

## Optimizing financial performance: The interplay between financial management and accounting information systems in Yemeni SMEs



 Nabil Ahmed  
Mareai Senan<sup>1,2</sup>

<sup>1</sup>Accounting Department, College of Business Administration, Prince Sattam Bin Abdulaziz University, Al-Kharj, Saudi Arabia.

<sup>2</sup>Accounting Department, Administrative Science College, Albaydha University, Yemen.

Email: [n.senan@psau.edu.sa](mailto:n.senan@psau.edu.sa)



### ABSTRACT

#### Article History

Received: 8 March 2024

Revised: 10 July 2024

Accepted: 25 July 2024

Published: 15 August 2024

#### Keywords

Accounting information systems

Financial management

Financial performance

Financial reporting

Non-current asset management

SmartPLS 4

SMEs

Working capital.

#### JEL Classification:

M40; M41; M49.

This study aims to explore the moderating effect of accounting information systems (AIS) on the relationship between financial management (FM) and its dimensions (working capital management, financial reporting, and non-current asset management) on the financial performance (FP) of small and medium enterprises in the Republic of Yemen. The study used a quantitative model approach, with data collected via a cross-sectional questionnaire to evaluate the connections within the proposed model. The data was collected from a sample of 287 individuals from SMEs according to the cluster method and analyzed with structural equation modeling (SEM) using SmartPLS software. The results revealed that financial management (non-current asset management and financial reporting) positively and significantly affects financial performance. On the contrary, there is no effect of working capital management on financial performance. More importantly, accounting information systems do not moderate the relationship between financial management and financial performance. The results of the study provide theoretical and practical implications for SME managers on how financial management dimensions and accounting information systems work together to enhance the level of financial performance in SMEs. The interaction between financial management practices and accounting information systems can empower SMEs to make more informed financial decisions. By leveraging this interaction effectively, businesses can optimize resource allocation, investment strategies, and risk management processes.

**Contribution/Originality:** This study contributes in two significant ways. First, it examines the impact of financial management on SMEs' financial performance in Yemen, a topic often overlooked in previous research. Second, it investigates the moderating effect of accounting information systems on the relationship between FM and FP. Therefore, this study offers practical implications for managers and policymakers to enhance the FP of SMEs.

## 1. INTRODUCTION

Small and medium enterprises (SMEs) are recognized as pivotal for driving economic growth (Al-Hakimi, Borade, & Saleh, 2022) by significantly contributing to the economic development of any country (Al-Swidi, Al-Hakimi, Gelaidan, & Al-Temimi, 2022). In Yemen, while the manufacturing sector is largely comprised of SMEs, their contribution to the country's gross domestic product (GDP) is minimal (Al-Hakimi, Saleh, & Borade, 2021). According to Al-Hakimi et al. (2021) USAID reported in 2020 that manufacturing SMEs only account for 9.9% of Yemeni GDP and employ just 4% of the workforce, a significantly low percentage compared to other developing

economies. This underperformance of SMEs in Yemen indicates a significant issue, prompting academic researchers to explore the main factors causing this situation.

Amid various initiatives by the Yemeni government aimed at enhancing the business environment and reducing the cost of regulatory compliance, reforms have failed to improve the situation, as the performance of SMEs in Yemen still falls short of expectations (AlQershi, Mokhtar, & Abas, 2022) posing a threat to the Yemeni economy. Several factors contribute to the underperformance of SMEs, including poor access to finances and a general lack of strategic resources, consistent with Barney's resource dependency theory (Barney, 1991). SMEs managed by owners with limited business management knowledge (where knowledge is considered a strategic resource) may suffer from this predicament (Grant, 1996). Barney's argument that firms underperform due to inadequate resources can be extended to SMEs' financial performance. Existing studies (Degryse, Masschelein, & Mitchell, 2011; Turyahebwa, Sunday, & Ssekajugo, 2013) explain performance trends in SMEs in Spain and Uganda, identifying efficient working capital management (WCM) as a major predictor of SMEs' profitability and overall performance.

Existing studies in the broader area of SME performance indicates a clear lack of examination of the effect of various dimensions of FM, such as non-current assets management (non-CAM), financial reporting (FR), and working capital management (WCM), on the performance of small and medium enterprises. Moreover, the studies conducted were not grounded in a theory that could explain SME performance using individual predictors such as FR. In this study, the resource-based view is adopted, assuming that firms possess an integrated set of various resources and capabilities that can achieve a competitive advantage if they can effectively utilize their resources and capabilities (Barney, 1991).

On the other hand, scholars such as De Azevedo, Lino, De Aquino, and Machado-Martins (2020) who studied financial management information systems in Brazil, argue that the financial management of companies depends on the AIS that they have adopted. Financial management requires a reliable information system that can provide information for better decision making. The alignment between information and the decision makers' needs improves the quality of decisions and ultimately enhances the company's performance (Hutahayan, 2020). AIS plays a crucial role in providing managers with reliable information to make better tactical and strategic decisions (Al-Hattami, Senan, Al-Hakimi, & Azharuddin, 2024). Therefore, companies employing AIS can supply managers with the necessary information to make better decisions, thus improving financial performance. However, existing studies have not thoroughly investigated this issue. To address the gaps in scholarly literature, the following research questions are proposed:

*RQ1. How does financial management (non-current assets, financial reporting, and working capital) affect financial performance?*

*RQ2. Do accounting information systems moderate the relationship between financial management and financial performance?*

The structure of this research is as follows: Section 2 discusses the theoretical framework and hypothesis formulation, Section 3 outlines the methodologies used in the investigation, Section 4 presents the findings from the data analysis and hypothesis verification, Section 5 discusses the outcomes and their significance, and Section 6 concludes the study with final remarks and limitations.

## **2. THEORETICAL FOUNDATION AND DEVELOPING HYPOTHESES**

### *2.1. Resource-Based View*

According to the resource-based view (RBV), business organizations possess capabilities or resources that can confer a competitive advantage and enhance performance (Dyer & Singh, 1998). These capabilities manifest as recurring patterns of activities in utilizing assets, encompassing managerial and technical skills or procedural aspects, such as system installation (Wade & Hulland, 2004). Given that industrial SMEs are typically owner-

managed entities with resources such as cash and the ability to enforce established FM standards, this study adopts the resource-based approach outlined by Barney (1991). In essence, the RBV contends that an organization's success hinges on its assets (Mashenene & Kumburu, 2023). Therefore, effective management plays a pivotal role in shaping an organization's overall performance. The study operates on the premise that a small industrial firm must efficiently leverage and deploy its available capabilities (resources) to achieve its performance objectives.

## 2.2. Financial Management

Financial management entails the oversight of financial resources, encompassing various procedures and practices. As outlined by Nkundabanyanga, Akankunda, Nalukenge, and Tusiime (2017) financial management practices (FMPs) include control, accounting, cash flow management, and capital budgeting, among others. These standardized procedures optimize financial accounting, ultimately enhancing a company's technical efficiency (Saeed et al., 2020). Management researchers, such as Dwangu and Mahlangu (2021) define FM methods as those involving decisions related to money or resource management. Morshed (2020) identifies working capital management as the operational variable integral to FMPs. To assess the FM techniques of industrial SMEs, this study adopts the operational perspective presented by Saeed et al. (2020) and Pizar and Bilkova (2019). According to Cs, Joseph, Peter, and Mary (2023) WCM involves processes that enable a business to meet its ongoing operational requirements while maintaining liquidity. Capital structure finance aims to strike debt and equity funding for businesses. Capital budgeting focuses on effectively managing fixed assets by analyzing return on investment through financial planning and forecasts. Accounting operations, covering bookkeeping and the documentation of financial transactions within a company are crucial for creating and evaluating financial statements and providing data essential for decision making. As emphasized by Nachum et al. (2023) a robust accounting system serves as the foundation for bookkeeping and should be adhered to as a financially responsible management practice. It forms the basis for ensuring transparency and accuracy in financial records, contributing significantly to sound FMPs within an organization.

## 2.3. Financial Performance

Organizational performance, as noted by Datta and Singh (2019) can be objectively assessed through FP indicators such as return on equity and return on assets. Alternatively, subjective assessments that employ non-financial indicators are valuable for managers to gauge overall company success, evaluating whether organizational goals and objectives have been achieved. In cases where managers are unwilling to disclose actual financial data, the literature suggests insights into the perceived accomplishments of the company (Hult et al., 2008; Shea & Sproveri, 2012). For this study, the Delaney and Huselid (1996) scale was employed to measure performance based on personal performance evaluation. This measure, which has been subjected to psychometric testing since its inception, was chosen for its brevity, versatility and capacity to facilitate cross-sector comparisons (Shea & Sproveri, 2012).

## 2.4. Hypotheses Development

Recent research highlights a significant gap in the understanding of FM techniques among SMEs (Nkwabi, Nkwabi, & Nkwabi, 2020). Despite the Kingdom of Saudi Arabia adopting International Financial Reporting Standards for SMEs, an empirical study by Lackson and Muba (2021) revealed that many companies still rely on basic accounting principles in their business management. This trend is not unique to Saudi Arabia, as SMEs in Arab and Gulf countries are reported to face similar challenges (Saleh, 2020). Research indicates that SMEs adhere to accounting standards primarily due to legal obligations and external users' expectations, finding it advantageous (Chileshe & Kikwasi, 2014). In exploring risk management practices, Chileshe and Kikwasi (2014) discovered that 82.1% of respondents understood risk management, with 55% approaching it actively. This contrasts with prior

findings indicating poor awareness and use of risk management among SMEs. Participants were also asked about the application of risk management techniques in their projects, with a positive response from over two-thirds (67.2%) of the respondents. Similar findings in Gulf nations (Harrison & Muiru, 2021) established a link between the performance of small-sized industrial firms and their FM techniques. Nkundabanyanga et al. (2017) introduced mediating instruments to question the association of FM techniques with firm performance. However, these studies often lacked details on the specific practices influencing company performance. For instance, recent research conducted in Pakistan (Zada, Yukun, & Zada, 2021) failed to provide specific crucial FM techniques, making it necessary to analyze and assess empirical research in the Saudi Arabian Kingdom setting. Dalalo and Hunde (2020) emphasize the varied associations, both positive and negative, and the lack of significant associations or influences between variables concerning performance management plans and organizational performance in SMEs. To explore the connection between FM principles and performance, Sooriyakumaran, Thrikawala, and Pathirawasam (2022) propose a conceptual approach with hypothesis testing. They recommend a pilot study utilizing confirmatory and exploratory factor analysis to develop accurate and reliable instruments to evaluate FP goals within the SME framework. A proposed route model is presented to examine the variables, aligning with the suggested methodology for this research study.

The main purpose of the study is to determine the direct impact and relationship of financial management practices, namely non-CAM, FR, and WCM, on financial performance in small and medium enterprises in the Republic of Yemen. In addition, the study examines the indirect effect and indirect relationship of non-CAM, FR, and WCM on the financial performance of small and medium enterprises in the Republic of Yemen when using AIS as a modified variable.

*H1: AIS positively and significantly affects FP.*

*H2: Non-CAM positively and significantly affects FP.*

*H3: FR positively and significantly affects FP.*

*H4: WCM positively and significantly affects FP.*

*H5: AIS moderates the relationship between non-CAM and FP*

*H6: AIS moderates the relationship between FR and FP.*

*H7: AIS moderates the relationship between WCM and FP.*

The research framework in Figure 1 shows the relationships between financial management dimensions and FP, with AIS as a moderator, supported by the RBV framework that guides hypothesis development.

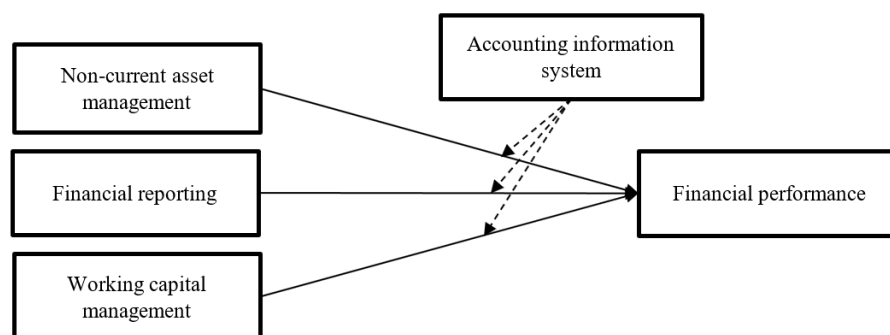


Figure 1. Research model.

### 3. METHODOLOGY

#### 3.1. Research Design

The study used a quantitative model approach, with data collected via a cross-sectional survey. The research focused on exploring the effect of financial management dimensions (WCM, FR, and non-CAM) as independent variables on FP as the dependent variable using AIS as a moderator.

### 3.2. Sample and Data Collection Procedures

To answer the research questions, data was collected from a sample of 60 SMEs. A probability sample was drawn according to cluster sampling method from a database of industrial companies from the Chamber of Industry and Commerce of Yemen. The targeted population of this study covers many manufacturing industries, including food, beverage, leather, and clothes.

Data was collected from senior and middle management of SMEs in Yemen through a custom questionnaire, which was designed using a five-point Likert scale with answers ranging from 1 = strongly disagree to 5 = strongly agree. The data collection process ran from August 2023 to October 2023 and was facilitated through Google Forms, which was used to distribute the questionnaire via email and community groups. Table 1 illustrates the characteristics of the sample.

Table 1. Demographic characteristics of the sample.

Demographics characteristic	Frequency	Percentage (%)
Gender:		
Male	214	72.6
Female	81	27.4
Age:		
21 to 30 years	24	0.08
31 to 40 years	73	24.7
41 to 50	107	36.2
51 years and above	91	30.8
Experience:		
Less than 1 year	7	2.3
More than 1 to 3 years	52	17.6
More than 3 to 5 years	59	20
More than 5 to 10 years	87	29.4
More than 10 years	90	30.5

### 3.3. Measurement

In this research, we utilized a questionnaire to collect data to evaluate the relationships within our proposed model. The constructs were measured using items drawn from existing studies. Working capital management (WCM) was assessed using four items adapted from Cs et al. (2023) and two items from Baistaman, Awang, Afthanorhan, and Rahim (2020) were used for financial reporting (FR). Non-current asset management (non-CAM) was measured with three items from Chisiri and Manzini (2021) while three items from Harash, Al-Timimi, and Alsaadi (2014) were employed to assess accounting information systems (AIS). Finally, financial performance (FP) was evaluated using three items adapted from Ali and Isak (2019).

## 4. RESULTS

### 4.1. Measurement Model

An assessment of the measurement methodology determines the quality of the study's constructs. Initially, factor loadings were scrutinized, and subsequently, the validity and reliability of the research constructs were verified (see Table 2 and Figure 2). The factor loadings surpassed the recommended threshold of 0.70, as advised by Guenther, Guenther, Ringle, Zaefarian, and Cartwright (2023) indicating that the constructs explain over 50% of the variation in the item's reliability. Furthermore, the factor loadings are less than 0.40 (Hwang, Sarstedt, Cho, Choo, & Ringle, 2023; Kite & Whitley, 2018). The reliability measures, such as composite reliability ( $\rho_a$ ) and Cronbach's alpha, demonstrated values greater than 0.70, specifically 0.925, 0.826, 0.788, 0.624, and 0.842. Additionally, the item dependability level, represented by Cronbach's alpha and  $\rho_c$  values (0.945, 0.886, 0.874, 0.839, 0.863), indicated high dependability for internal consistency. Convergent validity was confirmed by

observing that the average variance extracted (AVE) exceeded the suggested 0.50, signifying a high value and ensuring convergent validity.

Table 2. Reliability and validity analysis.

Variable	Item	Loading	% of variance explained by a factor of uni-dimensionality	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	AVE
AIS	AIS1	0.896	80.904	0.914	0.925	0.945	0.853
	AIS2	0.934					
	AIS3	0.940					
Non-CAM	Non-CAM1	0.836	78.427	0.782	0.788	0.874	0.699
	Non-CAM2	0.895					
	Non-CAM3	0.772					
FR	FR1	0.831	57.454	0.619	0.624	0.839	0.723
	FR3	0.869					
WCM	WCM1	0.849	97.523	0.797	0.842	0.863	0.613
	WCM2	0.802					
	WCM3	0.746					
	WCM4	0.729					
FP	FP1	0.794	62.415	0.808	0.826	0.886	0.722
	FP2	0.855					
	FP3	0.898					

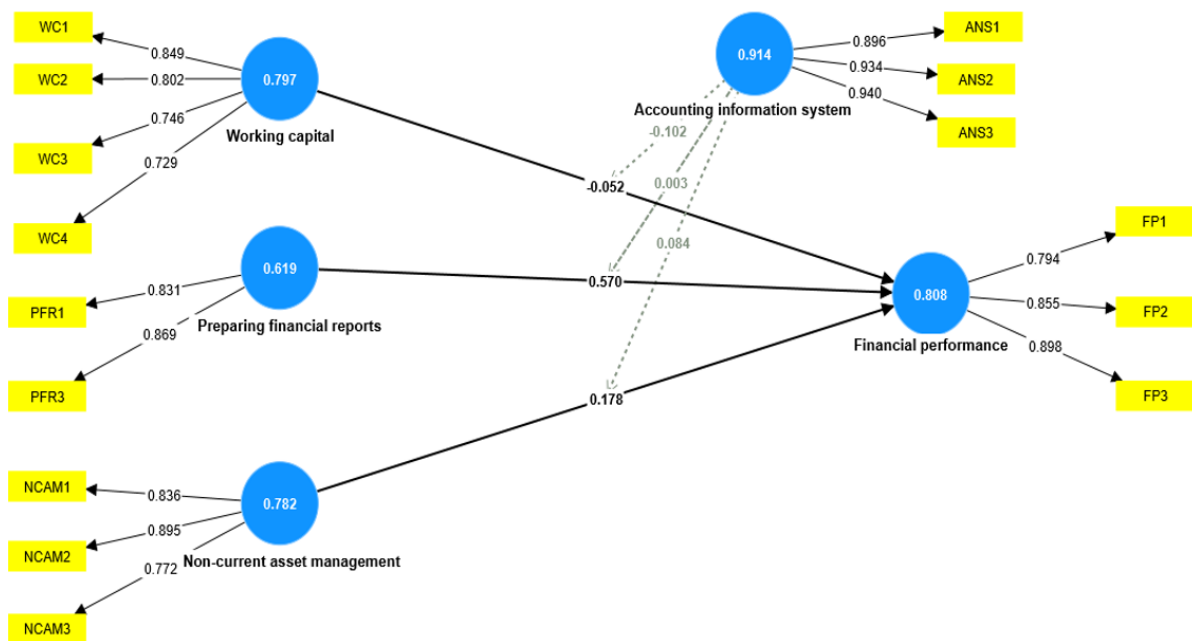


Figure 2. Measurement model.

Discriminant validity, assessing how distinct each construct in the structural model is from the others, was determined using the heterotrait-monotrait (HTMT) ratio, with a recommended score of less than 0.90 (Hair, Risher, Sarstedt, & Ringle, 2020). The results shown in Table 3 indicate good discriminant validity for all items, ensuring that the reflected concepts are most strongly associated with the indicators corresponding to them (Hair, Hult, Ringle, & Sarstedt, 2022).

Table 3. Discriminant validity (HTMT).

Relationship	Heterotrait-monotrait (HTMT) ratio
FP <-> AIS	0.424
Non-CAM <-> AIS	0.692
Non-CAM <-> FP	0.461
FR <-> AIS	0.181
FR <-> FP	0.876
FR <-> Non-CAM	0.254
WCM <-> AIS	0.723
WCM <-> FP	0.351
WCM <-> Non-CAM	0.746
WCM <-> FR	0.236

Note: AIS = Accounting information system, FP = Financial performance, Non-CAM = Non-current asset management, FR = Financial reporting, WCM = Working capital management.

The results of the Fornell–Larcker criterion for discriminant validity are depicted in Table 4. The AVE values on the diagonals surpass construct correlations (indicated by the corresponding row and column numbers) and indicate that the components exhibit stronger connections with their respective indicators compared to other constructs in the model, thereby demonstrating excellent discriminant validity (Chin, 1998; Fornell, 1981; Hult, Morgeson, Morgan, Mithas, & Fornell, 2017; Tatham & Pettit, 2010). Additionally, as per Baistaman et al. (2020) the exogenous component correlation remains below 0.87, ensuring that each construct meets the criteria for discriminant validity.

Table 4. Discriminant validity: Fornell &amp; Larcker criterion.

Variables	AIS	FP	Non-CAM	FR	WCM
AIS	0.923				
FP	0.376	0.850			
Non-CAM	0.582	0.376	0.836		
FR	0.138	0.623	0.177	0.851	
WCM	0.636	0.305	0.583	0.170	0.783

Table 5. Cross-loadings.

Item	AIS	FP	Non-CAM	FR	WCM
AIS1	0.896	0.299	0.547	0.109	0.548
AIS2	0.934	0.371	0.487	0.127	0.601
AIS3	0.940	0.364	0.584	0.144	0.608
FP1	0.191	0.794	0.179	0.496	0.168
FP2	0.397	0.855	0.402	0.493	0.324
FP3	0.349	0.898	0.354	0.594	0.273
Non-CAM1	0.438	0.319	0.836	0.089	0.437
Non-CAM2	0.530	0.329	0.895	0.195	0.515
Non-CAM3	0.492	0.293	0.772	0.160	0.513
FR1	0.097	0.497	0.140	0.831	0.201
FR3	0.137	0.560	0.161	0.869	0.096
WCM1	0.550	0.311	0.431	0.209	0.849
WCM2	0.562	0.254	0.516	0.072	0.802
WCM3	0.414	0.170	0.503	0.090	0.746
WCM4	0.428	0.171	0.404	0.140	0.729

Table 5 illustrates the connections between WCM, FR, non-CAM, and the AIS concerning FP, considering control, relationship, and degree of influence. It emphasizes the necessity for an organizational culture that supports these principles to establish a clear and robust relationship between FP, WCM, AIS, non-CAM, and the production of financial reports. The findings revealed significant relationships between the study variables. To assess whether the items exhibit stronger loadings on related constructs compared to unrelated ones, the cross-loadings of the

constructs were examined (Chin, 1998). The results display components that have loaded more consistently within their respective constructs. Additionally, the results highlighted the limitations inherent in the measurement strategy employed.

#### 4.2. Structural Model

Afterward, the study delves into the structural pathways to understand how the research constructs are interconnected in terms of statistical significance. To assess the internal model's validation, crucial considerations include coefficients of determination ( $R^2$ ), predictive significance ( $Q^2$ ), and the magnitude and importance of route coefficients, as well as effect sizes  $F^2$  and  $Q^2$  (see Table 6).

Table 6. Values VIF,  $F^2$ ,  $R^2$ ,  $Q^2$ .

Variable	Items	VIF	$F^2$	$R^2$	$Q^2$
FP	FP1	1.603	-	0.497	0.337
	FP2	1.809			
	FP3	2.082			
AIS	AIS1	2.734	0.051	-	-
	AIS2	3.394			
	AIS3	3.698			
Non-CAM	Non-CAM1	1.799	0.036	-	-
	Non-CAM2	2.171			
	Non-CAM3	1.458			
FR	FR1	1.251	0.581	-	-
	FR3	1.251			
WCM	WCM1	1.709	0.003	-	-
	WCM2	1.684			
	WCM3	1.934			
	WCM4	1.870			

To address collinearity issues in exogenous constructs, it is imperative to ensure that the variance inflation factor (VIF) is smaller than 5. As suggested by Hair et al. (2020)  $R^2$  values equal to or greater than 0.10 are deemed satisfactory for the explained variance of internal constructs. The external influences, reflected by an independent variable's  $R^2$  value of 0.497, indicate a substantial impact. Upon examining the effects of WCM, FR, and non-CAM on FP while utilizing an information system for variable-rate accounting,  $Q^2$  values larger than zero, as suggested by Hair et al. (2020) signify predictive importance for the internal construct. The effect sizes of  $F^2$  and  $Q^2$ , with values of 0.02, 0.15, and 0.35, denote slight, moderate, and significant influences of the external structure on the internal structure (Cohen, 1988). Conversely, the effect size is less than 0.02, which indicates no impact, while values less than 0.15 suggest a moderate effect. In the current study, the  $F^2$  values are 0.051, 0.036, 0.581, and 0.003. The VIF values range from 3.698 to 1.000 and are well within the recommended range of less than 5, indicating no collinearity issues (Ketchen, 2013). This ensures the robustness of the data and strengthens the study's internal validity.

According to the results in Table 7, H1, H2 and H3 are supported, while the other hypotheses are rejected. H1 aims to evaluate whether "AIS positively and directly affects the FP of industrial SMEs." The results show a significant and direct positive effect of AIS on the FP of SMEs ( $B = 0.223$ ,  $T = 3.075$ ,  $P = 0.002$ ), which supports and confirms hypothesis H1. This result is consistent with the conclusions of a previous study by Nketsiah (2018) which also proved the existence of a direct and positive relationship between AIS and FP. Moving on to Hypothesis H2, which states that "Non-CAM positively and directly affects the FP of industrial SMEs," the results indicate a significant positive effect ( $B = 0.178$ ,  $T = 2.620$ ,  $P = 0.009$ ). This supports the theory and confirms its validity but contradicts previous research by Chisiri and Manzini (2021) and Yogendrarajah, Kengatharan, and Jeyan Suganya (2017) who suggested a smaller effect of non-current assets on the FP of companies. On the other hand, the current



study reveals a significant and positive impact of non-current assets on the FP of small and medium-sized companies. H3 states that “Financial reporting positively and directly affects FP,” and the results confirms the presence of a significant positive effect ( $B = 0.570$ ,  $T = 11.716$ ,  $P = 0.000$ ). H3 is thus supported, as the results are in line with studies such as those conducted by Obazee (2019) and Sooriyakumaran et al. (2022). This positive effect is attributed to the maintenance of proper financial records by most companies. However, H4, which states that “WCM positively and directly affects the FP of industrial small and medium enterprises” has been rejected, as the relationship between WCM and FP is negative ( $B = -0.052$ ,  $T = 0.744$ ,  $P = 0.457$ ). In contrast to some previous studies in Tanzania (Matara & Sreedhara, 2020) and Kenya (Waweru, 2014) that found a positive effect, the current study indicates a negative effect. This contrasts with the mixed results reported by Hunjra, Boubaker, Arunachalam, and Mehmood (2021); Harrison and Muiru (2021) and Yogendrarajah et al. (2017). Zada et al. (2021) who emphasized the importance of WCM for the FP of expanding SMEs, but the current study indicates that WCM does not positively affect the FP of the companies in the study sample. Regarding the indirect effects involving the use of AIS as a moderating variable, hypotheses H5, H6, and H7 were examined. H5 states that “WCM positively and indirectly affects the FP of small and medium-sized industrial enterprises when using AIS as a modifying variable.” The results confirm that WCM does not positively affect FP when using AIS as a modified variable, and the relationship between WCM and companies’ FP is negative ( $B = -0.102$ ,  $T = 1.681$ ,  $P = 0.093$ ). Thus, H5 is rejected, indicating that WCM does not positively affect firms’ FP when AIS is used as a moderator variable.

Table 7. Hypothesis testing.

Relationship	Beta	Sample mean (M)	SD	T	P values
AIS -> FP	0.223	0.221	0.073	3.075	0.002
Non-CAM -> FP	0.178	0.178	0.068	2.620	0.009
FR -> FP	0.570	0.569	0.049	11.716	0.000
WCM -> FP	-0.052	-0.044	0.070	0.744	0.457
AIS x WCM -> FP	-0.102	-0.094	0.061	1.681	0.093
AIS x FR -> FP	0.003	0.011	0.060	0.052	0.958
AIS x Non-CAM -> FP	0.084	0.093	0.055	1.518	0.129

H6 states that “The preparation of financial reports positively and indirectly affects the FP of small and medium-sized industrial enterprises when using the modified variable AIS.” The study reveals that the preparation of financial reports does not positively affect the FP of the companies under study, but the relationship between the preparation of financial reports and FP shows a positive value ( $B = 0.003$ ,  $T = 0.052$ ,  $P = 0.958$ ). Thus, H6 is rejected, indicating that there is no positive effect of FR on FP when AIS is considered as a moderating variable. For hypothesis H7, which states that “Non-CAM positively and indirectly affects the FP of SMEs when using AIS as a variable,” the results show a negative effect ( $B = 0.084$ ,  $T = 1.518$ ,  $P = 0.129$ ). Therefore, H7 is rejected, indicating that non-CAM do not positively affect FP when using AIS as a moderating variable. However, the overall relationship between non-CAM and FP remains positive.

## 5. DISCUSSION

The basic elements of financial management for industrial SMEs in developing countries, including the Republic of Yemen, are indispensable and are supported by empirical evidence and theoretical justification. The primary objective of this study was to determine the direct impact and direct relationship between the dimensions of financial management (non-CAM, FR, and WCM) on FP in small and medium enterprises in the Republic. The study also examined the indirect effect and indirect relationship of non-CAM, FR, and WCM on FP using AIS as a moderating variable. The results showed that there is a positive relationship between the moderating variable

represented by AIS and the basic system of institutions. There is a direct positive effect and relationship between the independent variables of non-CM, FR and FP and financial management in the industrial SMEs studied. On the contrary, the direct effect of WCM shows a negative relationship with FP. By studying the indirect effect of non-CAM and FR on FP, using AIS as a moderating variable, the study revealed that all factors have independent variables associated with financial management practices. However, the relationship between WCM and FP in companies, using AIS as a variable, shows a negative modified relationship.

The implementation of core performance management programs, such as FR and non-CAM, has significantly improved organizational activities in industrial SMEs. This observation is consistent with findings from previous scientific investigations (Nkundabanyanga et al., 2017). The integration of technological systems, specifically the adoption of accounting and reporting systems within the broader business landscape, has been the subject of previous research (Nkundabanyanga et al., 2017). This study extends this exploration by focusing on the specific implementation of performance management plans within the industrial sector. The conflicting results of the study confirm that the failure of managers to recognize and defend financial management strategies, which positively affect FP in the companies surveyed, has hindered SMEs from achieving their full potential for development and success. This study contributes by shedding light on the prevailing practices of managers and owners, which provides an opportunity to strengthen the organization of industrial SMEs. It highlights that the success of small and medium industrial enterprises in developing countries, especially the Republic of Yemen, is closely linked to the RBV theory model, which calls for the effective use of companies' best capabilities in implementing production management plans. In conjunction with ongoing collaborative initiatives involving companies, chambers of industry and commerce, the Ministry of Industry and Trade, and specialized organizations, this study recommends comprehensive educational, administrative, and financial programs to bridge the financial literacy gap and limit the spread of negative users. By providing illustrative examples of financial management techniques, the study aims to empower managers of small and medium industrial companies and enable them to recognize the importance of these practices for the growth and success of their businesses. Nkwabi (2019) reinforces this proposition in his research on the determinants affecting SME expansion, and he advocates business coaching provided by organizations such as SIDO to help SMEs develop new business insights and foster positive expectations. While recognizing that owners and managers of industrial SMEs play a pivotal role in daily business operations and strategic planning, it emphasizes the need for targeted attention to enhance their capabilities and understanding.

## 6. CONCLUSION

Guided by the resource-based view, this study aimed to examine the impact of the dimensions of financial management, namely non-current asset management, financial reporting, and working capital, on the financial performance of SMEs in Yemen. It addressed the moderating impact of AIS on the relationship between non-current asset management, financial reporting and working capital and financial performance. The most important result obtained is that non-current asset management and financial reporting are associated with financial performance, while working capital has no effect on financial performance. Furthermore, there is no moderating effect of AIS on the relationship between the dimensions of financial management and financial performance.

### 6.1. Theoretical Implications

Theoretically, this study contributes to knowledge on the impact of financial management dimensions (non-current asset management, financial reporting, and working capital) on financial performance in SMEs in Yemen. In addition, the study examines the moderating effect AIS on the relationship of non-current asset management, financial reporting, and working capital and financial performance.

By doing so, this study confirms the results of some previous studies and contradicts others. In addition, this study explores the conditional factor through which the financial management dimensions affect financial

performance through the introduction of AIS as a moderator variable. In line with the proposed model, this study improves our understanding of how financial management dimensions and AIS work together to enhance financial performance in SMEs in less developed countries, such as Yemen.

### 6.2. Practical Implications

Practically, this study contributes in several ways. First, effective financial management practices can help SMEs in Yemen allocate their limited resources more efficiently. Financial management practices directly impact SMEs' bottom line by optimizing revenue generation and cost control mechanisms. By monitoring key financial metrics and implementing strategies to improve profitability ratios, SMEs can achieve sustainable financial growth and viability. Second, effective financial management can provide SMEs in Yemen with the necessary foundation to pursue growth opportunities. This may involve strategic investments in new technologies, product development, market expansion, or acquisitions, leading to increased market share and competitiveness. Finally, understanding how financial management practices interact with AIS can empower SMEs in Yemen to make more informed financial decisions. By leveraging this interaction effectively, businesses can optimize resource allocation, investment strategies and risk management processes.

### 6.3. Limitation and Future Research

The current study focuses solely on small and medium-sized companies in Yemen, limiting its applicability to the context of manufacturing SMEs in Yemen. Future studies could expand the scope to include respondents from other countries to increase generalization of the results. Additionally, this study utilized the RBV in developing the theoretical framework. Future research could consider organizational theory instead. Moreover, while this study examined AIS as a moderator, future research could explore other factors that might moderate this relationship, such as organizational culture or structure.

**Funding:** This research is supported by Prince Sattam bin Abdulaziz University, Saudi Arabia (Grant number: PSAU/2024/R/1445).

**Institutional Review Board Statement:** The Ethical Committee of the Albaydha University, Republic of Yemen has granted approval for this study (Ref. No. 2024/25712).

**Transparency:** The author states that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Data Availability Statement:** The corresponding author can provide the supporting data of this study upon a reasonable request.

**Competing Interests:** The author declares that there are no conflicts of interests regarding the publication of this paper.

## REFERENCES

- Al-Hakimi, M. A., Borade, D. B., & Saleh, M. H. (2022). The mediating role of innovation between entrepreneurial orientation and supply chain resilience. *Asia-Pacific Journal of Business Administration*, 14(4), 592-616. <https://doi.org/10.1108/apjba-10-2020-0376>
- Al-Hakimi, M. A., Saleh, M. H., & Borade, D. B. (2021). Entrepreneurial orientation and supply chain resilience of manufacturing SMEs in Yemen: The mediating effects of absorptive capacity and innovation. *Heliyon*, 7(10), 1-12. <https://doi.org/10.1016/j.heliyon.2021.e08145>
- Al-Hattami, H. M., Senan, N. A. M., Al-Hakimi, M. A., & Azharuddin, S. (2024). An empirical examination of AIS success at the organizational level in the era of COVID-19 pandemic. *Global Knowledge, Memory and Communication*, 73(3), 312-330. <https://doi.org/10.1108/gkmc-04-2022-0094>
- Al-Swidi, A. K., Al-Hakimi, M. A., Gelaidan, H. M., & Al-Temimi, S. K. A. (2022). How does consumer pressure affect green innovation of manufacturing SMEs in the presence of green human resource management and green values? A moderated mediation analysis. *Business Ethics, the Environment & Responsibility*, 31(4), 1157-1173.

- Ali, A. Y. S., & Isak, A. O. (2019). Financial management practices and financial performance of service companies in Somalia. *Financial Management*, 10(4), 12-24.
- AlQershi, N. A., Mokhtar, S. S. M., & Abas, Z. B. (2022). CRM dimensions and performance of SMEs in Yemen: The moderating role of human capital. *Journal of Intellectual Capital*, 23(3), 516-537. <https://doi.org/10.1108/jic-05-2020-0175>
- Baistaman, J., Awang, Z., Afthanorhan, A., & Rahim, M. Z. A. (2020). Developing and validating the measurement model for financial literacy construct using confirmatory factor analysis. *Humanities and Social Science Review*, 8(2), 413-422. <https://doi.org/10.18510/hssr.2020.8247>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
- Chileshe, N., & Kikwasi, J. G. (2014). Critical success factors for implementation of risk assessment and management practices within the Tanzanian construction industry. *Engineering, Construction and Architectural Management*, 21(3), 291-319. <https://doi.org/10.1108/ECAM-01-2013-0001>
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295-336.
- Chisiri, T., & Manzini, S. (2021). Impact of financial management practices on sustainable growth of SMEs: A case of catering organizations in Bulawayo metropolitan province. *International Journal of Entrepreneurial Research*, 4(3), 48-53. <https://doi.org/10.31580/ijer.v4i3.2042>
- Cohen, J. (1988). Set correlation and contingency tables. *Applied Psychological Measurement*, 12(4), 425-434.
- Cs, K. P., Joseph, L., Peter, M., & Mary, A. (2023). *A study on working capital management and ratio analysis at tata steel*. Kerala, India Thrikakkara Kochi: Bachelure Dissertation, Bharata Mata College.
- Dalalo, D. Y., & Hunde, D. A. (2020). Financial management practices and profitability of small and medium enterprises in Kembeta Tembaro zone, SNNPR. *Journal of the Social Sciences*, 48(4), 1-14.
- Datta, S. K., & Singh, K. (2019). Variation and determinants of financial inclusion and their association with human development: A cross-country analysis. *IIMB Management Review*, 31(4), 336-349.
- De Azevedo, R. R., Lino, A. F., De Aquino, A. C. B., & Machado-Martins, T. C. P. (2020). Financial management information systems and accounting policies retention in Brazil. *International Journal of Public Sector Management*, 33(2/3), 207-227. <https://doi.org/10.1108/ijpsm-01-2019-0027>
- Degryse, H., Masschelein, N., & Mitchell, J. (2011). Staying, dropping or switching: The impacts of bank mergers on SMEs. *The Review of Financial Studies*, 24, 1102-1140.
- Delaney, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal*, 39(4), 949-969. <https://doi.org/10.5465/256718>
- Dwangu, A. M., & Mahlangu, V. P. (2021). Accountability in the financial management practices of school principals. *International Journal of Educational Management*, 35(7), 1504-1524. <https://doi.org/10.1108/ijem-06-2021-0243>
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), 660-679. <https://doi.org/10.5465/amr.1998.1255632>
- Fornell, C. (1981). *A comparative analysis of two structural equation models: LISREL and PLS applied to market data*. USA: University of Michigan.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109-122. <https://doi.org/10.1002/smj.4250171110>
- Guenther, P., Guenther, M., Ringle, C. M., Zaefarian, G., & Cartwright, S. (2023). Improving PLS-SEM use for business marketing research. *Industrial Marketing Management*, 111, 127-142. <https://doi.org/10.1016/j.indmarman.2023.03.010>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2020). The results of PLS-SEM article information. *European Business Review*, 31(1), 2-24.

- Harash, E., Al-Timimi, S., & Alsaadi, J. (2014). The influence of finance on performance of small and medium enterprises. *Technology*, 4(3), 161-167.
- Harrison, F. N., & Muiro, M. (2021). Effects of selected financial management practices on financial performance of commercial banks in Kenya. *International Journal of Finance*, 6(1), 17-38. <https://doi.org/10.47941/ijf.517>
- Hult, G. T. M., Ketchen, D. J., Griffith, D. A., Chabowski, B. R., Hamman, M. K., Dykes, B. J., . . . Cavusgil, S. T. (2008). An assessment of the measurement of performance in international business research. *Journal of International Business Studies*, 39, 1064-1080. <https://doi.org/10.1057/palgrave.jibs.8400398>
- Hult, G. T. M., Morgeson, F. V., Morgan, N. A., Mithas, S., & Fornell, C. (2017). Do managers know what their customers think and why? *Journal of the Academy of Marketing Science*, 45(1), 37-54. <https://doi.org/10.1007/s11747-016-0487-4>
- Hunjra, A. I., Boubaker, S., Arunachalam, M., & Mehmood, A. (2021). How does CSR mediate the relationship between culture, religiosity and firm performance? *Finance Research Letters*, 39, 101587. <https://doi.org/10.1016/j.frl.2020.101587>
- Hutahayan, B. (2020). The mediating role of human capital and management accounting information system in the relationship between innovation strategy and internal process performance and the impact on corporate financial performance. *Benchmarking: An International Journal*, 27(4), 1289-1318. <https://doi.org/10.1108/bij-02-2018-0034>
- Hwang, H., Sarstedt, M., Cho, G., Choo, H., & Ringle, C. M. (2023). A primer on integrated generalized structured component analysis. *European Business Review*, 35(3), 261-284. <https://doi.org/10.1108/EBR-11-2022-0224>
- Ketchen, D. J. (2013). A primer on partial least squares structural equation modeling. *Long Range Planning*, 46(1-2), 184-185. <https://doi.org/10.1016/j.lrp.2013.01.002>
- Kite, M. E., & Whitley, B. E. (2018). Factor analysis, path analysis, and structural equation modeling in principles of research in behavioral science. In (pp. 466-495). London: Routledge.
- Lackson, B., & Muba, S. (2021). Factors affecting the adoption of financial reporting standards by micro, small and medium enterprises in Tanzania: The case of Mbeya city council. *East African Journal of Business and Economics*, 4(1), 46-61. <https://doi.org/10.37284/eajbe.4.1.480>
- Mashene, R. G., & Kumburu, N. P. (2023). Performance of small businesses in Tanzania: Human resources-based view. *Global Business Review*, 24(5), 887-901. <https://doi.org/10.1177/0972150920927358>
- Matara, P. G., & Sreedhara, T. (2020). Financial management practices and growth of MSMEs of Tanzania. *MUDRA: Journal of Finance and Accounting*, 7(1), 30-44. <https://doi.org/10.17492/mudra.v7i1.195417>
- Morshed, A. (2020). Role of working capital management in profitability considering the connection between accounting and finance. *Asian Journal of Accounting Research*, 5(2), 257-267. <https://doi.org/10.1108/ajar-04-2020-0023>
- Nachum, L., Stevens, C. E., Newenham-Kahindi, A., Lundan, S., Rose, E. L., & Wantchekon, L. (2023). Africa rising: Opportunities for advancing theory on people, institutions, and the nation state in international business. *Journal of International Business Studies*, 54(5), 938-955. <https://doi.org/10.1057/s41267-022-00581-z>
- Nketsiah, I. (2018). Financial management practices and performance of SMEs in Ghana: The moderating role of firm age. *Open Journal of Economics and Commerce*, 1(4), 8-18. <https://doi.org/10.22259/2638-549x.0104002>
- Nkundabanyanga, S. K., Akankunda, B., Nalukenge, I., & Tusiime, I. (2017). The impact of financial management practices and competitive advantage on the loan performance of MFIs. *International Journal of Social Economics*, 44(1), 114-131. <https://doi.org/10.1108/ijse-05-2014-0104>
- Nkwabi, J. M. (2019). Supply chain management constraints in Tanzanian small and medium enterprises. *African Journal of Business Management*, 13(16), 564-570. <https://doi.org/10.5897/AJBM2019.8876>
- Nkwabi, J. M., Nkwabi, J. M., & Nkwabi, J. M. (2020). A review of the challenges affecting the success of small and medium enterprises (SME) of women entrepreneurs in Tanzania. *Asian Journal of Sustainable Business Research*, 1(2), 95-104.
- Obazee, A. (2019). *Exploring financial management practices of small and medium-sized enterprises in Nigeria*. Doctoral Dissertation, Walden University.

- Pisar, P., & Bilkova, D. (2019). Controlling as a tool for SME management with an emphasis on innovations in the context of industry 4.0. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 14(4), 763-785. <https://doi.org/10.24136/eq.2019.035>
- Saeed, N., Elzanaty, A., Almorad, H., Dahrouj, H., Al-Naffouri, T. Y., & Alouini, M. S. (2020). CubeSat communications: Recent advances and future challenges. *IEEE Communications Surveys & Tutorials*, 22(3), 1839-1862. <https://doi.org/10.1109/comst.2020.2990499>
- Saleh, A. (2020). *Corporate social responsibility in small and medium-sized enterprises (SMEs): A Saudi Arabian perspective*. Doctoral Dissertation, Cardiff University.
- Shea, D. M., & Sproveri, A. (2012). The rise and fall of nasty politics in America. *PS: Political Science & Politics*, 45(3), 416-421. <https://doi.org/10.1017/s1049096512000480>
- Sooriyakumaran, L., Thrikawala, S. S., & Pathirawasam, C. (2022). A study between the association of financial management practices and performance of small and medium enterprises (smes) background: A working paper. *International Journal of Research and Innovation in Social Science*, 4(1), 166-179.
- Tatham, P. H., & Pettit, S. J. (2010). Transforming humanitarian logistics: The journey to supply network management. *International Journal of Physical Distribution & Logistics Management*, 40(8/9), 609-622. <https://doi.org/10.1108/09600031011079283>
- Turyahebwa, A., Sunday, A., & Ssekajugo, D. (2013). Financial management practices and business performance of small and medium enterprises in western Uganda. *African Journal of Business Management*, 7(38), 1-11.
- Wade, M., & Hulland, J. (2004). The resource-based view and information systems research: Review, extension, and suggestions for future research. *MIS Quarterly*, 107-142. <https://doi.org/10.2307/25148626>
- Waweru, N. (2014). Determinants of quality corporate governance in Sub-Saharan Africa: Evidence from Kenya and South Africa. *Managerial Auditing Journal*, 29(5), 455-485. <https://doi.org/10.1108/maj-07-2013-0897>
- Yogendrarajah, R., Kengatharan, L., & Jeyan Suganya, D. F. (2017). *Financial management practices and performance of smes in Sri Lanka evidence from Jaffna district*. Retrieved from <http://repo.lib.jfn.ac.lk/ujrr/handle/123456789/5520>
- Zada, M., Yukun, C., & Zada, S. (2021). Effect of financial management practices on the development of small-to-medium size forest enterprises: Insight from Pakistan. *GeoJournal*, 86(3), 1073-1088. <https://doi.org/10.1007/s10708-019-10111-4>