“Contextual factors affecting the application of strategic management accounting in Saudi Arabia”

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CONTEXTUAL FACTORS AFFECTING THE APPLICATION OF STRATEGIC MANAGEMENT ACCOUNTING IN SAUDI ARABIA

Abstract

The purpose of this study was to investigate the contextual factors affecting the application of strategic management accounting (SMA) in Saudi Arabia. A quantitative research methodology was adopted to collect data using a questionnaire sent to managers, senior accountants, and accountants in 64 companies; a total of 225 valid responses were obtained to test the research hypotheses. The research hypotheses were to determine whether or not external and internal factors influenced the application of SMA, and this was examined by running a regression and correlation analysis. External factors were found to be positively related to SMA application in Saudi companies. These included environmental uncertainty, competitive pressure, government regulation, and business strategy. The internal factors that also had a positive correlation with SMA application were information technology, organization size, decentralized governance, organizational culture, organizational structure, and human resources. The context and cultural components of Saudi companies determine the effects of external and internal factors on SMA application in Saudi companies, and these effects differ from one company to another in terms of their degrees of influence. The study concluded that external factors such as environmental uncertainty, competitive pressure, and business strategy have the most significant influence on SMA application. Conversely, organizational size and government regulation exert the least influence. These findings imply that companies should make SMA application a top priority if they are to perform in a dynamic environment characterized by change, and they should do so to enhance their strategic organizational responsiveness and decision-making.

Keywords strategic management accounting, management accounting, external factors, internal factors, contingency theory, Saudi Arabia

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INTRODUCTION

The rapid evolution of the business environment requires organizations from every industry to continuously update their operational procedures and strategic policies. The organizational need to evolve stems from technological maturation alongside expanding global markets and changing consumer needs (Azudin & Mansor, 2018; Nguyen et al., 2019). This development results in the application of innovative management systems to enhance strategic decision-making and operational efficiency, leading to sustained overall performance (Jabri & Lahrech, 2025). In fact, the capacity to monitor and respond to the changes in the environment has become a vital contributor to success across all industries (Horngren et al., 2015; Suryana et al., 2023).

The ongoing process of global interconnectedness is significantly reshaping how organizations manage their accounting functions (Nudurupati et al., 2021). This shift moves away from traditional cost accounting practices towards a more strategic approach. Strategic Management Accounting (SMA) plays a vital role in this evolution by providing critical, up-to-date, and predictive information essential for

informing high-level organizational decisions (Khairunnisa et al., 2025). Even though the trend of implementing the new principles of SMA is on the rise, much of the research on the topic has focused on the practices of developed economies. There has been a shortage of studies on the subject of its applicability to developing countries, such as Saudi Arabia, where a complex of internal and external factors, such as economic changes, regulations, resource availability, set organizational routines, and available information technologies, are of major impact on SMA (Alroqy, 2020; Abdullah et al., 2022; Shatilo, 2020).

Considering the high impact of contextual forces, this study attempts to assess the extent to which internal and external contextual factors affect the application of SMA in Saudi organizations. In this way, the study could add a better understanding of strategic management practices in the Saudi context and address the existing research gap within developing economies.

1. LITERATURE REVIEW AND HYPOTHESES

The application of management accounting is often based on theories that account for why or how an organization adopts a certain practice. Researchers have used contingency theory extensively since the 1970s to explain various management accounting practices (MAPs). The central idea of the theory is that a universal accounting system is likely to perform poorly, and to achieve best performance, a fit between the accounting system and the situation is needed (Otley, 2016; Ahmad & Zabri, 2015; Azudin & Mansor, 2018). The theory suggests that differences in organizations' environment and context lead to different designs of accounting and control systems (Cadez & Guilding, 2008; Chenhall, 2003; Haldma & Lääts, 2002; Islam & Hu, 2012). Scholars assert that contingency theory explains the variation in MAPs of firms in different environments (Burns & Stalker, 1961). Although a fairly recent framework, the key arguments made in this theory are consistent with a long-held notion that the management accounting system is interdependent with both the internal and external contextual factors, as highlighted by Horngren (1972).

The evolving context of many business organizations presents new challenges to management accounting (Abdel-Kader & Luther, 2008; Sun, 2024). SMA is at the forefront as an integrative system to overcome these challenges and support business organizations' strategy (AlMaryani & Sadik, 2012; Doktoralina & Apollo, 2019). Interest in SMA became associated with a body of criticism of the traditional MAPs as inward-looking and lacking strategic focus. Roslender and Hart (2003) state that the conjoining of strategy, management, and accounting has led to a new understanding of SMA as providing strategic, decision-facilitating information.

The extant literature has presented various definitions for SMA, which have been somewhat inconsistent, and to date, there is no definition that has achieved consensus (T. M. Nguyen & T. T. Nguyen, 2021). However, there is general agreement that SMA includes all strategy-related MAPs that support the planning, implementation, evaluation, and control and strategy development activities (Nixon & Burns, 2012; Roslender & Hart, 2003), such as customer profitability analysis, cost analysis, strategic pricing, and performance measurement (Cadez & Guilding, 2008; Malleret et al., 2015). Shaqqour (2020) defines SMA as a process of formulating and implementing strategies, policies, procedures, and instruments in line with the internal and external strategies of the organization in order to produce reliable and relevant information that is useful in achieving the goals. Duçi (2021) described SMA as the management accounting activity that is future-oriented and decision-related, with an emphasis on inter-period overlap and external competition. It has an interdisciplinary character that links the fields of information technology, strategic management, marketing, and accounting. In general, SMA is an important intermediate between operational information and strategic planning that allows managers to make decisions on the basis of an understanding of external threats, opportunities, and internal strengths.

The successful use of SMA is determined by a set of external and internal factors. External environment features and internal organizational features

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determine the extent to which SMA will be embedded in the strategic management of the organization. External environmental factors such as uncertainty, competition, and regulation have effects on the use of SMA (Amara & Benelifa, 2017). Uncertain, rapidly changing, and unpredictable environmental conditions lead to the need for more flexible and responsive management accounting systems.

Particular attention should be paid to the specifics of each organization and business environment in the design of the ideal SMA system. The main principle of contingency theory is that there are relationships between organizational performance and infrastructure, as well as the ability to deal with uncertainty in the business environment (Burton & Obel, 2018; Lawrence & Lorsch, 1967). Thus, one strategic management system cannot be applied to all businesses, because each has its own differences due to industry, area of activity, management systems, technical level, and business strategy.

The literature on this topic has established a contingency relationship between contextual variables, such as environment uncertainty and SMA. Msomi et al. (2020) state that globalization is a forcing function that compels manufacturing SMEs to operate beyond their comfort zones, and their survival in this environment can be enabled through the use of contemporary MAPs such as SMA. Ghasemi et al. (2016) found that the increasing complexity of the business environment and the competition in the market affected management accounting system implementation and had an impact on management performance.

The application of SMA also faces external environmental challenges arising from competitive pressure. Competitive pressure is understood as the risk of losing a competitive advantage in the environment that has the potential to encourage a company to develop and implement new ideas and innovations (Alsheibani et al., 2020). The intensification of this competitive pressure causes organizations to use modern management accounting tools (Kariuki & Kamau, 2016). SMA practices allow companies to collect information about competitors and, thus, to control the competition, formulating business strategies. Researchers have discovered a contingency relationship between the degree of competition and SMA. Choiriah and Sudibyo (2020) show a positive and significant relationship between the success of the management accounting information system in implementation and both competition and competitive advantage. Organizations that experience high competitive pressure in the external environment tend to adopt and use SMA more frequently.

Government regulation is another external factor that influences SMA implementation. Laws, policies, and regulations set by the government may or may not have a positive or negative effect on organizations that use SMA (Basco et al., 2019; Elias Cerqueira et al., 2023). In literature, there is a contingency linkage in general terms between the degree and character of government involvement and the strategic guidance of businesses, whether it facilitates or inhibits strategic management actions. Jamil et al. (2015) postulated that with the current environmental regulations and changes to production standards, manufacturing SMEs should comply with these regulations. Government subsidies (González-Tejero & Molina, 2022), grants (Wang et al., 2023), and training programs (Falahat et al., 2021; Prasannath et al., 2024) have supported companies in developing the skills required to create and implement the most effective method. The government agencies could have an accelerating impact on SMEs in the form of start-up finance, cash for operations, and customized training for manufacturing SMEs (Oparaocha, 2015).

On the other hand, government restrictions and routine may have adverse effects and exert control, thereby decreasing flexibility and constraining innovation in strategic choices (Doblinger et al., 2016). Hopper (2009) pointed out that management control systems' status in less developed economies is affected by excessive dependence on external finance and structural reforms alongside weaker institutional capacities for implementing changes. Rashid et al. (2022) maintained that firms in developed economies face a strong legal and institutional framework where opportunities to hide income or evade taxes are limited and heavily sanctioned.

SMA's application is also influenced by internal factors such as business strategy. A business strategy needs to be altered by the companies to adjust

to changes in the business environment (Srikanth & Ungureanu, 2025). For this reason, business strategy and SMA are interlinked (Dao, 2024). Business strategy is what the company is doing or plans to do, while SMA consists of different tools that can support and help monitor the realization of set objectives. They are two sides of the same coin (Kober et al., 2007). To achieve a successful business strategy, information must be used as needed, and this is done through SMA. Suryana et al. (2023) revealed determinant factors of management accounting adoption in Indonesian SMEs. The research showed that, among other constructs, strategy has a positive and significant impact on the adoption of management accounting individually and jointly.

Information technology functions as one of the determining variables for accounting system selection. The rapid development of technology and science, especially with the invention of the latest information technology, has forced many businesses to integrate these new tools into their operations and management of their business. Most researchers believe that technology is an endogenous factor in the use of SMA (Dao, 2024; Kariuki & Kamau, 2016; Ojra, 2014). The nature of complex technological processes causes the accounting system to be very complex. The current competitive business environment requires accounting information to be updated in a more timely and accurate manner with the help of a good management accounting system (Kalkhouran et al., 2017). This is one of the aspects that affect its usage and adoption.

A significant number of empirical studies have confirmed the strong positive relationship between information technology and modem MAPs, including SMA. Hira et al. (2025) and Oanh et al. (2020) have also established a positive relationship between information technology and the application of SMA and subsequently improved business performance. Information technology facilitates the automation of data collection and data processing operations, which makes it possible for companies to apply modem MAPs. Automated data collection and data processing with the help of information technology paved the way for the adoption of modem MAPs by businesses.

Organization size is identified as one of the main internal determinants of the application of SMA in companies (Abdel-Kader & Luther, 2008; Dao, 2024). It is determined by, among other things, the breadth of the organization, its structure, facilities, capital, financial resources, machinery, and equipment, as well as the number of employees (Haldma & Lääts, 2002). The use of a management accounting system brings more benefits to a larger business than to a smaller one (Ojra, 2014). Moores and Chenhall (1994) claimed that a relationship between the level of complexity of the management accounting system and the size of the business may be established. They stated that big companies have more resources that allow them to use more advanced MAPs than small firms. Abdel-Kader and Luther (2008) explain that SMEs have limited resources that do not allow them to make the change towards more modern MAPs. Kalkhouran et al. (2017) argued that manufacturing SMEs are unable to integrate MAPs into their operations due to their simple organizational structures and resource limitations.

Decentralized governance represents another internal factor that affects the use of SMA. Decentralized governance is an organizational structure and decision-making framework that disperses authority, responsibility, and decision-making power to multiple levels or units within an organization, network, or system (Dao, 2024; Tavares et al., 2024). Several interested stakeholders or units can make judgments about their own areas of responsibility rather than have a central authority or body make all the decisions. The more governance is decentralized, the more it is related to the application of SMA in the firms (Abdel-Kader & Luther, 2008). Delegated management brings efficiency, flexibility, and employee development by dispersing authority and avoiding bottlenecks of decision-making centralized in a unique position (Tavares et al., 2024). Organizational managers who get more responsibility along with more power to plan and monitor business operations will display more openness to apply SMA (Dao, 2024). Hadianto and Djuminah (2023) examined how decentralization affected performance and management accounting systems in Indonesian firms, and the findings of the study supported the direct and positive effect of decentralization.

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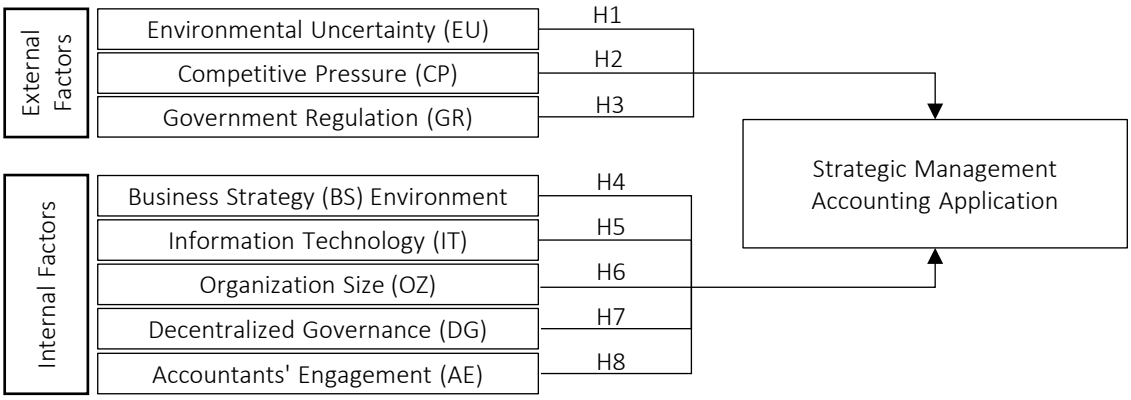

Figure 1. Research model

Accountants' engagement has been widely recognized as an internal factor affecting the use of SMA. Research shows that accountants have an important role to play in strategic management and decision-making (Khan et al., 2025). Through control of centralized information management, involvement in cross-departmental coordination, and preventive analysis of business issues (Cadez & Guilding, 2008), strategic management accountants ensure the reliability, timeliness, and accuracy of the information provided to managers. Accountants involved in strategic management recognize the need to develop new accounting practices, actively using SMA in collecting market information, and giving external attention to the business environment (Dao, 2024). Accountants' engagement in strategic management activity makes it clear that the development of valid resources of the SMA system is a viable possibility (Abernethy & Bouwens, 2005; Aver & Cadez, 2009). Researchers examine the contingency relationship between the two concepts of accountants' engagement and SMA. Dao (2024) studied a few influential factors affecting SMA in Vietnamese enterprises, and the results showed that variables such as accounting participation in decision-making positively impact the application of SMA, which subsequently effects performance.

While the literature has provided significant empirical evidence on the effect of contextual factors on SMA, research works continue to have different views on the identification of factor combinations and the types of results that may accrue from different levels of impact. Different business contexts have shown the need for specific applications of SMA (Rashid et al., 2020). In this light, a gap still exists in the literature concerning the factors that affect the application of SMA in the Saudi Arabian context. Findings from the literature review show the relative effects of both external and internal factors on SMA application. This means that any research conducted on the matter should take a context-specific approach.

This study aims to explore the effect of internal and external contextual factors on the application of SMA in companies in Saudi Arabia from different industries. As illustrated in the research model (Figure 1), the study determined and tested external factors (environment uncertainty, competitive pressure, and government regulation) and internal factors (business strategy, information technology, organization size, decentralized governance, and accountants' engagement). The extent to which they influence the application of SMA in Saudi Arabia remains insufficiently understood.

Eight hypotheses are developed in this study and are derived from the literature review and the conceptual framework of the study, as follows:

H1: Environmental uncertainty is positively associated with the application of strategic management accounting.

H2: Competitive pressure has a positive relationship with the application of strategic management accounting.

H3: Government regulation is positively related to the application of strategic management accounting.

H4: Business strategy is positively linked to the application of strategic management accounting.

H5: Higher levels of information technology are positively associated with the application of strategic management accounting.

H6: Organization size positively influences the application of strategic management accounting.

H7: Decentralized management has a positive relationship with the application of strategic management accounting.

H8: A higher level of accountants' engagement is positively associated with the application of strategic management accounting.

2. RESEARCH METHODOLOGY

This study employed a quantitative research approach. Data were collected through a structured questionnaire addressed to middle and top management, chief accountants, and accountants of listed companies in the Saudi Exchange and the Small and Medium Enterprises General Authority. A convenience random sampling technique was employed for the selection of the sample. In the aspect of the sample size, to conduct factor analysis and regression based on the rule of $n \geq 50+8k$, where k is the number of independent variables (Hair et al., 2010), the present study determined the minimum number of observations required. As the study included 8 independent variables, the minimum sample size needed for statistical power was $n \geq 50 + (8 \times 8) = 114$, satisfying the rule for performing both exploratory factor analysis (EFA) and regression. For robustness, the target for the final sample was 300. The survey was distributed electronically from April to July 2025, resulting in 225 valid responses included in the analysis.

The questionnaire was designed in line with the proposed model and consisted of two sections. The first section included demographic questions on gender, age, education, job position, and firm size. The second section contained items measuring the dependent variable (application of SMA) and the eight independent variables (internal and external factors). The items of the questionnaire were adapted from the previous validated scales (refer to Appendix A). The respondents rated all variables using a 5-point Likert scale that extended from 1, indicating strong disagreement, to 5, showing strong agreement.

Data analysis was conducted in four main steps using SPSS software. Cronbach's alpha was run to check for internal consistency for the measurement scales and to determine the retained observed variables. Exploratory Factor Analysis (EFA) was done to confirm the construct validity of the scales. The underlying factor structure was identified, the items' loadings were examined, and checked whether observed variables have significant loadings on their specific factors. Correlation analysis calculates the correlation coefficient, which measures the strength of the linear association between the independent and dependent variables and assesses the existence of multicollinearity when two or more independent variables are highly correlated. Regression analysis was applied to determine the relationships between independent and dependent variables in the model under research and to detect multicollinearity.

3. RESEARCH RESULTS

This section analyzes the results of various factors affecting the application of SMA in Saudi Arabia. Table 1 shows the reliability results. As shown in the table, Cronbach's alpha coefficients for all variables are above 0.6, and the total correlation coefficient of each variable is greater than 0.3. The results demonstrate that all measured variables are consistent and reliable in this study; they are also appropriate for EFA, according to Hair et al. (2010). Consequently, there are nine factors, including 37 statistically significant observed variables.

EFA was conducted using Principal Component Extraction and Varimax Rotation for the observed independent variables (Table 2). The Kaiser-Meyer-Olkin (KMO) measure showed a score of 0.783 (condition > 0.5), and Bartlett's Test of Sphericity was significant at 0.000 (condition < 0.05). Hence, the data are appropriate for EFA, and the high cor-

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Table 1. Scale reliability test results

Factors	Code	Number of Observed variables	Cronbach's alpha	Corrected Item Total Correlation
Environment uncertainty	EU	4	0.814	0.561
Competitive pressure	CP	4	0.784	0.502
Government regulation	GR	3	0.812	0.593
Business strategy	BS	4	0.885	0.644
Information technology	IT	4	0.760	0.497
Organization size	OS	3	0.837	0.621
Decentralized governance	DG	3	0.878	0.638
Accountants' engagement	AE	4	0.817	0.545
Strategic management accounting application	SMA	4	0.801	0.608

relation among variables fulfills the factor analysis condition. The KMO result of 0.783 indicates good sampling adequacy as research data is appropriate for factor analysis and variables have enough common variance to allow for the extraction of the factors with confidence. The total variance extracted is 65.990% (> 50%), and all of the factor loadings are > 0.5 (above the minimum standard), which means the results are satisfactory. As shown in Table 3, the finalized scales for the regression analysis are presented with 33 observed variables and 8 independent variables.

Table 2. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling	Adequacy	0.783
	Approx. Chi-Square	1234.927
Bartlett's Test of Sphericity	Df	528
	Sig.	.000

Table 3. Results of EFA analysis

Rotation Matrix Table								
	Factor							
Code	1	2	3	4	5	6	7	8
EU4	0.893	–	–	–	–	–	–	–
EU3	0.884	–	–	–	–	–	–	–
EU2	0.868	–	–	–	–	–	–	–
EU1	0.806	–	–	–	–	–	–	–
CP1	–	0.842	–	–	–	–	–	–
CP3	–	0.792	–	–	–	–	–	–
CP4	–	0.784	–	–	–	–	–	–
CP2	–	0.825	–	–	–	–	–	–
GR1	–	–	0.653	–	–	–	–	–
GR2	–	–	0.607	–	–	–	–	–
GR3	–	–	0.586	–	–	–	–	–
BS4	–	–	–	0.880	–	–	–	–
BS1	–	–	–	0.754	–	–	–	–
BS2	–	–	–	0.735	–	–	–	–
BS3	–	–	–	0.728	–	–	–	–
IT3	–	–	–	–	0.860	–	–	–
IT4	–	–	–	–	0.784	–	–	–
IT1	–	–	–	–	0.760	–	–	–
IT2	–	–	–	–	0.756	–	–	–
OS1	–	–	–	–	–	0.681	–	–
OS3	–	–	–	–	–	0.623	–	–
OS2	–	–	–	–	–	0.596	–	–
DG3	–	–	–	–	–	–	0.802	–
DG2	–	–	–	–	–	–	0.755	–
DG1	–	–	–	–	–	–	0.688	–
DG4	–	–	–	–	–	–	0.649	–
AE1	–	–	–	–	–	–	–	0.772
AE3	–	–	–	–	–	–	–	0.734
AE2	–	–	–	–	–	–	–	0.680

Table 4. Explanation level of the model

Model Summary					
Model	**R**	**R-Squared**	**Adjusted R-Squared**	**Std. Error of the Estimate**	**Durbin- Watson**
1	0.768[a]	0.589	0.580	0.481	1.683

Note: [a] – Predictors: (Constant), EU, CP, GR, BS, IT, OS, DG, AE. [b] – Dependent Variable: SMA.

Regression analysis was performed to determine the correlation between the independent and dependent variables in the tested model and to detect the presence of multicollinearity. According to Table 4, the R-squared is higher than 0.5, which indicates that the tested model is statistically significant. Adjusted R-Square is a measure that indicates the degree to which changes in the independent variable contribute to the variability of the dependent variable. In this study, eight factors (EU, CP, GR, BS, IT, OS, DG, AE) jointly explain 58.9% of the total variation in SMA application among the Saudi companies in the sample, and the remaining (41.1%) is unexplained, and stems from the variation in other variables not included in the model as well as from random error. In addition, the Durbin Watson (DW) statistic is 1.683 (condition < 2), which means that the model has no first-order serial autocorrelation (Table 4).

To determine whether the regression model is consistent with the collected data and is significant to be used, the researcher went on to examine the suitability of the regression model through ANOVA, as indicated in Table 5. The significance level of the model (Table 5) is 0.000, which is less than 0.05; therefore, the regression model is appropriate for the research data and can be used to predict the influence of the variables with significant precision (Sig. < 0.05). Moreover, each factor in the model was studied and tested to determine its effects on the dependent variables.

The Variance Inflation Factor (VIF) of the eight independent variables ranges from 1.182 and 1.674 (condition < 2), suggesting no multicollinearity among components in the research model (Table 6). The significance test values of all independent variables are all less than 0.05, which means that each variable is significant in the model. Moreover, as all beta coefficients are positive, this means that each variable had an equal positive effect on the dependent variable.

The result of the analysis provides extensive, quantitative support for each of the study hypotheses. The regression results (Table 6) show that all of the examined factors have a significant and positive impact on the SMA application. The impact coefficients are as follows: environmental uncertainty (β = 0.453), competitive pressure (β = 0.426), government regulation (β = 0.129), business strategy

Table 5. Suitability of the model (ANOVA)

Model	Description	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122,560	8	15,320	35,545	0.000
	Residual	93,145	216	0.431	–	–
	Total	215.705	224	–	–	–

Table 6. Multicollinearity test

Coefficient								
Model	**Variable**	**Unnormalized coefficient**		**Standardized Coefficients**	**t**	**Sig.**	**Multicollinear Statistics**	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	(Constant)	–0.059	0.386	–	–0.153	0.000	–	–
	EU	0.356	0.054	0.453	7.280	0.000	0.603	1.674
	CP	0.337	0.048	0.426	6.881	0.000	0.624	1.613
	GR	0.092	0.055	0.129	3.643	0.105	0.832	1.201
	BS	0.305	0.045	0.388	6.673	0.000	0.652	1.544
	IT	0.203	0.040	0.259	5.479	0.000	0.708	1.433
	OS	0.088	0.050	0.107	3.601	0.110	0.851	1.182
	DG	0.158	0.045	0.196	4.339	0.001	0.686	1.473
	AE	0.187	0.038	0.225	4.740	0.000	0.724	1.396

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(β = 0.388), information technology (β = 0.259), organization size (β = 0.107), decentralized management (β = 0.196) and accountants' engagement (β = 0.225).

The significance (p-values) of all of the impact coefficients are less than the 0.05 level, which means that the impact of all of the independent variables on the application of SMA is significant at the 5% level. Therefore, all eight hypotheses are supported. In conclusion, all of the factors have a significant and positive impact on the application of SMA and, thus, all of the hypotheses are confirmed at the 5% significance level.

4. DISCUSSION

The results of the analysis provide insights into the impact of various independent contextual, external, and internal factors on the application of SMA by firms from different industries in Saudi Arabia. The research findings show that all the external factors (environment uncertainty, competitive pressure, and government regulation) and the internal factors (business strategy, information technology, organization size, decentralized governance, and accountants' engagement) affect the use of SMA, and the extent of their influence varies depending on contextual, cultural, and economic factors.

The impact coefficient of environmental uncertainty, business strategy, and competitive pressure is the most significant. This means that the higher the level of environmental uncertainty, the more extensive the use of SMA should be, which aligns with the arguments of Kariuki and Kamau (2016). For instance, the high level of environmental uncertainty (changing economic environment, geopolitical risks, fluctuating oil prices) in Saudi Arabia contributes to the use of SMA by firms to predict the changes, to deploy resources and create adaptive strategies, and to mitigate potential risks and support decision-making, thus making environmental uncertainty the most impactful driver. Consequently, firms operating in turbulent environments should make the implementation of SMA their top priority for higher adaptability and better strategic decisions.

The application of SMA has a positive relationship with business strategy. This finding aligns with the literature that management accounting systems facilitate the implementation of business strategies, as suggested by Dao (2024) and Kober et al. (2007). Growth, innovation, or diversification-oriented firms apply SMA more intensively for better alignment of the business strategies with market realities and gain a competitive advantage (Choe, 2004). The result of this study indicates that the appropriate use of SMA increases strategic alignment and enhances the competitive advantage of firms. In addition, the positive impact of SMA on business strategies suggests that firms (especially larger ones oriented toward growth and innovation) are more likely to adopt customized management accounting approaches for long-term business success (Senftlechner & Hiebl, 2015).

Competitive pressure has a significantly positive effect on SMA, which means that the higher level of competitive pressure regarding competitors' numbers, prices, and market share leads to a greater level of SMA application. The result is consistent with previous studies (Armitage et al., 2016; Azudin & Mansor, 2018; Dao, 2024; Kariuki & Kamau, 2016). Saudi business organizations face intense competitive pressures, which prompt them to focus on efficient resource management and the maximization of their competitive advantages to survive in a dynamic and highly competitive environment. The study, therefore, has contributed to the literature on the importance of SMA and MAPs in intense business competition environments and has highlighted that the higher the business's competitive pressure, the greater the need for management organizations to rely on MAPs, including SMA, in order to maintain their competitiveness.

The results show that the impact coefficient values of organization size and government regulation on SMA application are also the lowest among all drivers. This is particularly true when compared to all other independent variables. In other words, organization size and government regulation comparatively have the least effect on the application of SMA. This means that even though larger organizations, according to size criteria like capital, volume of annual sales, and the number of employees, tend to apply SMA more than

smaller organizations, the effect size is not as great as for all other external/internal drivers. The results confirm earlier findings (Armitage et al., 2016; Azudin & Mansor, 2018). Conversely, small enterprises in Saudi Arabia may also apply the practices of SMA effectively because of their agility or strategic needs, but in a less sophisticated manner, and thus the influence of organization size is relatively lower than other pressing, more urgent external forces.

Government regulation has a positive impact on the use of SMA, but the effect is relatively modest, which is consistent with previous studies by Alsharari (2023) and Handoyo and Anas (2024). Government regulation can drive SMA adoption by setting transparency and accountability requirements. The direction of the effect of regulation may change if the regulation is not time-variant and is more predictable and stable. Saudi Arabia can be an example. Saudi Arabia has government regulations, such as strict confidentiality of data, risk management requirements, and compliance with international financial reporting standards (IFRS), that affect SMA. These regulations demand precise and transparent financial reporting, aligning with Vision 2030 goals of transparency, accountability, and international benchmarking. This, in turn, promotes informed strategic planning and risk management, contributing to economic growth and sustainable development.

The regression results indicated that technology has a positive and significant influence on the use of SMA in business. In the current world of rapid digital transformation, technology is an essential enabler of all business operational systems and a key driver of change in management accounting. The continuous development of different forms of technological solutions in the business sphere significantly helps change and facilitate SMA. For example, the adoption of technology, such as cloud-based systems, provides the means to share, analyze, and report data and information in real-time, which makes SMA more user-friendly and efficient to implement in businesses. This result is consistent with findings from Azudin and Mansor (2018) and Kordlouie et al. (2018). Digital solutions offer competitive advantages by increasing agility, resilience, and innovation (Awad & Martín-Rojas, 2024; Vadithe & Kesari, 2025). However, maximizing the benefits requires a clear strategy, strategic investments, and active management to overcome challenges and risks. Digital transformation should no longer be viewed as an optional activity but as a strategic necessity for growth and competitiveness.

There was a strong link between SMA implementation on a broad scale and decentralized organizational structure. Performance in dispersed systems demands SMA data support because it is information-intensive. In many dispersed organizational units, SMA helps in the informed, coordinated decision-making needed. SMA is also vital for the best coordination across several company departments. This goes with Dao (2024), Hussein (2025), and Pasolo (2024). Although traditional hierarchical systems provide advantages, including stability and a clear authority structure, the rigidity of the organization itself can be a significant obstacle to employees' inventiveness as well as slow organizational reaction to market change (Hatum, 2025). Centralized decisions at the top of the hierarchy can lead to slow decision-making, which makes it very challenging in a fast-paced market like the Saudi market.

The results show that accounting involvement in strategic management is having a positive impact on the application of SMA in Saudi organizations, which is consistent with the results of some of the previous studies (Alsharari, 2023; Dao, 2024; Kurki & Järvenpää, 2024). Accountants are the main source of information by providing management with quality. They are considered to be responsible for the development of SMA systems. SMA's success is also associated with proactive management and an innovative and strategic company culture. The practical implications of the study are that accounting involvement in the strategic management of an organization can be an important factor in increasing SMA effectiveness and the degree of its use in Saudi organizations. Therefore, organizations should consider the strategic role of accountants and involve them in the decision-making process of management, in order to have access to the necessary infor-

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mation and the ability to work on its quality. In addition, companies should pay attention to the development of a company culture that encourages innovation and strategic thinking, as this can contribute to the development of a more effective SMA system.

Organizational effectiveness is dependent on internal structuring and processes being closely matched to the external environment (the contingency theory). The results show that both external factors (such as environmental uncertainty, competition, and government regulation) and internal factors (e.g., business strategy, technology, size of organization, and decentralization) affect the adoption and use of SMA in unique ways in particular situations, resembling contingency theory. For instance, firms adjust their SMA practices in the face of environmental instability (manifest as high environmental uncertainty), strategic orientations (e.g., growth and innovation), and external forces (like regulation and competition). This favors the contingency approach that there is no "one best" way to manage. Instead, Saudi companies adapt their management accounting to reflect external (environmental conditions) and internal (resources and capabilities) fit rather than prescribing the adoption of best practices. These features may be regarded as the building blocks of contingency theory, which is the key to explaining the diversity in the observed patterns of SMA adoption in different organizational and environmental contexts.

CONCLUSION

The study explores internal and external contextual factors affecting SMA application across different industries in Saudi Arabian companies. A changing business environment has caused organizations to improve resource utilization through SMA in order to achieve and maintain a competitive advantage. Though SMA is not limited to a particular industry, it may vary by external and internal contingency variables. The results confirmed the contingency theory and showed a significant relationship between the contextual factors and SMA application.

The study finds that external and internal factors significantly affect the use of SMA in Saudi firms, and their influences differ based on the context and cultural aspects. Environmental uncertainty, especially in Saudi Arabia's unstable economy, is the most significant driver, as it necessitates the adoption of SMA for prediction and risk reduction. SMA's positive relationship with strategic orientation and competitive pressure indicates its role in enhancing strategic alignment and competitiveness. While organization size and government regulation have a relatively weak influence, technological advancement and decentralized structures are strong enablers of SMA implementation. Active accountant involvement and fostering a culture of innovation are crucial for maximizing SMA's effectiveness. This study provides an increased understanding of the effects of external and internal contextual factors on the use of SMA. It also provides managers and business practitioners with empirical evidence on the factors affecting their management accounting systems and practices, which would help them in their decision-making and in the improvement of their management processes and the performance of their organizations.

The study has several limitations that could be used to design and develop further research. First, the relatively small sample size limits the generalization of the study results to the Saudi Arabian setting only. The cultural and economic specifics of the studied setting may further limit the ability to use the results in other countries. Second, the use of self-reported survey data might have been the source of biases, and the reliability could be further improved by utilizing longitudinal data and objective data sources. Third, the author believes that the inclusion of additional factors such as management commitment, leadership style, and other economic variables could provide a deeper understanding of the studied phenomenon. Finally, although the study was built around contingency theory, prospective research could test a different theoretical framework.

AUTHOR CONTRIBUTIONS

Conceptualization: Sulaiman Alsughayer.
Data curation: Sulaiman Alsughayer.
Formal analysis: Sulaiman Alsughayer.
Funding acquisition: Sulaiman Alsughayer.
Investigation: Sulaiman Alsughayer.
Methodology: Sulaiman Alsughayer.
Project administration: Sulaiman Alsughayer.
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Supervision: Sulaiman Alsughayer.
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APPENDIX A

Table A1. Measurement scale

Source: Author's compilation based on existing studies.

Factors	Code	Variables	Source
Environment uncertainty	EU1	Market volatility	Abdel-Kader and Luther (2008), Amara and Benelifa (2017)
	EU2	Economic instability	
	EU3	Political instability	
	EU4	Environmental factors	
Competitive pressure	CP1	Pricing competition	Amara and Benelifa (2017), Dao (2024)
	CP2	Service competition	
	CP3	Distribution channels competition	
	CP4	Product quality and innovation competition	
Government regulation	GR1	Direct financial support policy	Basco et al. (2019), Falahat et al. (2021), Nakku et al. (2019)
	GR2	Education and training	
	GR3	Indirect tax support policies	
Business strategy	BS1	Strategy is analyzed before being translated into action	Amara and Benelifa (2017), Dao (2024)
	BS2	Recognize slow or no deviation	
	BS3	Strategic action is developed in the absence of strategic intent	
	BS4	Continuous evaluation and adaptation of strategic plans based on changing external and internal conditions	
Information technology	IT1	Technology is a core element in strategic management	Abdel-Kader and Luther (2008), Dao (2024)
	IT2	Invest in software to support	
	IT3	Application of new advanced technology	
	IT4	Automation of accounting information	
Organization size	OS1	Capital	Armitage et al. (2016), Kordlouie et al. (2018)
	OS2	Annual Sales	
	OS3	Number of employees	
Decentralized governance	DG1	Decentralization of management	Abdel-Kader and Luther (2008), Dao (2024)
	DG2	More responsibility at all levels	
	DG3	More authority to plan	
	DG4	More autonomy in decision-making at all levels	
Accountants' engagement	AE1	Proactive analysis of business issues	Abernethy and Bouwens (2005), Aver and Cadez (2009)
	AE2	Coordination across departments	
	AE3	Engagement in defining problems and setting goals	
Application of SMA	SMA1	Strategy Planning	Cadez and Guilding (2008), Dao (2024)
	SMA2	Strategy implementation	
	SMA3	Strategy evaluation	
	SMA4	Strategic decision-making	

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