



# The Impact of Strategic Management Accounting Dimensions on Corporate Financial Performance: Emphasizing the Moderating Role of Information and Communication Technology




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**Abstract:** The purpose of this study is to investigate the effects of strategic management accounting (SMA) dimensions on corporate financial performance and to examine the moderating role of information and communication technology (ICT) in this relationship. The statistical population consists of companies operating in Iraq. Using a sampling method, 311 valid questionnaires were collected and analyzed through the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach in SmartPLS software. The results reveal that strategic decision-making and costing exert the strongest positive and significant effects on financial performance. ICT also demonstrates a positive and significant direct effect on financial performance, while firm size exhibits a weak but statistically significant positive effect. The remaining SMA dimensions do not show significant effects. Among the five moderating effects examined, only the moderating role of ICT in the relationship between costing and financial performance was found to be significant (at the 10% level). The findings indicate that improving the financial performance of Iraqi companies is primarily achieved through strengthening strategic decision-making, adopting advanced costing practices, and directly leveraging ICT. Accordingly, it is recommended that Iraqi managers place greater emphasis on enhancing strategic decision-making processes and precise costing practices, while treating investment in ICT infrastructure as a vital complement to these processes.

**Keywords:** Strategic management accounting, Financial performance, Information and communication technology, Iraqi companies, PLS-SEM.

## 1. Introduction

Strategic management accounting (SMA) has emerged as a critical evolution of traditional management accounting systems, reflecting the increasing complexity, dynamism, and competitiveness of contemporary business environments. Unlike conventional accounting approaches that primarily focus on historical financial data, SMA integrates both financial and non-financial information with a forward-looking and externally oriented perspective, enabling organizations to align their internal processes with long-term strategic objectives. This transformation is driven by the need for organizations to respond effectively to rapid technological

advancements, globalization, and intensified competition, all of which demand more sophisticated decision-support systems. As firms strive to enhance their competitive positioning and sustain profitability, the role of SMA in facilitating strategic decision-making, cost optimization, and performance evaluation has become increasingly indispensable [1-3].

The importance of management accounting practices (MAPs) in influencing financial performance has been widely acknowledged across both developed and developing economies. Empirical studies consistently demonstrate that the adoption of advanced accounting techniques—such as budgeting, cost analysis, and performance measurement—significantly contributes to improved organizational outcomes. These practices enable firms to allocate resources efficiently, monitor operational activities, and identify areas for cost reduction and revenue enhancement. For instance, research in emerging economies highlights that firms implementing structured MAPs tend to achieve higher levels of profitability and operational efficiency compared to those relying on traditional methods [4-6]. Similarly, more recent studies confirm that management accounting practices positively influence financial performance through enhanced managerial decision-making and strategic alignment [7, 8].

In manufacturing and small-to-medium enterprise (SME) contexts, the relevance of management accounting practices becomes even more pronounced due to resource constraints and heightened exposure to market volatility. These firms often operate under tight margins and require precise cost control mechanisms to remain competitive. Techniques such as activity-based costing, variance analysis, and performance benchmarking provide critical insights that support operational improvements and strategic planning. Empirical evidence from various regions indicates that SMEs adopting comprehensive MAPs experience significant improvements in financial indicators, including return on assets and profit margins [9, 10]. Furthermore, the integration of these practices into organizational routines fosters a culture of accountability and continuous improvement, thereby strengthening long-term sustainability.

Despite the recognized benefits, the adoption and effectiveness of SMA practices remain uneven across different contexts. While some studies report strong positive relationships between SMA and financial performance, others suggest that the impact may be contingent upon contextual variables such as organizational size, industry characteristics, and environmental uncertainty. For example, firm size has been identified as a significant determinant of performance, with larger firms often benefiting from economies of scale and greater access to resources [11]. However, smaller firms may exhibit greater flexibility and adaptability, which can also enhance performance under certain conditions. These mixed findings highlight the need for a more nuanced understanding of the factors that mediate or moderate the SMA–performance relationship.

One of the most critical contextual factors influencing the effectiveness of SMA is the integration of information technology (IT) and information and communication technology (ICT). The rapid advancement of digital technologies has fundamentally transformed the way organizations collect, process, and utilize information. Digital transformation enables firms to enhance data accuracy, improve real-time decision-making, and streamline operational processes. As noted in the literature, digitalization not only improves efficiency but also facilitates the integration of sustainability and performance management practices, thereby creating additional value for organizations [12, 13]. Consequently, ICT has become a key enabler of strategic management accounting, amplifying its impact on organizational performance.

The role of ICT as a moderating variable in the relationship between management accounting practices and financial performance has gained increasing attention in recent years. ICT enhances the effectiveness of accounting systems by enabling faster data processing, improved information sharing, and advanced analytical capabilities.

For instance, enterprise resource planning (ERP) systems and business intelligence tools allow organizations to integrate data across different functional areas, thereby supporting more informed strategic decisions. Empirical studies have demonstrated that firms with higher levels of IT integration are better positioned to leverage management accounting practices for improved performance outcomes [14, 15]. Similarly, research in the banking sector indicates that the combined use of management accounting systems and ICT significantly enhances organizational competitiveness and financial performance [16].

In addition to its direct and moderating effects, ICT also contributes to the development of intellectual capital and innovation capabilities within organizations. By facilitating knowledge sharing and enhancing analytical capabilities, ICT supports the creation of new products, services, and business models. This aligns with the broader perspective of service-dominant logic, which emphasizes the role of knowledge and innovation in value creation [17]. Moreover, ICT-driven innovations enable firms to respond more effectively to changing market conditions, thereby improving their competitive advantage and financial performance.

Another important dimension of SMA is its role in sustainability and corporate responsibility. Modern organizations are increasingly expected to integrate environmental and social considerations into their strategic decision-making processes. Management accounting systems play a crucial role in supporting sustainability reporting and performance measurement by providing relevant data on environmental costs, resource utilization, and social impacts. Studies have shown that the integration of sustainability considerations into accounting practices not only enhances transparency but also contributes to improved financial performance by strengthening stakeholder relationships and organizational reputation [18]. This highlights the evolving role of SMA as a tool for both economic and social value creation.

The methodological advancements in analyzing the relationship between SMA and performance have also contributed to a deeper understanding of this field. Techniques such as partial least squares structural equation modeling (PLS-SEM) have been widely used to examine complex relationships involving multiple variables and latent constructs. These methods allow researchers to capture the multidimensional nature of SMA and its interactions with other organizational factors, thereby providing more robust and reliable insights [19]. The application of such advanced analytical tools underscores the growing sophistication of research in management accounting and its increasing relevance for both academia and practice.

Despite the extensive body of literature, several gaps remain in understanding the mechanisms through which SMA influences financial performance, particularly in developing and transition economies. These contexts are characterized by unique challenges, including limited technological infrastructure, regulatory constraints, and resource limitations. As a result, the adoption and effectiveness of SMA practices may differ significantly from those observed in developed economies. Research in transition economies suggests that the successful implementation of ICT and management accounting systems requires not only technological investments but also organizational capabilities and supportive institutional environments [20]. Similarly, the development of intellectual capital through business intelligence systems has been identified as a key driver of performance in such contexts [21].

Furthermore, the strategic orientation of management accounting practices plays a crucial role in determining their impact on performance. Strategic management accounting emphasizes external factors such as competitor analysis, market trends, and customer behavior, enabling organizations to align their strategies with environmental conditions. This external focus distinguishes SMA from traditional accounting approaches and enhances its relevance in dynamic business environments. Studies have shown that firms adopting strategic management

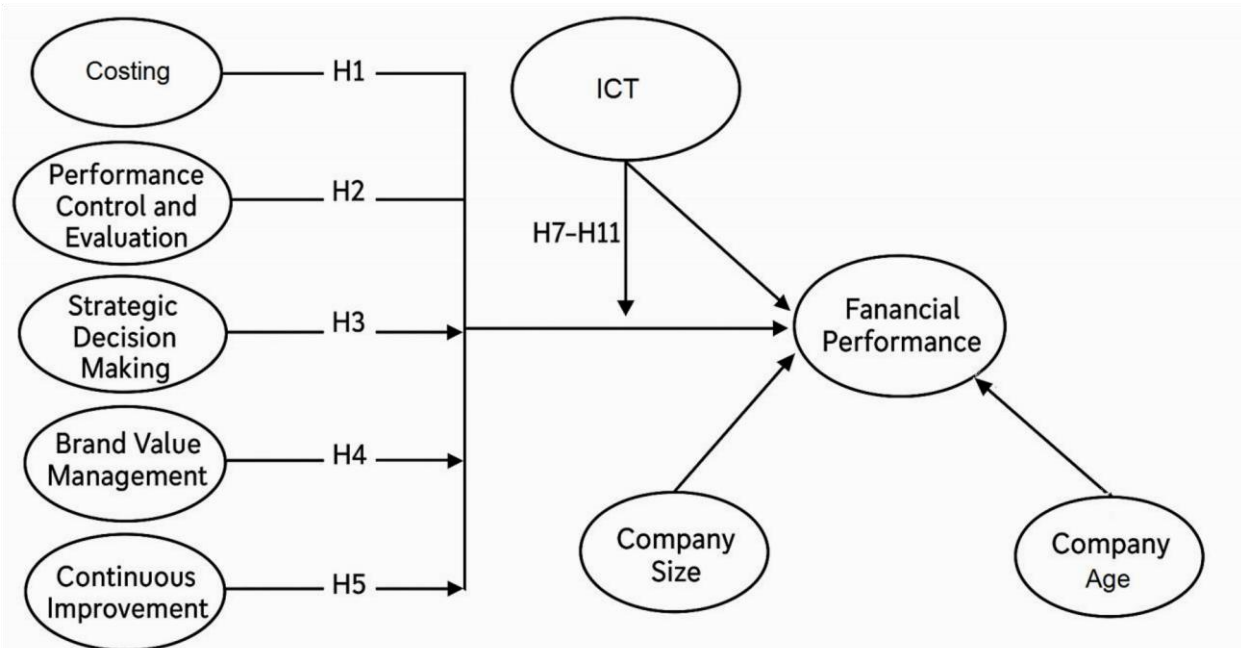
accounting techniques are better able to anticipate market changes, identify growth opportunities, and achieve superior performance outcomes [22]. Additionally, the integration of strategic and operational information supports more effective decision-making, thereby enhancing organizational agility and resilience.

The interplay between management accounting practices, ICT, and financial performance can also be understood within the broader theoretical frameworks of resource-based view (RBV) and contingency theory. RBV suggests that organizational resources, including technological capabilities and accounting systems, can provide a sustainable competitive advantage when they are valuable, rare, inimitable, and non-substitutable. In this context, ICT and SMA can be viewed as strategic resources that enhance organizational performance. Contingency theory, on the other hand, emphasizes the importance of aligning organizational practices with environmental conditions. This implies that the effectiveness of SMA depends on factors such as industry dynamics, technological infrastructure, and organizational characteristics. Together, these theoretical perspectives provide a comprehensive framework for understanding the complex relationships among SMA, ICT, and financial performance.

In summary, the literature underscores the critical role of management accounting practices in enhancing financial performance, while also highlighting the importance of contextual factors such as ICT integration, organizational characteristics, and environmental conditions. Although significant progress has been made in understanding these relationships, further research is needed to explore the combined effects of SMA dimensions and ICT in different contexts, particularly in developing economies. Therefore, this study aims to investigate the impact of strategic management accounting dimensions on corporate financial performance with a particular emphasis on the moderating role of information and communication technology.

## 2. Methods and Materials

Drawing on the extant literature, the following conceptual model (Figure 1) was developed to examine the effects of strategic management accounting (SMA) techniques on financial performance.



**Figure 1. Conceptual Model of the Study**

As illustrated, in addition to the SMA dimensions (costing, strategic decision-making, and performance control and evaluation) and information and communication technology (ICT), two control variables – firm age (measured

as the number of years since establishment) and firm size (measured as the number of employees)—are incorporated into the research model. The inclusion of these controls is theoretically and empirically grounded; numerous studies have demonstrated that firm age can positively influence financial performance through accumulated organizational learning, reputation, access to financial resources, and structural stability, although some research in rapidly evolving technological industries reports negative or negligible effects. Similarly, firm size—one of the most frequently cited control variables in management and finance literature—typically exhibits a positive and significant association with financial performance due to economies of scale, greater bargaining power, improved access to capital markets, and risk diversification. Controlling for these variables thus enables the isolation of the net effects of SMA dimensions and ICT from structural and historical firm-specific factors, thereby enhancing the robustness and validity of the study's findings.

Variables were operationalized using established constructs from the literature, as detailed in Table 1.

**Table 1. Measurement Items for Variables**

Construct	Measurement Items	Source(s)
Financial Performance	1. Profitability in our organization is generally high. 2. Profitability in our organization has increased over time. 3. Compared to competitors, our organization has higher profitability.	Kaplan & Norton (1992, 1996); Venkatraman & Ramanujam (1986)
Costing	4. In our organization, costs for each activity (e.g., operating machinery or product packaging) are accurately calculated and allocated to the relevant product. 5. In our organization's processes, costs associated with specific product features (e.g., quality, size, functionality, or color) are separately identified and recorded to determine each feature's impact on total costs. 6. In our organization, the selling price of a product is first determined, and production costs are then planned to align with the target price and desired profit margin. 7. In our organization, costs for each stage of the value chain (e.g., raw material procurement, production, distribution, and sales) are identified and analyzed to pinpoint areas for cost reduction or value enhancement.	Drury (2000); Drury (2013); Miller & Washington (2015); Anderson & McAdam (2004); Monden (2011); Shank & Govindarajan (1992); Dekker (2003)
Performance Control and Evaluation	8. In our organization, performance is regularly benchmarked against industry leaders to identify weaknesses and improvement opportunities. 9. In our organization, the balanced scorecard is used to evaluate the organization across financial, customer, process, and learning perspectives.	Dmitrovic-Saponja & Suljovic (2017); Elnathan et al. (1996); Brownlie (1999)
Strategic Decision-Making	10. In our organization, customer profitability is analyzed individually based on associated costs and revenues. 11. Our organization has evaluation metrics for analyzing competitors' strengths, weaknesses, and strategies, which are reviewed continuously. 12. In our organization, various scenarios are used to forecast and prepare for future conditions. 13. In our organization, product prices are set based on market and competitive analysis. 14. In our organization, risks in strategic decisionmaking are identified, measured, and managed.	Petera & Šoljaková (2020); Drury (2000); Petera & Šoljaková (2020); Van der Heijden (2005); Petera & Šoljaková (2020); Cescon et al. (2019)
Brand Value Management	15. In our organization, financial resources are allocated based on their impact on brand value. 16. In our organization, indicators such as customer satisfaction and market share are regularly used to monitor brand performance.	Keller (2013); Barwise & Meehan (2010); Raggio & Leone (2007)
Continuous Improvement	17. In our organization, accounting processes are designed to eliminate waste and enable ongoing improvement. 18. In our organization, value chain activities are analyzed to identify opportunities for cost reduction or productivity gains.	Womack & Jones (1999); Maskell & Kennedy (2007); Porter (1985); Shank & Govindarajan (1992)
ICT Level	19. This organization has adequate and up-to-date IT infrastructure (e.g., servers, communication networks, and data storage). 20. Our employees possess the necessary skills and capabilities to utilize ICT. 21. This organization primarily conducts supervisory operations using ICT.	Bharadwaj (2000); Ravichandran et al. (2005); Tippins & Sohi (2003)

This study adopts an applied, descriptive-analytical design to investigate the impact of SMA on financial performance among small- and medium-sized manufacturing enterprises (SMEs) in Iraq. The population comprises active manufacturing firms in Iraq, which are particularly suitable due to their heavy reliance on budgeting and sensitivity to economic conditions. The sample size was determined using Cochran's formula via stratified random sampling to ensure adequate representation across firm sizes and industrial sectors. Data were collected through a researcher-designed questionnaire distributed both in-person and online. The instrument consists of two sections: (1) general firm information (e.g., size, industry sector, management experience) and (2) study variables (encompassing items related to financial performance, costing, strategic decisionmaking, brand value management, performance control, etc.), all measured on a five-point Likert scale. This scaling facilitates robust data analysis.

To ensure instrument quality and validity, both content and construct validity were rigorously assessed. Content validity was established through expert review by specialists in financial management and accounting, with items aligned to the study's objectives and grounded in the conceptual model. Construct validity was evaluated using confirmatory factor analysis (CFA) in SmartPLS software, confirming the factor structure and item loadings on the primary constructs. Reliability was assessed via Cronbach's alpha, with values exceeding 0.7 indicating acceptable internal consistency and reliable measurement of the intended constructs.

Data analysis employed both descriptive and inferential statistics. Descriptive statistics—including means, standard deviations, and frequency distributions—were used to characterize the sample. Inferential analysis, to test variable relationships and validate the conceptual model, involved structural equation modeling (SEM). Analyses were conducted using SPSS and SmartPLS software.

### 3. Findings and Results

Table 2 presents the central tendency and dispersion statistics for the two control variables and the seven main constructs based on 310 valid observations. Overall, the mean scores for all constructs hover around 3 (on a 5-point scale), indicating moderate agreement among respondents and suggesting a relatively balanced adoption of strategic management accounting practices and ICT in the sampled Iraqi firms.

The Shapiro-Wilk test confirms significant deviation from normality for all variables ( $p < 0.001$ ). This non-normality, combined with the presence of moderate sample size ( $N = 310$ ), complex relationships, and some extreme responses, justifies the use of Partial Least Squares Structural Equation Modeling (PLS-SEM) rather than covariance-based SEM (CB-SEM). PLS-SEM is particularly robust under these conditions and allows reliable estimation through bootstrapping procedures.

**Table 2. Descriptive Statistics of Research Variables**

Variable	Items	Mean	Median	Std. Dev	Min	Max	Skewness	Kurtosis	S-W	P
Firm Age (years)	1	6.58	5	8.07	0	60	3.38	16.32	0.637	> 0.05
Number of Employees (Size)	1	36.2	12	33.5	3	93	0.90	-0.38	0.823	> 0.05
Financial Performance	3	9.13	9	1.97	4	13	-0.46	0.36	0.954	> 0.05
Costing	4	11.40	12	3.69	4	20	-0.26	-0.69	0.958	> 0.05
Performance Control & Evaluation	2	5.45	6	2.83	2	10	-0.09	-1.44	0.900	> 0.05
Strategic Decision-Making	4	11.95	13	3.73	4	18	-0.69	-0.40	0.943	> 0.05
Brand Value Management	2	4.48	5	2.05	1	10	0.21	-0.92	0.921	> 0.05
Continuous Improvement	2	7.53	8	2.66	2	10	-0.97	0.09	0.905	> 0.05

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Information & Communication Technology (ICT)	3	10.86	11	2.33	3	13	-1.06	2.07	0.891	> 0.05
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Given the non-normal distribution of the data, Spearman's rank correlation coefficients (nonparametric) were computed and are reported in Table 3.

**Table 3. Spearman Correlation Matrix among Study Variables**

Variable	1	2	3	4	5	6	7	8	9
Financial Performance	—								
Costing	0.749**	—							
Performance Control and Evaluation	0.624**	0.703**	—						
Strategic Decision-Making	0.691**	0.729**	0.735**	—					
Brand Value Management	0.579**	0.596**	0.593**	0.673**	—				
Continuous Improvement	0.569**	0.595**	0.619**	0.653**	0.685**	—			
ICT	0.583**	0.617**	0.614**	0.665**	0.692**	0.734**	—		
Firm Size (employees)	0.124*	0.112	0.058	0.087	0.138*	0.159**	0.147**	—	
Firm Age	-0.029	-0.044	-0.087	-0.051	-0.022	-0.073	0.008	0.021	—

\*\*p < 0.01, \*p < 0.05 (two-tailed)

Financial performance exhibits strong, positive, and highly significant correlations with all SMA dimensions and ICT (ranging from 0.569 to 0.749). The strongest associations are observed with costing ( $\rho = 0.749$ ) and strategic decision-making ( $\rho = 0.691$ ). Firm size shows a weak but significant positive correlation with financial performance ( $\rho = 0.124$ ,  $p < 0.05$ ), whereas firm age is not significantly correlated with performance.

Variance Inflation Factor (VIF) and tolerance statistics are reported in Table 4. All VIF values are well below the conservative threshold of 5 (maximum VIF = 4.41), and tolerance values exceed 0.2. The highest condition index for the full model is 18.7, which is below the critical threshold of 30. These results confirm the absence of severe multicollinearity, allowing reliable interpretation of regression-based coefficients in subsequent structural models.

**Table 4. Collinearity Statistics**

Independent Variable	Tolerance	VIF
Costing	0.254	3.94
Performance Control and Evaluation	0.287	3.48
Strategic Decision-Making	0.227	4.41
Brand Value Management	0.473	2.11
Continuous Improvement	0.291	3.44
ICT	0.248	4.03
Firm Age	0.819	1.22
Firm Size	0.792	1.26
Highest Condition Index (full model)	—	18.7

The measurement model was evaluated to confirm the reliability and validity of the constructs, ensuring that the observed indicators (questionnaire items) adequately measure the latent constructs (e.g., strategic management accounting techniques and financial performance). The assessment followed established PLS-SEM criteria, including indicator reliability (factor loadings), Cronbach's alpha, composite reliability, convergent validity (average variance extracted, AVE), and discriminant validity. The results demonstrate that the measurement model exhibits high quality, rendering the data suitable for structural model testing. Each criterion is discussed in detail below.

Indicator reliability was assessed by examining the outer loadings of each item on its respective construct. Outer loadings represent the strength of the relationship between an indicator and its latent construct and should exceed 0.4 to be considered acceptable, with values below this threshold typically warranting item removal (Hair et al., 2017). In the present study, no items were removed, as all loadings met or exceeded the required threshold. Results from the PLS algorithm revealed that all outer loadings were greater than 0.4, indicating strong indicator reliability.

This confirms that the items effectively reflect their corresponding constructs and that a substantial proportion of the construct variance is explained by the indicators. Detailed outer loadings for each construct are presented in Table 5.

**Table 5 Outer Loadings for All Indicators by Construct**

Construct	Indicator	Original Sample (O)	Sample Mean (M)	Standard Deviation	t-Statistic	p-Value
Financial Performance	Q1	0.935	0.935	0.011	89.021	0.000
	Q2	0.941	0.940	0.009	104.383	0.000
	Q3	0.436	0.431	0.209	2.158	0.031
Costing	Q4	0.833	0.833	0.021	38.824	0.000
	Q5	0.818	0.818	0.021	39.415	0.000
	Q6	0.777	0.776	0.028	27.911	0.000
	Q7	0.810	0.810	0.025	32.140	0.000
Performance Control and Evaluation	Q8	0.969	0.823	0.488	1.987	0.047
	Q9	0.985	0.841	0.469	2.101	0.036
Strategic DecisionMaking	Q10	0.822	0.821	0.021	39.204	0.000
	Q11	0.789	0.788	0.023	34.292	0.000
	Q12	0.813	0.813	0.019	42.978	0.000
	Q13	0.793	0.792	0.025	32.119	0.000
Brand Value Management	Q14	0.959	0.867	0.383	2.501	0.012
	Q15	0.978	0.878	0.414	2.361	0.081
Continuous Improvement	Q16	0.940	0.705	0.526	1.788	0.074
	Q17	0.732	0.612	0.389	1.882	0.060
ICT	Q18	0.446	0.436	0.094	4.760	0.000
	Q19	0.942	0.939	0.014	65.219	0.000
	Q20	0.969	0.969	0.006	160.644	0.000

To assess the internal consistency reliability and convergent validity of the measurement model, Cronbach's alpha, Dijkstra-Henseler's rho\_A, composite reliability (CR), and average variance extracted (AVE) were examined. These indicators were extracted from the SmartPLS output and are reported for each construct in Table 6. The results are subsequently compared against established PLS-SEM thresholds.

**Table 6 Reliability and Convergent Validity Criteria**

Construct	Cronbach's Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Continuous Improvement	0.625	0.720	0.835	0.718
Strategic Decision-Making	0.818	0.819	0.880	0.647
Financial Performance	0.888	0.889	0.947	0.900
ICT	0.769	1.146	0.841	0.664
Performance Control and Evaluation	0.954	1.132	0.976	0.953
Brand Value Management	0.935	0.976	0.968	0.938
Costing	0.826	0.832	0.884	0.656

The reliability and convergent validity indices demonstrate excellent measurement quality. All constructs exceeded the conventional Cronbach's alpha threshold of 0.70, except for Continuous Improvement (0.625), which remains acceptable given its two-item composition (Hair et al., 2017). Dijkstra-Henseler's rho\_A values were above 0.70 for all constructs, and composite reliability values ranged from 0.835 to 0.976, substantially surpassing the recommended minimum of 0.70. Particularly strong composite reliability was observed for Performance Control and Evaluation (0.976), Brand Value Management (0.968), and Financial Performance (0.947).

Moreover, AVE values exceeded 0.50 for all constructs (ranging from 0.647 to 0.953), with four constructs – Financial Performance (0.900), Performance Control and Evaluation (0.953), Brand Value Management (0.938), and Continuous Improvement (0.718)—surpassing the more stringent threshold of 0.70, indicating very strong convergent validity. Overall, the measurement instrument exhibits excellent internal consistency and convergent validity, confirming that the constructs are measured with high precision and reliability. The measurement model is therefore fully supported.

Discriminant validity was assessed using the Fornell-Larcker criterion, which requires that the square root of each construct's AVE (diagonal elements) be greater than its highest correlation with any other construct (off-diagonal elements). As shown in Table 7, the square root of AVE for each construct (bold diagonal values) substantially exceeds its correlations with all other constructs, thereby establishing discriminant validity.

**Table 7 Discriminant Validity – Fornell-Larcker Criterion**

Construct (Letter)	A	B	C	D	E	F	G
Financial Performance (A)	<b>0.948</b>						
Costing (B)	0.536	<b>0.810</b>					
Performance Control and Evaluation (C)	0.493	0.817	<b>0.976</b>				
Strategic Decision-Making (D)	0.518	0.845	0.794	<b>0.804</b>			
Brand Value Management (E)	0.433	0.679	0.669	0.701	<b>0.237</b>		
Continuous Improvement (F)	0.486	0.782	0.746	0.801	0.689	<b>0.848</b>	
ICT (G)	0.503	0.795	0.743	0.822	0.684	0.807	<b>0.815</b>

*Note:* Values on the diagonal (in bold) represent the square root of AVE; off-diagonal values are inter-construct correlations.

The results confirm full establishment of discriminant validity, indicating that each construct is empirically distinct from the others. The measurement instrument thus possesses strong discriminatory power, and all constructs are conceptually independent. The measurement model is comprehensively validated and ready for structural model evaluation.

Following confirmation of the measurement model's reliability and validity, the structural model was estimated to test the hypothesized relationships. The results of the PLS algorithm and bootstrapping procedure (5,000 resamples) are presented in Table 8.

**Table 8 Path Coefficients and Hypothesis Testing Results**

Path Relationship	Path Coefficient ( $\beta$ )	Sample Mean	St. Dev.	t-Statistic	p-Value
Costing → Financial Performance	0.478	0.468	0.023	20.093	0.000
Strategic Decision-Making → Financial Performance	0.767	0.766	0.023	33.972	0.000
Information and Communication Technology → Financial Performance	0.069	0.071	0.018	3.788	0.000
Firm Size → Financial Performance	0.037	0.036	0.016	2.295	0.022
Brand Value Management → Financial Performance	0.079	0.066	0.069	1.140	0.254
Continuous Improvement → Financial Performance	-0.024	-0.012	0.068	0.360	0.719
Performance Control and Evaluation → Financial Performance	0.004	0.003	0.018	0.209	0.835
Firm Age → Financial Performance	0.001	0.001	0.013	0.083	0.934
Moderating Effect (ICT × Costing) → Financial Performance	0.025	0.025	0.015	1.701	0.089

Moderating Effect (ICT × Performance Control and Evaluation) → Financial Performance	-0.025	-0.024	0.017	1.499	0.134
Moderating Effect (ICT × Strategic Decision- Making) → Financial Performance	0.013	0.015	0.014	0.976	0.329
Moderating Effect (ICT × Brand Value Management) → Financial Performance	0.066	0.029	0.068	0.964	0.335
Moderating Effect (ICT × Continuous Improvement) → Financial Performance	-0.078	-0.042	0.066	1.181	0.238

The structural model results reveal that the strongest predictor of financial performance is strategic decision-making ( $\beta = 0.767$ ,  $p < 0.001$ ), followed by costing ( $\beta = 0.478$ ,  $p < 0.001$ ). Information and communication technology also exerts a positive and significant direct effect ( $\beta = 0.069$ ,  $p <$

$0.001$ ). Firm size exhibits a weak but significant positive effect at the 5% level ( $\beta = 0.037$ ,  $p = 0.022$ ). In contrast, brand value management, continuous improvement, performance control and evaluation, and firm age show no statistically significant direct impact on financial performance. Among the five tested moderating effects of ICT, only the interaction between ICT and costing is marginally significant at the 10% level ( $\beta = 0.025$ ,  $p = 0.089$ ), suggesting a weak reinforcing role of ICT on the costing–financial performance relationship. The remaining four moderating effects are non-significant.

Thus, in the sampled firms, financial performance is primarily enhanced through strengthened strategic decision-making, robust costing systems, and effective deployment of information and communication technology. The moderating role of ICT is limited, with only one marginally significant interaction. Model fit in PLS-SEM is evaluated at both the structural and overall levels. Key indicators are reported in Table 9.

**Table 9 Model Fit and Predictive Relevance Indices**

Index / Effect Size ( $f^2$ )	Value
SRMR	0.063
R <sup>2</sup> (Financial Performance)	0.920
Adjusted R <sup>2</sup>	0.916
Q <sup>2</sup> (Predictive Relevance)	0.783
Goodness of Fit (GoF)	0.848
NFI	0.690
Chi-Square	1,650.68
Effect Size $f^2$	
Strategic Decision-Making	6.240 (very large)
Costing	2.311 (large)
Information and Communication Technology	0.044 (small to medium)
Brand Value Management	0.003
Continuous Improvement	0.000
Performance Control and Evaluation	0.000
Firm Size	0.017
Firm Age	0.000

The coefficient of determination ( $R^2 = 0.920$ ; adjusted  $R^2 = 0.916$ ) indicates that the model explains over 92% of the variance in financial performance, reflecting exceptionally high explanatory power. The effect sizes ( $f^2$ ) confirm that strategic decision-making ( $f^2 = 6.240$ ) and costing ( $f^2 = 2.311$ ) have very large to large substantive impacts, while

ICT exhibits a small-to-medium effect. The predictive relevance statistic  $Q^2 = 0.783$  (substantially above 0.5) confirms the model's strong out-of-sample predictive power. The overall goodness-of-fit index ( $GoF = 0.848$ ) far exceeds the threshold of 0.36 suggested by Wetzels et al. (2009), indicating excellent global fit. The standardized root mean square residual ( $SRMR = 0.063 < 0.08$ ) and normed fit index ( $NFI = 0.69$ , acceptable for complex models) further support excellent structural and overall model fit. In conclusion, the proposed research model demonstrates outstanding reliability, validity, explanatory power, predictive relevance, and overall fit with the empirical data.

#### 4. Discussion and Conclusion

The findings of the present study provide compelling empirical evidence regarding the differential impact of strategic management accounting (SMA) dimensions on corporate financial performance, as well as the conditional role of information and communication technology (ICT) in this relationship. The results indicate that among the examined SMA dimensions, strategic decision-making and costing exert the strongest positive and statistically significant effects on financial performance, while ICT also demonstrates a positive direct effect. In contrast, other dimensions—namely performance control and evaluation, brand value management, and continuous improvement—do not exhibit significant direct relationships with financial performance. Furthermore, the moderating role of ICT is found to be limited, with only the interaction between ICT and costing reaching marginal statistical significance. These findings offer important theoretical and practical insights and contribute to the ongoing debate in the literature concerning the effectiveness of SMA practices.

The strong positive effect of strategic decision-making on financial performance aligns with the core premise of strategic management accounting, which emphasizes the integration of external and forward-looking information into managerial decision processes. This result suggests that firms that actively utilize SMA techniques—such as competitor analysis, scenario planning, and strategic pricing—are better equipped to respond to environmental uncertainties and exploit market opportunities. Such capabilities enhance organizational agility and support more effective allocation of resources, ultimately leading to improved financial outcomes. This finding is consistent with prior research highlighting the role of strategic management accounting in enhancing organizational performance through improved decision quality and strategic alignment [2, 22]. Moreover, the positive association corroborates empirical evidence indicating that firms adopting advanced management accounting practices achieve superior performance due to enhanced managerial insight and proactive strategic behavior [7, 8].

Similarly, the significant impact of costing practices on financial performance underscores the importance of cost management as a foundational element of SMA. Techniques such as activity-based costing, target costing, and value chain analysis enable firms to identify inefficiencies, control expenditures, and optimize pricing strategies. The substantial effect size observed for costing suggests that accurate cost information remains a critical determinant of profitability, particularly in environments characterized by resource constraints and competitive pressures. This finding is in line with earlier studies demonstrating that effective cost management practices significantly enhance firm performance by reducing waste and improving operational efficiency [6, 9]. Additionally, research on SMEs confirms that firms adopting structured costing techniques achieve better financial outcomes due to improved cost visibility and decision-making capabilities [4, 10].

The positive and significant direct effect of ICT on financial performance further reinforces the growing importance of digital technologies in contemporary business environments. ICT facilitates the collection, processing, and dissemination of information, thereby enhancing the effectiveness of SMA practices. By enabling real-time data analysis and improving information accuracy, ICT supports more informed and timely decision-

making. This finding is consistent with the digital transformation literature, which emphasizes the role of technology in improving organizational efficiency and performance [12, 13]. Moreover, the result aligns with empirical studies indicating that ICT investments contribute to improved financial performance through process automation, cost reduction, and innovation [14, 15]. The findings also support the argument that ICT serves as a strategic resource within the resource-based view framework, enhancing firms' competitive advantage and performance outcomes.

However, the absence of significant effects for performance control and evaluation, brand value management, and continuous improvement presents an interesting divergence from parts of the existing literature. In theory, these dimensions are expected to contribute to financial performance by enhancing organizational control, strengthening brand equity, and promoting operational efficiency. Nevertheless, their non-significant impact in this study suggests that these practices may not yet be fully institutionalized or effectively implemented in the studied context. One possible explanation is that firms may prioritize immediate financial concerns—such as cost control and strategic decision-making—over longer-term initiatives like brand development and continuous improvement. This interpretation is consistent with findings from developing economies, where organizations often focus on short-term survival strategies due to resource limitations and environmental uncertainty [5, 23]. Additionally, the effectiveness of performance evaluation systems may depend on organizational maturity and the availability of reliable data, which may be limited in certain contexts.

The non-significant effect of brand value management may also reflect the relatively underdeveloped nature of branding strategies in the sampled firms. While brand equity has been shown to influence financial performance in advanced markets, its impact may be less pronounced in environments where market competition is primarily driven by price and cost considerations rather than differentiation. Although brand management is theoretically linked to value creation and competitive advantage [24], its practical relevance may vary depending on industry characteristics and market conditions. Similarly, continuous improvement practices, such as lean accounting and process optimization, may require a supportive organizational culture and long-term commitment, which may not be fully present in the studied firms.

The moderating role of ICT in the relationship between SMA and financial performance is found to be limited, with only the interaction between ICT and costing exhibiting marginal significance. This suggests that while ICT enhances the effectiveness of cost-related practices, its influence on other SMA dimensions is less pronounced. One possible explanation is that the level of ICT adoption in the studied firms may not be sufficiently advanced to fully support complex strategic processes. This finding aligns with previous research indicating that the impact of ICT depends on the extent of its integration and the availability of complementary organizational capabilities [20]. Furthermore, studies have shown that the benefits of ICT are contingent upon factors such as employee skills, organizational learning, and strategic alignment [17]. In the absence of these conditions, the moderating effect of ICT may remain limited.

Another important finding of this study is the positive but relatively weak effect of firm size on financial performance. This result supports the argument that larger firms benefit from economies of scale, greater access to resources, and enhanced market power, which contribute to improved performance [11]. However, the modest magnitude of this effect suggests that size alone is not a sufficient determinant of performance and that managerial practices, such as SMA, play a more critical role. This finding is consistent with the contingency perspective, which emphasizes the importance of aligning organizational practices with contextual factors to achieve optimal performance outcomes.

Overall, the findings of this study contribute to the literature by providing empirical evidence on the relative importance of different SMA dimensions and the role of ICT in shaping their effectiveness. The results highlight the central role of strategic decision-making and costing practices in driving financial performance, while also emphasizing the importance of ICT as a supporting mechanism. At the same time, the findings underscore the need for further research to explore the conditions under which other SMA dimensions can contribute to performance, particularly in developing and emerging economies.

One limitation of this study is the use of cross-sectional data, which restricts the ability to establish causal relationships between variables and limits the generalizability of the findings over time. Additionally, the reliance on self-reported data may introduce response bias, as participants may overestimate or underestimate their organization's practices and performance. The study is also context-specific, focusing on firms within a particular economic environment, which may limit the applicability of the results to other regions or industries. Furthermore, the measurement of constructs using perceptual indicators may not fully capture the complexity of financial performance and SMA practices.

Future research should consider employing longitudinal designs to examine the dynamic relationships between SMA practices, ICT, and financial performance over time. Expanding the scope of analysis to include different industries and geographical contexts would enhance the generalizability of the findings. Researchers may also explore additional moderating and mediating variables, such as organizational culture, leadership style, and competitive intensity, to gain a deeper understanding of the mechanisms underlying the SMA–performance relationship. Moreover, the integration of objective financial data with perceptual measures could provide a more comprehensive assessment of organizational performance.

From a practical perspective, managers should prioritize the development and implementation of strategic decision-making and costing practices, as these dimensions have the most significant impact on financial performance. Investments in ICT infrastructure should be aligned with organizational strategies to maximize their effectiveness and support data-driven decision-making. Organizations are also encouraged to gradually strengthen other SMA dimensions, such as performance evaluation systems and continuous improvement initiatives, by fostering a supportive organizational culture and enhancing employee capabilities. By adopting a holistic approach to SMA and leveraging technological advancements, firms can improve their competitiveness and achieve sustainable financial performance.

#### **Authors' Contributions**

Authors equally contributed to this article.

#### **Ethical Considerations**

All procedures performed in this study were under the ethical standards.

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#### **Conflict of Interest**

The authors report no conflict of interest.

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