

Corporate entrepreneurship, supply chain management strategies and performance in the setting of Saudi Arabia: Empirical investigation

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ABSTRACT

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The objective of this study is to assess the joint effect of corporate entrepreneurship (CE) and supply chain management (SCM) strategies on firm performance in the circumstance of Saudi Arabian manufacturing firms. This is interesting in the sense that while previous scholars have focused on CE and SCM separately, the combinative aspect of the two particularly in nonwestern countries seems still to be short of attention. In this respect, this paper attempts to apply a resource-based view and suggest that CE and SCM complement each other and in the end performance of the firm will be increased. Out of the 84 Saudi manufacturing firms covered in the structured survey, data was analyzed using Ordinary Least Squares (OLS) regression. The results indicate that CE, particularly dimensions such as new business venturing, product innovation, technological entrepreneurship, mission reformulation, reorganization and system-wide changes, significantly enhances firm performance. Additionally, SCM strategies were found to have a positive and statistically significant impact on firm performance, highlighting the critical role of effective supply chain management in operational efficiency and competitive positioning. The findings contribute to the literature by providing empirical evidence from a Middle Eastern context, thereby enhancing the generalizability of existing theories on CE and SCM. The study also offers practical implications for managers and policymakers, suggesting that aligning CE initiatives with SCM strategies can drive sustained competitive advantage. These insights are particularly relevant for firms operating in emerging markets, where economic reforms and diversification efforts, such as Saudi Arabia's Vision 2030, necessitate strategic innovation and supply chain optimization.

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1. Introduction

Comprehensively, the current international business environment has prompted organizations to understand the need of coming up with new ways to improve their performance, remain relevant in the market and grow sustainably. Of note among these are strategies branded corporate entrepreneurship (CE) and supply chain management (SCM) that appear to be more critical to the success of the firm. With respect to this notion, corporate entrepreneurship, which is the process of improving existing firms by their innovation, proactiveness and risk taking, helps the companies to deal with the changing market environment and gain competitive edge (Zahra, 1993; Lumpkin & Dess, 1996). At the same time, supply chain management, which is the amalgamation and enhancement of all activities carried out within the supply chain, plays a major role in increasing efficiency, lowering expenses and increasing customer satisfaction (Wisner, 2003; Sezhiyan, Page & Iskanius, 2011). In spite of the great necessity of these strategies in firms there seems to be sparsity of literature with regards to their integrated usage in enhancing firm performance in other regions of the world other than the western ones. The advantages of including corporate entrepreneurship within firms have always been accorded the attention it deserves as this remains the only sustainable competitive advantage which is gained through opportunity recognition, leverage and renewal of competitive advantage (Covin & Miles, 1999; Yang et al., 2007). Within the firm entrepreneurial behaviors like new venture creation, development of new products and ventures in technologies as well, all of which focus on enhancing the firms' capabilities and staying competitive on the market place (Antoncic & Hisrich, 2001; Lumpkin & Dess, 1996). However, several studies

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examining CE have been carried out predominantly in Anglo-Saxon and Western settings and very few studies have been conducted in Middle Eastern socio-economic circumstances. It is worth noting that such sociocultural economic and market considerations such as those observed in this region, especially in Saudi Arabia, call for further investigations. It is such studies that cause Kaya (2006) and Wahyudi et al. (2024a) that there is always an impressive outcome with the implementation of CE despite being used outside the original context, but the same narrative cannot be said for the Middle Eastern contexts.

Corporate entrepreneurship has been widely recognized for its role in driving firm performance through the creation and exploitation of new opportunities, innovation, and strategic renewal (Covin & Miles, 1999; Yang et al., 2007). This entrepreneurial behavior within firms includes activities such as new business ventures, product innovation, and technological entrepreneurship, which are critical for rejuvenating organizational capabilities and maintaining market relevance (Antoncic & Hisrich, 2001; Lumpkin & Dess, 1996). However, much of the existing research on CE has been conducted in Anglo-Saxon and other Western contexts, with limited empirical evidence from Middle Eastern economies. The unique cultural, economic, and market dynamics of this region, particularly in Saudi Arabia, present an important area for investigation. Studies such as those by Wahyudi et al. (2024a) and Kaya (2006) have shown that CE significantly enhances firm performance in different contexts, yet the impact of CE in the Middle Eastern context remains underexplored.

Similarly, supply chain management strategies directly transform into better organizational performance as competent SCM makes it possible to deliver the goods, services and information directed through the value chain which improves the efficiency of operations as well as the satisfaction of customers (Wisner, 2003; Waked et al., 2023). The literature has repeatedly elaborated the positive return of investments made into management in terms of profits, market share and competitive forces (Sezhiyan, Page & Iskanius, 2011; Gandhi, Shaikh & Sheorey, 2017). There however remains a lacuna on how SCM and CE are mutually enhancing in delivering value for the firms especially in developing countries and more so Saudi Arabia. A few studies that are available in this region have mainly emphasized the operational aspect of SCM but not the strategic aspect which relatively makes the literature deficient.

The motivation for this study stems from the strategic role that manufacturing companies play in Saudi Arabia's Vision 2030 initiative, which aims to diversify the economy away from oil dependency and foster innovation-driven growth. Manufacturing firms are crucial to this effort as they contribute to job creation, attract foreign investment, and enhance economic diversification. Given the importance of both CE and SCM in driving innovation and operational efficiency, it is essential to understand how these two strategies interact to influence firm performance in Saudi Arabia's manufacturing sector. This study seeks to address the identified research gap by empirically investigating the relationship between corporate entrepreneurship, supply chain management strategies, and firm performance within the Saudi Arabian context.

The contribution of this research is diverse and wide in scope. First, it broadens the existing literature on corporate entrepreneurship and supply chain management by bringing scholarly evidence from a non-Western context and hence spatially generalizing the existing theories. Whereas CE has been widely studied regarding enhancement of innovation and the resultant firm success (Zahra, 1993; Lumpkin & Dess, 1996), while SCM has been acknowledged as optimizing operational activities and market performance (Wisner, 2003; Gandhi, Shaikh & Sheorey, 2017), not so many have sought the benefits stemming from the integrating of the two forces in emerging economies. In this regard, this research fills this gap as it helps to determine the extent to which CE and SCM affects the performance of firms. Secondly, this study focuses on the manufacturing industries in Saudi Arabia and thus adds to the emerging studies on corporate strategies in the Middle East. This region is in a process of major economic development changes, especially with regards to the Vision 2030 concept which seeks to promote entrepreneurship, innovation and development of the private sector. The results of this study would, therefore, provide policy and managerial implications for improving firm performance through corporate entrepreneurship and supply chain management strategies.

Third, the study offers practical implications for business leaders and policymakers. By identifying the specific dimensions of corporate entrepreneurship—such as innovation, new business venturing, and self-renewal—that most effectively enhance firm performance, and by demonstrating the complementary role of SCM strategies, the research provides actionable guidance for firms aiming to improve their competitiveness. It also emphasizes the importance of aligning entrepreneurial initiatives with supply chain strategies to achieve long-term success in a rapidly changing business environment. Thus, this research fills a critical gap in the literature by exploring the combined impact of corporate entrepreneurship and supply chain management strategies on firm performance in a Middle Eastern context. The findings are expected to contribute to both academic knowledge and practical applications, offering a robust empirical basis for firms to prioritize and refine their corporate entrepreneurship and supply chain management strategies in pursuit of sustained competitive advantage.

The remainder of the paper proceeds as follows. The following section reviews the relevant literature and develops the hypotheses. The research methodology is addressed in section three. The results and discussion are highlighted in section four. The final section concludes the study.

2. Review of the relevant literature and hypotheses development

Relations between corporate entrepreneurship (CE) and supply chain management (SCM) strategies and their impact on the performance of the firm have as well received attention in scholarly literature. Competitive entrepreneurial culture and well-designed supply chain management's strategies are of great importance to the organizational success for the more so as the economy becomes more competitive and global. However, the current focus of the research in these aspects is rather in separation, thus not much light is shed on the effects on the firm performance of such elements in union, more so in the context outside of the Western world. This paper will carry out a literature review to examine the findings of the existing studies in order to find out what the existing studies have not addressed and suggest what should be further researched.

While both CE and SCM independently contribute to firm performance, their combined impact in one model remains underexplored. The integration of entrepreneurial activities with SCM strategies could potentially amplify the benefits of both, leading to enhanced innovation, operational efficiency, and market responsiveness. For instance, firms that actively engage in CE may be better positioned to leverage SCM strategies to innovate and adapt to changing market conditions, thereby improving their competitive position and overall performance. Zahra (1993) argued that the effectiveness of CE depends on how well it is integrated with a firm's broader strategic goals, suggesting that SCM could play a critical role in this integration. Furthermore, studies by Lumpkin and Dess (1996) and Wisner (2003) indicate that both CE and SCM contribute to firm performance through different but complementary mechanisms, with CE driving innovation and market responsiveness, and SCM enhancing operational efficiency and customer satisfaction. This study seeks to fill the gap in the literature by empirically investigating the combined impact of corporate entrepreneurship and supply chain management strategies on firm performance in the context of Saudi Arabian manufacturing companies. By focusing on this non-Western context, the research aims to provide new insights into how these two strategic drivers interact and contribute to firm success in a rapidly evolving economic environment.

2.1 Corporate entrepreneurship (CE) and firm performance (FP)

Corporate entrepreneurship, also referred to as intrapreneurship, involves activities that promote innovation, strategic renewal, and the proactive pursuit of new business opportunities within established organizations (Antoncic & Hisrich, 2001; Zahra, 1993). CE is characterized by dimensions such as new business venturing, product innovation, and technological entrepreneurship, all of which contribute to a firm's ability to adapt and thrive in dynamic environments (Yang et al., 2007; Lumpkin & Dess, 1996). Empirical studies have consistently shown that firms engaging in high levels of CE tend to exhibit superior performance outcomes, including increased profitability, market share, and customer satisfaction (Wahyudi et al., 2024a; Kaya, 2006).

For instance, Wahyudi et al. (2024a) found that CE significantly enhances firm performance in Indonesian lubricant distributor firms, highlighting the importance of fostering an entrepreneurial culture within organizations. Similarly, Lumpkin and Dess (1996) clarified the entrepreneurial orientation (EO) construct, emphasizing that dimensions like innovativeness, risk-taking, and proactiveness independently or collectively contribute to firm performance depending on the organizational context and environmental factors. This body of research suggests that CE is a critical determinant of firm success, particularly in markets where innovation and adaptability are key competitive advantages.

However, the majority of studies on CE have been conducted in Western contexts, leaving a gap in understanding how CE influences firm performance in different cultural and economic environments, such as those in the Middle East. Zahra (1993) and Zahra (1995) emphasized the need to consider environmental factors when assessing the impact of CE, noting that firms operating in dynamic and hostile environments, such as those in the Middle East, might benefit differently from CE activities. This research highlights the contingent nature of the CE-performance relationship, suggesting that further empirical investigation is needed in non-Western contexts.

2.1.1 Summaries of empirical studies linking CE and FP

Wahyudi et al. (2024a) investigate how corporate entrepreneurship (CE) impacts firm performance, focusing on Indonesian lubricant distributors. The study examines CE dimensions like innovation, proactiveness, and risk-taking, finding that higher CE levels lead to improved performance, including profitability, market share, and customer satisfaction. The research emphasizes the importance of cultivating an entrepreneurial culture within firms to thrive in competitive markets, providing valuable insights for managers aiming to enhance firm success through strategic entrepreneurial initiatives. Wahyudi et al. (2024b) evaluate corporate entrepreneurship (CE) strategies to enhance firm performance using the Analytical Hierarchy Process (AHP). The study identifies key CE strategies—innovation, strategic renewal, and new business venturing—and ranks them by their effectiveness in improving profitability, market share, and operational efficiency. The findings suggest that strategically selected CE initiatives significantly boost performance. This research offers practical guidance for managers to prioritize and implement the most impactful CE strategies for business success.

Kanazireva (2024) investigates corporate entrepreneurship and innovation within state-owned enterprises (SOEs) in Bulgaria. Despite structural and bureaucratic challenges, the study finds that some SOEs successfully implement corporate entrepreneurship initiatives that drive innovation. These initiatives are often supported by leadership commitment and

strategic vision. The research highlights the potential for SOEs to contribute to economic growth through innovation, provided they overcome inherent governance and operational flexibility obstacles, emphasizing the role of leadership in fostering entrepreneurship in public enterprises. Shirokova et al. (2024) explore how strategic entrepreneurial behaviors impact firm performance, focusing on the moderating effects of leadership traits like narcissism and Machiavellianism. The study, using data from small businesses, finds that while entrepreneurial behaviors generally enhance performance, narcissistic leadership amplifies these positive effects, whereas Machiavellianism produces mixed results. The research underscores the complexity of leadership traits in shaping the effectiveness of entrepreneurial strategies, offering nuanced insights into how leadership influences firm performance in entrepreneurial contexts.

Fu et al. (2024) examine corporate entrepreneurship (CE) dynamics in family firms, focusing on family commitment and long-term orientation. The study finds that strong family involvement and a long-term perspective positively influence CE, leading to sustainable innovation and growth. The research underscores the importance of leveraging family-specific attributes, such as deep-rooted commitment, to foster an entrepreneurial culture that drives firm performance over time, offering insights into how family businesses can achieve long-term success through CE. Alshagawi and Mabkhot (2024) explore the effects of strategic entrepreneurship, entrepreneurial marketing, and entrepreneurship values on the performance of SMEs in Saudi Arabia. The study reveals that strategic entrepreneurship, characterized by innovation and proactive strategies, significantly enhances SME performance. Additionally, integrating entrepreneurial marketing practices, like customer focus and value creation, further boosts these strategies' effectiveness. The research emphasizes adopting a comprehensive entrepreneurial approach to drive growth and competitive advantage in the Saudi Arabian SME sector, contributing valuable insights for business leaders.

Handsome-Idada et al. (2024) study the correlation between corporate entrepreneurship (CE) and organizational performance in Nigerian deposit money banks. The research finds a significant positive correlation between entrepreneurial activities, such as innovation, proactiveness, and risk-taking, and improved performance metrics, including profitability and market share. The study highlights the importance of fostering an entrepreneurial culture within banks to drive growth and maintain competitiveness in Nigeria's dynamic financial sector, emphasizing CE's role in enhancing institutional performance. Antoncic and Hisrich (2001) refine the construct of intrapreneurship, or corporate entrepreneurship, validating it across cultural contexts. They develop a model with eight dimensions—new business venturing, innovativeness, self-renewal, proactiveness, risk-taking, competitive aggressiveness, autonomy, and work discretion—using data from Slovenia and the U.S. The study confirms the robustness of the intrapreneurship construct and its applicability across cultures, highlighting its role in fostering innovation and growth, offering managers insights to cultivate an entrepreneurial mindset within organizations.

Ziyae and Sadeghi (2020) explore the link between corporate entrepreneurship (CE) and firm performance, focusing on the mediating role of strategic entrepreneurship. The study reveals that while CE positively affects performance, its impact is significantly enhanced when aligned with strategic goals. Firms combining CE with strategic entrepreneurship achieve superior outcomes, such as higher profitability and growth. This research underscores the importance of integrating entrepreneurial activities with strategic planning to maximize their influence on firm performance. Ahmed et al. (2020) examine the relationship between corporate entrepreneurship (CE) and business performance, focusing on the mediating role of employee engagement. The study finds that CE, driven by innovation and risk-taking, positively impacts performance, which is further enhanced by high employee engagement. Engaged employees contribute more effectively to entrepreneurial activities, maximizing the benefits of CE. The research suggests that firms should foster both CE and employee engagement to achieve superior business outcomes.

Yang et al. (2007) examine the relationship between corporate entrepreneurship (CE) and market performance in Chinese firms. The study analyzes how entrepreneurial activities, including innovation, proactiveness, and risk-taking, influence market performance in China's rapidly developing economy. Results show a positive correlation between CE and market performance, suggesting that firms engaging in entrepreneurial activities outperform their peers. The study highlights the importance of fostering a culture of entrepreneurship within organizations to drive competitive advantage and success in dynamic business environments. Jancenelle et al. (2017) investigate the link between corporate entrepreneurship (CE) and market performance through content analysis of earnings conference calls. The study finds that companies emphasizing CE activities—like innovation and strategic renewal—in their communications tend to exhibit better market performance, as reflected in stock prices and financial metrics. The research suggests that how firms communicate their entrepreneurial activities to stakeholders plays a crucial role in shaping market perceptions and outcomes, highlighting the importance of strategic communication in CE.

Kaya (2006) explores how human resource management (HRM) practices and corporate entrepreneurship (CE) influence firm performance using data from Turkish firms. The study finds that HRM practices, including training, participation, and rewards, positively impact CE, which in turn enhances firm performance. CE, measured through innovation, risk-taking, and proactiveness, mediates the relationship between HRM practices and performance. The research underscores the importance of integrating effective HRM practices to foster a corporate culture supportive of entrepreneurial activities, improving firm performance. Lumpkin and Dess (1996) clarify the entrepreneurial orientation (EO) construct, comprising five dimensions: innovativeness, risk-taking, proactiveness, autonomy, and competitive aggressiveness. They argue that EO is

multidimensional, with each dimension influencing performance independently or in combination, depending on the context. The study emphasizes the context-dependent nature of EO, suggesting that its impact on performance is moderated by industry conditions, organizational structure, and strategy, providing a framework linking EO to firm performance.

Zahra (1995) examines the impact of corporate entrepreneurship (CE) on the financial performance of firms undergoing management leveraged buyouts (MBOs). The study finds that firms engaging in CE, such as innovation and strategic renewal, achieve superior financial outcomes post-buyout, benefiting from enhanced flexibility and strategic direction. The research highlights the role of CE in transforming firms during MBOs, offering valuable insights for managers and investors aiming to optimize performance through entrepreneurial initiatives in transitional business environments. Zahra (1993) investigates the relationship between corporate entrepreneurship (CE), environmental factors, and financial performance using a taxonomic approach. The study categorizes firms based on their CE levels and examines how environmental conditions, such as industry dynamism and hostility, affect this relationship. Firms engaging in high CE levels perform better financially, especially in dynamic and hostile environments. Zahra highlights the importance of aligning entrepreneurial activities with environmental contexts to maximize financial outcomes, demonstrating the contingent nature of the CE-performance relationship.

Therefore, based on the abovementioned relationship, the research hypothesis is as follows:

H₁: *Corporate entrepreneurship is positively associated with firm performance.*

2.2 Supply chain management strategies (SCMS) and firm performance (FP)

Supply chain management (SCM) strategies have also been widely recognized for their positive impact on firm performance. Effective SCM involves the coordination and integration of key business processes from suppliers to end users, aimed at enhancing efficiency, reducing costs, and improving customer satisfaction (Wisner, 2003; Sezhiyan, Page & Iskanus, 2011). SCM practices such as supplier collaboration, logistics optimization, and information sharing are critical for maintaining operational efficiency and achieving competitive advantages (Gandhi, Shaikh & Sheorey, 2017). Wisner (2003) developed a structural equation model to explore the relationship between SCM strategies and firm performance, finding that well-implemented SCM strategies significantly enhance key performance indicators such as profitability, market share, and overall operational efficiency. This is supported by later studies, such as those by Sezhiyan, Page, and Iskanus (2011), who examined the combined effects of logistics capability and supply effort management on firm performance. Their research underscores the importance of integrating SCM strategies with other operational practices to achieve superior business outcomes.

Moreover, recent studies have begun to explore the role of SCM in emerging markets. For example, Ayorinde (2024) investigated the impact of SCM on firm performance within Nigeria's fast-moving consumer goods (FMCG) sector, finding that effective SCM practices significantly enhance performance by streamlining operations, reducing costs, and improving service quality. Similarly, Waked et al. (2023) examined the relationship between SCM strategies, management accounting practices, and firm growth, highlighting the interconnectedness of these factors in driving firm performance in developing economies. Despite the substantial evidence supporting the positive impact of SCM on firm performance, there is a notable gap in the literature regarding how SCM strategies interact with other strategic initiatives, such as corporate entrepreneurship, to influence overall firm success. This gap is particularly evident in the context of non-Western economies, where unique market dynamics and cultural factors may alter the effectiveness of traditional SCM practices.

2.2.1 Summarizes of empirical studies linking SCMS and FP

Lwin (2024) explores how supply chain management (SCM) practices affect organizational performance in furniture distribution companies in Yangon. The study investigates various SCM practices, including inventory management, supplier relationships, and logistics, and their impact on performance metrics such as efficiency, customer satisfaction, and financial outcomes. The findings indicate that effective SCM practices significantly enhance organizational performance by improving operational efficiency, reducing costs, and boosting service quality. This research provides insights into how targeted SCM strategies can lead to better performance outcomes in the specific context of Yangon's furniture distribution sector.

Tripathi and Roy (2024) investigate the connection between supply chain performance and organizational strategic performance in their article published in the *International Journal of Productivity and Performance Management*. The study synthesizes existing research on how effective supply chain management (SCM) practices impact broader strategic goals such as competitive advantage, market positioning, and overall organizational performance. The authors highlight key performance indicators and mechanisms through which SCM influences strategic outcomes. They also propose a research agenda to explore gaps and emerging trends, aiming to advance understanding and provide actionable insights for enhancing organizational performance through improved supply chain strategies.

Ayorinde (2024) investigates the impact of supply chain management (SCM) on firm performance within Nigeria's fast-moving consumer goods (FMCG) sector. The study explores how SCM practices, including procurement, logistics, and inventory management, influence performance metrics such as efficiency, customer satisfaction, and financial outcomes. Findings indicate that effective SCM practices significantly enhance firm performance by streamlining operations, reducing

costs, and improving service quality. This research provides valuable insights into how optimizing SCM can lead to competitive advantages and better performance in the rapidly evolving FMCG sector in Nigeria.

Ababou (2024) employs structural equation modeling to analyze the impact of supply chain management (SCM) on firm performance. Published in the *International Journal of Professional Business Review*, the study systematically examines how various SCM practices—such as procurement, logistics, and inventory management—affect firm performance indicators like profitability, efficiency, and market competitiveness. The results reveal that effective SCM practices positively influence firm performance by enhancing operational efficiency and customer satisfaction. Ababou's research highlights the value of using structural equation modeling to uncover the complex relationships between SCM practices and performance outcomes, providing a comprehensive understanding of these dynamics.

Amjad, Abbass, Hussain, Khan, and Sadiq (2022) explore the effects of green supply chain management (GSCM) practices on firm performance and sustainable development in their study published in *Environmental Science and Pollution Research*. The research highlights how adopting GSCM practices—such as sustainable sourcing, eco-friendly production processes, and waste reduction—positively impacts firm performance by improving operational efficiency, reducing costs, and enhancing brand reputation. Additionally, these practices contribute to sustainable development goals by minimizing environmental impact and promoting resource conservation. The study underscores the dual benefits of GSCM: advancing firm performance while supporting broader sustainability objectives.

Gandhi, Shaikh, and Sheorey (2017) analyze the impact of supply chain management (SCM) practices on firm performance, focusing on empirical evidence from a developing country. Published in the *International Journal of Retail & Distribution Management*, the study examines various SCM practices, such as inventory management, supplier collaboration, and logistics efficiency, and their effects on performance metrics including profitability, operational efficiency, and customer satisfaction. The findings indicate that effective SCM practices significantly enhance firm performance, particularly in developing countries where resource constraints and market conditions can challenge traditional supply chain strategies. The research provides insights into how tailored SCM practices can drive performance improvements in such contexts.

Sezhiyan, Page, and Iskanius (2011) investigate the effects of supply effort management, logistics capability, and supply chain management (SCM) strategies on firm performance in their study published in the *International Journal of Electronic Transport*. The research examines how different aspects of SCM, including the management of supply efforts, the development of logistics capabilities, and the implementation of strategic SCM practices, influence performance outcomes such as efficiency, cost-effectiveness, and service quality. The findings indicate that strong supply effort management and logistics capabilities, coupled with effective SCM strategies, significantly enhance firm performance. The study highlights the importance of integrating these elements to achieve competitive advantages and operational success.

Ou, Liu, Hung, and Yen (2010) develop a structural model to examine the relationship between supply chain management (SCM) and firm performance, published in the *International Journal of Operations & Production Management*. The study utilizes a structural equation modeling approach to explore how various SCM practices, including supplier relationships, logistics, and information sharing, impact firm performance metrics such as efficiency, cost reduction, and customer satisfaction. The findings indicate that effective SCM practices positively affect firm performance by improving operational processes and enhancing overall efficiency. The research provides valuable insights into how optimizing SCM can lead to better performance outcomes across various operational dimensions.

Green Jr., McGaughey, and Casey (2006) explore whether supply chain management (SCM) strategy mediates the relationship between market orientation and organizational performance in their article published in *Supply Chain Management: An International Journal*. The study investigates how market-oriented behaviors, such as customer focus and competitor awareness, influence organizational performance through the implementation of effective SCM strategies. The findings suggest that SCM strategy indeed plays a mediating role, enhancing the positive impact of market orientation on performance outcomes like profitability, efficiency, and customer satisfaction. The research highlights the importance of integrating market orientation with SCM strategies to maximize organizational success.

Otto and Kotzab (2003) explore the question of whether supply chain management (SCM) truly delivers financial benefits by examining six different perspectives for measuring SCM performance. Published in the *European Journal of Operational Research*, the study evaluates various metrics and methods to assess the effectiveness of SCM practices, including cost reductions, service improvements, and overall value creation. The authors provide a comprehensive framework for evaluating SCM performance from multiple angles, highlighting that while SCM can yield significant benefits, measuring its impact requires a nuanced approach considering both quantitative and qualitative factors. The study underscores the importance of a holistic evaluation to accurately capture the value of SCM initiatives.

Martin and Grbac (2003) explore how supply chain management (SCM) can be used to enhance a firm's market orientation in their article published in *Industrial Marketing Management*. The study examines the interplay between SCM practices and market orientation, focusing on how effective supply chain strategies can improve customer responsiveness, market intelligence, and overall competitiveness. The authors argue that by aligning SCM with market-oriented strategies, firms can better anticipate and meet customer needs, ultimately leading to improved market performance. The research highlights the strategic role of SCM in not only optimizing operations but also in supporting a firm's market-driven goals and long-term

success. Wisner (2003) develops a structural equation model to investigate the relationship between supply chain management (SCM) strategies and firm performance, as published in the *Journal of Business Logistics*. The study explores how various SCM strategies—such as supplier partnerships, logistics integration, and information sharing—affect key performance indicators like profitability, efficiency, and customer satisfaction. The findings demonstrate that well-implemented SCM strategies significantly enhance firm performance by improving operational processes and fostering closer collaboration across the supply chain. Wisner's research provides a comprehensive framework for understanding the complex interconnections between SCM strategies and business outcomes, highlighting the critical role of SCM in driving organizational success. Tan (2002) examines the practices, concerns, and performance issues related to supply chain management (SCM) in his article published in the *Journal of Supply Chain Management*. The study provides an overview of prevalent SCM practices, including supplier partnerships, information sharing, and logistics coordination, and discusses common challenges such as integration difficulties, cost management, and maintaining quality. Tan also explores the impact of these practices on firm performance, highlighting the importance of aligning SCM strategies with organizational goals to achieve optimal results. The article underscores the need for continuous improvement and strategic planning in SCM to address performance issues and enhance overall effectiveness.

Therefore, based on the abovementioned relationship, the research hypothesis is as follows:

H₂: *Supply chain management strategies are positively associated with firm performance.*

3. Research methodology

3.1 Research constructs and items

The relevant literature was reviewed to identify each of the research's constructs. The independent variables are corporate entrepreneurship (CE) and supply chain management (SCM). The corporate entrepreneurship consists of two constructs including of three dimensions each, namely; Venturing and innovation (3 dimensions; New business venturing {5 items}, product innovation {5 items}, and technological entrepreneurship {5 items}), and Self-Renewal Activities (3 dimensions; Mission Reformulation {3 items}, Reorganization {4 items}, and System-Wide Changes {6items}) (Zahra, 1993; Yang et al., 2007; Wahyudi et al., 2024a; Wahyudi et al., 2024b; Antoncic and Hisrich, 2001; Kaya, 2006; Handsome-Idada et al., 2024; Alshagawi and Mabkhot, 2024), and the supply chain management strategies' items consist of 20 items (Winser, 2003; Sezhiyan, Page & Iskanius, 2011). The dependent variable is the firm performance that consists of six items (Winser, 2003). All items were measured using a 5-point Likert scale.

3.2 Data collection

This research was focused on manufacturing companies in Saudi Arabia. These companies are very important to Saudi Arabia's economy since they help in breaking the reliance on oil domination. These firms create employment opportunities, bring in overseas investment and value addition to the raw materials generating income that goes to gross domestic product (GDP). A rich manufacturing base improves volatility in the market and embodies the aims of Vision 2030 through stimulating innovations and steady development. Also, these firms can help improve the chances of earning foreign currencies through exports Hence, it can be concluded that they are an important driver of economic development and help promote the national drive for a better and more resilient economy. In order to test the relationships postulated above, a survey was designed, pre-tested, and validated using 30 general managers and accountants. The pretests served the purpose of improving the validity of the questionnaire (the questionnaires that remained were used in the main survey, and none were given for any other analysis). Internal Auditors, Chief Financial Officers, Cost Accountants, and Accountants were trained on the survey procedures using questionnaires. Different google-docs web links were used in conducting the survey. Due to the nature of the study, it was ambiguous to account for the response rate as there was no way of telling how many people accessed the online surveys through social platforms. There are 84 valid questionnaires obtained from those who completed and returned the survey forms. Therefore, these valid questionnaire forms are both practically used and incorporated into the dataset for purposes of the research instrument validation analysis and the general research results analysis.

3.3 Instrument test

As the data for this study was derived from observed scaled responses, the research instrument's reliability tests such as factor analysis, item-total correlation, and Cronbach alpha were performed in this study. Factor analysis was used to evaluate all the scales for their construct validity (convergent and discriminant validity) as proposed by Floyd and Widaman (1995). As shown by Table 1, due to limited observations and the likelihood of inflating the component loadings, the factor analysis was performed within each subgroup equating to a particular number of items in a given construct. A more stringent or rule-of-thumb, Nunnally and Bernstein (1994) suggested an alternative cut-off as higher than 0.40 instead. In our study, all factor loadings as values of 0.529-0.961 are greater than the 0.40 cut-off and are statistically significant. Additionally, Churchill (1979) states that as part of construct validity the individual item to overall scale does correlation as values should be equal or greater than 0.30. In our study, item total correlation as value of 0.555-0.914 is adequately above 0.30.

Table 1
Constructs' validity and reliability

Constructs	Items	Factor loadings	Item-total Correlation	Cronbach's alpha	CR	AVE
CE: VI_NBV	NBV1	.942	.936	0.87924	0.919	0.696
	NBV2	.859	.861			
	NBV3	.774	.783			
	NBV4	.773	.778			
	NBV5	.811	.801			
CE: VI_PI	PI1	.914	.914	0.86766	0.971	0.871
	PI2	.961	.960			
	PI3	.949	.948			
	PI4	.912	.914			
	PI5	.930	.929			
CE: VI_TE	TE1	.720	.730	0.86513	0.848	0.536
	TE2	.601	.663			
	TE3	.864	.821			
	TE4	.869	.827			
	TE5	.548	.571			
CE:SR_MR	MR1	.838	.847	0.86753	0.850	0.654
	MR2	.816	.815			
	MR3	.770	.761			
CE:SR_R	R1	.529	.600	0.85100	0.878	0.652
	R2	.925	.900			
	R3	.853	.844			
	R4	.862	.843			
CE:SR_SWC	SWC1	.655	.705	0.85119	0.901	0.604
	SWC2	.772	.791			
	SWC3	.862	.848			
	SWC4	.754	.722			
	SWC5	.861	.865			
	SWC6	.741	.709			
SCMS	SCMS1	.713	.720	0.85414	0.945	0.469
	SCMS2	.791	.796			
	SCMS3	.637	.642			
	SCMS4	.636	.619			
	SCMS5	.737	.739			
	SCMS6	.809	.792			
	SCMS7	.656	.654			
	SCMS8	.839	.822			
	SCMS9	.638	.647			
	SCMS10	.586	.600			
	SCMS11	.717	.725			
	SCMS12	.680	.663			
	SCMS13	.535	.555			
	SCMS14	.583	.595			
	SCMS15	.766	.761			
	SCMS16	.824	.813			
	SCMS17	.647	.632			
	SCMS18	.546	.561			
	SCMS19	.684	.671			
	SCMS20	.546	.568			
FP	FP1	.817	.815	0.85427	0.945	0.742
	FP2	.861	.862			
	FP3	.800	.810			
	FP4	.836	.833			
	FP5	.938	.936			
	FP6	.908	.904			
Variables	Eigenvalue	% of variance	Kaiser-Meyer-Olkin	Bartlett's Test of Sphericity: Approx Chi-Square	df	Sig.
CE: VI_NBV	3.479	69.582	.738	324.348	10	.000
CE: VI_PI	4.355	87.097	.859	521.860	10	.000
CE: VI_TE	2.683	53.660	.666	144.496	10	.000
CE:SR_MR	1.961	65.376	.674	53.122	3	.000
CE:SR_R	2.607	65.173	.658	164.467	6	.000
CE:SR_SWC	3.628	60.474	.768	265.401	15	.000
SCMS	9.377	46.887	.710	2022.165	190	.000
FP	4.451	74.178	.873	406.113	15	.000

Additionally, the validity was held by having a reliable measurement of the constructs as assessed by Cronbach alpha coefficients. According to Nunnally and Bernstein (1994), it is expected that the cut-off for calculating of Cronbach alpha coefficients should be equal or greater than 0.70. In this study, all the Cronbach alpha coefficients as 0.86766-0.87924 was above the cut of 0.70. The commonality was assessed using the average variance extracted. The results that were given by the AVE which were more than 0.5 indicate that there was the presence of convergent validity within the measures that were taken. In addition, the reliability was assessed through the composite reliability (CR), which is a measure of internal consistency of latent variables within the model, and a normally accepted cutoff for this measure is ≥ 0.70 , showing consistent results.

Table 2

Constructs' validity and reliability of the variable corporate entrepreneurship (CE)

Constructs	Items	Factor loadings	Item-total Correlation	Cronbach's alpha
CE: VI_NBV	5	.622	.650	.818
CE: VI_PI	5	.724	.738	.798
CE: VI_TE	5	.695	.675	.803
CE:SR_MR	3	.691	.701	.801
CE:SR_R	4	.808	.791	.777
CE:SR_SWC	6	.840	.825	.765
Overall				.823
CR	0.874			
AVE	0.538			

Variable	Eigenvalue	% of variance	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test of Sphericity: Approx Chi-Square	df	Sig.
CE	3.230	53.825	.776	177.760	15	.000

As evidenced in Table 2, the factor analysis was performed for each of the six constructs for the independent variable corporate entrepreneurship. Factor loadings as values 0.622-0.840 in our study are higher than the standard minimum cut-off level of 0.40 and are statistically significant. Moreover, item-total correlation values in our study were between 0.650-0.825 and this is acceptable as long as is above 0.30. In addition, Cronbach alpha coefficients ranged from 0.765 to 0.818 which surpass the socially accepted norm of 0.70. In addition, the AVE findings indicated that convergent validity was also established between constructs since the AVE estimate of 0.538 is above the threshold of 0.5. Likewise, the CR value which is 0.874 which is included in the classification has a limit ≥ 0.70 and means consistent of the findings. To test the corporate entrepreneurship and supply management strategies with firm performance, ordinary least squared (OLS) regression analysis is conducted because all variables in this study were neither nominal data nor categorical data. The results of this study are presented in the next section.

4. Results and discussion

4.1 Summary statistics

The descriptive statistics and correlation matrix for all variables are provided as shown in Table 3. It can be seen that the item means ranged from 4.10 to 3.55, and that the standard deviations also ranged from .962 to 1.13, for each item. The analysis carried out for this data was similar to the method employed for determination of skewness and kurtosis measures for normality. The values of skewness and kurtosis in Table 3 illustrate that the data were normally distributed since they were between -1.96 and 1.96 when the values were computed.

Table 3Mean, Standard, Skewness and Kurtosis ($n=84$)

Constructs	Items	Mean	Std. Deviation	Skewness	Kurtosis
CE: VI_NBV	VI_NBV1	3.55	.962	-.388	-.124
	VI_NBV2	3.39	.957	-.108	-.632
	VI_NBV3	3.27	1.010	.068	-.896
	VI_NBV4	3.37	1.015	-.164	-.356
	VI_NBV5	3.69	.891	-.493	.095
CE: VI_PI	VI_PI1	4.05	.943	-.626	-.604
	VI_PI2	4.06	.923	-.779	-.161
	VI_PI3	4.05	.956	-.860	-.091
	VI_PI4	4.10	.965	-1.102	.782
	VI_PI5	4.00	.931	-.733	-.220
CE: VI_TE	VI_TE1	3.40	.866	-.326	-.248
	VI_TE2	3.25	1.016	-.666	.033
	VI_TE3	3.39	.850	-.378	.379
	VI_TE4	3.44	.766	.205	-.253
	VI_TE5	3.42	.795	-.162	.294
CE:SR_MR	SR_MR1	3.52	1.024	-.515	-.206
	SR_MR2	3.55	.949	-.529	.367
	SR_MR3	3.74	.866	-.486	.279
CE:SR_R	SR_R1	3.73	.986	-.965	.726
	SR_R2	3.44	1.079	-.255	-.640
	SR_R3	3.68	1.088	-.530	-.583
	SR_R4	3.39	1.076	-.191	-.670
CE:SR_SWC	SR_SWC1	3.39	1.130	-.573	-.507
	SR_SWC2	3.40	1.031	-.481	.030
	SR_SWC3	3.71	.926	-.701	.116
	SR_SWC4	3.85	.885	-.650	.417
	SR_SWC5	3.58	1.055	-.729	.028
	SR_SWC6	3.77	.797	-.592	.186

Table 3
Mean, Standard, Skewness and Kurtosis ($n = 84$) (Continued)

Constructs	Items	Mean	Std. Deviation	Skewness	Kurtosis
SCMS	SCMS1	3.70	.954	-.132	-.563
	SCMS2	3.60	1.088	-.797	.093
	SCMS3	3.21	1.007	-.084	-.256
	SCMS4	3.57	.781	-.788	.774
	SCMS5	3.42	1.044	-.522	-.051
	SCMS6	3.40	.946	-.550	.415
	SCMS7	3.50	.976	-.518	-.277
	SCMS8	3.46	.975	-.657	.309
	SCMS9	3.60	1.043	-.358	-.001
	SCMS10	3.24	.977	.136	-.397
	SCMS11	3.70	.979	-.628	.091
	SCMS12	3.37	.902	-.303	-.046
	SCMS13	3.49	1.000	-.596	.178
	SCMS14	3.45	1.046	-.227	-.699
	SCMS15	3.35	1.058	-.362	.225
	SCMS16	3.40	.933	-.172	-.530
	SCMS17	3.40	.866	-.212	-.195
	SCMS18	3.50	.963	-.497	.158
	SCMS19	3.51	.912	-.525	-.286
	SCMS20	3.45	.999	-.126	-.442
FP	FP1	3.64	.900	-.847	1.177
	FP2	3.62	.917	-.505	-.121
	FP3	3.56	.986	-.324	-.597
	FP4	3.70	.889	-.215	-.643
	FP5	3.65	.951	-.544	.155
	FP6	3.65	.951	-.544	.155

To assess the multicollinearity problems of the study, incidence of multicollinearity exists when inter-correlation in each predict variable is more than 0.80, which is a high relationship of a specific vector (Hair et al., 2010). In addition, it can be seen in Table 4, the correlation value of 0.716 at the $p < 0.05$ level exhibits that there could be tests on the relationships made by the variables in the conceptual model. Likewise, Variance Inflation Factors (VIFs) were examined to determine the degree to which this non-independence has inflated standard errors. It is also known that the P-value for VIF is at 2.049, which is still lowered even below the cutoff value of 10. Also, Neter, Wasserman and Kutner (1985) assert that this means that the independent variables do not correlate with each other hence cut off breaching VIF for the multilevel model. Therefore, there is no significant multicollinearity problem in this study.

Table 4
Correlation matrix ($n = 84$)

	CE	SCMS	FP
CE	1		
SCMS	.716**	1	
FP	.691**	.593**	1

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

4.2 Hypothesis testing

Multiple regression was used to evaluate the hypotheses established by this research. The Ordinary-Least Squares (OLS) analysis was used to investigate the relationship of CE and SCMS with FP, as shown in Table 5.

Table 5
OLS Regression Results

	Coef.	t	$P > t $
(Constant)	.010	.024	.981
CE	.771	4.858	.000***
SCMS	.244	1.783	.078*
Adjusted R ²	48.5		
P-value	0.000		
Model F-stat.	40.142		

Bold = significance at 1%, 5% and 10% (one-tailed significance)

The evaluation of the Firm Performance (FP) model has proven able in predicting and explaining the relationships which presently are evidenced by its F-value that shows a remarkable level of significance at the 1% level. An adjusted R² value of 48.5% further substantiates this step whereby some of the included variables explain a composition of nearly half of the setting under which company performance varies. Such a high adjusted R² value, which in technical terms is referred to as the goodness of fit measures how well the dependent variable has been explained by the structures of the independent variables formulated for the FP model. In addition, the results have shown that there is a strong correspondence between firm

performance and corporate entrepreneurship (CE) with a probability of obtaining such an outcome to be less than 0.000 ($p < 0.000$, two-tailed significance). This result not only supports the predicted hypothesis H1 but also aligns with a substantial body of literature that has similarly identified a positive link between firm performance and corporate entrepreneurship. The findings have been assimilated with result of previous findings which include that of Zahra (1993) Yang et al (2007) as well as Antoncic and Hisrich (2001) more recent studies by Wahyudi (2024 a; 2024 b) Alshagawi and Mabkhot (2024) and Handsome-Idada (2024) all these attributing to the finding. This finding buttresses the position that corporate entrepreneurship is an important strategy capable of improving business performance in most industries and geographical locations.

The analysis of the relationship between supply chain management strategies and firm performance yielded compelling results, with a statistically significant positive correlation ($p < 0.05$, two-tailed significance). This finding underscores the critical role that effective supply chain management strategies play in enhancing firm performance. The statistical significance of the relationship not only supports the proposed hypothesis H₂ but also aligns with a substantial body of literature, reinforcing the validity and relevance of these strategies in driving business success. The alignment of these results with previous research, including studies by Wisner (2003), Sezhiyan, Page, and Iskanius (2011), and Waked et al. (2023), further solidifies the argument. These studies have consistently demonstrated that well-formulated and executed supply chain management strategies contribute significantly to improved firm performance. Wisner (2003), for instance, provided early empirical evidence through structural equation modeling, establishing a foundational understanding of how supply chain strategies impact various performance metrics. Later studies, such as those by Sezhiyan, Page, and Iskanius (2011), expanded on this by examining the combined effects of logistics capability and supply effort management alongside supply chain strategies, offering a more comprehensive view of the factors influencing firm performance. The most recent contribution by Waked et al. (2023) adds to this growing body of evidence, highlighting the interconnectedness between supply chain management strategies, management accounting practices, and firm growth. Their work emphasizes the dynamic nature of supply chain strategies in the context of modern business environments, where agility and adaptability are crucial for sustained performance improvements. In specific, the positive relationship reported between supply chain management strategies and firm performance, as demonstrated in this study, is well-supported by the existing literature. The findings not only confirm the importance of these strategies in enhancing firm performance but also provide a robust empirical basis for firms to prioritize and continuously refine their supply chain management approaches to achieve competitive advantages and long-term success.

5. Conclusion

The present study was aimed at examining the dual effects of corporate entrepreneurship as well as supply chain management strategies on the performance of manufacturing firms in Saudi Arabia. This was necessary because there was literature which had established specifically by nexus studies on how these two strategic drivers permeate and redefine firm performance, particularly in a nonwestern and emerging market environment. The study rests on the resource based view of the firm where the firm is able to obtain a competition over rivals if the firm is able to utilize its resources which include entrepreneurship and supply chain strategies effectively. The data collection for this study was taken place within the time period of 2024 and was conducted in 84 manufacturing companies based in Saudi Arabia. These firms were chosen owing to their significance towards projects associated with Saudi Arabia's Vision 2030 which is intended at achieving economic diversification from oil dependency through transformation generation. The survey was targeted to key management components from the selected organizations including internal auditors, Chief Finance Officers, management accountants and cost accountants.

The results obtained in this study indicates that corporate entrepreneurship, especially its dimensions of new business venturing, product innovation, technological entrepreneurship, mission reformulation reorganization, system-wide changes, positively influences firm performance. These results align with the existing literature, suggesting that firms that actively engage in entrepreneurial activities tend to perform better in terms of profitability, market share, and customer satisfaction. Moreover, the study found that SCM strategies also positively influence firm performance, underscoring the critical role of effective supply chain management in enhancing operational efficiency and competitive positioning. The combined impact of CE and SCM on firm performance was found to be substantial, indicating that these strategies are not only complementary but also mutually reinforcing. These findings bring many implications. Therefore, considering the perspectives of managers and policy makers in Saudi Arabia and other fast-developing countries, this research highlights the necessity of corporate entrepreneurship alongside the supply chain management strategies in achieving competitive advantage. Hence, becoming an innovative and strategically renewed organization is the best way to win competitive advantage today's business environment, all the while being logistically effective and integrated. These considerations are especially important today in Saudi Arabia due to the implementation of the Vision 2030 focused on economic diversification and the development of innovations.

Despite its contributions, this study is not without limitations. The first limitation is the total sample of only 84 surveyed firms, which could limit the extent to which the results can be generalized. Future research in Saudi Arabia may consider increasing the number of samples and getting companies from different industries and geographical regions. Beside the geographical scope, the study scoped on the analysis of the manufacturing companies only, which restricts the usefulness of the study on other industries. It would be useful to extend the development of the possible outcomes of the research so that

such economic sectors as services, technologies have been further enhanced within the economy. The other limitation is rather the reliability of the interpretation, since, the survey is cross-sectional with regards on CE, SCM and firms' performance made at a one point in a time. It would be useful to employ such methods as longitudinal studies which could illuminate the relations such as between CE and SCM and the outcomes of interest in this case firm performance over longer time horizons. Unfortunately, even though it was performed in a Middle Eastern country such as Saudi Arabia, the same consideration is taken for further research in other emerging markets instead of Saudi Arabia.

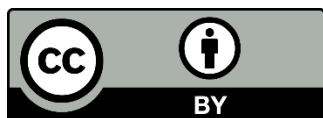
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