

Examining the relationship between procurement strategies and organizational performance of Ghanaian firms: How does strategic procurement drive organizational success?

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Abstract: This study investigates the impact of procurement strategies – Strategic Procurement (STRP), Supplier Relationship Management (SRM), Risk Management Practices (RMP), and Sustainable Procurement (SUSP) – on organizational performance among industrial firms in Ghana's Greater Accra region. A structured questionnaire was administered to 500 participants from industrial companies, resulting in 437 valid responses (an 87.4% response rate). Data were analyzed using partial least squares structural equation modeling (SEM-PLS). We used non-probability and purposive sampling methods to select firms from a list provided by the Association of Ghana Industries. The results show that Strategic Procurement significantly enhances organizational performance. SRM positively influences Strategic Procurement but does not directly impact performance. RMP positively affects both strategic procurement and organizational performance, whereas sustainable procurement positively influences both. The mediation analysis reveals that Strategic Procurement partially mediates the effects of Sustainable Procurement and RMP on organizational performance. However, Strategic Procurement does not mediate the relationship between SRM and organizational performance, suggesting that other mechanisms may drive this relationship. This study highlights the central role of Strategic Procurement in linking sustainable procurement and RMP to improve performance. This emphasizes the need for a holistic approach to procurement strategy, integrating sustainable and risk management

practices for optimal outcomes in Ghana's industrial sector. Organizations should align procurement strategies with strategic goals, foster strong supplier relationships, embed risk management in procurement processes, and integrate sustainability for regulatory compliance and reputational benefits. In addition, organizations should implement performance metrics for continuous improvement.

Keywords: procurement strategies, organizational goals, supplier relationship management, risk management, sustainable procurement, organizational performance

Sustainable Development Goals (SDGs): **SDG 8:** Decent Work and Economic Growth; **SDG 9:** Industry, Innovation and Infrastructure; **SDG 12:** Responsible Consumption and Production; **SDG 17:** Partnerships for the Goals

1. Introduction

Supply chain management (SCM) has emerged as a critical strategy for firms aiming to manage costs and improve their economic performance in today's highly competitive market. As SCM has gained prominence, the strategic role of procurement in achieving organizational goals has become more pronounced (Pereira et al., 2014). Once viewed primarily as a cost-saving function, procurement is critical in enhancing organizational performance through effective supplier relationship management, risk mitigation, and sustainable practices (Lysons & Farrington, 2020; van Weele, 2018). Strategic relationship management (SRM) is integral to this process, representing a strategic approach to managing an organization's interactions with its suppliers (Lambert & Schwieterman, 2012). Effective SRM practices include supplier segmentation, performance measurement, and relationship building (Adesanya et al., 2020). By fostering strong supplier relationships, organizations can achieve better pricing, improved quality, and reduced risk (Monczka et al., 2021). Additionally, collaborative supplier relationships contribute to innovation and sustainability, further strengthening the organization's competitive position (Scholten & Schilder, 2015).

A well-defined procurement strategy is essential for achieving project objectives and positioning the organization favorably within its value chain (Ahmed et al., 2023). Aligning procurement strategies with organizational goals is crucial as it directly impacts procurement outcomes and overall organizational performance (Marković & Mihić, 2022). For instance, organizations can mitigate risks and enhance collaboration by fostering strong relationships with suppliers and stakeholders, improving project outcomes and organizational success (Handfield et al., 2015). Moreover, sustainable procurement practices can improve performance by aligning procurement activities with broader sustainability goals, enhancing brand reputation, reducing costs, and ensuring compliance with regulatory requirements (Islam et al., 2017; Ibrahim et al., 2023). Additionally, sustainable procurement encourages suppliers to develop environmentally friendly products and processes, foster innovation, and enhance an organization's value proposition (Vijayvargy et al., 2017).

Sustainable procurement practices integrate environmental and social considerations into procurement decisions, which enables organizations to reduce their carbon footprint, promote social responsibility, and achieve long-term sustainability goals (Ellram et al., 2013). Aligning procurement strategies with organizational goals is vital for achieving a competitive advantage and operational efficiency (Monczka et al., 2021). Such an alignment ensures that procurement activities support vital objectives, including cost reduction, quality improvement, and sustainability, enhancing organizational performance and competitive advantage (McMurray et al., 2014).

Procurement strategies encompass a broad range of activities to optimize the sourcing and acquisition of goods and services (Asif, 2022). Core components, such as risk management, sustainable procurement, and SRM, are critical for effective procurement. These strategies help reduce costs, improve quality, and mitigate risks, ultimately contributing to organizational performance (Monczka et al., 2021). For example, focusing on cost reduction supports financial objectives and profitability (Handfield, 2016) while emphasizing that quality improvement enhances

product and service offerings, builds the organization's reputation, and increases customer satisfaction (Flynn, Huo & Zhao, 2010). Effective procurement strategies thus support innovation, quality enhancement, and sustainability, aligning procurement practices with broader organizational goals. Integrating procurement strategies with overarching organizational objectives presents considerable challenges (Foerstl et al., 2017). Achieving a successful alignment requires a deep understanding of the factors that facilitate this process and the ability to address barriers that may hinder the integration of procurement within the organization's strategic framework (Kaur et al., 2018).

The optimization of procurement strategies has become increasingly critical for organizational success in Ghana's dynamic business environment. As Ghana positions itself as a key player in West African commerce and global trade, firms face mounting pressure to enhance their procurement practices, maintain competitiveness, and ensure sustainable operations. However, despite the recognized importance of effective procurement management, many Ghanaian firms struggle to implement coherent procurement strategies, resulting in operational inefficiencies, escalating costs, and diminished competitive advantage in local and international markets (Offei et al., 2016). Moreover, Ghana's growing integration into global supply chains has introduced new complexities in procurement management, necessitating more sophisticated strategies to navigate international trade relationships and meet evolving standards of business practices (Dadzie et al., 2015). In this context, the current business landscape in Ghana presents unique challenges that make this study particularly relevant.

The fragmented understanding of how these procurement strategies influence firm performance in Ghana has created several practical challenges. First, organizations lack empirical evidence to guide their procurement strategy decisions, potentially leading to suboptimal resource allocation. Second, the absence of context-specific research hampers firms' ability to adapt international best practices to local conditions effectively. Third, policymakers and industry regulators lack the necessary insights to develop supportive frameworks to enhance economic procurement practices. Additionally, no study has specifically examined the impact of these procurement strategies on firm performance in the Ghanaian context. This gap highlights the need for empirical research to explore how these strategies can be effectively leveraged to enhance operational efficiency, improve supplier relationships, and mitigate risk.

This study addresses a critical gap in understanding how four key procurement strategies – sustainable procurement, supplier relationship management, risk management practices, and strategic procurement – impact firm performance in Ghana. Although these strategies have been extensively studied in developed economies, their effectiveness and implementation in the Ghanaian context remain understudied. Silvestre (2015) notes that supply chains in developing and emerging economies encounter more significant challenges to sustainability than those in developed nations. Nevertheless, enhancing the sustainability of supply chains in developing countries holds substantial significance for the global community, particularly in light of Ghana's unique business environment, characterized by distinct cultural, economic, and infrastructural features that may influence the effectiveness of different procurement approaches.

The significance of this research is further amplified by Ghana's current economic trajectory and developmental goals. As the country strives to consolidate its middle-income status and enhance its industrial capacity, effective procurement practices have become increasingly crucial for organizational success (Ackah et al., 2024). Sustainable procurement practices are particularly relevant given the growing environmental concerns and international pressure for responsible business practices (Boruchowitch & Fritz, 2022). Similarly, supplier relationship management assumes greater importance in an environment where building reliable supplier networks can be challenging owing to market limitations and infrastructural constraints (Faruquee et al., 2021). Additionally, risk management practices in procurement have become incredibly critical given the volatile global economic environment and Ghana's specific economic challenges (Endo & Kamei, 2021). Businesses in Ghana face numerous procurement-related risks, including supply chain disruptions, currency fluctuations, and political uncertainties, making effective risk-management strategies essential for long-term success (Buertey et al., 2018). Furthermore, the role of strategic procurement in creating competitive advantage becomes increasingly relevant as Ghanaian firms seek to compete locally and internationally (Essuman et al., 2021).

This study addresses these gaps by examining how sustainable procurement, supplier relationship management, risk management practices, and strategic procurement affect firm performance in Ghana. This study aims to provide empirical evidence to guide organizational decision-making, contribute to the academic understanding of procurement management in developing economies, and inform policy development. This inquiry is particularly timely, given Ghana's economic aspirations and the increasing importance of effective procurement management in driving organizational success and sustainable economic development. These findings are

expected to enhance strategic procurement practices and contribute to overall organizational success by examining how procurement strategies can be effectively aligned with organizational goals.

The remainder of this paper presents an empirical literature review and develops the research hypotheses. This is followed by sections detailing the methodology, empirical findings, and discussions. The paper concludes with a summary of the findings, managerial implications, limitations, and suggestions for future research.

2. Literature review and hypothesis development

2.1. Strategic procurement and organizational performance

One of the primary ways strategic procurement influences organizational performance is through enhanced operational efficiency. Chenini et al. (2020) highlight that effective procurement strategies can significantly reduce lead times, improving the speed-to-market for products and services. Sánchez-Rodríguez et al. (2019) contend that strategic purchasing practices in small and medium-sized enterprises (SMEs) can facilitate better financial performance by streamlining procurement processes and reducing operational bottlenecks. Cost efficiency is frequently highlighted as a primary advantage of strategic procurement. Nyamai and Ismail (2018) found that strategic procurement practices, including centralized purchasing and rigorous cost analysis, directly contribute to cost reductions in organizations, enhancing procurement performance.

Similarly, in the context of manufacturing firms, Abdullah and Mohamed (2009) observed that companies that implemented procurement strategies tailored to their operational structures saw improved cost management and competitive advantage. Studies in the public sector have also revealed significant performance improvements from strategic procurement. In the Zimbabwean public sector, Chinogwenya and Utete (2023) observed that strategic procurement improved organizational efficiency and service delivery, mainly when supplier funds were managed effectively. Harland et al. (2021) note that public sector organizations must adopt strategic procurement practices to enhance operational efficiency and service delivery.

In recent years, digital advancements have increased the effectiveness of strategic procurement. Corboş et al. (2023) highlighted the concept of Procurement 4.0, where digital technologies and automation contribute to higher organizational competitiveness within the circular economy framework. Furthermore, Tai et al. (2010) observe that e-procurement systems enable better integration between suppliers and buyers, improving strategic and operational efficiency by automating purchasing activities and fostering collaboration. Strategic sourcing, a component of strategic procurement, has been found to affect firm performance positively. Kim et al. (2015) demonstrate that strategic sourcing and e-procurement practices improve firm performance by enhancing the supply chain's responsiveness and adaptability to market changes. Similarly, Mbugua and Barasa (2023) showed that strategic sourcing and supplier selection practices are pivotal to ensuring organizational success by optimizing operational performance metrics.

Strategic procurement is also essential for fostering competitive advantage and organizational agility. Chepng'etich et al. (2020a) identified a positive correlation between strategic procurement and competitive advantage in Kenyan county governments, indicating that well-managed procurement processes can support agile and competitive public administrations. Burton et al. (2004) argued that alignment between the organizational climate and procurement strategy could enhance organizational flexibility and adaptability, contributing to better overall performance. Strategic procurement's role in fostering innovation cannot be overlooked. Mu and Di Benedetto (2011) indicate that strategic orientations, including procurement strategies, facilitate new product commercialization.

Furthermore, integrating sustainable procurement practices has been linked to improved organizational legitimacy and financial performance, as Olayeni et al. (2021) highlighted. Additionally, strategic procurement practices emphasizing supplier relationship management can lead to long-term partnerships that enhance trust and collaboration, further contributing to organizational success (Nganu & Mwangangi, 2019). Based on these observations, we hypothesize the following:

H1: Strategic procurement positively influences organizational performance.

2.2. Supplier relationship management and strategic procurement

SRM has emerged as a crucial element of strategic procurement, with organizations increasingly recognizing the importance of maintaining strong supplier relationships to gain a

competitive advantage. According to Du Preez and Folinas (2019), procurement, a critical component of the supply chain, is responsible for identifying, selecting, and approving suitable suppliers to engage in long-term relationships strategically. Many organizations are moving towards a more collaborative approach, recognizing the importance of good relationship management with suppliers and customers as a crucial element of supply chain management (Chin et al., 2004). Mogere and Otuyah (2020) emphasized that SRM significantly enhances procurement performance by reducing costs, accelerating delivery, and increasing procurement efficiency. Furthermore, managing supplier portfolios strategically allows companies to optimize procurement strategies across different supplier types, balancing risks and costs to improve outcomes (Wagner & Johnson, 2004).

Strategic alliances between buyers and suppliers are a cornerstone of effective SRM, offering organizational advantages, such as resource sharing and enhanced product quality. Yonghui (2023) illustrates that strategic procurement positively influences supplier investment in new product development by enhancing supplier capabilities and fostering collaboration. Day (2008) suggested that SRM, primarily when implemented strategically, forms the foundation of mutually beneficial supplier partnerships. This collaboration can lead to innovative solutions and provide firms with sustainable competitive advantages in procurement (Day, 2008). Gadde and Snehota (2000) argue that, while deep involvement with all suppliers may not be feasible, selective partnerships with key suppliers based on the portfolio approach allow firms to maximize procurement benefits. Jack and Powers (2015) noted that trust and top management support are critical antecedents of strategic supplier relationships, directly impacting procurement outcomes, such as quality and cost efficiency. Rebelo et al. (2019) showed that solid and continuous relationships enhance procurement functions by improving supplier responsiveness and reducing lead times.

The quality of the relationships in the SRM is essential for successful strategic procurement. Lees et al. (2020) highlighted the importance of relationship quality in procurement, demonstrating that solid and trust-based partnerships enhance procurement outcomes by ensuring supplier commitment and reducing lead-times (Lees et al., 2020). Additionally, Gadde and Snehota (2000) argued that varying the degree of involvement with suppliers based on their strategic value allows firms to maximize procurement benefits and minimize resource wastage, thereby enhancing overall procurement performance (Gadde & Snehota, 2000). Furthermore, Ryals and Rogers (2006) demonstrated that strategic procurement increasingly relies on fair and transparent supplier relationships, encouraging accountability and alignment with organizational objectives (Ryals & Rogers, 2006). Lees et al. (2020) emphasize that trust, commitment, and satisfaction are critical components of relationship quality that directly impact supplier performance. Al-Abdallah et al. (2014) asserted that an effective SRM leads to reliable and frequent deliveries, essential for maintaining a competitive edge in manufacturing. Based on the above empirical evidence, we propose the following:

H2: Supplier relationship management significantly influences strategic procurement.

2.3. Supplier relationship management and organizational performance

One of the primary tenets of SRM is establishing collaborative relationships between buyers and suppliers. Ardakani et al. (2022) suggest that cooperative relationships between suppliers and customers improve supply chain performance, indicating that organizations that foster collaboration can achieve better financial outcomes than those that do not engage in such practices. This is further supported by Hofer et al. (2014), who emphasize that collaboration in retailer-supplier dyads enhances logistics performance for both parties, reinforcing the notion that mutual benefits are derived from collaborative efforts. Anh and Hà (2020) found a strong positive correlation between SRM practices and operational performance in manufacturing firms across Asia, highlighting how SRM optimizes supply chain processes to boost productivity. Similarly, Al-Abdallah et al. (2014) showed that SRM practices such as supplier partnership and development improve competitive performance by enhancing cost, flexibility, and on-time delivery metrics in manufacturing firms.

Effective SRM plays a crucial role in improving the product and service quality. Salimian et al. (2020) emphasized that supplier quality management embedded within SRM frameworks leads to better quality control and overall performance, especially in firms with a supply chain-oriented culture. Furthermore, Sjoerdsma and van Weele (2015) found that high-quality SRM practices enable knowledge exchange between firms and suppliers, vital for innovation and quality improvement in new product development. Trust is a fundamental element of an SRM that positively influences organizational performance. Johnston et al. (2004) highlight that trust in supplier relationships facilitates collaborative planning and coordination, which is essential for efficient operations and improving performance outcomes. Asa et al. (2023) also underscored that trust and transparent communication between suppliers and procurement teams enhances response times and improves overall procurement efficiency in public-sector organizations.

Strategic SRM facilitates collaboration with suppliers, which strengthens competitive advantages. Priya et al. (2019) showed that strategic supplier partnerships and quality information sharing significantly enhance organizational performance by aligning suppliers with a company's strategic goals. Park (2012) further demonstrated that supplier involvement in quality management boosts delivery performance, enhancing overall organizational efficiency. Onyango et al. (2015) observed that SRM practices, such as buyer-supplier communication and joint decision-making, directly impact manufacturing performance, particularly regarding operational excellence. Chuah et al. (2010) demonstrated that high-involvement work practices in SRM improve operational performance by facilitating better supplier integration and coordination. Corsten et al. (2011) highlighted that supplier-buyer identification, in which suppliers align their goals closely with buyers, leads to superior performance outcomes, such as innovative products and processes. Soh et al. (2016) emphasized that the SRM's role in improving supplier engagement and commitment is essential for fostering innovation, especially in multinational corporations with diverse supplier bases. The literature demonstrates that SRM improves all facets of organizational performance. Thus we hypothesize that:

H3: Supplier relationship management has a significant effect on organizational performance.

2.4. Risk management practices and strategic procurement

Risk assessment is foundational in strategic procurement, allowing organizations to identify and mitigate procurement risks. Gyamfi and Boadaa (2015) emphasized that construction firms' structured risk assessment approach enhances procurement outcomes by ensuring timely and cost-effective project delivery. Similarly, Hong et al. (2018) reviewed procurement risks in supply chains and proposed a framework for managing uncertainties, supporting the stability of procurement activities. Osipova and Eriksson (2011) found that early supplier involvement and collaboration reduced risk exposure and enhanced procurement performance in construction projects. Kleindorfer and Yücesan (2013) demonstrate that hedging strategies in procurement reduce the financial impact of price volatility, allowing firms to maintain budget consistency. Sorogy (2023) emphasized the importance of defining roles and responsibilities in risk management, particularly for organizations with global supply chains, to ensure consistency in procurement performance. Plantinga et al. (2020) highlighted that the choice of procurement instruments is influenced by the need to manage risks effectively, suggesting that strategic alignment in procurement can lead to better decision-making and performance outcomes.

Meehan and Bryde (2011) examined sustainable procurement practices in UK Housing Associations and found that adaptive strategies enhanced resilience to environmental and social risks. Raj and Wadsamudrakar (2018) recommended iterative risk assessment in procurement phases, which increases adaptability and helps to avoid delays and cost overruns. Ceyhun (2017) argued that incorporating risk management into strategic procurement strengthens an organization's ability to cope with market fluctuations and global crises. Ishwarya et al. (2021) found that risk management practices enable construction firms to mitigate supply disruptions and ensure project continuity. Louth and Boden (2014) explored defense procurement, highlighting that well-defined risk communication protocols improve project outcomes and align procurement practices with organizational goals. Wambua and Kagiri (2019) found that transparent risk management policies enhance organizational performance by reducing fraud and improving supplier trust. Chinogwenya and Utete (2023) also emphasized that commitment to SRM in the public sector improves supplier cooperation and enhances procurement resilience. Sikharulidze and Fuschi (2023) highlighted that the supply chain crisis in the paint and coating industry has underscored the necessity of robust risk management frameworks to ensure access to raw materials and maintain business continuity. Huma et al. (2020) emphasize that effective supplier risk management is linked to improved supply management performance, suggesting that organizations prioritizing risk management can enhance their overall procurement effectiveness. Hence, we propose the following hypotheses:

H4: Risk management practices positively influence strategic procurement.

2.5. Risk management practices and organizational performance

Risk management directly contributes to operational efficiency by enabling firms to handle uncertainties systematically. Oehmen et al. (2014) found that risk management practices in new product development significantly improved decision-making quality, program stability, and project success. Similarly, Pimchangthong and Boonjing (2017) demonstrated that, in IT projects, effective risk identification and response planning positively affect product and process performance and

reduce project delays. Sa and Gemechu (2016) indicate that risk management practices in insurance firms reduce the adverse effects of financial volatility by stabilizing cash flow and ensuring consistent profitability. Mustapha et al. (2023) also found that risk management enhances financial and nonfinancial performance, suggesting a holistic impact on organizational outcomes. Durst et al. (2019) further highlight that knowledge risk management contributes to organizational success by fostering innovation, agility, and responsiveness. Musiello-Neto et al. (2022) highlight the positive relationship between corporate risk management and organizational strategy, suggesting that effective risk management can enhance strategic alignment and overall performance.

Nestory et al. (2023) found that risk identification and treatment in public utilities positively correlate with organizational performance by improving resource allocation and minimizing disruptions. Thamhain (2013) emphasized that systematic risk management practices improve project outcomes by enabling early risk detection and collaborative problem-solving. Rasid et al. (2017) found that firms that integrate ERM with balanced scorecard practices achieve better financial performance because of their aligned risk and performance objectives. Derah (2020) found that, in the oil and gas industry, a strong safety culture supported by risk management practices positively influences organizational performance by ensuring regulatory compliance and stakeholder confidence. Crispim et al. (2018) note that firms with high organizational maturity in risk management exhibit better project and operational performance. Durst et al. (2019) emphasized that knowledge risk management directly enhances organizational agility and responsiveness by facilitating effective knowledge sharing. Putri (2023) emphasizes that organizations equipped with robust risk management policies can better protect themselves from potential disruptions, ultimately leading to achieving their strategic goals. Therefore, we hypothesize as follows:

H5: Risk management practices have a significant effect on organizational performance.

2.6. Sustainable procurement and strategic procurement

Meehan and Bryde (2011) highlight that sustainable procurement, which includes environmental and social dimensions, aligns well with strategic procurement by promoting responsible sourcing across supply chains. Similarly, Dimand et al. (2023) noted that over 40% of a company's carbon footprint is tied to procurement activities, indicating that the strategic integration of sustainability in procurement can significantly mitigate its environmental impacts. Vide (2022) argued that sustainable procurement is crucial for maintaining a competitive advantage in international markets, as it ensures compliance with global sustainability standards and reinforces corporate social responsibility. Furthermore, Bag (2017) emphasized that green procurement fosters innovation within supplier networks, helping organizations stay ahead in dynamic markets. Aktin and Gergin (2016) developed a mathematical model that integrates environmental, social, and economic factors into procurement decisions, demonstrating how sustainable procurement contributes to strategic decision-making and cost savings. Alabdali and Salam (2022) argued that companies must upgrade their procurement capabilities, including technology and partnerships, to achieve sustainability and gain a competitive advantage. De Mello et al. (2017) argue that sustainable procurement integrates environmental and social considerations into all procurement stages, reducing the negative impacts on human health and the environment. Anane et al. (2019) found a significant positive correlation between sustainable procurement and service delivery, indicating that organizations prioritizing sustainability in their procurement practices will likely achieve better outcomes.

Chinomona and Omoruyi (2018) find that green procurement strategies improve customer and supplier relationships by fostering transparency and shared environmental commitments. Conway (2012) noted that sustainable procurement policies at the state and local government levels enhance collaboration and encourage suppliers to adopt sustainable practices, ultimately benefiting organizational performance. Stoffel et al. (2019) observed that sustainable public procurement in Europe integrates social and environmental aspects, strengthening organizational credibility and public trust. Walker and Phillips (2009) emphasized the role of ethical supply in sustainable procurement, arguing that fair labor practices and environmental standards can be strategically leveraged to enhance brand image. Bratt et al. (2013) examined Sweden's green public procurement criteria, noting that integrating sustainability into procurement helps public institutions meet long-term strategic sustainability goals. Glas et al. (2017) found that centralized public procurement agencies prioritize sustainability and transparency, supporting regional development and innovation in line with strategic objectives. Young et al. (2016) noted that universities in Australia and the UK are leveraging sustainable procurement to promote environmental innovation and positioning themselves as leaders in sustainability. Grandia et al. (2015) further emphasized that commitment to sustainable procurement increases environmental innovation, benefits organizational efficiency,

and reduces the ecological footprint. Based on the above empirical evidence, we propose the following hypothesis:

H6: Sustainable procurement positively influences strategic procurement.

2.7. Sustainable procurement and organizational performance

Sustainable procurement has emerged as a critical strategy for organizations to enhance performance while addressing environmental and social responsibilities. Sustainable procurement practices can significantly improve operational efficiency (Adebayo et al., 2024). According to Preuss (2009), sustainable procurement practices help organizations identify inefficiencies and implement strategies to minimize waste, leading to cost savings and improved performance. One of the primary benefits of sustainable procurement is cost reduction and increased profitability (Walker et al., 2012). Organizations can reduce material and energy costs by sourcing suppliers who adhere to sustainable practices (Esfahbodi et al., 2016). Zhu et al. (2013) found that organizations that implement sustainable procurement practices experience lower costs related to energy consumption, waste disposal, and material usage. Sustainable procurement enhances risk management and supply chain resilience. Harland et al. (2003) argue that sustainable procurement practices help organizations identify and address potential risks, leading to more resilient supply chains. This increased resilience contributes to stable operations and improved performance.

According to Pagell and Wu (2009), organizations prioritizing sustainability in their procurement processes are more likely to build trust and long-term partnerships with their suppliers. Simpson et al. (2007) suggest that sustainable procurement practices encourage suppliers to adopt sustainable practices, leading to a more sustainable and efficient supply chain. Organizations perceived as responsible and ethical are more likely to gain customer loyalty, investor confidence, and competitive advantage (Carter & Easton, 2011). Seuring and Müller (2008) highlight that organizations with strong sustainability credentials are better positioned to attract and retain customers, employees, and investors. According to Meehan and Bryde (2011), sustainable procurement encompasses acquiring goods and services in a manner that considers environmental, social, and economic impacts throughout the supply chain. It is widely recognized that sustainable procurement practices can lead to improved procurement performance, particularly in sectors such as construction, where environmental regulations and stakeholder expectations are increasingly stringent (Riadi, 2023). Research indicates that implementing sustainable procurement strategies can significantly enhance organizational performance by optimizing resource use, reducing waste, and fostering innovation (Islam et al., 2017). For instance, organizations adopting sustainable procurement practices often experience lower operational costs due to increased efficiency and reduced waste (Aylak, 2022).

Moreover, procurement professionals are crucial in driving sustainability initiatives within organizations. Their expertise in sustainable practices enables them to influence various stakeholders and promote sustainable solutions across the organization (Zambika, 2022). This influence is particularly evident in public institutions, where procurement professionals can advocate sustainable practices that align with governmental sustainability agendas (Oliveira et al., 2020). The knowledge and awareness of procurement professionals regarding sustainability are instrumental in shaping organizational policies and practices that prioritize sustainability (Testa et al., 2016).

Integrating sustainability into supply chain management is another critical aspect of sustainable procurement. Organizations are increasingly required to adapt their operations to meet sustainability criteria, which often necessitates supplier selection and evaluation process changes (Trindade et al., 2017). This shift enhances supply chain sustainability and improves organizational performance by fostering more robust relationships with suppliers with similar sustainability values (Preuss & Walker, 2011). Furthermore, green procurement practices have been linked to enhanced organizational legitimacy and access to green financing, improving overall financial performance (Acquah et al., 2022).

However, transitioning to sustainable procurement is challenging. Organizations often face barriers, such as a lack of top management support, insufficient expertise, and inadequate resources, which can hinder the effective implementation of sustainable procurement practices (Islam et al., 2017). Research highlights the importance of addressing these barriers to fully realize the benefits of sustainable procurement (Belisari et al., 2020). For example, organizations that invest in training and development in their procurement teams are better positioned to overcome these challenges and implement effective, sustainable procurement strategies (Chiarini et al., 2017).

The impact of sustainable procurement extends beyond operational efficiency and cost savings and significantly enhances stakeholder satisfaction. By prioritizing sustainability in procurement decisions, organizations can improve their reputation and foster trust among

stakeholders, including customers, employees, and the community (Bettine, 2022). This enhanced stakeholder satisfaction can increase customer loyalty and employee engagement, contributing to organizational performance (Acquah et al., 2022). Additionally, sustainable procurement practices can help organizations mitigate the risks associated with environmental regulations and social expectations, thereby safeguarding their long-term viability (Hanson, 2015). Thus, we propose the hypothesis that:

H7: Sustainable procurement positively influences organizational performance.

2.8. Mediating effect of strategic procurement

Meehan and Bryde (2011) emphasized that sustainable procurement aligns with strategic procurement by incorporating social and environmental considerations into decision-making processes, strengthening the organization's market position and stakeholder relationships. Similarly, Dubey et al. (2013) find that green procurement fosters long-term value creation and customer satisfaction when strategically managed within procurement practices. Islam et al. (2017) found that sustainable procurement contributes to improved financial performance, especially when integrated with strategic procurement processes that drive cost efficiency and mitigate environmental risk. Aktin and Gergin (2016) highlight that combining environmental and economic considerations through strategic procurement improves organizational performance by enhancing resource efficiency and reducing long-term costs. Vide (2022) notes that sustainable procurement becomes a competitive tool when strategically integrated, especially in international markets with stringent sustainability standards. Sánchez-Flores et al. (2020) argue that strategic sustainable procurement in supply chains drives performance improvement and enhances competitiveness and corporate reputation. Ghadge et al. (2018) also found that sustainable procurement practices supported by strategic procurement improved resilience across supply chain tiers by encouraging sustainable resource management.

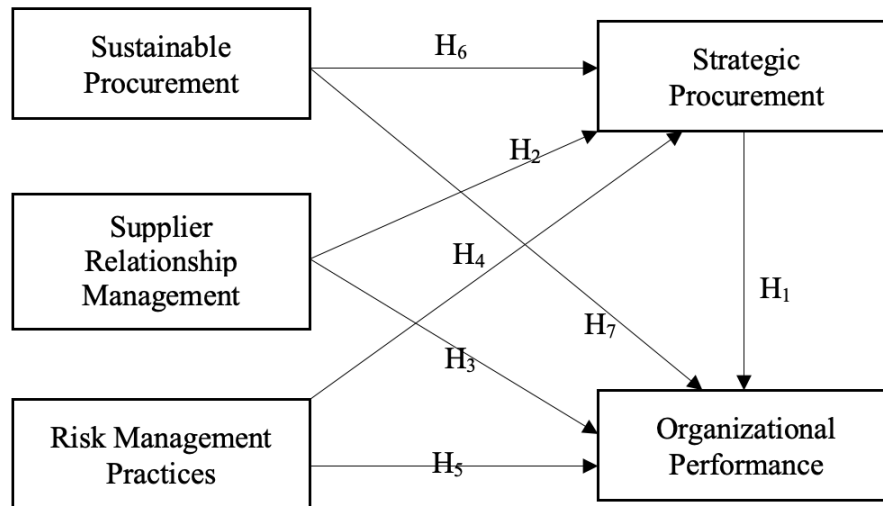
Asa et al. (2023) show that SRM practices enhance operational performance by strengthening relationships and ensuring supply chain reliability in public procurement. Ryals and Rogers (2006) highlighted that strategic procurement relies on the SRM to create value through strong supplier relationships, ultimately enhancing both parties' satisfaction and performance. Paulraj et al. (2006) find that strategic purchasing enables supply integration, where close collaboration with suppliers reduces process delays and fosters reliability. Lawson et al. (2009) highlighted that integrating SRM with strategic procurement improves responsiveness to market demands and enhances process efficiency, positively affecting organizational performance. Huma et al. (2020) demonstrated that supplier risk management practices align with strategic procurement, improve supply chain resilience, and reduce the likelihood of disruptions. Cousins and Spekman (2003) also found that strategic supply practices help manage inter-firm dependencies, support organizations in mitigating supplier-related risks, and maintain operational continuity. Nyamai and Ismail (2018) found that strategic procurement practices improve procurement performance through cost control and supplier development, enhancing the organization's competitive positioning. Thongrawd et al. (2020) also argued that strategic supplier partnerships, facilitated by strategic procurement, drive supply chain innovation and competitive edge in industries such as manufacturing.

Chinogwenya and Utete (2023) highlight that integrating strategic procurement practices with risk management leads to enhanced procurement outcomes, particularly in public sector settings where cost management and supplier relations are critical. Huma et al. (2020) found that supplier development and contract management in strategic sourcing mitigate supply risks and support better overall performance by reducing volatility in manufacturing environments. Rehman and Anwar (2019) emphasize that strategic risk management for supplier relationships mitigates supply chain risks and supports sustainable organizational growth, particularly in SMEs. Mustapha et al. (2023) illustrate that strategic procurement practices facilitate risk management and enhance financial and non-financial performance in Nigerian firms. Soltanizadeh et al. (2016) noted that strategic risk management practices in procurement, aligned with corporate strategy, improve financial stability and competitiveness, particularly in firms with a cost leadership orientation. Based on this empirical evidence, we propose the following hypotheses:

H8: Strategic procurement mediates the relationship between sustainable procurement and organizational performance.

H9: Strategic procurement mediates the relationship between supplier relationship management and organizational performance.

H10: Strategic procurement mediates the relationship between risk management practices and organizational performance.

Figure 1: Conceptual model diagram

2.9. Theoretical foundations

The conceptual model is grounded in several theoretical frameworks such as the Resource-Based View (RBV), Relational View, Risk Management Theory, and Triple Bottom Line Theory. The RBV Theory emphasizes that strategic resources, such as effective procurement practices, can provide a competitive advantage and enhance organizational performance (Barney, 1991). Also, the Relational View Theory posits that strong inter-organizational relationships, such as those with suppliers, can create relational rents and contribute to superior performance (Dyer & Singh, 1998). Similarly, the Risk Management Theory underscores the importance of managing risks to maintain operational continuity and achieve strategic goals (Tang, 2006). Further, the Triple Bottom Line Theory advocates balancing economic, social, and environmental considerations in business practices, including procurement (Elkington, 1997).

3. Methodology

3.1. Research design

A quantitative approach is used in this study. A survey instrument was created to assess the relationships between independent and dependent variables. Following Carpenter's (2018) and Worthington and Whittaker's (2006) scale development procedures, a thorough literature review was conducted to understand existing measures related to the constructs comprehensively. All measurement items were derived from prior studies and were subsequently modified to fit the context of this research. The data collection tool utilized in this study was a closed-ended questionnaire structured into seven sections. The first section gathered demographic information about the companies, including details such as industry, ownership, size, and employee count. The second section focuses on risk management practices, with statement items adapted from Kern et al. (2012). The third section addresses supply relationship management with items from Giannakis et al. (2012) and Lai et al. (2012). The fourth section examined corporate performance using the items from Holsapple and Wu (2011). The fifth section concentrates on sustainable procurement with items adapted from Carter and Jennings (2004) and Brammer and Walker (2011). The last section involved strategic purchasing, with items adapted from Chen and Paulraj (2004). All items from the second to the last section were evaluated using a five-point Likert scale, where one represents "strongly disagree," and five denotes "strongly agree."

3.2. Sample and data collection

The study was conducted in industrial zones within Ghana's Greater Accra region, targeting companies with well-established business structures. This study aimed to select respondents likely to possess the most comprehensive knowledge of supply chain operations and strategic purchasing within their organizations. Non-probability and purposive sampling methods were employed, and target firms were selected based on a company list provided by the Association of Ghana Industries.

Informed consent was obtained from the companies and respondents before distributing the questionnaire. The survey period spanned from February to June 2024, and 500 respondents were invited to complete the survey online. According to the survey's conclusion, in June 2024, 437 questionnaires were returned; 63 were excluded because of missing essential data or incomplete responses, resulting in a usable response rate of 87.4%. A pilot study involving 38 companies was conducted to ensure construct validity. The pilot data, analyzed using SPSS version 26, yielded an overall Cronbach's alpha of 0.872, indicating the reliability and validity of the measurement items used in this study (Tavakol & Dennick, 2011).

3.3. Data analysis

The data for this study were analyzed using partial least squares structural equation modeling (SEM-PLS). The SEM-PLS is a statistical technique employed to estimate complex models of cause-and-effect relationships (Hair et al., 2019). This method is often preferred when addressing small sample sizes, non-normally distributed data, or intricate models (Goodhue et al., 2012; Willaby et al., 2015). In contrast to covariance-based SEM, SEM-PLS is characterized by reduced restrictions and increased flexibility, enabling the analysis of both formative and reflective constructs (Hair et al., 2014; Monecke & Leisch, 2012). The PLS-SEM methodology has been adopted as the statistical approach because of its requirements for smaller sample sizes, fewer statistical parameters, and the capacity to yield less biased estimates (Willaby et al., 2015). It is recommended that the sample size for SEM-PLS be at least ten times the total number of independent variables, as proposed by Barclay et al. (1995), and also ten times the most significant number of structural paths directed toward a specific latent construct within the structural model, as indicated by Hair et al. (2011). Our study identified six structural paths, indicating that the minimum required sample size was 60. However, the sample size was 437, significantly exceeding the minimum threshold.

Given that our research employs a survey-based methodology to collect data to test our hypotheses, we acknowledge that the possibility of common method bias (CMB) cannot be entirely ruled out (Tehseen et al., 2017). To assess this, we performed Harman's single-factor test, which involved aggregating all measures from the study into an exploratory factor analysis and examining the unrotated factor solution. This test assumes that CMB is suggested by either a single factor or a dominant factor that accounts for a substantial portion of the covariance among the measures (Aguirre-Urreta & Hu, 2019). The CMB poses a potential concern if one factor is responsible for over 50% of the total variance (Kock et al., 2021). In our study, none of the variables exhibited a variance exceeding 50%.

Additionally, we evaluated common method bias using Variance Inflation Factor (VIF) scores for independent variables. The variance inflation factor (VIF) for each independent variable was calculated to assess multicollinearity, which may indicate CMB if the variables exhibit a high correlation attributable to common methods. VIF values below 3.3 suggest that CMB is not likely to be a significant issue (Kock, 2015). In our analysis, all VIF values for the independent variables remained below the 3.3 threshold (see Table 2).

4. Results

4.1. Descriptive statistics

Table 1 presents a demographic analysis of the survey respondents. The study included 437 participants, with a notable gender disparity, showing that male respondents (71.6%) significantly outnumbered female respondents (28.4%). The age distribution indicated a mature workforce, with most respondents (41.0%) above 50 years old, followed by those in the 41-50 bracket (33.6%). The educational background of respondents was predominantly advanced, with master's degree holders forming the largest group (42.6%), followed by bachelor's degree holders (28.6%) and doctorate holders (14.0%).

In terms of job title, procurement/supply chain officers constituted the most significant segment (30.4%), followed by logistics managers (23.1%) and transport managers (18.8%). The manufacturing sector employed the highest percentage of respondents (25.9%), followed by wholesale and retail trade (22.0%) and services (17.8%). Most organizations were medium-sized, with 26.8% having 51-100 employees and 23.1% having 101-200 employees. The respondents demonstrated substantial professional experience, with the majority (36.8%) having 11-15 years of purchasing experience, while 29.3% had 6-10 years of experience. Regarding ownership structure, privately owned companies dominated the sample (46.7%), followed by foreign-owned companies (37.1%), whereas state-owned enterprises accounted for 16.2% of the total.

Table 1: Demographic characteristics of survey respondents

Variable	Frequency	Percentage
Gender of respondent		
Male	313	71.6
Female	124	28.4
Age of respondent		
20-30 years	18	4.1
31-40 years	93	21.3
41-50 years	147	33.6
Above 50 years	179	41.0
Education level		
Certificate	21	4.8
Diploma	33	7.6
Bachelor's Degree	125	28.6
Master's Degree	186	42.6
Doctorate	61	14.0
Other	11	2.5
Job title		
Procurement/Supply chain officer	133	30.4
CEO, General/vice manager	51	11.7
Chief procurement officer	39	8.9
Logistics manager	101	23.1
Transport manager	82	18.8
Other	31	7.1
Industry classification		
Manufacturing	113	25.9
Wholesale and Retail Trade	96	22.0
Construction and real estate	58	13.3
Agriculture and agribusiness	24	5.5
Transportation	38	8.7
Information technology	19	4.3
Services	78	17.8
Other	11	2.5
Number of employees		
< 30	20	4.6
30-50	79	18.1
51-100	117	26.8
101-200	101	23.1
201-500	82	18.8
Above 500	38	8.7
Years of experience in purchasing		
1-5 years	44	10.1
6-10 years	128	29.3
11-15 years	161	36.8
Above 15 years	104	23.8
Type of ownership		
State-owned	71	16.2
locally-owned	204	46.7
Foreign-owned	162	37.1

Note: N = 437

Table 2 presents the descriptive statistics of the constructs. The mean scores indicate that participants rated all constructs positively, with Organizational Performance ($M = 4.00$, $SD = 0.71$) receiving the highest average rating, suggesting a generally favorable perception of performance outcomes. Supplier Relationship Management ($M = 3.97$, $SD = 0.67$) and Risk Management Practices ($M = 3.96$, $SD = 0.56$) also received high ratings, emphasizing managing supplier relations and mitigating risks in procurement processes. Strategic Procurement ($M = 3.85$, $SD = 0.66$) and Sustainable Procurement ($M = 3.61$, $SD = 0.39$) received slightly lower but still positive ratings, with Sustainable Procurement showing the least variability among the responses. The VIF values range from 1.11 to 1.91, indicating low multicollinearity among the constructs, as all VIF values were well below the commonly accepted threshold of 5. This suggests that each construct contributes uniquely to the model without significant redundancy.

Table 2: Descriptive statistics for constructs

Construct	Number of items	Mean	Std. Dev.	VIF
Sustainable procurement	16	3.606	0.385	1.114
Supplier relationship management	9	3.971	0.667	1.908
Risk management practices	12	3.961	0.557	1.869
Strategic procurement	5	3.850	0.664	1.512
Organisational performance	7	4.000	0.709	1.114

Note: Std. Dev. = Standard Deviation; VIF = Variance Inflation Factor

4.2. Structural equation modeling analysis

Table 3 presents the convergent validity, reliability, and factor loading for each construct measured in this study. Convergent validity is assessed using the Average Variance Extracted (AVE) for each construct, where values above 0.50 indicate that a construct explains more than half of the variance of its items (Fornell & Larcker, 1981). All constructs met this criterion, with AVE values ranging from 0.532 for Strategic Procurement to 0.664 for Supplier Relationship Management. This finding supports adequate convergent validity across constructs. The reliability was evaluated using Cronbach's alpha (CA) and Composite Reliability (CR). Cronbach's alpha values exceed the 0.70 threshold (Hair et al., 2019) for most constructs, except for Strategic Procurement (CA = 0.706), which still approaches acceptable reliability. CR values, often preferred because they account for factor loadings, range from 0.714 to 0.874, surpassing the recommended minimum of 0.70 (Hair et al., 2011), confirming internal solid consistency. Factor loadings for each construct item fall within acceptable ranges, from 0.705 to 0.877, and all are above the 0.70 threshold, indicating item-level solid contributions to the respective constructs (Götz et al., 2009; Purwanto & Sudargini, 2021). Sustainable Procurement, with factor loadings between 0.720 and 0.877, exhibits the highest item loadings overall, followed closely by Strategic Procurement, with loadings between 0.749 and 0.852.

Table 3: Convergent validity, reliability, and factor loadings

Construct	AVE	CA	CR	Factor loadings
Sustainable procurement	0.566	0.871	0.874	0.720 – 0.877
Supplier relationship management	0.664	0.706	0.714	0.739 – 0.771
Risk management practices	0.592	0.852	0.861	0.705 – 0.874
Strategic procurement	0.532	0.833	0.840	0.749 – 0.852
Organisational performance	0.651	0.786	0.797	0.764 – 0.795

Note: AVE = Average Variance Extracted; CA = Cronbach's alpha; CR = Composite reliability.

Table 4 presents the results of the discriminant validity test using the Fornell-Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) for each construct with its correlations with other constructs. Discriminant validity is established if each construct's square root of AVE (shown on the diagonal) is higher than its correlation with any other construct (Fornell & Larcker, 1981). The square roots of the AVE values for each construct were as follows: Organizational Performance (OGP) = 0.752, Risk Management Practices (RMP) = 0.814, Supplier Relationship Management (SRM) = 0.769, Strategic Procurement (STRP) = 0.729, and Sustainable Procurement (SUSP) = 0.807. Each value on the diagonal exceeds the respective correlations with the other constructs, indicating adequate discriminant validity.

Table 4: Discriminate validity (Fornel-Larcker Criterion)

	OGP	RMP	SRM	STRP	SUSP
OGP	0.752				
RMP	0.609	0.814			
SRM	0.522	0.659	0.769		
STRP	0.457	0.542	0.555	0.729	
SUSP	0.671	0.587	0.510	0.481	0.807

The structural model results presented in Table 5 indicate significant relationships among several constructs, confirming the proposed hypotheses about their direct and indirect effects on organizational performance. Specifically, the analysis shows that Strategic Procurement (STRP) has a positive and significant direct effect on Organizational Performance (OGP) with a path coefficient of 0.394 ($t = 7.642$, $p < 0.001$), which supports Hypothesis 1. Supplier Relationship Management (SRM) also significantly influences Strategic Procurement, as indicated by the path coefficient of 0.308 ($t = 4.592$, $p < .001$), thus supporting Hypothesis 2. However, the direct relationship between

SRM and OGP, represented by Hypothesis 3, was not supported, as it did not reach statistical significance (path coefficient = 0.141, $t = 1.841$).

Risk Management Practices (RMP) demonstrate a positive and significant effect on Strategic Procurement, with a path coefficient of 0.227 ($t = 3.335$, $p < 0.01$), supporting Hypothesis 4. Additionally, RMP significantly directly affects OGP (path coefficient = 0.255, $t = 4.639$, $p < 0.001$), thus supporting Hypothesis 5. Sustainable Procurement (SUSP) shows a significant effect on both STRP and OGP, with path coefficients of 0.191 ($t = 3.105$, $p < 0.01$) and 0.347 ($t = 6.719$, $p < 0.001$), respectively, supporting Hypotheses 6 and 7.

The model further assesses indirect effects through mediation paths. For Hypothesis 8, the indirect effect of SUSP on OGP through STRP is statistically significant, with a path coefficient of 0.119 ($t = 2.794$, $p < 0.01$), suggesting that Sustainable Procurement positively and indirectly impacts Organizational Performance via Strategic Procurement. Hypothesis 9, which postulates an indirect effect of SRM on OGP through STRP, was not supported, as this path did not yield a significant result (path coefficient = 0.032, $t = 1.813$). However, Hypothesis 10, which examined the indirect effect of RMP on OGP through STRP, was supported, with a significant path coefficient of 0.163 ($t = 3.904$, $p < 0.001$).

Table 5: Structural model results

Hypothesis	Path	Coefficient	Std. Dev.	t-statistic	Status
H ₁	STRP → OGP	0.394***	0.051	7.642	Supported
H ₂	SRM → STRP	0.308***	0.067	4.592	Supported
H ₃	SRM → OGP	0.141	0.077	1.841	Not supported
H ₄	RMP → STRP	0.227**	0.068	3.335	Supported
H ₅	RMP → OGP	0.255***	0.055	4.639	Supported
H ₆	SUSP → STRP	0.191**	0.061	3.105	Supported
H ₇	SUSP → OGP	0.347***	0.052	6.719	Supported
H ₈	SUSP → STRP → OGP	0.119**	0.043	2.794	Supported
H ₉	SRM → STRP → OGP	0.032	0.018	1.813	Not supported
H ₁₀	RMP → STRP → OGP	0.163***	0.042	3.904	Supported

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 6 presents the results of the mediation analysis examining the mediating effect of Strategic Procurement (STRP) on the relationship between Sustainable Procurement (SUSP), Risk Management Practices (RMP), and Supplier Relationship Management (SRM) with Organizational Performance (OGP). The Variance Accounted For (VAF) was calculated as the proportion of the indirect effect relative to the total effect and expressed as a percentage. A VAF value between 20% and 80% typically indicates partial mediation. A VAF of less than 20 indicates no mediation, and a VAF of more significant than 80 indicates full mediation. (Hair et al., 2014; Huang, 2021).

The path from SUSP to OGP through STRP showed a direct effect of 0.347, an indirect effect of 0.119, and a total effect of 0.466. The VAF for this path was 25.536%, suggesting a partial mediation. This indicates that while SUSP has a substantial direct effect on OGP, STRP also plays a significant role in mediating this relationship, enhancing the impact of sustainable procurement on organizational performance. For the path from RMP to OGP through STRP, the direct effect was 0.255, the indirect effect was 0.163, and the total effect was 0.418, with a VAF of 38.995%. This value indicates partial mediation, demonstrating that Strategic Procurement substantially mediates the effect of Risk Management practices on Organizational Performance. The path from SRM to OGP through STRP had a direct effect of 0.141, an indirect effect of 0.032, and a total effect of 0.173, yielding a VAF of 18.497%. This result indicates that SRM does not have a mediating effect on OGP through STRP.

Table 6: Mediating effect of strategic purchasing

Path	Direct Effect	Indirect Effect	Total Effect	VAF (%)	Mediation type
SUSP → STRP → OGP	0.347	0.119	0.466	25.536	Partial
RMP → STRP → OGP	0.255	0.163	0.418	38.995	Partial
SRM → STRP → OGP	0.141	0.032	0.173	18.497	No mediation

Note: Variance Accounted For (VAF) = Indirect effect/Total effect

Table 7 presents the coefficient of determination R^2 , adjusted R^2 , and predictive relevance (Q^2) for the endogenous constructs of Organizational Performance (OPF) and Strategic Procurement (STRP). These values provide insight into the model's explanatory power and predictive accuracy. The R^2 value for OGP was 0.529, indicating that approximately 52.9% of the variance in Organizational Performance can be explained by the predictor variables in the model. The adjusted

R^2 , which accounts for the number of predictors, was slightly lower at 0.524, confirming the model's moderate explanatory power. The predictive relevance (Q^2) value for OGP was 0.505, which is above zero, suggesting that the model has predictive relevance for this construct (Shmueli et al., 2019). This indicates that the model not only explains a significant portion of the variance in the OPF but also has a reasonable degree of predictive accuracy. For the STRP, the R^2 value is 0.386, meaning that its predictors explain 38.6% of the variance in Strategic Procurement. The adjusted R^2 value for STRP is 0.381, which closely aligns with the R^2 value, suggesting that the model's explanatory power for STRP is consistent even when adjusting for predictors. The Q^2 value for STRP was 0.363, indicating that the model also demonstrated predictive relevance for this construct.

Table 7: Coefficient of determination and predictive relevance

	R-square	R-square adjusted	Q^2
OGP	0.529	0.524	0.505
STRP	0.386	0.381	0.363

5. Discussion

The findings provide valuable insights into the relationships between various procurement practices and organizational performance, supporting the hypotheses regarding these connections. First, Hypothesis 1, which posits that Strategic Procurement (STRP) directly impacts Organizational Performance (OGP), was confirmed by the results. This finding indicates that STRP, as an integral aspect of procurement strategy, enhances organizational performance through improved procurement efficiency, optimized resource allocation, and cost management. The study findings support those of Chenini et al. (2020), Sánchez-Rodríguez et al. (2019), and Nyamai and Ismail (2018), who found that strategic procurement practices significantly enhance operational efficiency, reduce lead times, streamline processes, and contribute to cost reductions, ultimately improving organizational performance. Organizations that emphasize strategic procurement can better align their supply chains and broader organizational goals, translating to higher overall performance. This highlights the critical role of procurement strategy in driving operational and financial outcomes, emphasizing that STRP is not merely a support function but also a driver of competitive advantage.

For Hypothesis 2, the results affirm that Supplier Relationship Management (SRM) significantly influences Strategic Procurement. This underscores the importance of collaborative solid supplier relationships for advancing strategic procurement initiatives. These findings align with Du Preez and Folinas (2019), who underscore SRM's importance in building long-term strategic supplier partnerships that foster competitive advantage. Similarly, Mogere and Otuyah (2020) show that the SRM improves procurement performance by reducing costs, speeding up deliveries, and enhancing efficiency. The findings also support Lees et al. (2020), who emphasize that trust-based supplier relationships strengthen procurement outcomes through more significant supplier commitment and responsiveness, ultimately bolstering strategic procurement efforts. SRM practices such as building trust, ensuring consistent communication, and fostering supplier development are pivotal for enabling effective procurement strategies. Organizations prioritizing SRM are better positioned to leverage supplier expertise, negotiate favorable terms, and ensure supply continuity, which supports the execution of the STRP. Therefore, the SRM is a foundational element in the procurement strategy, enabling organizations to secure reliable and quality supplies for their strategic goals.

However, the findings did not support Hypothesis 3, which proposes a direct effect of SRM on OGP. This suggests that while SRM is crucial for strategic procurement, its influence on organizational performance may be indirect. The study findings corroborate those of Ardakani et al. (2022), who suggest that while SRM fosters collaborative relationships, its benefits are primarily seen in supply chain performance rather than directly boosting organizational performance. Similarly, Hofer et al. (2014) highlight that SRM enhances logistics performance through mutual gains in retailer-supplier partnerships. Additionally, Asa et al. (2023) indicate that trust and transparent communication in SRM improve procurement efficiency, indirectly supporting organizational outcomes but not directly influencing overall performance. The lack of a direct relationship indicates that SRM's benefits are likely channeled through STRP rather than directly impacting performance. This emphasizes the mediating role of STRP in translating supplier management efforts into performance outcomes. Organizations may need to focus on aligning their SRM initiatives with strategic procurement activities to fully capitalize on the potential of SRM in driving performance improvements.

The findings for Hypothesis 4 indicate that Risk Management Practices (RMP) significantly impact Strategic Procurement. This result implies that effective risk management is vital to strategic procurement, allowing organizations to anticipate, mitigate, and manage procurement-related risks. By incorporating RMP into STRP, organizations can ensure resilience in their supply chains, reduce

potential disruptions, and foster a proactive approach to procurement. This relationship underscores the need to integrate risk management as a strategic element in procurement, especially in dynamic and uncertain markets where risks to supply continuity and cost stability are prevalent. The study findings align with those of Gyamfi and Boadaa (2015), who demonstrated that structured risk assessment in procurement enhances outcomes by ensuring timely and cost-effective delivery. Similarly, Osipova and Eriksson (2011) find that early supplier involvement reduces risk exposure and improves performance in procurement projects. Kleindorfer and Yücesan (2013) highlight that hedging strategies mitigate price volatility and support budget consistency in procurement.

Similarly, Hypothesis 5, which explores the direct effect of RMP on OGP, is supported, suggesting that risk management extends beyond procurement processes to influence broader organizational performance. The study findings align with those of Oehmen et al. (2014), who showed that effective risk management improves decision-making and project success by enhancing program stability. Similarly, Mustapha et al. (2023) indicate that risk management contributes positively to financial and non-financial performance, underscoring its broad impact on organizational outcomes. Nestory et al. (2023) further emphasized that risk management in public utilities enhances resource allocation and reduces disruptions, leading to improved performance. Organizations that invest in comprehensive risk management can safeguard operations against unforeseen challenges, minimize financial losses, and maintain consistent performance. This finding highlights that RMP is essential in strategic procurement and directly contributes to stability and efficiency in overall organizational outcomes. Firms should consider enhancing risk management frameworks to improve resilience and secure performance.

For Hypotheses 6 and 7, the results demonstrate that Sustainable Procurement (SUSP) significantly influences both STRP and OGP. The positive effect of SUSP on STRP reflects that sustainable procurement practices are integral to strategic procurement as they incorporate social, environmental, and ethical considerations into procurement decisions. The study findings align with those of Meehan and Bryde (2011), who demonstrated that sustainable procurement aligns well with strategic procurement by incorporating environmental and social dimensions into sourcing practices. Similarly, Dimand et al. (2023) highlighted that a significant portion of a company's carbon footprint is tied to procurement activities, suggesting that strategic sustainability efforts can substantially reduce environmental impact. Moreover, Chinomona and Omoruyi (2018) found that green procurement enhances customer and supplier relationships, fostering transparency and mutual environmental commitments, which, in turn, support strategic objectives. This approach aligns with the growing emphasis on corporate social responsibility, in which sustainability goals must be integrated into a procurement strategy to enhance long-term viability.

Furthermore, SUSP's direct effect on OGP indicates that organizations with robust and sustainable procurement practices can achieve enhanced performance, possibly because of increased stakeholder trust, improved reputation, and compliance with regulatory standards. These findings underline the dual importance of sustainability in procurement as both a strategic and performance-enhancing factor. The study findings align with those of Adebayo et al. (2024), who identified that sustainable procurement enhances organizational performance by improving operational efficiency. Similarly, Preuss (2009) demonstrated that sustainable procurement helps reduce waste and costs, contributing to overall performance. Walker et al. (2012) noted that sustainable procurement can lower material and energy expenses, thus enhancing profitability. Moreover, Pagell and Wu (2009) and Simpson et al. (2007) emphasized that sustainable procurement fosters trust and long-term supplier partnerships, ultimately supporting organizational goals and customer satisfaction. These findings underscore the comprehensive impact of sustainable procurement on the operational, financial, and relational aspects of organizational performance.

Examining the indirect effects, Hypothesis 8 confirms that SUSP positively impacts OGP through STRP, indicating that STRP partially mediates the relationship between sustainable procurement and organizational performance. This partial mediation implies that, while sustainable procurement directly benefits performance, STRP enhances this effect by strategically structuring these practices. The study findings support Meehan and Bryde (2011), who observed that sustainable procurement strengthens strategic procurement by embedding environmental and social considerations, enhancing market position and stakeholder relationships. Similarly, Dubey et al. (2013) find that integrating green procurement within strategic procurement frameworks fosters long-term value creation and customer satisfaction. Islam et al. (2017) further highlight that sustainable procurement positively influences financial performance when strategically aligned with cost efficiency and environmental risk reduction practices. Thus, the STRP serves as a conduit through which the advantages of sustainable procurement are optimized, reinforcing the importance of strategic alignment in achieving performance goals.

Hypothesis 9, which tested the indirect effect of SRM on OGP through STRP, was not supported, indicating that SRM did not mediate on OGP through STRP. This result may suggest that,

while SRM is instrumental for STRP, its impact on organizational performance remains minimal without further integration with other strategic elements. The findings suggest that to leverage SRM fully, organizations need to combine it with other practices, such as risk management or sustainability, to create a more comprehensive procurement approach that directly influences performance outcomes. The study findings support those of Asa et al. (2023), who observed that SRM practices enhance operational performance by fostering strong relationships and ensuring reliability within supply chains. Similarly, Lawson et al. (2009) emphasized that SRM improves responsiveness and efficiency when aligned with STRP. Huma et al. (2020) find that supplier risk management, aligned with strategic procurement, contributes to resilience.

Finally, Hypothesis 10 shows that RMP significantly affects OGP through STRP, indicating partial mediation. This partial mediation suggests that, while RMP directly affects performance, STRP enhances its impact by embedding risk management within a strategic framework. This result highlights the importance of integrating risk management with strategic procurement as it facilitates a structured approach to addressing risks that otherwise compromise performance. Organizations that align RMP with strategic procurement can better mitigate risks and drive higher performance, supporting the view that RMP is essential for resilience and continuity within procurement strategies. The findings support the study of Chinogwenya and Utete (2023), who observed that integrating risk management with strategic procurement enhances procurement outcomes, especially where cost control and supplier relations are crucial. Rehman and Anwar (2019) demonstrated that strategic risk management in supplier relationships helps mitigate risks and supports sustainable growth, particularly for SMEs. Mustapha et al. (2023) also found that strategic procurement risk management practices contribute to financial and non-financial performance, reinforcing the partial mediation observed in this study.

6. Conclusion

This study explores the influence of different procurement strategies on organizational performance, with a focus on the role of Strategic Procurement as a mediating factor. Key findings show that Risk Management Practices and Sustainable Procurement directly, positively affecting Strategic Procurement and organizational performance. Strategic Procurement partially mediates the relationship between Sustainable Procurement and organizational performance, meaning that sustainable practices impact performance directly and through strategic procurement processes. A similar partial mediation effect is observed for Risk Management practices, where strategic procurement amplifies their influence on performance. However, strategic procurement does not mediate the link between supplier relationship management and organizational performance, suggesting that supplier relationships impact performance through other mechanisms.

This study provides several practical implications for procurement managers and organizational leaders. This study suggests that procurement strategies should be aligned with organizational goals to boost performance through strategic planning and regular evaluations. Additionally, organizations should invest in supplier development and relationship management practices. Furthermore, organizations should develop robust risk assessment and mitigation strategies. Organizations should also adopt sustainable procurement practices and establish clear sustainability goals. Organizations should also develop comprehensive performance measurement systems to monitor and evaluate procurement activities.

Theoretically, the study advances the theoretical framework of procurement strategy integration by examining the interconnectedness of Strategic Procurement, Supplier Relationship Management, Risk Management Practices, and Sustainable Procurement. It suggests that procurement strategies are not isolated but interdependent, with Strategic Procurement acting as a critical pathway through which other practices contribute to organizational outcomes.

This study had several limitations. While adequate, the sample size may not fully capture the diversity of procurement practices across different industries and regions. Future research should consider more extensive and more diverse samples to enhance generalizability. Further research could explore the impact of technological advancements, such as digital procurement tools and data analytics, on integrating procurement strategies and organizational goals.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and material

The data are available on request.

Competing interests

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