Effects of Supply Chain Management Practices on 'SME's Performance: Examining Moderating Role of Firm Age

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ABSTRACT

Many studies have examined the significance of excellent supply chain management in enhancing a company's success. Small and medium-sized businesses are essential to the growth and development of a nation. Consequently, this study aims to assess the impact of Saudi Arabian supply chain methods on firm performance. The moderating effect of firm age was accounted for. The study uses purposive sampling to acquire data from small and medium-sized business owners and managers in Saudi Arabia. The inclusion criteria required the company to be at least five years old. The data was examined using ANOVA and regression on the 302 replies that were complete. The findings reveal that supply chain practices have a substantial impact on the performance of a company. Hence, collaborative collaborations with suppliers and customers and efficient inventory management, planning, and e-procurement improve the performance of Saudi SMEs. In addition, the firm's age was a significant moderator between supply chain management methods and SME success. The findings contribute to the current body of knowledge and emphasize the application of effective supply chain management solutions for practitioners.

KEYWORDS: Firm Age, Saudi Arabia, SME Performance, Supply Chain, Supply Chain Management Practice

INTRODUCTION

Supply chain management involves several corporate segments, external vendors, and internal supply chain group players. To correctly manage supply chains, the relevant persons must make the necessary decisions based on suitable techniques and data. Cross-business implementation is essential to the development of a product distribution network. But all too often, each component of the supply chain acts as a separate category, separated by product lines, diverging goals, disparities in time- and cost-segmented rules and processes, and even location. This frequently leads to discrepancies, delayed interaction, blunders, and unequal operations. Sustainable supply chain management has been identified as a critical organizational structure for revenue growth since it reduces environmental risks and impacts while improving financial and social performance (Raut, Narkhede, & Gardas, 2017). Modern, fiercely competitive market conditions necessitate transforming and improving a company's supply chain management systems to produce extraordinary results while minimizing expenses. Applying the procedures, techniques, and mindsets of the most effective supply chain operations is one of the primary benefits of doing things. Now that various supply chain management systems are available, there is no justification for failing to enable the company to be as productive as possible and to follow such practices.

Conventional organizational features in supply chain management practices are being modified in response to the complexities of rapid application development in the manufacturing and service regions. These have established new aspirations and benchmarks to increase a company's competitive edge in the current economic climate. Organizations also want to develop innovative production, adaptability, shipping, and computing infrastructure techniques to have a decisive advantage in their supply chain. In today's increasingly competitive market, supply chain management (SCM) has emerged as one of the most effective ways for organizations to minimize expenses and improve their financial picture. But, companies must modify their supply chain models in response to emerging difficulties such as environmental regulation, corporation transparency, labor remuneration, and safety concerns (Hong, Zhang, & Ding, 2018). Effective supply chain management is required for any organization's activities. A distribution network aims to maintain product mobility from the place of production to the final consumer. Supply chain management involves navigating the entire supply chain, from purchasing raw materials to delivering manufactured goods. Several businesses embrace technology to improve their supply chain procedures. Figure 1 illustrates the elements that contribute to the growth of small and medium-sized businesses.

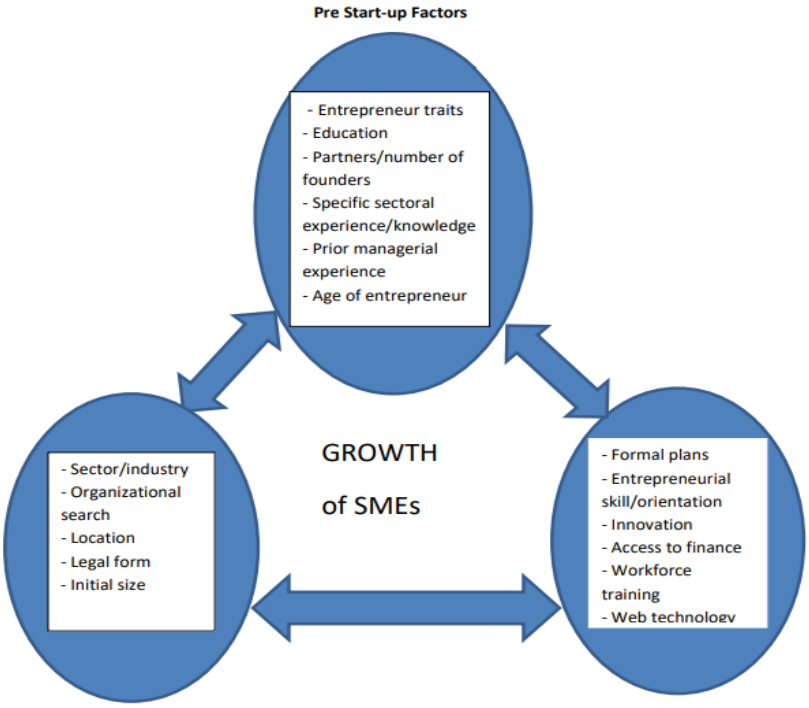

Figure 1: SMEs' growth factors determined by existing literature (Source: (Agyapong, 2016))

In Saudi Arabia, where modern supply chain management is still in its infancy, the challenges are dissimilar from those faced by supply networks in other locations, such as Western countries. In these Western nations, supply chain management techniques have evolved and improved over the past few decades due to practice and study. Modern supply chain planning is beginning to develop in Saudi Arabia due to the country's anticipated overreliance on oil extraction and the need to capitalize on its geographic location. Despite the state's numerous advantages, including its geographical location, healthy economy, and solid economic relations with the rest of the world, supply chain processes have not been updated to meet contemporary global standards. Current Saudi policy recognizes the potential for improvement in several sectors, including finance, regulations, and supply chain infrastructure (Alhashim, 2018).

Middle Eastern nations, such as Saudi Arabia, have just recently begun to appreciate the significance of modern supply chain management and procedures. To thrive in such a changing environment, businesses must strengthen their capacity to adopt new technologies and procedures. Additionally, they must consistently enhance their efficiency and long-term commercial efficacy (Attia & Essam Eldin, 2018).

A network of trade agreements is included in the company's supply chain management activities to serve the final consumer. A supply chain process may span from a company's supplier to its customer. This network regulates the supply of goods, processes, and relevant materials throughout the entire firm network to maximize benefits for the final consumer. The objectives of the study are:

1. To determine the effects of Supply Chain Management Practices on Small and Medium Enterprise, particularly in Saudi Arabia
2. To determine the effect of Firm Age on Small and Medium Enterprises in Saudi Arabia

Previous studies have primarily concentrated on the practical aspects of operations management and supply chain theory; this research, however, tries to examine the conceptualization of various supply chain techniques. This study demonstrates that all organizational departments must strategically consider supply chain management.

LITERATURE REVIEW

Impact of Supply Chain Management Practices on SME Performance

A supply chain is the management of several tasks performed by an organization, including procurement, production, logistics, and close interaction among supply chain participants. Increasing numbers of organizations have begun to recognize the significance of supply chains in developing competitive advantages in areas that are becoming increasingly competitive and saturated. Five components of supply chain activity have been the research subject: delay, customer connections, volume and quality of information flow, and strategic supplier alliances (Hashim et al., 2020; Khalil, Khalil, & Khan, 2019). According to research, higher levels of SCM implementation may increase competitiveness and boost organizational performance. A strategic supplier relationship refers to a long-term relationship between purchasers and vendors. It significantly impacts the company's revenue, operational capabilities, and production activities, including manufacturing costs, on-time delivery, and product quality. This business alliance is especially advantageous for establishing mutually beneficial outcomes and continuous involvement in numerous crucial strategic domains, such as commodities, technology, and markets. Companies that have their plans in place can collaborate successfully, which allows them to save unnecessary time and effort.

Moreover, the majority of SMBs continue to struggle with timely deliveries. However, connection with providers enables SMBs to share invoice and inventory data with suppliers. In addition, supplier integration, which involves appropriate engagement, knowledge exchange, and collaboration with suppliers, helps reduce flow complexity. Supplier integration also reduces trading costs by reducing production costs and limiting unpredictability, enhancing operational efficiency. Due to shared aims and collaboration, opportunistic vendor inclusion tendencies are significantly reduced (Mafini, Dhurup, & Madzimure, 2020). In addition, solid and positive client connections enable firms to differentiate themselves from the competition, win over customers, and give much more valuable items to clients. Establishing strong client

relationships is a critical SCM integration strategy that helps organizations respond to clients quickly (Utami et al., 2019). The capability of supply chain partners to cooperate as a team enables continuous data sharing. Thus, they can respond rapidly to market developments and with a comprehensive understanding of the end customer's needs. In addition, by exchanging information, the organization may fulfill its strategic objectives, save costs, and improve inventory management, resulting in successful performance. The company can communicate its schedules, objectives, procedures, and product specifications with its suppliers to match their activities and goals with those of the suppliers, facilitating the flow of operations and the accomplishment of goals. However, information must be exact, sufficient, and trustworthy to obtain the desired effects. Efficient information exchange can improve the efficiency of an organization's operations and the quality of the services provided to clients. Still, if it is not conducted correctly, it can have negative consequences (Mafini et al., 2020). Apart from these conventional management strategies, the research identifies several practices that achieve higher performance. For instance, customer focus, Technology implementation, leaders, and coaching significantly impact a business's efficiency. According to the research, many aspects affect the effectiveness of supply chain management. To integrate various supply chain elements, senior management support, and strong leadership are required to improve company culture and corporate practices (Khanuja & Jain, 2019; Marei et al., 2021; Sánchez-Rodríguez, Martínez-Lorente, & Hemsworth, 2020).

There are more habits recognized by research as being connected with improved performance. Companies use a variety of approaches to accomplish their aims and objectives. Aligned SC procedures are implemented to implement these tactics. For instance, to implement lean strategy, the company strives to cut supply chain costs and waste to produce and deliver inexpensive products. Under this strategy, the company maintains a small inventory and manufactures widely to reduce storage and production costs. Effective processes enable the organization to attain higher performance in this manner. As a result of an unpredictable external environment and the need to adjust quickly to changing demands and trends, some businesses adopt an agile approach that requires excellent responsiveness and innovation. Thus, businesses implement strategies that create a highly flexible supply chain. In supply chain management, they prioritize originality and quality. As the environment becomes increasingly competitive, firms adopt agile or hybrid methodologies. The hybrid strategy prioritizes both efficiency and responsiveness to market movements. The strategy and procedures are determined based on the industry, environment, and client preferences. So, when these aspects are considered, the practices successfully contribute to the organization's performance and outcomes (Abu Nimeh, Abdallah, & Sweis, 2018; Srinivasan, Srivastava, & Iyer, 2020; Zimmermann, Ferreira, & Moreira, 2020).

H1: Supply chain management practices positively and significantly impact SME performance.

Moderation of Firm Age

Companies with more significant experience managing supply chains and enhancing performance have a competitive advantage over start-ups. Any change has a more significant impact on new businesses than on older ones. Typically, the more mature companies have enhanced their capabilities, expertise, and knowledge, and hence they take prudent risks and projects. Because they are starting from scratch and have yet to establish their talents, knowledge, and specializations, new businesses and start-ups face more significant difficulties. (Coad et al., 2018).

Age influences performance, most likely through indirect mechanisms such as routine, built-up image, and institutional formality. There is no false correlation between experience and time and performance since the only plausible reason for a link between age and performance is that age affects performance. As a company age, its employees and management acquire the abilities they once lacked via repeated experiences. They comprehend the mechanisms of operations, become accustomed to routines, are better able to handle challenging situations, and can solve problems more efficiently. Similarly, businesses cultivate their reputation over time, which becomes their competitive advantage and leads to enhanced performance (Adebiyi et al., 2021). Yet, several researchers have identified a negative correlation between firm age and profitability (Rahman & Yilun, 2021).

In supply chain management practices, it has been discovered that businesses must cultivate strategic supplier relationships and maintain customer relationships over time to gain several benefits, such as reduced opportunism, improved goal achievement, customer retention, loyalty, and thus improved performance. As the company ages and gains experience, skills, and expertise, its understanding of supply chain mechanics improves. They establish a more substantial reputation due to the trust and interdependence between the company, its supply partner, and its customers. According to the studies, supply chain partners can better work and trust one another when forming a deep relationship. As a result, their performance improves. When the relationship with the market and customer base develops over time, the customer concentration increases, increasing the likelihood of increased profitability. Most research examining the relationship between business age, supply chain management methods, and performance has concentrated on innovation (Li et al., 2020; Shamout, 2021; Sharafuddin, Madhavan, & Chaichana, 2022; Wang & Hu, 2020). According to the report, start-ups and young businesses have limited resources to invest in innovation, research, and & development. Thus they must assume more significant risks.

As employer and employees increase their knowledge and experience related to business activities and become capable of investing in innovative resources and R&D, they enhance the innovativeness of the supply chain and the firm's performance. However, according to the researcher's knowledge, the moderating role of age between supply chain management practices and firm performance has not been directly studied (Coad et al., 2018; Jiang, Han, & Huo, 2020; Valtakoski & Witell, 2018; Wang, Zhang, & Zhang, 2020). The relationship between green supply chain practices and the varying ages of businesses has been investigated, but no significant correlation was identified. The explanation could be the freshness and novelty of green supply chain techniques. Given that older organizations have less expertise in this area, they may be nearly as good as their younger counterparts regarding green practices (Novitasari & Agustia, 2021; Novitasari et al., 2023; Younis & Sundarakani, 2020). However, it is emphasized that financial resources matter in this regard. The older companies have the financial means to implement practical improvements, while the younger companies must consider financing and dangers. Also, it has been discovered that when employers or founders gain supply chain and innovation-related experience, they make better decisions and invest in performance-enhancing projects since they have prior knowledge of them (Gao et al., 2022).

H2: Firm age moderates the association between supply chain management techniques and SME performance in a meaningful and beneficial way.

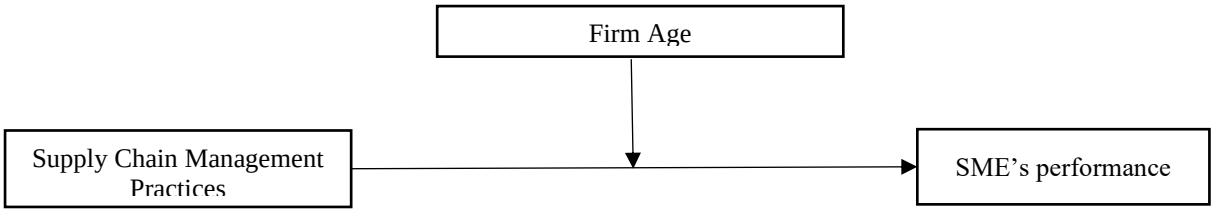

Figure 2: Theoretical Framework

METHODS

The researcher's study methodology and design guarantee that data gathering and analysis are conducted efficiently and effectively (Saunders, Lewis, & Thornhill, 2019). The paper takes a logical approach by testing hypotheses derived from a review of theory. As positivism is the research ideology, a quantitative approach is deemed appropriate (Hair et al., 2018). This study aimed to assess the influence of supply chain management practices (SCMP) on the performance of small and medium-sized enterprises (SMEs) in Saudi Arabia. The research included the moderating effect of firm age. Thus, a survey-based approach with a cross-sectional design was applied for the quantitative approach.

Population and Sampling

The target group for this research is the owners and managers involved in supply chain operations and management in small and medium firms in major cities of Saudi Arabia. The current study aims to investigate the moderating influence of firm age. Consequently, the sampling technique adopted in this research is purposive sampling with the given criteria: SMEs that 1) have 250 or less personnel and 2) have been operational for at least 5 years. Purposive sampling allows the researcher to analyze the population with certain features (Cooper & Schindler, 2021). The researcher contacted owners and managers in the SMEs active in supply chain management activities. The questions were administered using e-mail. The research objectives were well outlined, and voluntary involvement was secured.

Data Collection

The researcher selected a survey-based strategy utilizing questionnaires for data gathering (Taherdoost, 2019). The questionnaire was constructed by employing measurement scales from current research. The survey was distributed over e-mail. The managers were requested to respond to the questionnaires within two weeks, after which the researcher followed up with supervisors who did not respond. The confidentiality and anonymity of the management were protected. A total of 337 questionnaires were received. A comprehensive review of the surveys resulted in 35 questionnaires being rejected owing to the incomplete response. A sample of 302 respondents was evaluated.

Measurement Scale

Measurement items were adopted from existing literature and scored using the Likert scale, the most commonly used scale in survey research (Bell, Bryman, & Harley, 2022). The choice ranged from 1 "("strongly disagree"") to 5 "("strongly agree""). The supply chain practices measured the partnership, management, and planning with 7 items from Bayraktar et al. (2009). Additionally, SME performance was measured by 5 items adapted from Bayraktar et al. (2009). There is no pre-defined scale to measure firm age. Therefore, the researcher included firm age with the criteria of a minimum of 5 years of operations. The respondents were asked to specify

the firm age from 5 categories, 5-10 years, 10-15 years, 15-20 years, 20-25 years, and 25-30 years, as utilized in previous studies as well (Coad et al., 2018; Younis & Sundarakani, 2020).

Table 1: Measurement Scale

Variables	No of items	Developed by/ adapted by
Supply Chain Management Practices	7 items	(Bayraktar et al., 2009)
SME Performance	5 items	(Bayraktar et al., 2009)

Data Analysis

Statistical analysis was conducted using SPSS. Initially, descriptive statistics are undertaken to evaluate normality and the existence of outliers in the data (Holcomb, 2016). Internal consistency and reliability of the measurement scale were assessed by ' 'Cronbach's Alpha (Cronbach & Shavelson, 2004; Gliem & Gliem, 2003). KMO and ' 'Bartlett's test was used to determine sample sufficiency and applicability of the statistical approach. The statistical significance is evaluated at a 5% level (Howitt & Cramer, 2004). The data was then evaluated by regression analysis, and an ANOVA test was performed to determine the impact of supply chain management techniques on SME performance.

RESULTS

Respondents' Demographic

As data were collected from managers and owners, 62.3% of the respondents held a post-graduation degree. 63.6% of the responders are male, while 36.6% are females. Respondents were asked about the age of the firm they were working in, as stated in Table 2. 23.5% of the respondents worked in small organizations with 10-50 employees, while 27.4% worked in firms with 100-150 employees. Consequently, there is a fair representation of small and medium firms.

Table 2: Demographic Profile

	Frequency	Percent
Education Level		
Post-graduate	188	62.3
Graduate	114	37.7
Total	302	100.0
Gender		
Male	192	63.6
Female	110	36.6
Total	302	100.0
Firm Size		
10-50 employees	71	23.5%
50-100 employees	60	19.8%
100-150 employees	83	27.4%
150-200 employees	39	12.9%
200-250 employees	49	16.2%
Total	302	100.0

Descriptive Results

Descriptive statistics are crucial to check data features, including the central tendency measure and normal distribution (Holcomb, 2016). Skewness between 2 and -2 is acceptable, and data is considered normal (Bryne, 2010; Hair et al., 2018). Thus, skewness for firm age, SCMP, and SMEP is acceptable, and no outliers are shown in Table 3.

Table 3: Descriptive Statistics

	N	Min	Max	Mean	SD	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
FirmAge	302	1.00	5.00	3.2368	1.175	-.168	.140
SCMP	302	1.00	5.00	3.4366	.99936	-.422	.140
SMEP	302	1.00	5.00	3.4411	.99000	-.457	.140
Valid N (listwise)	302						

SCMP= Supply chain management practices, SMEP= SME Performance

KMO value above 0.6 is satisfactory to determine the adequacy of the sample (Pallant, 2020). The KMO value is 0.862. Hence, the sample is adequate. Bartlett's test confirms the multivariate normality of data, and the p-value is below 0.05, ensuring that the data is acceptable for further analysis (Pallant, 2020).

Sample Adequacy and Reliability of Constructs

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.862
Bartlett's Test of Sphericity	Approx. Chi-Square	6614.545
	df	78
	Sig.	.000

' 'Cronbach's Alpha (CA) is used to test the internal consistency of measures, and the values should be >0.70, as recommended by researchers (Hair et al., 2018). Table 5 shows that both constructs are reliable, with CA values of 0.938 and 0.898.

Table 5: ' 'Cronbach's Alpha

Construct	Item	Cronbach Alpha
SCMP	7	.938
SMEP	5	.898

SCMP= Supply chain management practices, SMEP= SME Performance

Rotated Component Matrix

Table 6 shows no cross-loading; all values are above 0.4 (Hadi, Abdullah, & Sentosa, 2016).

Table 6: Rotated Component Matrix

	Component		
	1	2	3
SCMP1	.679		
SCMP2	.572		
SCMP3	.465		
SCMP4	.891		
SCMP5	.670		
SCMP6	.854		
SCMP7	.781		
SMEP1			.900
SMEP2			.868
SMEP3			.590
SMEP4			.860
SMEP5			.783
FirmAge		.758	

SCMP= Supply chain management practices, SMEP= SME Performance

Correlation Analysis

The correlation analysis establishes the linear association between two or more variables, and Pearson correlation is a widely-recognized test (Rousseau, Egghe, & Guns, 2018). The first effect of firm age on FP is statistically significant, as depicted by a p-value < 0.05, and the R-value of .498 indicates a positive correlation. Similarly, SCMP is positively correlated with SMEP (r=.983).

Table 7: Pearson Correlation

		Firm Age	SCMP	SMEP
Firm Age	Pearson Correlation	1	.492**	.498**
	Sig. (2-tailed)		.000	.000
	N	302	302	302
SCMP	Pearson Correlation	.492**	1	.983**
	Sig. (2-tailed)	.000		.000
	N	302	302	302
SMEP	Pearson Correlation	.498**	.983**	1
	Sig. (2-tailed)	.000	.000	
	N	302	302	302

SCMP= Supply chain management practices, SMEP= SME Performance
**. Correlation is significant at the 0.01 level (2-tailed).

ANOVA method is adopted to test a linear effect and whether the differences between groups are significant (Tabachnick & Fidell, 2007). The f-calculated value (27.2) is more significant than the F-tabulated (4.0). Thus there is a significant relationship between SCMP and SMEP.

Table 8: ANOVA Test

	Sum of Squares	df	Mean Square	F	Sig
Regression	285.163	1	285.163	27.233	.000[a]
Residual	9.848	300	.033		
Total	295.011	301			

a. Predictors: (Constant), SCMP

The table below shows whether the independent variable, SCMP, predicts the dependent variable, SMEP. SCMP significantly impacts firm performance (p < 0.05), and a unitary increase in SCMP increases firm performance by 98.3%. Saudi firms must implement effective practices in the supply chain to increase FP.

Table 9: Table of Coefficients

	Unstandardized Coefficient				
	Beta	Std Error	Standardized Beta	t	Sig
Constant	.094	.037		2..512	.013
SCMP	.974	.010	.983	93.203	.000

SCMP= Supply chain management practice

The study tested the hypothesis that firm age significantly moderates the association between SCMP and SMEP. Table 10 shows that firm age negatively moderates the relationship between SCMP and SMEP (coefficient= -0.0202). The moderating effect of firms is significant at p=0.0081, which is less than 0.05.

Table 10: Moderating Role of Firm Age

	Coefficient	SE	t	p
Constant	3.4527	.0110	315.1488	.0000
FirmAge	.0200	.0100	1.9996	.0464
SCMP	.9527	.0118	80.6137	.0000
Int_1	-.0202	.0076	-2.6670	.0081

SCMP= Supply chain management practices

DISCUSSION

This study assessed the effects of Supply Chain Management Practices and Firm Age on Small and Medium Businesses in Saudi Arabia. The study has considered solid age as a moderator. Hence, a survey-based technique was utilized for the quantitative technique with a cross-sectional design. The target population for this study consists of the owners and managers of small and medium-sized firms in the major cities of Saudi Arabia who handle operations and supply chain management. An analysis of 302 responses was conducted. The findings reveal that supply chain management methods are highly related to the performance of Saudi small and medium-sized businesses. While firm age is a significant negative moderator between the connection of supply chain management practices and the performance of small and medium-sized businesses, this association is moderated by supply chain management practices.

Kot, Haque, and Baloch (2020) researched supply chain management in 613 small and medium-sized enterprises (SMEs) from Canada, Iran, and Turkey to assess SME practices in a broader context. Based on statistical analysis, it is projected that the factors impacting supply chain management in small and medium-sized enterprises (SMEs) will differ depending on the circumstances of the nations investigated, demonstrating their significant impact on the performance of SCM in SMEs. The effect is more substantial in advanced economies than in emerging and middle-income countries. For small and medium-sized enterprises (SMEs) in all nations to succeed in a complex and demanding business climate, they must adopt the necessary strategies. As the processes of the distribution network encompass all processes and steps associated with the flow and transition of goods, beginning with the extraction of raw materials and ending with the final purchasers, the concept of supply chain management application about the fully operational strategic approach of SMEs becomes more critical.

Khalil et al. (2019) investigated the relationship between supply chain management strategies and organizational success, with innovation as a moderator. The findings revealed that lean techniques, local supply chain operations, and the dependability of data transfer substantially impacted business productivity. In addition, supply chain management strategies have a significant, positive impact on innovation and the success of small and medium-sized businesses. The conclusions of this research will aid in the productivity enhancement of SME management. According to the findings of recent research, Supply Chain Management Practices have a substantial impact on small and medium-sized businesses.

The age of a company is measured by calculating the years from its founding to the present (Coad et al., 2018); Mabenge, Ngorora-Madzimure, and Makanyeza (2022). examined the effect of each innovative component on the productivity of small and medium-sized enterprises (SMEs) in Zimbabwe. In addition, they examined how the age and size of SMEs affected the relationship between innovation and outcomes. The findings demonstrated that innovativeness had a more significant impact on revenue growth for younger companies than for older ones.

Similarly, research demonstrated that larger businesses perform better than smaller ones when it comes to the financial impact of marketing innovations. Therefore, it is suggested that, more significantly, younger organizations use innovation to increase productivity. These results are comparable to those of the present investigation. This suggests that firm age strongly correlates negatively with the performance of small and medium-sized businesses. This suggests that younger enterprises are more likely to adapt due to their adaptability, boldness, and aggressive marketing methods than older ones.

CONCLUSION

A quantitative, cross-sectional, and survey-based design were used to determine the effects of Supply Chain Management Practices on Small and Medium Businesses, notably in Saudi Arabia, and the effects of Firm Age on Small and Medium Enterprises in Saudi Arabia. The target audience consisted of the owners and managers of small and medium-sized firms in the major cities of Saudi Arabia who handle operations and supply chain management. The results demonstrate a significant relationship between supply chain management tactics and the success of Saudi small and medium-sized firms. Yet, firm age moderates the performance of small and medium-sized firms and supply chain management techniques negatively. In general, supply chain analysis has focused more on the operational elements than their conceptual components. This study aims to illustrate the strategic significance of supply chain planning across all organizational functions. This inquiry has both practical and societal consequences. It provides SCM executives with a practical framework for measuring the efficacy of current SCM approaches by constructing and validating a multidimensional notion of SCM practices in several countries and by examining and demonstrating its value in fostering productivity increases among SMEs. In addition, evaluating supply chain management approaches in SME financial markets demonstrates that SCM aspects directly impact the SME's organizational effectiveness, which may help obtain scale economies. The ease with which authorities can govern such SMEs would boost their chances of survival and long-term viability, resulting in a significant social impact on communities and nations. The addition of interviews will enhance the usefulness of this analysis by providing a complete understanding of the study event than the analysis's current quantitative-only representation.

Accurate reporting must also be implemented to ensure that production control and dependability are improved. Additionally, this will aid in enhancing selection criteria. To enable successful Supply chain management decisions, providing authorized individuals with more responsibilities is vital. Frequent training and development programs are necessary to increase the knowledge, skills, and abilities required to feel accountable effectively and efficiently.

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Appendix 1

Variable	Items	Reference
Supply chain practices	Our firm implements the following: *Close partnerships with suppliers* *Close partnerships with customers* *Strategic planning* *Holiday safety stock* *E-procurement* *Subcontracting* *Many suppliers*	(Bayraktar et al., 2009)

SME performance	Compared to our competitors: *Our firm has better operational efficiency* *Our firm has better resource planning* *Our firm has better cost saving* *Our firm has better reduced inventory level* *Our firm has better forecasting accuracy*	(Bayraktar et al., 2009)
Firm age	Firm Age *5-10 years* *10-15 years* *15-20 years* *20-25 years* *25-30 yeas*	No defined scale. As utilized in previous studies as well (Coad, Segarra, & Teruel, 2016; Younis & Sundarakani, 2019).