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Effect of Sustainable Procurement Orientation and Institutional Isomorphism on Firm Performance. Mediating Effect of Organisational Capabilities

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Abstract

Purpose

This study examined the extent to which organisational capabilities condition the impact of; 1) sustainable procurement orientation on firm performance, and 2) institutional isomorphism on firm performance in an emerging economy, Ghana.

Design/Methodology/Approach

A structured questionnaire was administered across multiple industries to obtain dataset of five hundred (500), who were purposively and conveniently sampled. The study was conducted in Ghana, focusing on firms operating across selected administrative regions and economic sectors of the country. A response rate of 73.4% among top profile managers was reached.

Findings

The results reveal a positive significant connectivity between SPO and firm performance. It further indicates that ISP has a direct significant association with firm performance. The outcome of the SMART PLS show that ORC mediate the relationship between SPO and FRP as well as the linkage between ISP and FRP.

Research Limitations/ Implication-

The study used cross-sectional survey to solicit primary data from multiple industries which hinders generalizability. Future research should segment the industries and do industry-by-industry analysis, to see industry particularities.

Practical implications-

Managers should appreciate and understand that firm performance can further be boosted through the intervening role of organisational capabilities.

Social implication-

Government policy on procurement must be streamlined to incorporate sustainable elements into its biding/tender documents to increase the level of social acceptability and legitimacy, since governments are critical stakeholders in procurement.

Originality/Value-

It is a novel study that focused on the interaction between dynamic capabilities theory and institutional theory to explain how ORC conditioned the impact of SPO and ISP on firm performance.

1. Introduction

In contemporary times, there has been a gradual but fundamental paradigm shift in corporate strategy from the traditional focus on profit maximization and cost minimization toward a more holistic sustainability orientation. Firms are increasingly evaluated not only on economic performance but also on their environmental and social responsibilities. This shift is embedded in the widely adopted triple bottom line (TBL) framework, which emphasizes the interconnected dimensions of People, Planet, and Profit (Heizer et al., 2017). Within this framework, *people* refers to the extent to which organizational activities—particularly procurement and supply chain operations—enhance or undermine the quality of life of stakeholders and communities (Ghosh, 2018; Heizer et al., 2017). *Planet* captures the environmental implications of operational decisions, including sourcing practices, production processes, logistics systems, and end-of-life product management (Ghosh, 2018). *Profit*, however, remains central, reflecting the economic viability and long-term financial sustainability of firms (Heizer et al., 2017). Increasingly, firms are expected to balance these three dimensions simultaneously rather than prioritizing profit alone.

In response to global sustainability pressures, sustainable procurement has emerged as a strategic mechanism for embedding environmental, social, and economic considerations into purchasing decisions. In Ghana, this development gained institutional momentum following the country's accession to the Marrakesh Task Force (MTF) in 2010, which promoted sustainable public

procurement under an internationally coordinated framework (PPA, 2017; Ograh & Ayarkwah, 2020). This commitment was further reinforced through donor support, including a US$2.7 million Swiss Government initiative aimed at strengthening sustainable procurement implementation.Consequently, Ghana undertook significant regulatory reforms, notably the transition from the Public Procurement Act, 2003 (Act 663) to the Public Procurement (Amendment) Act, 2016 (Act 914). These reforms were intended to align procurement practices with global sustainability standards by integrating environmental and social considerations into value-for-money procurement decisions (Ograh & Ayarkmmwah, 2020).

Despite these institutional and regulatory advancements, empirical evidence suggests that sustainable procurement practices remain weakly implemented across both public and private sector organizations in Ghana. Many firms continue to struggle with translating sustainability policies into operational procurement decisions. This is largely attributed to limited organizational capability, low sustainability awareness, and inadequate strategic integration of procurement within broader corporate sustainability goals. Existing literature has largely established that sustainable procurement practices can enhance competitive advantage and organizational performance. However, contradictory findings persist. While some studies report positive financial and operational outcomes, others argue that sustainable procurement increases short-term costs without delivering commensurate financial benefits. These inconsistencies are particularly evident in developing economies, including Sub-Saharan Africa, where institutional capacity and enforcement mechanisms remain relatively weak (Etse et al., 2021; Sonnichsen & Clement, 2020; Jia et al., 2018; McMurray et al., 2014).

A key limitation in prior research up to 2025 is that many studies treat sustainable procurement as a direct predictor of firm performance, without adequately examining the mechanisms and boundary conditions through which such effects occur. This has led to fragmented and sometimes contradictory empirical outcomes. As highlighted in recent studies, incorporating mediating and moderating variables is essential to uncover the underlying processes and contextual conditions that explain when and how sustainable procurement leads to improved performance outcomes (Vidal et al., 2018; Malhotra, 2021; Joo & Min, 2022; Yu et al., 2022; Liu et al., 2022). Against this backdrop, this study argues that the inconsistent findings in the sustainable procurement–performance relationship stem from a limited understanding of the strategic and organizational mechanisms that enable sustainability practices to translate into performance outcomes. In particular, prior studies have not sufficiently explained how internal organizational capabilities and contextual factors interact with sustainable procurement orientation to influence firm performance outcomes in developing economies such as Ghana. This study makes three key novel contributions to the literature. Theoretically, It advances sustainability and procurement literature by integrating sustainable procurement orientation into a broader strategic performance framework grounded in the triple bottom line perspective, thereby extending its application beyond compliance-based interpretations. Empirically, it provides new evidence from Ghana—a context underrepresented in prior studies—thereby addressing the geographical bias in sustainable procurement research, particularly within Sub-Saharan Africa. Unlike prior studies that focus on direct effects, this study uniquely examines the mediating and/or moderating mechanisms that explain how sustainable procurement translates into firm performance. This helps to clarify boundary conditions and reconcile conflicting empirical findings in the literature. The findings are expected to inform policymakers and managers on how to design procurement systems that not only comply with sustainability regulations but also generate measurable economic and operational benefits. This is particularly relevant for public procurement institutions and firms operating in resource-constrained environments where efficiency and sustainability must be jointly optimized.

2. Literature Review and Hypothesis development

2.1 Sustainable Procurement in Sub-Saharan African Countries

Sustainable procurement has increasingly gained scholarly and policy attention as organizations attempt to integrate environmental, social, and economic considerations into procurement decisions. While the concept is widely institutionalized in advanced economies, its adoption in Sub-Saharan Africa remains uneven and largely constrained by weak regulatory enforcement and limited institutional capacity (Ograh & Ayarkwah, 2020; Brammer & Walker, 2012). A synthesis of empirical studies across Sub-Saharan Africa reveals a consistent pattern: although policy frameworks for sustainable procurement exist in several countries, implementation remains weak due to structural and operational deficiencies. For instance, in Zimbabwe, Chari and Chari (2014) and Muchaendepi et al. (2019) independently report that sustainable procurement practices are hindered by limited policy enforcement, low stakeholder awareness, inadequate technical capacity, and weak integration of sustainability criteria in

procurement documentation. Similarly, environmental degradation associated with mining activities demonstrates the consequences of weak procurement governance, where environmental externalities such as chemical pollution and waste mismanagement are not adequately internalized in procurement decisions (Muchaendepi et al., 2019).

Across these studies, a key convergence is the recognition that institutional weakness is the primary barrier to sustainable procurement adoption in Sub-Saharan Africa. However, there is a divergence in emphasis: while some studies focus on regulatory gaps (Brammer & Walker, 2012), others emphasize organizational-level deficiencies such as capability limitations and knowledge gaps (Chari & Chari, 2014; Ograh & Ayarkwah, 2020). Notably, most studies treat these barriers in isolation rather than examining how institutional and organizational constraints interact to shape sustainable procurement outcomes. A critical gap therefore exists in the literature: limited integration of macro-level institutional factors and micro-level organizational capabilities, which restricts a holistic understanding of why sustainable procurement adoption remains weak in developing economies.

2.2 Sustainable procurement orientation

Sustainable procurement orientation (SPO) represents the extent to which organizations strategically integrate economic, social, and environmental sustainability principles into procurement decision-making processes. This concept aligns with Elkington's triple bottom line (TBL) framework, which conceptualizes sustainability as the simultaneous pursuit of profit, people, and planet (Heizer et al., 2017; Ghosh, 2018). A synthesis of prior research indicates that sustainable procurement orientation is commonly conceptualized along three interrelated dimensions: economic sustainability orientation, social sustainability orientation, and environmental sustainability orientation (Sung & Park, 2018; Croom et al., 2017; Sun et al., 2014). However, the literature reveals two important inconsistencies. First, some studies treat these dimensions as independent drivers of sustainability performance, while others argue that they are interdependent and must be integrated to generate meaningful outcomes. Second, while developed economy studies emphasize the strategic value creation potential of SPO, emerging economy studies often highlight implementation constraints such as cost burdens, weak supplier compliance, and limited institutional support.

Despite these differences, there is broad agreement that SPO improves long-term organizational resilience and competitiveness when properly implemented. However, conflicting findings remain regarding its short-term financial impact. Some studies report that SPO enhances efficiency and competitive advantage, while others suggest it increases operational costs without immediate financial returns. This inconsistency indicates a clear gap in the literature: the absence of boundary condition explanations that clarify when and how SPO leads to positive performance outcomes. This justifies the need for studies that incorporate mediating and moderating mechanisms. The Fig. 1 below presents Sustainable Procurement Orientation dimensions.

2.3 Organisational Capabilities

Organisational capabilities refer to the collective skills, competencies, routines, and knowledge resources that enable firms to effectively deploy resources to achieve strategic objectives (Kaya & Erden, 2008; Teece, 2017). Within the context of sustainable procurement, these capabilities are increasingly conceptualized as enablers that determine how effectively sustainability-oriented procurement strategies are implemented. Grounded in the Dynamic Capability Theory (Teece, Pisano, & Shuen, 1997), organisational capabilities are viewed as the firm's ability to integrate, build, and reconfigure internal and external competencies to respond to environmental changes. From this perspective, sustainability implementation is not merely a policy issue but a capability-driven process. A synthesis of prior studies shows that organisational capabilities are commonly categorized into procurement capabilities, operational capabilities, innovative capabilities, and financial capabilities (Ulrich & Smallwood, 2004; Yook et al., 2017). Empirical findings generally agree that stronger organisational capabilities enhance procurement efficiency and organizational performance (Lawson et al., 2009; Ellegaard & Koch, 2010). However, differences exist in how these capabilities are operationalized. For example, some studies focus narrowly on procurement technical skills and supplier management competence. Others adopt a broader view incorporating innovation capacity and financial agility. A third stream emphasizes digital and technological capabilities as emerging enablers of procurement transformation. Despite these variations, a consistent finding across studies is that organisational capabilities significantly influence the effectiveness of procurement strategies, including sustainable procurement initiatives. However, most studies fail to examine how these capabilities interact with sustainability orientation to produce performance outcomes, leaving a theoretical and empirical gap. Thus, a key limitation in existing literature is the lack of integration between dynamic capability mechanisms and sustainable procurement orientation frameworks, particularly in developing economy contexts. The Table 1 presents the operational definition of constructs. The Fig. 2 further presents Theoretical Model for the study.

Table 1
Operational Definition of Constructs

Construct	Definition	Source
Sustainable procurement orientation (SPO) **Sustainability Orientation (SO)** **(Covariate)**	Defined as the process through which a firm realizes its requirements for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the firm but also to the society and the economy, whilst minimizing damage to the environment with the appropriate items to measure the underlying individual attitudes and personal traits throughout the supply chain"	ibid (2021) modified from DEFRA (2006) and Kuckertz & Wagner (2010)
Institutional isomorphism (ISP)	is defined as a social structure that exerts pressures, expectations, and constraints on firms' choices including not only regulatory structures, governmental agencies, laws, courts and professions but also interest groups and public opinion	Lin et al. (2019), Miles (2012),
Coercive isomorphism (COP)	This kind of isomorphism is caused by the pressure exerted by policies, regulations, or rules imposed by external stakeholders specifically government and its agencies	(Fehan & Aigbogun,2022: Joo et al., 2022; Miles, 2012)
Normative isomorphism (NOP)	An isomorphism exerted by external stakeholders such as customers, investors, community, industry associations and the social public.	(Berrone et al., 2013; Chen et al., 2018; Joo et al., 2022)
Mimetic isomorphism (MIP)	A pressure which arises when firms imitate the conduct or techniques of other firms in order to be superior in the face of uncertainty	(Fehan &Aigbogun,2022)
Cultural-cognitive isomorphism (CUP)	Refers to pressure emanating from societal recognizable beliefs, norms and values cherished very much.	(Dubey et al., 2017; Scott, 2008))
Organisational capabilities (ORC)	refer to collective skills, abilities, and expertise of an organisation and brought about by the organization's investment in staffing, training, compensation, communication and other human or organisational resources	Ulrich&Smallwood (2004); Yook et al. (2017).
Firm performance (FRP)	Refers to the firm's financial performance and non-financial performance	Tseng & Liao (2015)
Financial performance	Refers to the performance of the firm per the financial reports: financial statements.	Tseng & Liao (2015) p.93, Fatihudin et al. (2018)
Non-financial performance	Refers to customer satisfaction, market performance, operational performance, product quality, learning and innovation	Neely (2002) Shrinjar et al., (2008) Vusksic (2012) Ahmed&Abdul-Manab (2016)
Market performance	Performance outcomes accomplished in a market industry where the firm operates	Tseng & Liao (2015)
Operational performance	Refers to the accomplishment of routine outcomes relative to activities within the value-chain of the firm (focal emphasis on sustainable procurement processes involved in the people, planet and profit)	Solakivi et al. (2011)
Source: Authors Own Work		

2.4 Theoretical Background and Hypotheses

Figure 2: Theoretical Model, Source: Authors Own Work

2.5 Sustainable procurement orientation and firm performance

Literature from sustainable procurement practices, sustainability orientation, environmental sustainability orientation and sustainability supply chain management and related literature on the subject is explored to adequately explain the link between

sustainable procurement orientation and firm performance. Past research indicates an association between long-term orientation and advanced practices in procurement orientation, with a positive relationship between long term orientation and highly sustainability-oriented firms (Eccles *et al*., 2014).

Flammer and Bansal (2016) affirmed that firms with long term orientation are more likely to increase investments in long term strategies, such as innovation and developing lasting relationships with critical stakeholders. Roehrich *et al*. (2014) argued that many firms realize the successful implementation of sustainable supply chain management practices requires long term orientation. Firms long term orientation, for instance, are more capable of developing successful suppliers' partnerships, which can positively affect operational performance by ensuring quality, improving processes and reducing lead times (Kotabe *et al*.,2003; Roehrich, 2014). From the extant literature the underlying hypothesis developed;

H1: Sustainable procurement orientation has a direct and significant impact on firm performance

2.6 Sustainable Procurement Orientation (SPO) and Organisational Capabilities (ORC)

Building on the dynamic capabilities' theory situating it in a typical sustainable procurement orientation context organisation must be able to develop their sensing capabilities to be able to perceive opportunities that environmental degradation present, in an imperfect market condition and deploy the needed marketing effort to pursue the advantages therein. Secondly, the firm uses its learning capabilities to determine the kind of organisational capabilities that need to be revamped, rebuilt or reconfigured into new knowledge (Pavlou & El Sawy, 2011; Miles 2012). Here, the concept of sustainable procurement orientation is a ground-breaking field that requires thinking anew (thinking outside the box), new learning skills, training programmes, capacity building, innovativeness and unquestionable competencies. These have to be well connected and integrated in a harmonious manner for the effective operationalization of sustainable procurement.

Thirdly in the framework generated by Pavlou and El Sawy (2011) and Miles (2012) from the dynamic capabilities theory a firm uses its integrating capabilities to collectively understand and do the necessary changes to its operational capabilities. In executing a typical procurement function current sustainability requirement must be incorporated into the bidding or tendering documents for suppliers or contractors to procure sustainably. This calls for integrating the sustainability conditionality into a common procurement process document for easy adoption and practice.

In the fourth deployment of firm capabilities otherwise known as organisational capabilities (Pavlou & El Sawy, 2011; Miles 2012**)** is its coordination capabilities to implement and to use its reconfigured operational capabilities. This is applicable in sustainable procurement where there is the need to coordinate all the procurement activities that are conducted on routine basis by various functional areas of the firm to ensure that there is complete compliance with the procurement legal framework. Few researches have been carried out into examining the relationship between sustainability practices (sustainable procurement) and non-financial performance such as organisational capabilities (Walker *et al.*, 2014; Zorzini *et al*., 2015; Crooms *et al*., 2018). Finally, the firm must continue to scan its internal and external stimuli (Pavlou & El Sawy, 2011; Miles 2012), apparently owing to the new global trends and standards in sustainable procurement that are beginning to emerge, conceivably as a result of the sophisticated nature of customers' demands and governmental agencies pressures on firms providing intangible services or producing tangible products. These turbulent environments have the propensity to affect both the internal and external environment of the firm, hence, the need to monitor and keep track. The above extant literature led to the development of the hypotheses as established in Fig. 2.

H2

Sustainable procurement orientation (SPO) has a direct positive relationship with organisational capabilities (ORC).

2.7 Organisational Capabilities (ORC) and Firm Performance (FRP)

Organisational capabilities refer to collective skills, abilities, and expertise of an organisation brought about by the organisation's investment in staffing, training, compensation, communication and other human or organisational resources (Ulrich and Smallwood, 2004; Yook *et al*. 2017). The paper borrows dynamic capabilities theory in investigating the relationship between organisational capabilities and firm performance, this concept widely published in the body of management literature because of the critical role played in the realization of firm strategy and improving firm performance (Ouakouak *et al*., 2014). Theorists have

argued that dynamic capabilities are a key source of competitive advantage (Makadok,2001; Ouakouak *et al*.,2014) and organisational effectiveness (Oliver & Holinzer, 2008). Dynamic capabilities contribute to reconfiguring and changing the firm's bundles of resources, operational routines and competences have indirectly affected organisational performance (Zott,2003). Furthermore, dynamic capabilities enable organisations renew their competences and strategically manage their resources and as a result improve firm performances (Ouakouak et al., 2014; Danciu, 2013). Similarly, empirical evidence supports the conception that innovation may disclose and influence organisational performance in diverse ways-this assertion corroborates Walker's (2004) review across public and private sectors which signals that innovation influences performances positively. The balance of evidence suggests that although innovation (which is a component of organisational capabilities) is risky and its success is not guaranteed, its adoption enhances performance (Pfeffer & Salancik, 2003; Walker et al.,2010). However, other research indicated that the top ten global sustainability leaders incorporated sustainability into the 'core' of their firms' operations improving their overall performance **(**Danciu, 2013; Crooms et al.,2018). Persic and Markic (2013) affirmed a direct significant relationship between a well-articulated and developed vision of sustainability and operational performance. Therefore, based on the literature the following hypothesis was generated;

H3

Organisational capabilities (ORC) have a direct and positive influence on firm performance (FRP).

2.8 Sustainable procurement orientation (SPO), Organisational capabilities (ORC) and firm performance (FRP).

Previous studies have only investigated the direct effect of sustainable procurement on firm performance (economic). In this context we predict that sustainable procurement orientation has a direct connection with firm performance, however, this direct effect may similarly be influenced indirectly by a mediating factor like organisational capabilities. Differently put, sustainable procurement orientation (SPO) may impact on firm performance (FRP) directly but through organisational capabilities (ORC). The association of the factors involved is examined under the dynamic capability and resource-based theoretical lenses, which examines how firms integrate, build and reconfigure their internal and external firm-specific competences into new competences that match the turbulent environment (Teece, 1997; Miles, 2012). Drawing on the dynamic capability theory, Khalil et al., (2020) argued that dynamic capabilities are suitable for long term firm performance and other researchers have suggested that firms should build, integrate and reconfigure their internal and external resources to adapt to volatile environment using their dynamic capabilities (Helfat et al.,2007; Miles, 2012). It has been explained that dynamic capabilities are learned and stable patterns of behaviour through which a firm systematically generates and modifies its way of doing things, so that it can become more effective (Macher &Mowery, 2009; Zollo & Winter, 2002; Miles 2012). Base on the literature on the theory reviewed the underlying hypothesis were developed;

H4: *Organisational capabilities (ORC) have a mediating effect on the relationship between sustainable procurement orientation (SPO) and firm performance (FRP).*

2.9 Institutional isomorphisms, Organisational Capabilities and Firm Performance

Institutional isomorphism has been examined and found to exert some amount of influence on firm performance (Foo et al., 2022) but it is also confirmed that firm performance is better improved by employing organisational capabilities (Mady et al., 2022), in the sense that institutional isomorphisms act as catalysts to enable firms develop new knowledge and knowledge-based capabilities (Alves et al., 2019) such as organisational capabilities. However, according to Chen et al. (2018) and Kaylar et al. (2019) institutional isomorphisms are critical but do not always result in the adoption of environmentally-friendly innovation practices but this study argues that the influence of institutional isomorphisms can trigger re-alignment, reconfiguration and redefinition of the organisational capabilities to further boost firm performance. This is congruent to the nuances of the dynamic capabilities' theory and Resource-Based View Theory (Sarkis et al., 2010). The research assumes that the causative effect of institutional isomorphisms on firm performance can better be boosted through the intervention of organisational capabilities. But unfortunately, this stance cannot be ascertained from any formal research. When institutional isomorphisms are deliberately and appropriately applied to firms, they have the tendency to influence their responsiveness to new changes on sustainable requirements (Zhu & Sarkis, 2007). Firms are challenged to explore ways to build their organisational capabilities by becoming innovative, creative and

proactive. Although there exist extensive literature acknowledging direct linkage between institutional pressures and firm performance (Zhu & Sarkis, 2007; Miles, 2012; Foo *et al*., 2022) few studies identify variables that mediate this relationship and more specifically, no previous research analyzed the potential mediating effect of organisational capabilities on the connectivity between institutional isomorphisms and firm performance. This study therefore aims at addressing the identified gap in the literature and to determine how institutional isomorphisms influence firm performance in the presence of organisational capabilities. Hence, the hypotheses subsequently developed were;

H5: Organisational capabilities (ORC) mediate the relationship between Institutional Isomorphism and firm performance and composed as follows;

H5a: Organisational capabilities mediate the relationship between coercive isomorphism and firm performance

H5b: Organisational capabilities mediate the relationship between Normative isomorphism and firm performance

H5c: Organisational capabilities mediate the relationship between Mimetic isomorphism and firm performance

H5d: Organisational capabilities mediate the relationship between Cultural-cognitive isomorphism and firm performance.

3. Research Methodology

3.1 Research Methodology

This study adopted a quantitative, cross-sectional survey design to examine the relationships among sustainable procurement orientation, organisational capabilities, institutional pressures, and firm performance in Ghana. The study was conducted in Ghana, focusing on firms operating across selected administrative regions and economic sectors of the country. A quantitative approach was considered appropriate because the study sought to test theoretically derived hypotheses and examine causal relationships among latent constructs using statistical modelling techniques. According to Saunders et al. (2019), quantitative surveys are particularly suitable for theory testing and generalization across a large population. The study was grounded in a positivist research philosophy, which assumes that organizational phenomena can be objectively measured and analyzed through empirical observation. The survey approach enabled the collection of standardized data from a large number of firms operating across different sectors and regions, thereby enhancing the external validity and generalizability of the findings.

The unit of analysis for this study was the firm, as the constructs under investigation—sustainable procurement orientation, organisational capabilities, institutional pressures, and firm performance—are organizational-level phenomena. However, data were collected from key informants occupying managerial and professional positions in procurement, supply chain, operations, marketing, and finance functions because these individuals possess adequate knowledge of their firms' procurement practices and performance outcomes. The use of key informants is consistent with prior supply chain and strategic management studies (Wu et al., 2010; Dubey et al., 2017; Islam et al., 2017).

3.2 Target Population, Sampling Procedure and Response Rate

The target population comprised registered public and private sector firms operating in Ghana. Specifically, the study focused on firms that maintain formal procurement and supply chain functions because such organizations are more likely to engage in sustainability-oriented procurement activities and possess the organizational structures necessary to implement procurement-related strategic initiatives. A sampling frame was developed using the Ghana Yellow Pages business directory, which provides a comprehensive database of registered organizations across sectors. Ten of the sixteen administrative regions of Ghana were included in the study. These regions represented the traditional administrative regions and contained the highest concentration of registered firms with established procurement functions. The six newly created regions were excluded because they had relatively fewer registered firms that satisfied the study's inclusion criteria at the time of data collection.

A multi-stage sampling procedure was employed. First, firms were purposively selected based on the existence of formal procurement and supply chain activities. Second, firms were randomly selected within each region to minimize selection bias. Finally, knowledgeable respondents were purposively selected from each firm. This combination of purposive and random

sampling techniques is appropriate when investigating specialized organizational practices that require informed respondents (Hair et al., 2022). A total of 500 questionnaires were distributed across selected firms. Of these, 29 questionnaires were undeliverable, leaving 471 effectively delivered questionnaires. A total of 371 responses were received, representing a gross response rate of 78.8%. After screening for completeness and consistency, 18 questionnaires were discarded, resulting in 353 usable responses and an effective response rate of 73.39%.

The final sample size of 353 firms exceeds the minimum requirements recommended for Structural Equation Modelling (SEM). Hair et al. (2022) recommend a minimum sample size of between 200 and 400 observations for complex models involving mediation and moderation effects. Similarly, Kline (2023) suggests that samples above 300 are generally considered adequate for covariance-based SEM analyses. Furthermore, using the "10-times rule" commonly applied in multivariate analysis, the sample size substantially exceeds the minimum threshold required relative to the number of structural paths directed at any endogenous construct. Therefore, the sample of 353 firms was considered statistically adequate to provide reliable parameter estimates and sufficient statistical power for hypothesis testing. The Table 2 below presents the Questionnaire Response Rate.

Table 2
Questionnaire Response Rate

Description of Activity	**Total**
Number of questionnaires distributed	500
Non-deliverable questionnaires	29
Effectively delivered questionnaires	471
Unreturned questionnaires	100
Total responses received	371
Unusable/discarded responses	18
Effective questionnaires used for analysis	353
Effective response rate	73.39%
(Authors Own Work, 2024)	

3.3Primary Data Collection

Primary data were collected through a structured questionnaire administered using a mixed-mode approach consisting of face-to-face administration, email distribution, and online survey links shared via WhatsApp and Google Forms. The mixed-mode approach was adopted to improve accessibility, maximize response rates, and enhance geographic coverage across the selected regions. The questionnaire items were adapted from previously validated scales in the literature. Sustainable procurement orientation was measured using scales adapted from Kuckertz and Wagner (2010), Sun et al. (2014), Grandia (2017), and Islam et al. (2017). Organisational capabilities were measured using scales developed by Wu et al. (2010), while institutional pressures were adapted from Colwell and Joshi (2013), Zhu et al. (2013), Kumar et al. (2017), and Kauppi and Luzzini (2021). Firm performance measures were adapted from Tseng and Liao (2015), Fatihudin et al. (2018), and Neely (2002). To enhance content validity, the instrument was reviewed by academic experts and senior procurement practitioners from both industry and government institutions. Their feedback informed revisions to improve clarity, contextual relevance, and measurement accuracy.

3.4 Measurement of constructs

All substantive constructs were operationalized using multi-item scales measured on a seven-point Likert scale. The use of a seven-point scale was justified because it provides greater response variability, improves measurement sensitivity, and enhances the reliability of latent construct estimation compared to shorter scales (Hair et al., 2022). Sustainable Procurement Orientation (SPO) was conceptualized as a higher-order construct comprising economic, social, and environmental sustainability orientations.

Institutional Pressures (ISP) were operationalized as a multidimensional construct encompassing coercive, normative, mimetic, and cultural-cognitive pressures, consistent with Institutional Theory.

Organisational Capabilities (ORC) were measured through procurement-related competencies and organizational resource deployment capabilities. Firm Performance (FRP) was operationalized as a multidimensional construct consisting of financial, operational, and market performance dimensions.

The adoption of multidimensional constructs is consistent with prior sustainability and strategic management research, which recognizes that organizational phenomena are complex and cannot be adequately captured through single-item measures. Consequently, all constructs were treated as continuous latent variables suitable for Structural Equation Modelling analysis. The Table 3 presents the Measurement of constructs.

Table 3
Measurement of constructs

coccusConstructs	**Item**	**Sources**
Sustainable procurement orientation **(SPO)** Sustainability Orientation (SO)	15	Adapted and modified (Kuckertz & Wagner 2010; Sun et al.,2014; Shashi et al., 2018; Alan & Banjor, 2012; Islam et al., 2017; Grandia, 2017; Danso et al., 2020; Adomako et al., 2020).
Institutional pressure **(ISP)**	15	Adapted and modified from (Colwell &Joshi,2013; Zhu et al., 2013; Dubey et al., 2017), (Kumar et al., 2017; Kauppi & Luzzini, 2021)
Organisational capabilities **(ORC)**	9	Adapted and modified (Wu et al.,2010)
Firm Performance (FRP)		
Financial performance (FIP)	3	Adapted and modified (Chong, 2008; Solakivi et al., 2011; Tseng & Liao, 2015
Operational performance (OPO)	11	Adapted (Wu *et al*., 2011, 2012; Klassen & Vachon 2003; Yee et al., 2018; Tai, 2013; Rio et al., 2013; Islam et al., 2017)
Market performance (MAP)	5	Adapted and modified (Chong, 2008; Solakivi et al., 2011; Tseng & Liao, 2015

4. Results and Discussions

4.1 Results and Discussions

In testing the hypotheses and providing empirical answers to the research question posed in the study, Structural Equation Modelling was used in determining the direct and indirect effects of the constructs as represented in the theoretical model. The application of SMART PLS version 3.1.2 produced a number of outcomes;

4.2 Factor Analysis: Outcome of Exploratory Factor Analysis

The purpose of analysis of this kind is to find a way of condensing the information contained in a number of original variables into a smaller set of variates with a minimal loss of information (Hair *et al*., 2017). The eigenvalue criterion, Scree plot test criterion and the interpretability criterion were adapted in this study, at the outset EFA was run without fixing the component factors using the rotation. The results in nine (9) factors identified with respect to the eigenvalue criterion, only values with eigenvalue greater than 1.00 were retained and explained over of the cumulative percentage variance which met the criteria of retaining factors that explain a minimum of 60% of the total variance (Matsunaga, 2010). The observation of the scree plot test suggested the retention of all the nine (9) components. However, the inspection of the 'rotated component matrix' revealed a complex structure that did not meet the interpretability criterion, similar to the findings of Hatcher (1994). According to Matsunaga (2010: P.99), a simple structure occurs when 'most of the variables have high loadings on one component and near-zero loadings on the other component. However, each factor should 'load strongly on at least three variables (Hatcher, 1994: p156). According to Hair *et al*. (2006: p.129) variables that load well on a factor should have a value greater than 0.50. Factor loadings less than 0.50 was therefore suppressed.

The third time of running, generated a simple structure applying 9 of the factors that satisfied the interpretability criterion. This solution with all the nine (9) factors explained over 63.06% of the cumulative percentage of variance and also matched the original constructs they were supposed to measure. Despite the fact that the a priori number of components/factors was retained, the number of variables were reduced from 60 to 56 in the regenerated model. In the regenerated model all the items for SPO were retained, ORC had one item of the variable eliminated, the items measuring OPO were decreased by 2, items for the measurement of FIP were increased by 2, COP items suffered a reduction by an item. However, the remaining measuring items were retained; CUP; NIP; MIP; NOP. The Fig. 3 below reveals the results of a priori and post EFA analysis.

4.3 Verification of assumptions underpinning Factor Analysis

The final EFA solution adopted resulted in a variety of statistical indices that satisfied the criteria recommended by extant literature. Some of these criteria includes Bartlett's Test for Sphericity (BTOS), Kaiser-Meyer-Olkin (KMO) and the Measure of Sample Adequacy (MSA). KMO measures the suitability of PCA to be run on the dataset and represents an index of linearity of variables (Hair *et al*., 2017). KMO ranges in between 0 and 1 with value above 0.6 regarded as the minimum criteria for sampling adequacy (ibid).

Table 4 illustrates the results of the KMO and Bartlett's Test which shows a Kaiser-Meyer-Olkin measure of sample adequacy of 0.950. According to Hair *et al*. (2010, p. 104) KMO lie within the following categorizations; KMO ≥ 0.8 = meritorious; 0.7 ≤ KMO < 0.8 = middling; 0.6 ≤ KMO < 0.7 = mediocre; 0.5 ≤ KMO < 0.6 = miserable; and KMO < 0.5 is unacceptable.

In this study KMO value of 0.950 was considered adequate given that the minimum cut-off is 0.60 and Bartlett's test was significant at 95% confidence interval (P < 0.05) which supports the factorability of the correlation matrix (Tabachnick & Fidell, 2007; Pallant, 2010) as shown in Table 3. A chi-square value of 12739.246 was obtained and a Bartlett's Test of Sphericity with a difference of 1540 and a significance of 0.000 (satisfies the stipulated recommendation less than 0.05 significance level). All communalities were greater than 0.5 whiles Eigen values of components selected were all greater than 1 with a cumulative total variance explained greater than 50% (63.06%). The Table 4 presents the results of KMO and Bartlett's Test.

Table 4
Results of KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling measure of adequacy	0.950	
Bartlett's Test of Sphericity	Approximate chi-square	12739.246
	Df	1540
	Sig.	0.000

4.4 Common Method Bias

Common method bias was duly tested for in the study using the Harman one factor test (deploying SMART PLS). In this test all the items (observed variables are loaded onto one common factor using the principal axis extraction method and no rotation (Podsakoff *et al*., 2012). If the variance for a single factor is less than 50% then it suggests that CMB does not affect the data. In this study, the total variance for the single factor extraction was 39.7% which is less than 50%, affirming strongly the study's data not compromised by common method bias.

4.5 Validity Test for Measurement Scales

A measurement scale aside being reliable also needs to be able to measure what it is supposed to measure. The research tested for reliability using the Cronbach Alpha, however, testing for reliability is quite paramount but not necessarily sufficient (Hair *et al*., 2017).

4.4.1. Content validity

Content validity is the extent to which a set of measured items actually reflects the theoretical latent construct of those items that are designed to measure (Hair *et al*., 2006: p.776). The study accomplished this when it pilot-tested the measurement scales.

4.4.2. Convergent validity

The items which are indicators of a specific construct should converge or share proportion of variance known as convergent validity (Hair *et al*., 2017). According to Hair *et al.* (2017) one must examine the outer loadings of the factors and the average variance extracted (AVE) to assess the convergent validity of reflective construct. Outer loadings are also called indicator reliability and should be 0.708 or 0.70 (Hair *et al.*, 2017). Average Variance Extracted (AVE) is another common measure of convergent validity whose value is to be higher than 0.50 (Hair *et al*. 2017). Cronbach's alpha (CA) and composite reliability are the indicators of internal consistency of the factors whose values are expected to be more than 0.70 (Hair et al. 2017). Table 5. shows that CA values range from 0.745 to 0.903 above 0.70 with AVE values also above 0.50 threshold, confirming that the study's validity test passed. Table below 5 presents Validity Test for Scale items.

Table 5
Validity Test for Scale items

Constructs /Variate	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Coercive Pressure (COP)	0.844	0.848	0.889	0.617
Cultural-Cognitive Pressure (CUP)	0.807	0.813	0.886	0.721
Financial Performance (FIP)	0.877	0.879	0.910	0.670
Market Performance (MAP)	0.872	0.872	0.912	0.722
Mimetic Pressure (MIP)	0.745	0.748	0.855	0.662
Normative Pressure (NOP)	0.775	0.780	0.856	0.598
Operational Performance (OPO)	0.874	0.882	0.903	0.572
Organisational Capabilities (ORC)	0.902	0.907	0.919	0.509
Sustainable Procurement Orientation (SPO)	0.903	0.905	0.917	0.504

4.4. Discriminant validity

Discriminant validity is determined by demonstrating that a measure does not correlate very highly with another measure from which it should differ (Campbell, 1960). Confirmatory Factor Analysis gives two ways by which discriminant validity can be assessed (1) the correlation between any two constructs can be specified or fixed as equal to one. (2) a better test is to compare the variance extracted percentages for any two constructs with the square of the correlation estimate between these two constructs Hair *et al*., 2006: p.778). The discriminant validity results from the CFA demonstrated in Table 5.1 Confirming that discriminant validity test was met and satisfies the criteria in literature.

Table 5:1
Discriminant Validity

COP	COP	CUP	FIP	MAP	MIP	NOP	OPO	ORC	SPO
	0.786								
CUP	0.671	**0.849**							
FIP	0.662	0.582	**0.818**						
MAP	0.65	0.629	0.703	**0.85**					
MIP	0.59	0.601	0.603	0.619	**0.814**				
NOP	0.677	0.66	0.639	0.600	0.680	**0.774**			
OPO	0.754	0.586	0.733	0.747	0.636	0.599	**0.756**		
ORC	0.744	0.617	0.685	0.655	0.668	0.671	0.705	**0.714**	
SPO	0.640	0.578	0.671	0.561	0.593	0.644	0.627	0.563	**0.866**

We conclude that the study CA (Cronbach Alpha) values range between 0.745 and 0.903. Composite Reliability (CR) values ranges in between 0.855 and 0.919; AVE ranges in between 0.444 and 0.722 and rho_A ranges in between 0.748 and 0.907. These values significantly confirm that measurement scales adapted by the study have all passed the test of convergent validity, content validity, discriminant validity and nomological validity.

4.5 Normality Test

Normality test was performed statistically by computing values of skewness and kurtosis for the main constructs of the study. Skewness is indicative of the symmetry of the distribution whilst kurtosis gives an indication of the peakedness of a distribution. Normality distributions of both skewness and kurtosis have values of zero. However, to satisfy the assumptions of normality distribution of skewness and kurtosis values should fall within the recommended thresholds of “≤ absolute value of 3.00” and “≤ absolute value of 8.00” respectively (Tabachnick and Fidell, 2001) and /or also within limits of ± 2.58 (Coakes & Steel, 2003). As shown in Table 6 the indices for this study’s main constructs (applying the composite scales of the indicators) were within the recommended thresholds and therefore the assumptions underlying normality was accomplished in the study’s variables. Table 6 presents results for Skewness and Kurtosis.

Table 6
Results for Skewness and Kurtosis

Code	N	Min	Max	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ORC	338	1	7	5.22	1.105	− .727	.133	.470	.265
SPO	349	1	7	4.51	1.063	− .392	.131	− .190	.260
COP	350	1	7	5.35	1.244	− .920	.130	.869	.260
NOP	353	1	7	5.06	1.280	− .702	.130	.300	.259
MIP	351	1	7	5.05	1.300	− .525	.130	− .218	.260
CUP	353	1	7	5.21	1.344	− .806	.130	.464	.259
FIP	345	1	7	5.03	1.254	− .881	.131	.948	.262
OPF	348	1	6	4.41	1.023	-1.006	.131	1.361	.261
MAP	351	1	7	5.39	1.273	− .971	.130	.876	.260
Valid N (listwise)	322								

4.5 Testing for Model Fitness

Model 1 was ran using the control variables of firm age, firm size, firm ownership type, industry type against the three dependent variables: financial performance, market performance and operational performance. Analysis was done using SMART-PLS Structural Equation Modeling. The model explained 22%, 53% and 38% of variation in financial performance, operational performance and marketing performance respectively. The model fitness test yielded results less than 0.08 as a standardized root mean square residual (SRMR). The normed fit index (NFI) should yield a value greater than 0.9 (Hair *et al*., 2014). In all cases analyzed, the NFI is above 0.9, a further indication of the goodness of fit of the model.

In Model 2, the analysis was a combination of the control variables and the independent variable (SPO) against the three dependent variables (FIP, OPO and MAP). This was to ensure the effect of the independent variable was not overestimated. The model explained 59.7%, 68.3% and 56.9% as captured in tables 6.1 of the variation in financial performance, operational performance and market performance respectively. The model fitness test produced results less than 0.08 and greater than 0.90 for the standardized root mean square residual (SRMR) (Hair *et al*., 2014) and the normed fit index (NFI) (Hair *et al*., 2014) respectively. An indication of a good fit model for the study's analysis. Table 6.1 below presents the Standardized estimates (t-values).

Variable	*Table 6.1 Standardized estimates (t-values)*					
	Model 1			*Model 2*		
Financial Performance	***Operational Performance***	***Market Performance***	***Financial Performance***	***Operational Performance***	***Market Performance***	
Control paths						
Firm Size	0.09(1.34)	0.115(2.094) **	0.034(0.536)	0.049 (1.352)	0.055 (1.782)*	-0.015 (0.392)
Firm Age	*-0.083(1.45)*	-0.166(3.032)***	0.148(2.516)**	0.009 (0.266)	-0.075 (2.252)**	0.068 (1.854)*
Firm Ownership Type	0.13 (2.621) **	0.148(3.126)***	0.132(2.517)*	0.06 (1.974)*	0.065(4.496)****	0.062(1.895)*
Firm industry	0.102(0.988)	0.131(2.245)**	0.121(1.864)*	0.078 (1.928)*	0.097 (2.87)**	0.100 (2.347)**
Main effect paths						
Sustainable Procurement Orientation (SPO)				0.266 (3.722)***	0.062 (0.877)	0.036 (0.518)
Coercive Pressure (COP)				0.074 (1.007)	0.036 (0.575)	0.288 (2.979)**
Normative Pressure (NOP)				0.134 (1.871)*	-0.045(0.607)	0.039 (0.576)
Mimetic Pressure (MIP)				0.11 (1.709)*	0.178 (3.025)***	0.201 (3.216)***
Cultural-Cognitive Pressure (CUP)				0.171 (2.098)**	0.0348 (4.261)****	0.185(2.052)**
Organisational Capabilities				0.14 (1.605)	0.318 (4.664)****	0.168 (1.899)*
Goodness of fit indicators						
χ^2	98.453 131.344 26.973			3215.22 364.92 3064.821		
d_ULS	0.121 0.204 0.063			4.65 4.848 4.387		
d_G	0.047 0.061 0.03			1.748 1.848 1.658		
NFI	0.897 0.891 0.919			0.694 0.692 0.698		
SRMR	0.052 0.056 0.042			0.062 0.06 0.061		
R^2	33% 64% 48%			59.7% 68.3% 56.9%		
ΔR^2	22%	63%	38%	58.5%	67.3%	55.6%

4.6.1 Hypothesis Test applying SEM (Path Analysis)

A structural Equation Modelling approach was employed in Fig. 4 to test the associations between the variables as hypothesized in the theoretical model of the study. The research's baseline hypothesis (H1) postulated a positive and a direct significant impact of sustainable procurement orientation (SPO) on firm performance (FRP). The rationale behind this causal relationship is that a boost on SPO can result in an improvement in firm performance; FRP measured by sub-dimensions, financial performance (β = 0.292, t-value = 4.896, p-value = 0.000), operational performance (β = 0.142, t-value = 2.144, p-value = 0.033) market performance (β = 0.08, t-value = 1.232, p-value = 0.128). The results consistently were statistically significant across two sub-dimensions of firm performance, therefore supporting the hypothesis H1. The study found support for the proposition made in hypothesis H1 and makes inferences to the effect that sustainable procurement orientation impacted positively and directly on both financial performance and operational performance of the firms sampled for the study.

In hypothesis H2 our proposition was that the association between sustainable procurement orientation and organisational capabilities is direct and significant. Based on the PLS output the association between SPO and ORC was significant thereby supporting the predicted notion in hypothesis H2 owing to the original sample, β = 0.757, t-statistic(t) = 27.328 > 1.96 and significant value p-=0.000 < 0.05. Meaning an increase in a unit in sustainable procurement orientation can cause a 0.757 increase in organisational capabilities. This research posited in hypothesis 3 that there was a direct and strong positive effect on the connection between organisational capabilities and firm performance measured by financial performance, market performance and operational performance. The findings from the empirical investigations affirmed a strong positive effect of ORC on financial performance, market performance and operational performance (β = 0.143, t-value = 4.951, p-value = 0.000), (β = 0.538, t-value = 6.713, p-value = 0.000) and (β = 0.675, t-value = 9.833, p-value = 0.000) respectively. The findings demonstrate that sustainable procurement orientation (SPO) positively influences financial performance and operational performance, thereby supporting Hypothesis H1. Specifically, firms that integrate economic, environmental, and social sustainability considerations into procurement decisions experience improved operational efficiency and stronger financial outcomes. However, the direct effect of SPO on market performance was not statistically significant, suggesting that market-related benefits may emerge indirectly through organizational mechanisms rather than through procurement initiatives alone.

This finding is consistent with studies by Islam et al. (2017), Grandia (2017), and Shashi et al. (2018), which reported that sustainability-oriented procurement practices improve resource utilization, waste reduction, cost efficiency, and overall organizational performance. The results also support the Triple Bottom Line perspective, which argues that sustainability investments can generate economic value alongside environmental and social benefits.

However, the findings partially contradict studies that contend sustainable procurement increases operational costs and weakens short-term profitability. The current study suggests that such inconsistencies may arise because previous studies overlooked organizational capabilities that enable firms to convert sustainability initiatives into tangible performance outcomes. The contribution of this study lies in demonstrating that in the Ghanaian context, sustainable procurement is not merely a compliance mechanism but a strategic capability capable of enhancing firm performance. This finding extends existing evidence beyond developed economies and contributes empirical evidence from an under-researched Sub-Saharan African setting.

4.6.2 Hypothesis H4: Linking sustainable procurement orientation to firm performance through organisational capabilities

The study found a strong positive relationship between sustainable procurement orientation and organisational capabilities (β = 0.757, p < 0.001). This indicates that firms pursuing sustainability-oriented procurement strategies simultaneously develop internal competencies, knowledge resources, and operational flexibility necessary to support sustainable business practices. The finding supports Dynamic Capability Theory (Teece et al., 1997), which posits that organizations develop capabilities through continuous adaptation and resource reconfiguration. The result aligns with Wu et al. (2010), Lin et al. (2019), and Lieu et al. (2020), who reported that sustainability initiatives stimulate learning, innovation, and capability development. Unlike previous studies that primarily examined organisational capabilities as antecedents of sustainability practices, this study provides evidence that sustainable procurement orientation itself contributes to capability development. This reciprocal relationship represents an important theoretical contribution to sustainable supply chain management literature.

4.6.3 Hypothesis 5(a-d): Linking institutional isomorphisms to firm performance through organisational capabilities.

The paper sought to examine the extent to which organisational capabilities condition the occurrence of mediation effect on the causal relationship between institutional isomorphisms and firm performance, where we theorized that organisational capabilities mediate the link between ISP and FRP. This assertion in H5 (a, b, c, d) was partially supported by the empirical findings. Decomposing the findings of this analysis further, we examined the first instance, where hypotheses 5a and 5d theorized that causal links between COP, MIP and FRP is mediated by ORC was supported. The path analysis results summarized in Table 7 attest to the assertions in the hypotheses, paths COP -> ORC -> FIP with (β = 0147, t-value = 3.126, p-value = 0.02), MIP -> ORC -> FIP (β = 0.068, t-value = 2.58, p-value = 0.010), COP -> ORC -> MAP (β = 0.106,t-value = 2.497, p-value = 0.013), MIP -> ORC -> MAP(β = 0.050, t-value = 2.403, p-value = 0.017),COP -> ORC -> OPO (β = 0.196, t-value = 4.835, p-value = 0.000) and MIP -> ORC -> OPO (β = 0.091, t-value = 3.077, p-value = 0.002) were all found to be statistically significant. However, in the second instance, expectations of hypotheses 5c and 5d which postulated that the causative effect between NOP, CUP and FRP is mediated by ORC failed to be supported. This is demonstrated in the paths CUP -> ORC -> FIP (β = 0.006, t-value = 0.401, p-value = 0.689), NOP-> ORC -> FIP (β = 0.029, t-value = 1.459, p-value = 0.145) were tested and found to be statistically insignificant.

We can proceed to test or perform the mediation analysis, organisational capabilities is likely to mediate the linkage between coercive isomorphism (COP), mimetic isomorphism (MIP) and financial performance (FIP), the linkage between COP, MIP and market performance (MAP), the connectivity between COP, MIP and operational performance (OPO) but does not mediate between CUP and FIP, NOP and FIP, CUP and MAP, NOP and MAP, CUP and OPO as well as NOP and OPO.

The results indicate that organisational capabilities significantly improve financial, operational, and market performance. The strongest effect was observed on operational performance, followed by market performance and financial performance. These findings are consistent with Dynamic Capability Theory and corroborate earlier studies by Lawson et al. (2009), Namusonge et al. (2017), and Yook et al. (2017), which argued that organizational capabilities enhance firms' ability to respond to environmental changes, improve operational efficiency, and sustain competitive advantage. The significance of organisational capabilities across all dimensions of performance suggests that capabilities serve as strategic assets through which firms transform sustainability initiatives into measurable outcomes. This finding contributes to the growing body of literature emphasizing capabilities as the missing link between sustainability practices and organizational performance.

The study found that organisational capabilities partially mediate the relationship between sustainable procurement orientation and firm performance. The mediation effects were strongest for market performance (VAF = 76.4%), followed by operational performance (VAF = 65.7%) and financial performance (VAF = 48.7%). This finding explains the inconsistent results reported in previous sustainability literature. While many studies have reported mixed evidence regarding the performance implications of sustainable procurement, the present study demonstrates that the effectiveness of sustainable procurement depends significantly on the organizational capabilities available to implement and leverage sustainability initiatives. The findings support the arguments of Vidal et al. (2018), Malhotra (2021), and Joo and Min (2022), who advocated the incorporation of mediating mechanisms to explain sustainability-performance relationships. The study therefore advances theory by identifying organisational capabilities as a critical transmission mechanism through which sustainable procurement orientation generates performance benefits. The practical implication is that merely adopting sustainability-oriented procurement policies is insufficient. Firms must simultaneously invest in procurement expertise, innovation capability, operational flexibility, and organizational learning to realize the full benefits of sustainability initiatives. Table 7 below presents the Mediation Paths estimates.

Table 7
Mediation Paths estimates (Indirect Effects: ORC on ISP and FRP)

Mediation Paths of ORC	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Significant ?
COP -> ORC -> FIP	0.147	0.15	0.047	3.126	0.002	Yes
CUP -> ORC -> FIP	0.006	0.005	0.016	0.401	0.689	No
MIP -> ORC -> FIP	0.068	0.068	0.027	2.58	0.010	Yes
NOP_ -> ORC -> FIP	0.029	0.032	0.020	1.459	0.145	No
COP -> ORC -> MAP	0.106	0.112	0.043	2.497	0.013	Yes
CUP -> ORC -> MAP	0.005	0.005	0.013	0.361	0.718	No
MIP -> ORC -> MAP	0.050	0.050	0.021	2.403	0.017	Yes
NOP_ -> ORC -> MAP	0.021	0.022	0.014	1.532	0.126	No
COP -> ORC -> OPO	0.196	0.200	0.040	4.835	0.000	Yes
CUP -> ORC -> OPO	0.008	0.006	0.020	0.418	0.676	No
MIP -> ORC -> OPO	0.091	0.092	0.030	3.077	0.002	Yes
NOP_ -> ORC -> OPO	0.039	0.041	0.023	1.718	0.086	No

4.7 Mediation Analysis

As a result of the foregone analysis and conclusion we proceeded to carry out the actual mediation analysis to estimate the magnitude of the indirect effect of the mediating variable; organisational capabilities on the relation between the exogenous variable SPO and the endogenous variable; FRP measured by FIP, MAP, OPO. The output of the analysis is presented systematically in Table 7,8, Table 9 and Table 10 respectively. The outcome indicates that the relation between SPO and FRP is partially mediated by ORC. In controlling for firm characteristics such as firm age, firm size, firm ownership type and industry type the outcomes did not vary.

A variance accounted for (VAF) values indicated that more than 40%, 60% and 70% respectively of the total effect of the exogenous variable SPO onto FIP, MAP, OPO of (FRP) respectively is explained by the indirect effect. According to Hair et al., (2013) variance accounted for (VAF) ranges: < 0.20 = no mediation, VAF > 0.20 < 0.80 = partial mediation, VAF > 0.80 = full mediation.

The findings reveal that organisational capabilities partially mediate the relationship between institutional pressures and firm performance. However, the mediating effects vary across different dimensions of institutional isomorphism. Specifically, coercive pressures and mimetic pressures significantly influence firm performance through organisational capabilities, while normative and cultural-cognitive pressures do not exhibit significant indirect effects. This suggests that regulatory requirements and competitive imitation are more effective drivers of capability development than social norms or shared cultural beliefs.

The findings partially support Institutional Theory and align with studies by Zhu et al. (2013), Dubey et al. (2017), and Kumar et al. (2017), which reported that coercive and mimetic pressures often produce stronger organizational responses than normative pressures in emerging economies. The unique contribution of this study lies in decomposing institutional pressures into their constituent dimensions and demonstrating that not all institutional mechanisms generate equivalent performance outcomes. This

nuanced finding provides a more refined understanding of how institutional environments shape sustainability and performance relationships in developing countries. Tables 8, 9 and 10 present the Results of Mediation Analysis.

Table 8
Results of Mediation Analysis (ORC as A Mediator)

Exogenous Variable	Direct effect	Indirect effect	Total effect	VAF	Mediation
SPO	0.362	0.310	0.636	0.487	Partial
Dependent variable: Financial Performance					

Table 9
Results of Mediation Analysis (ORC as A Mediator)

Exogenous Variable	Direct effect	Indirect effect	Total effect	VAF	Mediation
SPO	0.120	0.404	0.614	0.657	Partial
Dependent variable: Operational Performance					

Table 10
Results of Mediation Analysis (ORC as A Mediator)

Exogenous Variable	Direct effect	Indirect effect	Total effect	VAF	Mediation
SPO	0.156	0.507	0.663	0.764	Partial
Independent variable: Market Performance					
Notes: VAF = indirect effect/total effect,					

The results of the PLS-SEM analysis on the mediating role of organisational capabilities on ISP and FRP is seen in Tables 11, 12 and 13. The results reveal a linkage between ISP and FRP being partially mediated by ORC. In controlling for firm characteristics such as firm age, firm size, firm ownership type and industry type the outcomes did not vary. Tables 11, 12 and 13 present the Mediation Analysis of Organisational Capabilities. Figure 4 presents Path diagram of ORC mediating between ISP and FRP.

Table 11
Mediation Analysis Organisational Capabilities (ORC)

Independent variable	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation
Institutional Isomorphisms	0.497	0.223	0.720	0.369	Partial
	Dependent variable: Financial Performance				

Table 12
Mediation Analysis Organisational Capabilities (ORC)

Independent variable	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation
Institutional Isomorphisms	0.390	0.348	0.738	0.471	Partial
	Dependent variable: Operational Performance				

Table 13
Mediation Analysis Organisational Capabilities (ORC)

Independent variable	Direct Effect	Indirect Effect	Total Effect	VAF	Mediation
Institutional Isomorphisms	0.179	0.144	0.445	0.323	Partial
	Dependent variable: Market Performance				

5. Cotributions

The contributions of this study are grounded in the empirical findings and address several gaps identified in the sustainable procurement, organizational capability, and institutional theory literature. First, the study extends Triple Bottom Line Theory, Dynamic Capability Theory, and Institutional Theory by integrating them into a single framework that explains how sustainable procurement orientation influences firm performance through organizational capabilities. While previous studies have largely examined these relationships independently, this study demonstrates their interconnected nature within an emerging economy context. Second, the study addresses a significant research gap concerning the mechanisms through which sustainable procurement orientation generates performance outcomes. The findings reveal that organizational capabilities partially mediate the relationship between sustainable procurement orientation and firm performance, thereby providing empirical evidence that capabilities constitute a critical pathway through which sustainability initiatives create value. Third, the study contributes to institutional theory by demonstrating that different forms of institutional pressure exert varying effects on organizational performance. Specifically, coercive and mimetic pressures were found to be more influential than normative and cultural-cognitive pressures in driving capability development and performance improvement. These finding advances understanding of institutional influences in developing-country settings. Fourth, the study contributes context-specific evidence from Ghana, an underrepresented setting in sustainable procurement research. By examining firms operating within a Sub-Saharan African economy, the study responds to calls for greater geographical diversity in sustainability research and enhances the external validity of existing theories.

5.1 Practical and Managerial Implications

The findings generate several practical implications for managers, policymakers, and procurement professionals. First, the results demonstrate that sustainable procurement orientation contributes directly to financial and operational performance. Managers should therefore view sustainable procurement not merely as a compliance requirement but as a strategic investment capable of improving organizational efficiency and profitability. This finding is consistent with recent studies emphasizing the business value of sustainability-oriented procurement practices.

Second, the study shows that organizational capabilities play a central role in translating sustainability initiatives into performance outcomes. Managers should prioritize investments in procurement competencies, innovation capabilities, employee training, knowledge management systems, and operational flexibility. Compared with earlier studies that focused primarily on sustainability adoption, the present findings highlight capability development as the key factor determining whether sustainability initiatives succeed or fail.

Third, the strong mediating role of organizational capabilities suggests that firms should adopt a capability-building approach when implementing sustainable procurement strategies. Continuous professional development, sustainability training programs, supplier collaboration initiatives, and digital procurement technologies can strengthen the organizational capabilities required to achieve superior performance.

Fourth, the findings indicate that coercive and mimetic institutional pressures are particularly effective in encouraging sustainable business practices. Policymakers can therefore strengthen sustainability outcomes through regulatory enforcement, sustainability standards, procurement guidelines, certification schemes, and incentive programs such as tax reliefs and subsidies for compliant firms.

Finally, the study contributes to practice by providing evidence that sustainable procurement and organizational capability development should be pursued simultaneously. Firms that integrate sustainability objectives with capability-building initiatives are more likely to achieve long-term competitive advantage than firms that focus exclusively on compliance-oriented sustainability programs.

5.2 Conclusion

One of the overarching purposes of this research, beyond achieving the stated research objectives, was to answer the central research question: to what extent do organisational capabilities condition the impact of sustainable procurement orientation and

institutional pressures on firm performance?

The findings provide a clear answer to this question. Sustainable procurement orientation positively influences financial and operational performance and significantly enhances organisational capabilities. Organisational capabilities, in turn, exert a strong positive effect on financial, operational, and market performance. Most importantly, organisational capabilities were found to partially mediate the relationship between sustainable procurement orientation and firm performance, indicating that firms derive greater benefits from sustainability initiatives when they possess the capabilities necessary to implement and leverage them effectively.

The study further demonstrates that organisational capabilities partially mediate the relationship between institutional pressures and firm performance. However, the strength of this mediation differs across institutional dimensions. Coercive and mimetic pressures were found to be more influential in driving capability development and performance improvement than normative and cultural-cognitive pressures.

Overall, the study concludes that sustainable procurement orientation alone is insufficient to maximize firm performance. The performance benefits associated with sustainability initiatives are significantly strengthened when firms develop robust organisational capabilities, including procurement, operational, innovation, and financial capabilities. Consequently, organisational capabilities represent the critical mechanism through which sustainable procurement orientation and institutional pressures are translated into superior organizational outcomes.

5.3 Implications for Management

The findings provide several important implications for management practice. First, managers should recognize that sustainable procurement orientation contributes directly to improved financial and operational performance. Procurement decisions should therefore incorporate environmental, social, and economic sustainability considerations as part of broader strategic objectives rather than being treated solely as compliance requirements. Second, the study demonstrates that organisational capabilities are essential for converting sustainability initiatives into measurable performance gains. Managers should invest in capability development through employee training, procurement professionalization, innovation programs, knowledge-sharing systems, and technology adoption. These investments strengthen the firm's ability to respond to sustainability challenges and opportunities.

Third, the findings reveal that organisational capabilities significantly mediate the relationship between sustainable procurement orientation and firm performance. This suggests that firms seeking to improve performance through sustainability initiatives should simultaneously pursue capability-building strategies. Such an approach is likely to generate stronger and more sustainable performance outcomes than sustainability initiatives implemented in isolation. Fourth, policymakers and regulators can leverage the influence of coercive and mimetic pressures by strengthening sustainability regulations, procurement standards, certification requirements, and industry benchmarking mechanisms. Compared with previous studies that emphasized voluntary sustainability adoption, the present findings indicate that regulatory and competitive pressures can play a significant role in stimulating organizational capability development and performance improvement. Finally, governments, as major purchasers of goods and services, can promote sustainable procurement practices through public procurement policies, supplier development programs, tax incentives, subsidies, and awareness campaigns. Such interventions can accelerate sustainability adoption while simultaneously enhancing organizational capabilities across industries.

5.4 Limitations and Directions for Future Research

Despite its contributions, the study has several limitations that provide opportunities for future research. First, the study employed a cross-sectional research design and focused on firms operating in Ghana. Consequently, the findings may not be fully generalizable to other countries or regions. Future studies should undertake cross-country investigations within Sub-Saharan Africa and other emerging economies to validate and extend the findings. Second, the study relied on survey-based data collected from firms operating across multiple industries. While this approach enhanced the breadth of analysis, it limited the ability to examine industry-specific dynamics. Future research should conduct sector-specific investigations to determine whether the observed relationships differ across manufacturing, construction, services, healthcare, and other industries.

Third, although organisational capabilities were examined as a mediating mechanism, future studies could explore additional mediators and moderators such as digital transformation, organizational culture, leadership commitment, supply chain integration, and environmental uncertainty. Such investigations would provide a more comprehensive understanding of the conditions under which sustainable procurement generates performance benefits. Fourth, future research could undertake comparative analyses between public and private sector organizations to determine whether differences exist in the influence of sustainable procurement orientation, institutional pressures, and organizational capabilities on performance outcomes. Finally, longitudinal studies are recommended to examine how sustainable procurement orientation and organizational capabilities evolve over time and how these changes influence long-term organizational performance. Such studies would provide stronger causal evidence and further advance theory and practice in sustainable procurement and sustainability management.

Declarations

Ethics Approval and Consent to Participate

This study was conducted in accordance with the ethical principles of the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana and all relevant institutional guidelines and regulations governing research involving human participants. Ethical approval was obtained from the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana review authority before data collection commenced. Participation was voluntary, and informed consent was obtained from all respondents prior to their participation in the study.

Informed Consent:

Informed consent was obtained from all participants prior to their participation in the study. Participants were adequately informed about the purpose and nature of the research, the voluntary nature of their participation, and their right to decline participation or withdraw from the study at any time without penalty. They were also assured that the information provided would be treated confidentially and used strictly for academic and research purposes. Participation commenced only after respondents had provided their informed consent.

Conflicts of Interest / Competing Interest

s: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Author Contribution

James Abagna Azanlerigu: Conceptualisation, development of the research framework, formulation of the research objectives and hypotheses, methodology, data collection, data analysis, interpretation of findings, and drafting and revision of the manuscript.Samed Abdul Muntaka: Conceptualisation, theoretical development, methodology, critical review of the manuscript, interpretation of findings, and revision of the manuscript.John Frimpong Manso: Conceptualisation, development of the theoretical and conceptual framework, methodology, interpretation of findings, critical review, editing, and revision of the manuscript. Issah Ofori: Methodology, research design, data analysis, interpretation of results, critical review, and revision of the manuscript.All authors contributed to the development and refinement of the manuscript, critically reviewed the final version, approved the manuscript for submission, and agreed to be accountable for all aspects of the work.

Data Availability

The datasets, survey instrument, variable coding scheme, and supporting materials used and/or analysed during the current study are available as supplementary files submitted with the manuscript for editorial and peer-review purposes.

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Figures

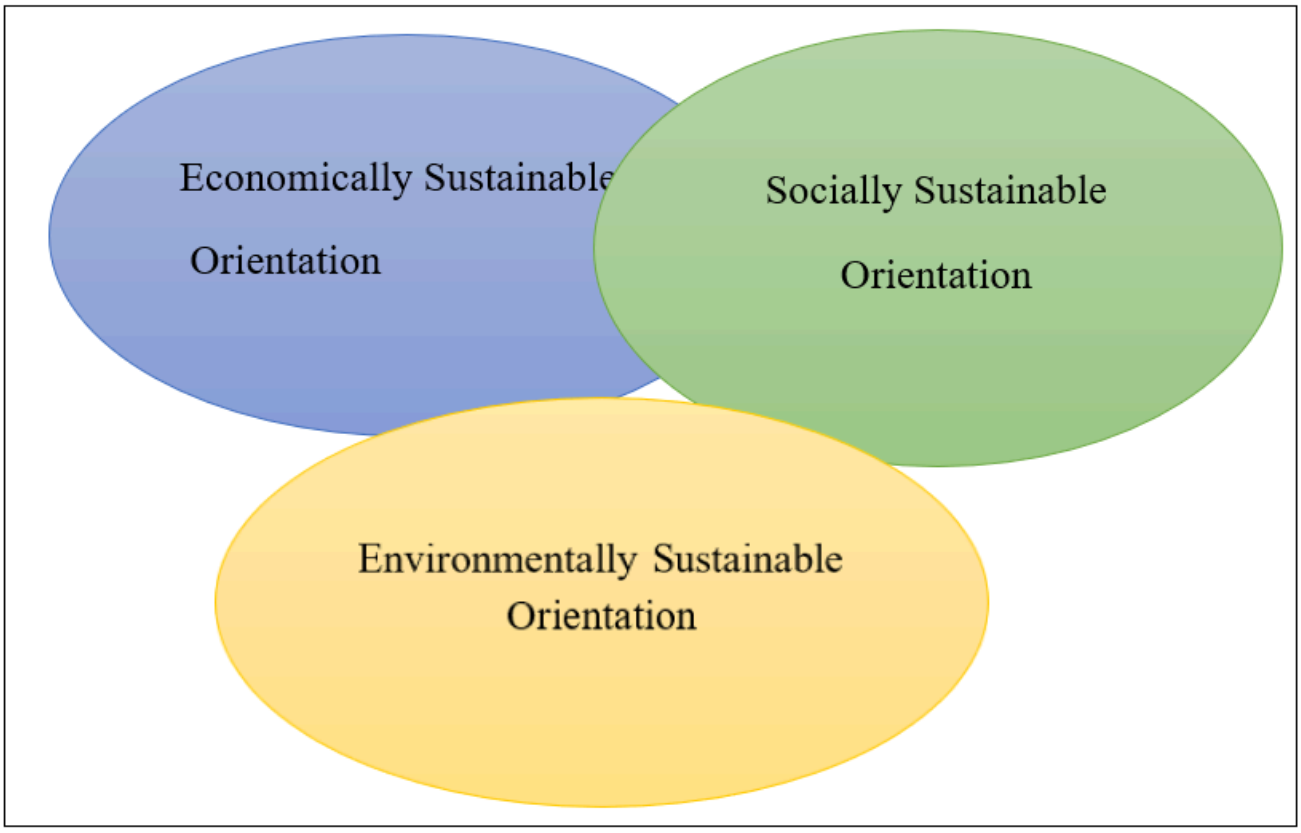


Figure 1

Sustainable Procurement Orientation

Source: Authors Own Work

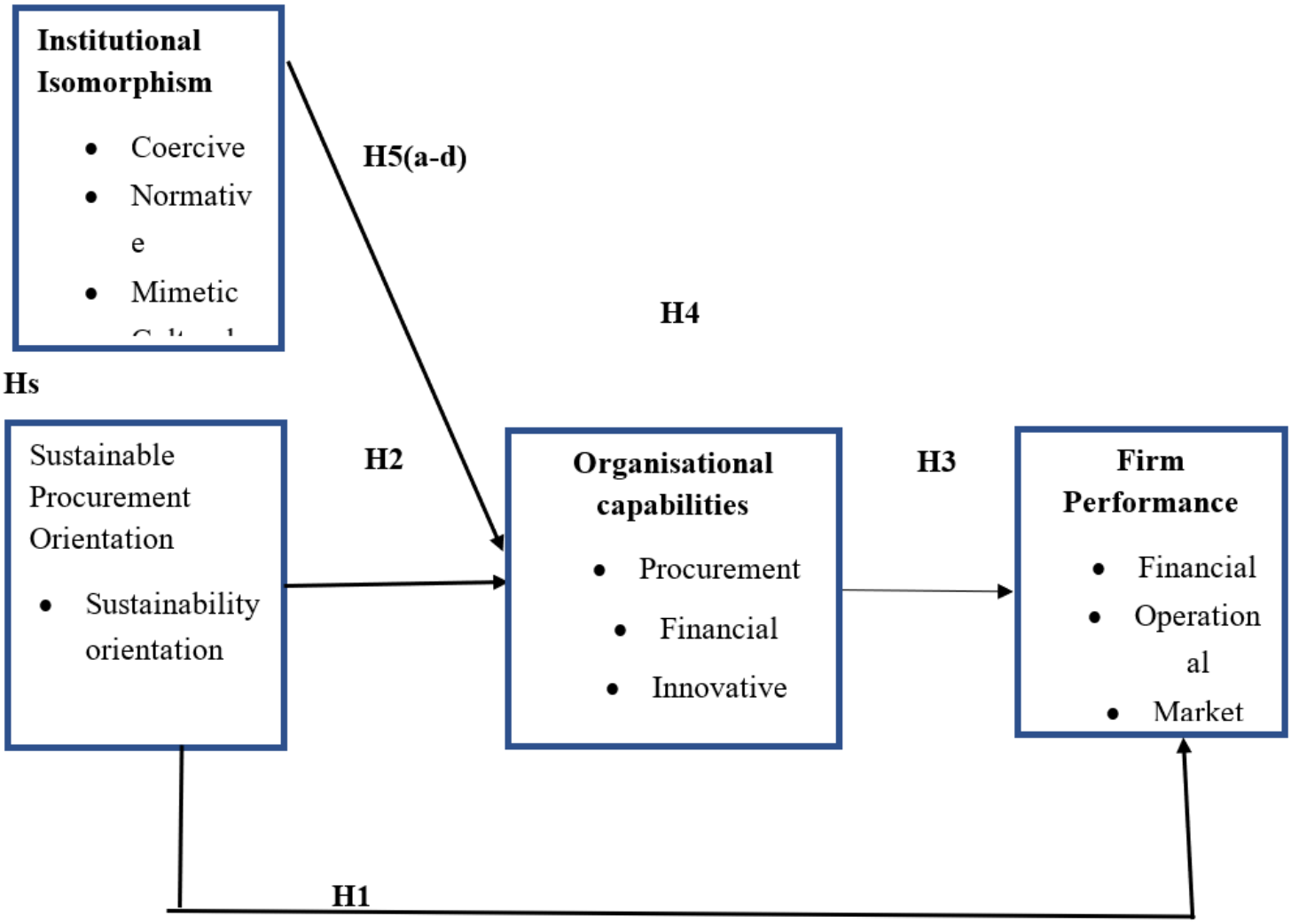


Figure 2

Theoretical Model, Source: Authors Own Work

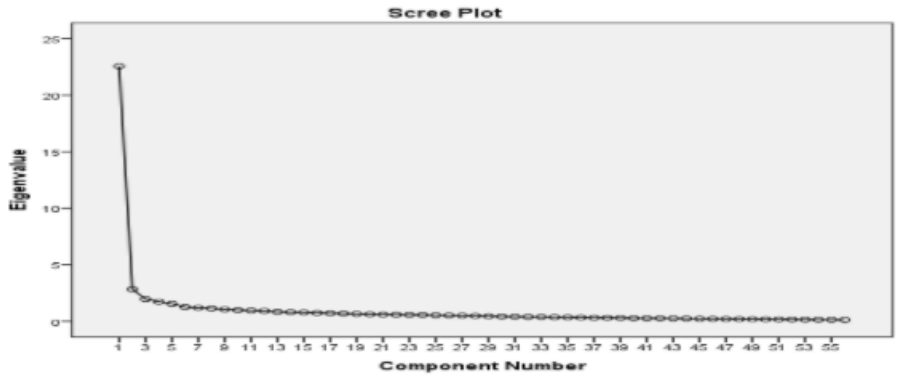


Figure 3

Scree plot for final EFA

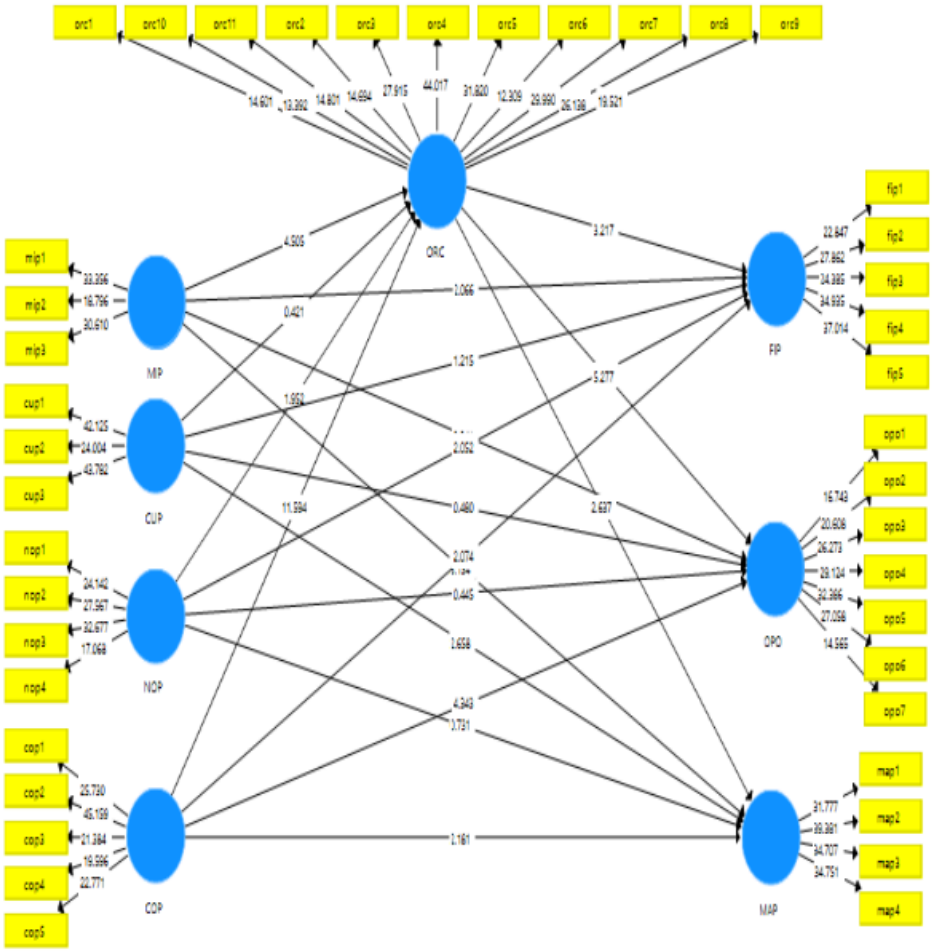


Figure 4

Path diagram of ORC mediating between ISP and FRP

Supplementary Files

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- SustainableProcurementOrientation500Responses.xlsx