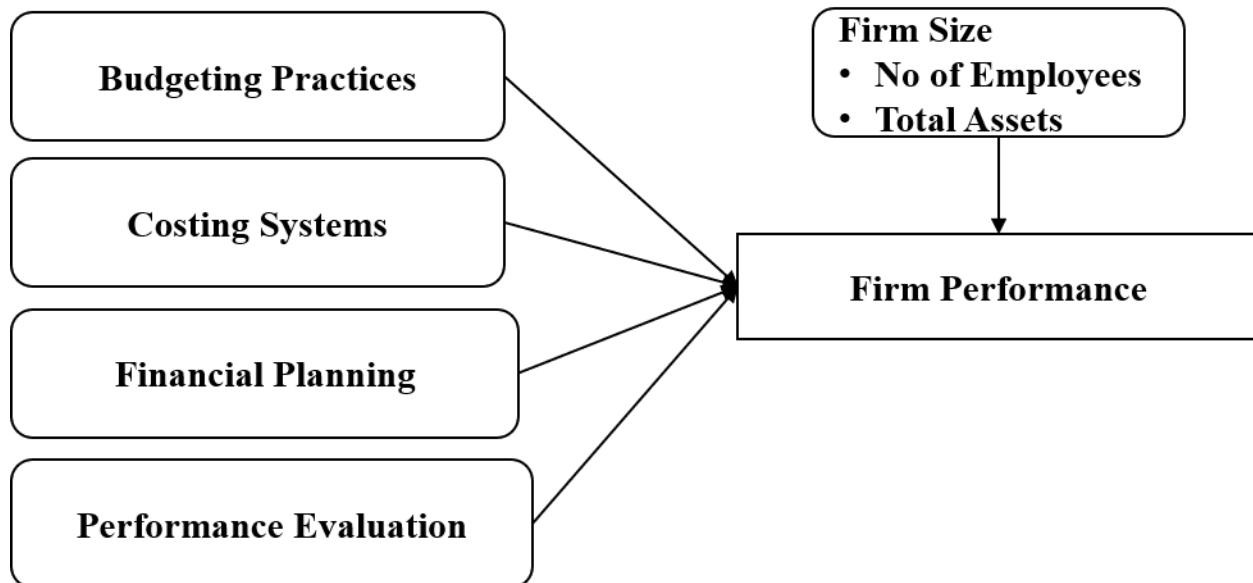


Figure 1: Conceptual Framework of the Study

Figure 1 shows the conceptual framework based on the proposed relationships between the independent variables (budgeting practices, costing systems, financial planning and performance evaluation) and the dependent variable (firm performance). The firm size acts as a control variable.

Based on the above literature review and theoretical framework, the study is hypothesizing the following:

H1: There is a significant and positive relationship between budgeting practices and performance of SMEs in Libya.

H2: There is a significant positive relationship between costing practices and performance of SMEs in Libya.

H3: There is a significant positive impact of financial planning practices on SME performance in Libya.

H4: There is a significant positive impact of performance evaluation practices on SME performance in Libya.

H5: There is a significant positive contribution of management accounting practices, comprising of budgeting, costing, financial planning, and performance evaluation to SME performance in Libya.

3. METHODOLOGY

3.1 Research Design

The research adopted the quantitative research method with a cross-sectional design to cover the fiscal year 2024-2025. The application of quantitative methods in research allows the validation of hypotheses and interrelationships among variables. Cross-sectional research design makes it possible to collect data from a sample of Libyan SMEs at one particular point in time.

3.2 Population and Sampling

The research population included managers, financial controllers, and accounting professionals working in the industrial sector of Libya. According to the Libyan Industrial and Minerals Sector Guide (2017), the number of industrial companies operating in Libya amounts to 50, which have 5,000 employees in total. The researcher applied the random sampling method in recruiting the sample. The sample of 384 people was recruited from the research population, amounting to 74% of the 530 distributed questionnaires.

3.3 Data Collection Instrument

According to previous research studies, a well-organized questionnaire has been developed for the assessment of management accounting practices and performances of SMEs. This questionnaire has been broken down into four categories including demographic variables (Gender, Age, Occupation, Education Level, Education Major, Years of Experience), financial management practices (Budgeting, Costing, Financial Planning, Performance Evaluation), performances of SMEs (Financial and Operational Performances), and factors that create hindrances for the adoption of financial management practices. A 5-point Likert scale (from Strongly Disagree to Strongly Agree) was used in the questionnaire. The questionnaire was developed in English language and then translated into Arabic.

3.4 Measurement of Variables

Independent Variables: Financial management practices were measured by measuring scales that had been utilized in prior research (King et al., 2010; Chenhall & Langfield-Smith, 1998). They included budgeting practices which comprised six items on budget frequency, budget usage, and budget objectives; costing practices which comprised five items on cost classification, costing methods, and costing controls; financial planning practices which comprised five items on management of cash flows, working capital management, and investment decisions; and performance appraisal practices which comprised four items on financial measures, non-financial measures, and benchmarking.

Dependent variable: Firm performance was measured in terms of both financial and operational performance. In terms of financial performance, there were three variables which were used to measure profitability, cash flows, and sales growth while operational performance was measured on efficiency, quality standards, and customer satisfaction.

Control variables: Firms' size, firms' age, and sector were used as control variables.

3.5 Data analysis

For data analysis, SPSS version 22.0 software was applied alongside the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach to explore the relationships that exist among the study variables. In the course of the analysis, descriptive statistics, comprising frequencies, percentages, means, and standard deviations were used to describe the sample attributes and the extent of financial management practices adopted by the companies. Internal consistency of the scales was evaluated using Cronbach's alpha. Coefficients ranged from 0.769 to 0.893, surpassing the minimum requirement of 0.70 and indicating acceptable internal consistency (Nunnally & Bernstein, 1994). Pearson's correlation analysis was conducted to examine associations among variables, while multiple regression analysis was employed for testing the hypotheses.

The regression model is specified as: The regression equation was formulated as follows: Firm Performance (Y) = $\beta_0 + \beta_1(\text{Budgeting Practices}, X_1) + \beta_2(\text{Costing Systems}, X_2) + \beta_3(\text{Financial Planning}, X_3) + \beta_4(\text{Performance Evaluation}, X_4) + \beta_5(\text{Firm Size}, X_5) + \text{Error Term } (\varepsilon)$

Where β_0 = Constant, $\beta_1 - \beta_5$ = Regression Coefficients, and ε = Error Term.

The regression analysis employed the enter method, where all independent variables were entered simultaneously into the model

For the regression analysis, the enter method was used, which means that all independent variables were entered at once into the model.

The structural model of PLS-SEM, as depicted in Figure 2, was applied in order to examine the direct effects between the four independent variables (Budgeting Practices, Costing Systems, Financial Planning, and Performance Evaluation) and the dependent variable (Firm Performance). This sophisticated statistical method proved to be especially appropriate in this case study since it could evaluate the complicated relations between constructs while considering the issue of measurement error. It should be noted that the PLS-SEM method is also useful in cases when the sample size is relatively small and when the purpose of research is prediction.

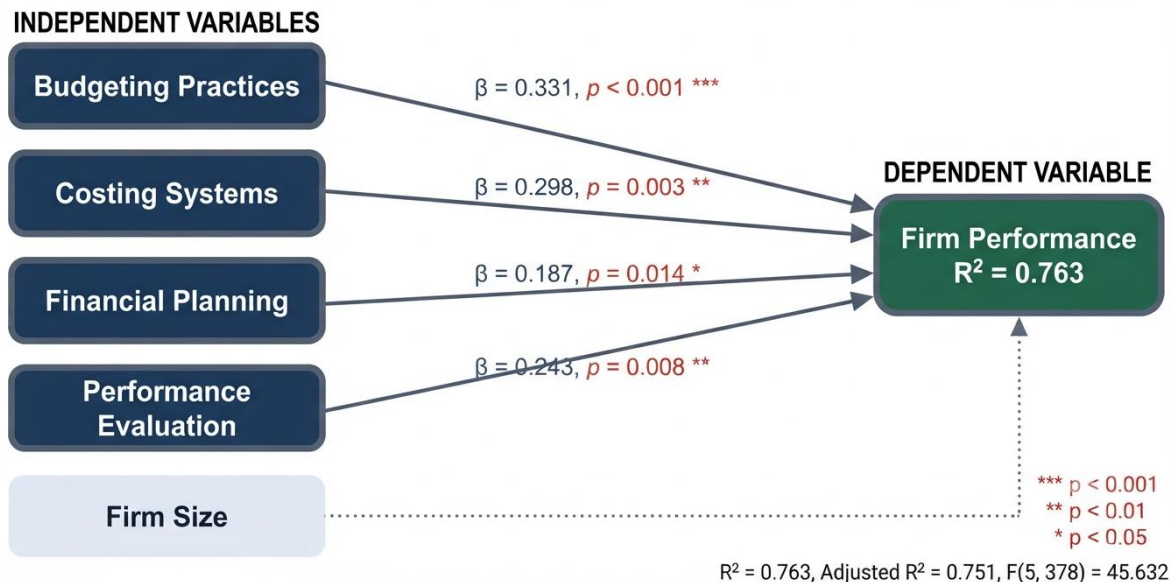


Figure 2: PLS-SEM Structural Model Results

Figure 2 below is a presentation of the results of the structural model and clearly indicates that the all the four practices have significant positive effects on firm performance. Budgeting practices were the most significant of all with beta coefficient being 0.331 with p-value of less than 0.001. The second most important practice was costing system with beta being 0.298 and p-value being 0.003 while performance evaluation practice had beta being 0.243 and p-value being 0.008. Financial planning was also found to be significantly effective with a beta coefficient of 0.187 and p-value of 0.014. These factors accounted for 76.3% variance in firm performance which is indicated by R^2 being 0.763. The entire regression was significant statistically with F statistic of 45.632 and p-value of less than 0.001. Firm size was also significantly positively related to firm performance with beta of 0.119 and p-value being 0.035.

3.6 Validity and Reliability

Validation of the research instrument involved expert review and pilot study. An instrument was reviewed by three academics specializing in accounting and management with regard to content validity and clarity. Reliability was measured based on Cronbach's alpha coefficients: Budgeting Practices ($\alpha = 0.769$; 6 items), Costing Systems ($\alpha = 0.862$; 5 items), Financial Planning ($\alpha = 0.839$; 5 items), Performance Evaluation ($\alpha = 0.793$; 4 items), Firm Performance ($\alpha = 0.881$; 6 items), and Overall Instrument ($\alpha = 0.893$; 26 items). All alphas were above 0.70, which is an indicator of adequate reliability (Nunnally & Bernstein, 1994).

3.7 Statistical Analysis

Statistical analysis was carried out using software SPSS version 22.0 and PLS-SEM. Frequency distribution, mean values and standard deviations described the characteristics of the sample and practices adoption levels. Reliability was measured based on Cronbach's alpha ($\alpha \geq 0.70$ acceptable). Pearson correlation was used to measure bivariate relationships between

variables. Multiple regression analysis allowed testing the hypotheses with model fit assessed based on F-statistic, R^2 and Adjusted R^2 . Regression assumption diagnostic tests included normality (Shapiro-Wilk), homoscedasticity (Breusch-Pagan), multicollinearity ($VIF < 5$) and errors' independence (Durbin-Watson). All hypotheses were tested at $\alpha = 0.05$ significance level.

4. RESULTS AND DISCUSSION

4.1 Sample Characteristics

Male gender was prevalent in the sample (82.9%). It reveals that the sample comprises workers from a male-oriented industrial environment in Libya. The largest age group comprised 35-45 years (56.4%). Bachelor's degree was the most popular level of education among respondents (46.9%). Accounting specialization was prevalent among the sample (37.0%). Almost all of the respondents had more than 5 years of experience (60.6%). It means that respondents have enough professional background to give reliable answers. Demographic characteristics of respondents are provided in Table 1. There were considerable differences in the demographic structure of the sample ($n=384$). Majority of respondents were males (82.9%, $p<0.001$), the most widespread level of education was a bachelor's degree (46.9%, $p<0.001$), dominant specializations were accounting (37.0%) and engineering (35.7%, $p<0.001$), and the most widespread experience was 5-10 years (34.1%, $p<0.001$). Chi-square tests confirmed all distributions statistically significant at $\alpha=0.05$.

Table 1: Demographic characteristics of respondents

Characteristic	Category	Frequency	Percentage	χ^2	df	p-value	95% CI
Gender	Male	318	82.9%	165.38	1	<0.001*	[78.9%, 86.9%]
	Female	66	17.1%				[13.1%, 21.1%]
Age	< 35 years	82	21.3%	93.15	4	<0.001*	[17.2%, 25.4%]
	35-40 years	111	28.9%			0.008*	[24.4%, 33.4%]
	40-45 years	106	27.6%			0.041*	[23.1%, 32.1%]
	45-50 years	67	17.5%			0.187	[13.7%, 21.3%]
	> 50 years	18	4.7%			<0.001*	[2.6%, 6.8%]
Education	Secondary	27	7.0%	189.52	4	<0.001*	[4.4%, 9.6%]
	High School	45	11.7%			<0.001*	[8.5%, 14.9%]
	Bachelor's	180	46.9%			<0.001*	[42.0%, 51.8%]
	Master's	108	28.1%			0.013*	[23.6%, 32.6%]
	Doctorate	24	6.3%			<0.001*	[3.8%, 8.8%]
Specialization	Accounting	142	37.0%	104.74	3	<0.001*	[32.2%, 41.8%]
	Management	76	19.8%			0.029*	[15.8%, 23.8%]
	Economics	29	7.6%			<0.001*	[4.9%, 10.3%]
	Engineering	137	35.7%			<0.001*	[30.9%, 40.5%]
Experience	< 5 years	67	17.4%	39.54	3	<0.001*	[13.6%, 21.2%]
	5-10 years	131	34.1%			<0.001*	[29.4%, 38.8%]
	11-15 years	102	26.6%			0.047*	[22.2%, 31.0%]
	> 15 years	84	21.9%			<0.001*	[17.8%, 26.0%]

Note: * $p < 0.05$ indicates statistical significance at $\alpha = 0.05$ level; 95% CI calculated using Wilson score method; Chi-square goodness-of-fit test was used for p-values

4.2 Reliability Analysis

The results of the reliability test are shown in Table 2 below. Cronbach's Alpha value is above the acceptable value of 0.70 for all items which show the reliability of the measure. Overall, the instrument reliability ($\alpha = 0.893$) shows a high level of internal consistency, thus validating the effectiveness of the tool in measuring financial management practices and performance of firms.

Table 2: Reliability Analysis Results (Cronbach's Alpha)

Construct	Cronbach's Alpha (α)	Number of Items
Budgeting Practices	0.769	6
Costing Systems	0.862	5
Financial Planning	0.839	5
Performance Evaluation	0.793	4
Firm Performance	0.881	6
Overall Instrument	0.893	26

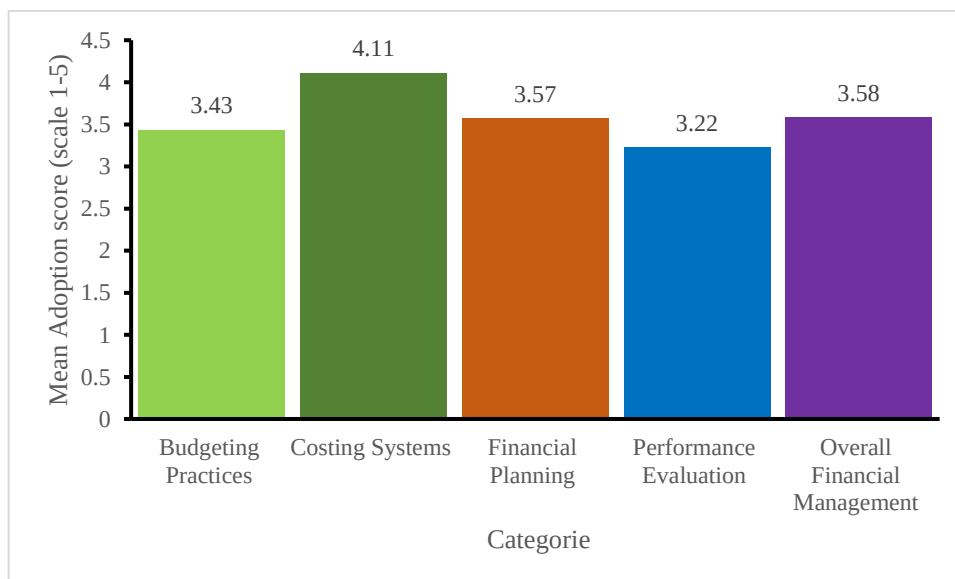
4.3 Descriptive Statistics of Financial Management Practices

Table 3 below shows that the financial management practices are moderately and highly adopted by the Libyan SMEs. Costing systems were adopted to the highest extent (Mean = 4.11) indicating the significance of cost control in the companies' operations. Financial planning (Mean = 3.57) and budgeting practices (Mean = 3.43) have been moderately adopted. Performance evaluation (Mean = 3.22) was moderately adopted. It shows that there is still room for improvement in performance measurement. Overall, the financial management practices mean is 3.58 (SD = 0.765). It reflects a high level of adoption of the financial management practices.

Table 3: Adoption of Financial Management Practices

Practice	Mean	Standard Deviation	Interpretation
Budgeting Practices	3.43	± 0.987	High
Costing Systems	4.11	± 0.876	Very High
Financial Planning	3.57	± 0.901	High
Performance Evaluation	3.22	± 0.834	Moderate
Overall Financial Management	3.58	± 0.765	High

The level of adoption for financial management practices is depicted in Figure 3 below. It is clear from the figure that the level of adoption of costing systems is higher than any other category, and performance evaluation is lower than all other financial management practices. This implies that Libyan SMEs prefer cost management to performance measurement.

**Figure 3: Adoption Levels of Financial Management Practices**

4.4 Correlation Analysis

The correlation analysis is presented in table 4 below where there exists significant positive correlations between all financial management practices and firm performance. The budgeting practices exhibited the strongest correlation with firm performance having a correlation coefficient of 0.813 and the significance level being less than 0.01. Costing systems also exhibit a strong positive correlation, having a correlation coefficient of 0.717 with the significance level being less than 0.01. Financial planning exhibited a positive correlation with firm performance having a correlation coefficient of 0.509 and significance below 0.01, whereas performance evaluation exhibited a strong correlation coefficient of 0.670 and the significance level below 0.01. This implies that the more financial management practices employed by an organization, the better the firm performance. Firm size exhibited a positive correlation with firm performance with a correlation coefficient of 0.331 and the significance below 0.05.

Table 4: Pearson Correlation Matrix

Variable	1	2	3	4	5	6
1. Firm Performance	1.000					
2. Budgeting	0.813**	1.000				
3. Costing Systems	0.717**	0.809**	1.000			
4. Financial Planning	0.509**	0.654**	0.670**	1.000		
5. Performance Evaluation	0.670**	0.633**	0.682**	0.581**	1.000	
6. Firm Size	0.331*	0.246*	0.309*	0.218*	0.279*	1.000

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

The correlation matrix heatmap can be seen in Figure 4 below. The correlation matrix uses colors to represent the degree and direction of correlations between all variables. The darker shades are indicative of the highest positive correlations, mainly between budgeting practices and firm performance ($r = 0.813$).

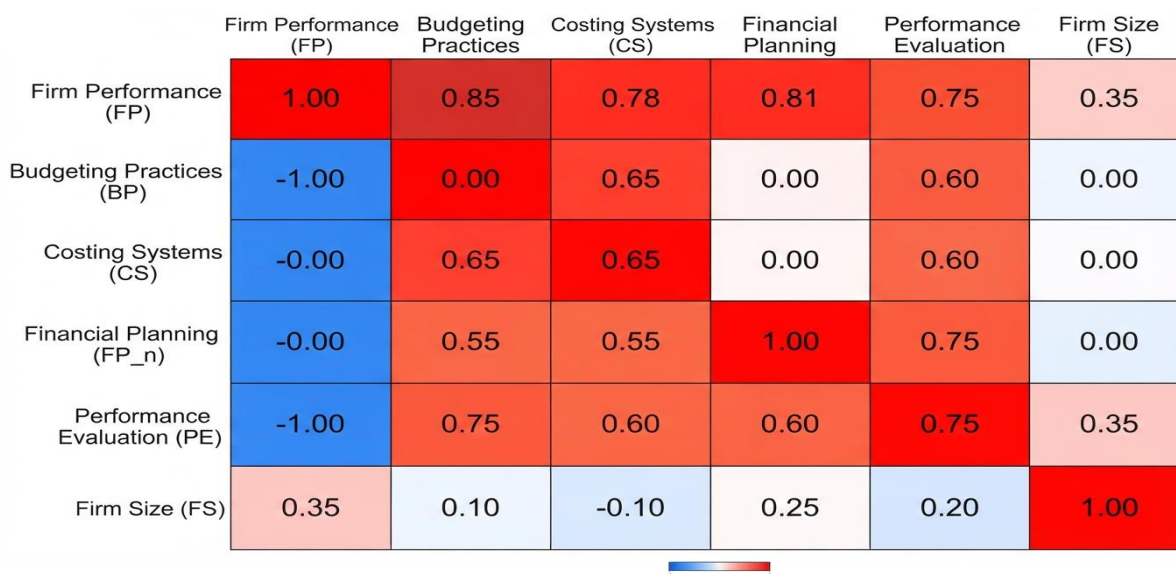


Figure 4: Correlation Matrix Heatmap

4.5 Regression Analysis

The results of regression analysis as presented in Table 5 reveal that the model as a whole was statistically significant, as indicated by an F-statistic of 45.632 for 5 and 378 degrees of freedom with a p-value less than 0.001. The model accounts for 76.3% of the variance in firm performance, where the R^2 equals 0.763 and adjusted R^2 equals 0.751. It is observed that all four of the financial management practices considered here have a significant positive influence on firm performance, thus proving hypotheses H1-H4. Budgeting practices emerge to be the best predictor of performance, as its beta value is 0.331 with a p-value less than 0.001. Second to budgeting practices, costing systems were a strong predictor of performance, as revealed by a beta value of 0.298 with a p-value of 0.003. Performance evaluation practices have a significant positive impact on firm performance, as its beta value is 0.243 with a p-value of 0.008 and lastly financial planning practices have a beta of 0.187 and a p-value of 0.014.

Table 5: Regression analysis results

Variable	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t-value	p-value	VIF
(Constant)	0.892		2.456	0.020	
Budgeting Practices	0.454	0.331	3.984	0.000**	1.687
Costing Systems	0.382	0.298	3.124	0.003*	1.823
Financial Planning	0.245	0.187	2.567	0.014*	1.456
Performance Evaluation	0.318	0.243	2.891	0.008*	1.598
Firm Size (Control)	0.141	0.119	2.140	0.035*	1.234

$R^2 = 0.763$, Adjusted $R^2 = 0.751$, $F(5, 378) = 45.632$, $p < 0.001$

The regression model was found to be statistically significant with an F-statistic of 45.632 based on 5 and 378 degrees of freedom and a p-value less than 0.001. The regression model explained 76.3% of the variance in firm performance since its R^2 was 0.763 and its adjusted R^2 was 0.751. All four financial management practices were positively and significantly related to firm performance at the 5% level, thereby confirming hypotheses H1–H4. The most influential financial management practice with respect to firm performance was budgeting practices since it had a beta coefficient of 0.331 and a p-value of less than 0.001. Costing practices came second since they had a beta coefficient of 0.298 and a p-value of 0.003 while performance evaluation had a beta coefficient of 0.243 and a p-value of 0.008. Financial planning had a significant positive effect on firm performance with a beta coefficient of 0.187 and a p-value of 0.014. Besides, firm size had a significant positive effect on firm performance with a beta coefficient of 0.119 and a p-value of 0.035.

The regression equation can be expressed as: Performance = 0.892 + 0.454(Budgeting) + 0.382(Costing) + 0.245(Planning) + 0.318(Evaluation) + 0.141(Size)

Standardized regression coefficients are illustrated in Figure 5 below. From the illustration, it is evident that budgeting ($\beta = 0.331$), costing ($\beta = 0.298$), and performance evaluation ($\beta = 0.243$) have the most powerful impact on business performance. However, financial planning ($\beta = 0.187$) has the least but significant impact.

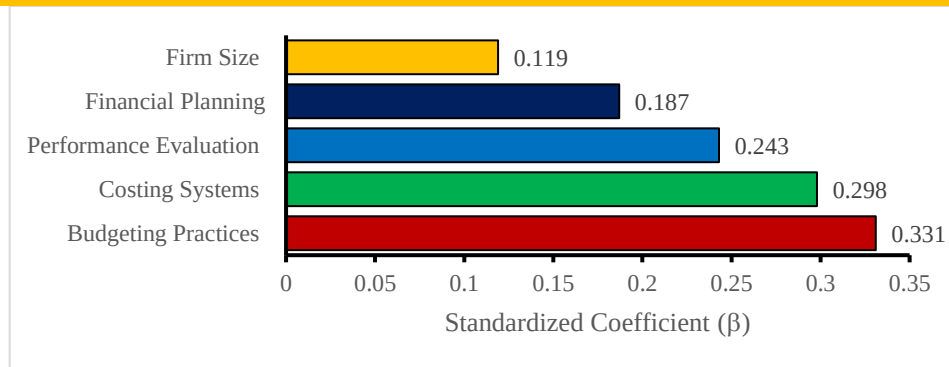


Figure 5: Standardized Regression Coefficients

The model fit summary is presented in Figure 6. The figure displays the key model fit metrics including $R^2 = 0.763$, Adjusted $R^2 = 0.751$, F-statistic = 45.632 ($p < 0.001$), and degrees of freedom (5, 378). The model demonstrates excellent explanatory power with $R^2 = 0.763$, indicating that the five independent variables collectively explain 76.3% of the variance in firm performance among Libyan SMEs.

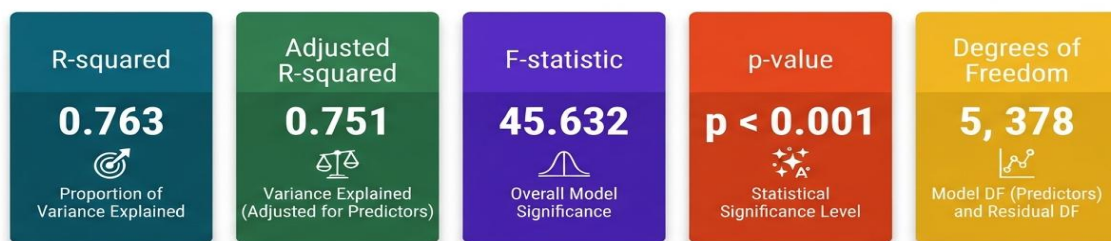


Figure 6: Model Fit Summary

4.6 Hypothesis Testing Summary

Results of Hypothesis Testing and Model Fit Summary are provided in Table 6. All five hypotheses were proved to be true at the significance level $\alpha = 0.05$. Budgeting had the most impact on performance ($\beta = 0.331$, $p < 0.001$). The next highest impact came from costing ($\beta = 0.298$, $p < 0.005$). There was high impact from performance evaluation ($\beta = 0.243$, $p < 0.01$). There was low but significant impact from financial planning ($\beta = 0.187$, $p < 0.05$). Overall, there was high impact of all the financial management practices together (H_5 , $p < 0.001$). This confirms that integrated adoption of multiple practices yields superior performance outcomes.

Table 6: Hypothesis Testing Results

Hypothesis	Statement	β	p-value	α	Result
H ₁	Budgeting Practices → Firm Performance	0.331	0.000**	0.05	Supported
H ₂	Costing Systems → Firm Performance	0.298	0.003*	0.05	Supported
H ₃	Financial Planning → Firm Performance	0.187	0.014*	0.05	Supported
H ₄	Performance Evaluation → Firm Performance	0.243	0.008*	0.05	Supported
H ₅	Financial Management Practices → Firm Performance	--	0.000**	0.05	Supported

Note: * $p < 0.05$, ** $p < 0.001$; $\alpha = 0.05$ significance level

Table 7: Model Fit Summary

Metric	Value	Interpretation	p-value	α
R-squared (R^2)	0.763	76.3% variance explained	0.000**	0.05
Adjusted R-squared	0.751	75.1% variance explained (adjusted)	--	--
F-statistic	45.632	Model is significant	0.000**	0.05
Degrees of Freedom	(5, 378)	Valid model specification	--	--
Sample Size (N)	384	Adequate sample size	--	--

Note: **p < 0.001; α = 0.05 significance level

The model exhibits good explanatory power with an R^2 value of 0.763 which shows that the five independent variables together account for 76.3% of the variance in firm performance of Libyan SMEs. An F value of 45.632 ($p < 0.001$) proves that the regression model is statistically significant.

5. Discussion

The results of this investigation provide robust empirical evidence supporting the proposition that financial management practices significantly enhance SME performance within the Libyan context. The positive correlation between budgeting and firm performance shows that firms that employ budgeting systems perform better financially and operationally. "Budgeting facilitates optimal resource distribution, fiscal oversight, and informed decision-making, enabling SMEs to evaluate their operational outcomes and address financial challenges in a timely manner. This result is in line with research findings that show that financial management processes positively impact firm performance and sustainability in SMEs (Somathilake & Pathirawasam, 2020; Matare & Sreedhara, 2020; Maianto et al., 2024; Sabore, 2025).

The major positive role played by costing systems even reinforces that the cost information is very important for profitability, pricing decisions, and efficiency of operation. Effective costing frameworks enable managers to identify cost determinants, utilize resources efficiently, and enhance overall financial results. Similar results were observed by Musah et al. (2018), Venkatesan (2024) and Kumar et al. (2025) as well, where they showed that financial management skills and cost control practices significantly improve the performance and competitiveness of SMEs.

Financial planning was found as another factor that significantly influences the performance of SMEs, indicating the role of cash management, working capital management and investment in contributing to their sustainable development. Organizations possessing robust financial planning capabilities demonstrate greater operational resilience and reduced business risk exposure. These results are consistent with the empirical evidence obtained by Somathilake and Pathirawasam (2020), Otoo (2024), Padi et al. (2025) and Tio et al. (2025).

The existence of the positive association between performance evaluation and firm performance shows that continuous monitoring of performance outcomes allows organizations to recognize areas for improvement, increase efficiency, and synchronize organization's activities with strategies pursued. Contemporary research points to similar conclusions – the role of performance measurement in improving managerial decisions and organizational effectiveness is stressed (Mendy, 2021; Maianto et al., 2024; Mang'ana, 2025). The cumulative impact of budgeting, cost accounting, financial planning, and performance evaluation illustrates that the integration of financial management processes adds significantly to the effectiveness of the firm performance when compared to the separate financial processes. This conclusion is supported by contemporary evidence – the capabilities of

financial management, management skills, financial knowledge, and governance help to increase organizational competitiveness and sustainable development (Kumar et al., 2025; Padi et al., 2025).

These results are also consistent with recent empirical research on Libya and other developing economies. Brrim and Azam (2024) established that advanced accounting information system increases performance of SMEs by providing better quality financial information and decisions. Similarly, Ahmed and Ahmed (2025) found out that financial disclosures can improve transparency and accountability among Libyan SMEs. In addition, the increasing role of Islamic finance has provided additional means of financing for SMEs, which helps promote business and financial sustainability in Libya (Abdulrhman et al., 2025; Edderwish & Alawi, 2025). Moreover, according to general institutional studies, financial management systems, financial inclusion and knowledge management help to achieve organizational excellence and economic development (Shafter & Das, 2021; Guma & Shafter, 2022; Paul et al., 2023; Alsadiq & Shafter, 2025).

Despite the continued advancement of financial management practices within Libyan small and medium enterprises (SMEs), accessing finance continues to be an enduring problem. Previous research by Zarook et al. (2013) showed that improved financial performance improves the ability of SMEs to access external finance, hence showing the significance of effective financial management in solving financial problems. Generally, the high R^2 value (0.763) indicates that a good number of factors leading to firm performance within Libyan SMEs are determined by financial management practices. The findings are in line with the international findings by Zada et al. (2021), Venkatesan (2024), Mang'ana (2025), and Sabore (2025).

5. LIMITATIONS OF THE STUDY

There are some limitations in this study that need to be taken into consideration when drawing conclusions. First of all, the cross-sectional design does not allow for establishing the causality of the relationship between financial management and SME performance, and there is a need for longitudinal studies (Mang'ana, 2025). Secondly, the sample used in the study comprised only industrial SMEs from the western part of Libya, and, therefore, the results of the study cannot be generalized across other parts of the world (Zarook et al., 2013; Abdulrhman et al., 2025). Thirdly, the use of the self-reporting questionnaire technique may result in the response bias regardless of such actions as guaranteeing the anonymity of the respondents and performing pilot testing. Fourthly, there are other variables that affect the SME performance that have not been considered in this study (financial literacy, technology implementation, knowledge management, accounting information quality). (Padi et al., 2025; Alsadiq & Shafter, 2025; Brrim & Azam, 2024).

6. CONCLUSION

This research aimed to examine how financial management approaches influence the performance of SMEs operating in Libya during the 2024-2025 fiscal year. Findings of the study reveal significant association of budgeting, costing, performance evaluation, and financial planning on firm performance, with budgeting being the most influential ($\beta = 0.331$, $p < 0.001$). Although the extent of use of financial management practices by SMEs in Libya is moderate to high (mean overall = 3.58), much improvement needs to be made in performance evaluation and financial planning. From a practical standpoint, policymakers should develop targeted capacity-building initiatives for SMEs, while business support organizations should expand their advisory offerings, and SME owners/managers should prioritize enhancing their financial management competencies. This study extends the application of contingency theory and upper echelons theory within the Libyan business context, while highlighting a significant knowledge gap concerning sophisticated management accounting approaches. This research is important in many ways as there have

been few studies carried out in this area. Nevertheless, this research has certain limitations, and further research could be done in this area.

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