Sourcing and Procurement Performance among Medium-Sized Enterprises in Kenya

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Abstract

E-sourcing has significantly enhanced the overall effectiveness of supply chains that are enabled by the Internet. In light of the significant and rapid global changes that the supply chain industry is currently facing, as well as the dynamic and complex environment, it is imperative to investigate the impact of entrepreneurship on the supply chain industry to adapt and survive in the market. This is because an increasing number of medium-sized enterprises can provide innovative solutions to existing supply chain pain points, despite the existing global challenges. This paper investigates the moderating role of entrepreneurial orientation on the relationship between e-sourcing and procurement performance of medium-sized enterprises in Kenya. Explanatory research design was utilized. Structured questionnaires were used to collect data. The target population of the study was 3427 from which a sample of 358 respondents was sampled from registered medium firms in Nakuru County, Kenya. Data analysis was carried out using Inferential & descriptive statistical techniques. The findings revealed that e-sourcing ($\beta = 0.150$, $p = 0.000$, <0.05) had a positive and significant effect on procurement performance. In addition, the study established that Entrepreneurial Orientation does not moderate the relationship between electronic sourcing and procurement performance ($\beta = 0.009$, $p = 0.714 > 0.05$). The results of this study can provide useful guidance for the management of medium-sized enterprises. E-procurement technology or platforms play a significant role in procurement performance. Prior studies have examined the direct relationship between e-sourcing and procurement performance. However, this paper introduces the moderating effect of entrepreneurial orientation on the relationship between e-sourcing and procurement performance.

Keywords: Procurement Performance, Electronic-Sourcing Adoption, Entrepreneurial Orientation, E-Procurement

Introduction

The performance of medium-sized companies is vital not just for a country's GDP, but also for its economic stability. However, there are many impediments that have a substantial impact on microenterprises resulting in their lower performance (Tambunan, 2019). Medium-sized companies are increasingly under pressure to improve their procurement performance by adopting electronic procurement methods. Medium-sized enterprises have lagged behind their larger counterparts due to various challenges. A primary concern is the inadequate allocation of resources and the scarcity of skilled individuals. Previous studies have utilized many metrics to measure the multidimensional nature of performance (Demberere, Waithaka, & Matunga, 2023). The researchers analyzed both financial and non-financial indicators, as well as the performance of both local and global enterprises. Organizations frequently employ financial measures to assess the efficacy of their market expansion efforts. These metrics encompass several indications that pertain to growth and profitability. Non-financial indicators refer to measures such as owner satisfaction, worldwide progress scores, targets, and other related metrics (Rosenbusch, Rauch, & Bausch, 2013). In order to improve the efficiency of medium-sized companies (MEs) and provide them with a competitive advantage, it is important to explore and implement creative ideas. MEs play a significant role in the economy, thus it is crucial to adopt strategies that will enhance their performance (Tien, Anh, & Ngoc, 2020).

Premkumar (2009) avers that e-sourcing is the utilization of internet technologies, typically the internet itself, to locate and acquire next-generation supplies for a given spend category. By discovering more suppliers, a buyer can enhance the competitiveness of the tactical purchasing process for this specific expenditure category, thereby enhancing the overall performance of the supply chain (Ribeiro & Henriques, 2011). Songip, Lau, Jusoff, and Ramli (2013) contend that e-sourcing refers to the utilization of an internet-based software system to create and authorize purchasing requisitions, place purchase orders, and receive purchased goods and services. This technological approach significantly enhances supply chain performance. In the context of e-sourcing, the goods and services that are ordered are classified as indirect goods and services. This means that they are goods and services that are not directly tied to the production of a product (Van Weele, 2010).

Online sourcing platforms offer opportunity for SMEs to transition from a focus on supplying to meeting demand, so increasing their marketing efficiency. Online sourcing offers a feasible alternative for small and medium-sized enterprises (SMEs) compared to the expensive and intricate procedures associated with traditional sourcing in large firms. Electronic ordering solutions eliminate repeated manual operations and eliminate the requirement for paperwork, allowing firms to save expenses, enhance productivity, and enhance customer service. Consequently, this leads to an improvement in supply chain performance (Porter & Millar, 2015).

Entrepreneurial orientation refers to the distinctive strategic strategies and attitudes that firms engaged in entrepreneurial activity often adopt. Entrepreneurial orientation is the tendency of a company to embrace innovative strategies in their product marketing, participate in ventures that involve risk-taking, and proactively address environmental issues to minimize social risks (McKenny, Short, Ketchen Jr, Payne, & Moss, 2018). Entrepreneurial organizations must exhibit characteristics such as creativity, a propensity for risk-taking, and a proactive mindset. The organization demonstrates its innovation by employing imaginative tactics to deliver new and unique products or services. Risk-taking pertains to the willingness of a company to invest significant resources to ventures in an uncertain environment. The corporation

proactively pursues new opportunities to introduce cutting-edge products ahead of competitors, while also anticipating future market demand (Putniņš & Sauka, 2020). The adoption and implementation of e-procurement, specifically e-sourcing, inside an organization is contingent upon the level of entrepreneurial orientation present within the business.

Niu et al. (2020) suggested that a greater level of entrepreneurial orientation encourages organizations to develop a proactive and receptive mentality and demonstrate sensitivity to their external environment. The study conducted by Memon and Ooi (2023) highlights the significance of entrepreneurial orientation in predicting procurement performance. However, there is a lack of information about how entrepreneurial attitude affects the relationship between e-procurement adoption and procurement performance in developing countries. To expand the scope of the medium enterprises-oriented procurement framework, it is essential to include evidence beyond that which pertains solely to developing countries. Kenya serves as a significant case study in this context, providing valuable empirical insights. This study makes valuable additions to the existing body of knowledge on e-sourcing and its impact on procurement performance. Firstly, it adds to the field of literature by suggesting that entrepreneurial orientation has a moderating effect on the relationship between e-sourcing and procurement performance. This study expands upon the existing body of knowledge concerning medium-sized firms in developing nations. This study provides a thorough assessment of the adoption and utilization of e-procurement in Kenya, specifically focusing on its effects on procurement performance in medium-sized enterprises.

Literature Review and Hypotheses Development

This section reviews the variables of the study beginning with the dependent variable; procurement performance the predictor variable; electronic sourcing and the moderating variable; entrepreneurial Orientation in Medium Sized Enterprises and finally the hypothesis.

Procurement Performance of Medium-Sized Enterprises

Every company strives to attain maximum efficiency and produce significant revenues. The assessment of a company's performance involves the comparison of its concrete outcomes with the predetermined goals. In addition, companies utilize this term as a comprehensive indicator of their overall financial health within a particular period. Additionally, it can be utilized to draw comparisons among analogous firms within the same sector or across different sectors or industries. The firm's financial performance is generally assessed using accounting ratios. Commonly used ratios include return on assets (ROA), return on investments (ROI), return on capital employed (ROCE), and return on equity (ROE) (Gartenberg, Prat, & Serafeim, 2019).

In addition, it is possible to evaluate a company's performance by utilizing non-financial indicators. Salehi and Arianpoor (2021) argue that assessing a company's non-financial performance requires considering aspects such as market share, changes in personnel count, and other relevant indicators. Abdullahi, Ardo, Hassan, and Ibrahim (2021) suggest that a correlation exists between large workforces and high performance, whereas small workforces may be indicative of low performance. Companies often rely on this measurement when there is a lack of financial information. There is a common assumption that an increase in employment is directly related to an increase in profits. In addition, non-financial metrics such

as delivery time, brand recognition, market share and position, level of innovation, manufacturing capacity, yield, and resource conservation can be used to assess a company's performance.

Practitioners, academicians, and researchers have shown enduring interest in procurement performance due to its subpar results, which stem from a failure to adhere to suitable methods and procedures. The topic of procurement performance has attracted considerable attention from practitioners, academicians, and scholars since the 1930s. According to Lee, Venkataraman, Heim, Roth, and Chilingerian (2020), the authors suggest that the performance of procurement is dependent on the efficiency and effectiveness of purchasing within the procurement function. Transitioning from a responsive strategy to a proactive one is necessary in order to attain pre-established performance benchmarks inside a firm. Petersen, Jensen, and Bhatti (2022) propose that there are two key elements that influence purchasing performance: purchasing effectiveness and purchasing efficiency. Performance review enables an organization to assess its advancement towards predetermined objectives, identify areas of strength and weakness, and determine future initiatives aimed at enhancing performance. Triangulating financial and non-financial aspects of performance involves analyzing multiple data sources to gain a comprehensive view of an organization's overall performance. Identify key performance indicators metrics such as revenue growth, profit margins, return on investment (ROI), and cash flow and non-financial indicators such as customer satisfaction scores, employee engagement levels, operational efficiency, and market share was undertaken to create a framework that aligns financial metrics with non-financial indicators. Procurement performance is a means to effectively and efficiently supervise and manage the purchasing function (Bag, Wood, Mangla, & Luthra, 2020).

E-Sourcing Adoption Among Medium Sized Enterprises

Organizations acquire products and services via a systematic procurement process. Procurement is viewed as a strategic instrument that facilitates the effective and efficient management of public resources, encompassing all acquisitions necessary for the operation of government activities and services (Sarpong et al., 2017; Charnor & Quartey 2024). Enterprises are implementing electronic sourcing initiatives due to their cost-effectiveness and efficiency (Wei et al., 2015; Charnor & Quartey 2024). According to Rotich and Okello (2015), e-sourcing enhances efficiency, transparency, accountability, and effectiveness. Developing countries have not realized such benefits due to their lack of adoption of e-sourcing practices. Previous studies indicate that electronic procurement adoption has enhanced the procurement process (Frimpong et al., 2020; Charnor & Quartey, 2024), fostered public trust (Matano et al., 2020; Charnor & Quartey, 2024), and improved procurement responsiveness (Issa, 2020; Charnor & Quartey, 2024) in developed economies. Several studies have demonstrated a positive correlation between the adoption of electronic procurement and performance, including notable works by Candela and Ulises (2022), Wangari and Charles (2020), Ndei and Mutuku (2021), and Rasugu (2021).

The electronic-sourcing system is an information technology-driven purchasing mechanism positioned at the input stage of the supply chain. It is widely recognized that information infrastructures, including e-procurement systems, are becoming more interconnected and integrated with other infrastructures, facilitating enterprise growth (Vaast and Walsham, 2009; Hsin Chang et al., 2012). The application of information technology in e-procurement systems is regarded as an innovative strategic action (Mishra and Agarwal, 2010). E-procurement encompasses various processes, including supplier selection through tendering or reverse auctions, order placement, order fulfillment, and payment and settlement. Other

relevant perspectives categorize e-procurement into six forms: electronic ordering/maintenance, web-based enterprise resource planning, electronic sourcing, electronic tendering, electronic reverse auctioning/electronic auctioning or combinatorial auctions, and electronic informing (Ahmad 2019).

Entrepreneurial Orientation in Medium Sized Enterprises

Medium-sized enterprises are encountering a formidable external landscape as a result of the swift progress of technology, globalization, and the existence of increasingly sophisticated rivals. These companies must possess the ability to identify and exploit opportunities by adapting to the constantly evolving environment well ahead of their competition, even with limited resources due to their small size (Bari, Chimhundu, & Chan, 2022).

Entrepreneurial orientation (EO) has been defined as a process that enhances an individual's capacity to acquire entrepreneurial knowledge, raising awareness and understanding and providing an overall mental picture of entrepreneurship (Ikpesu, 2016). The concept of entrepreneurial orientation was developed by Miller (1983) with reference to three dimensions: risk-taking, innovativeness and proactiveness. Later, Lumpkin and Dess (1996) redefined EO with the addition of two new dimensions – autonomy and competitive aggressiveness.

Okoli, Nwosu, and Okechukwu (2021) have emphasized the extensive acknowledgement of entrepreneurial orientation (EO) as a vital factor in determining a firm's success, including its growth and profitability. A company's robust expansion, which includes increases in sales, profits, and market share, is linked to its entrepreneurial orientation (EO). Therefore, a firm can grow by associating itself with proactive conduct, innovative practices, independence, a willingness to take chances, competitive hostility, and competitive energy (Ok & Ahn, 2019). These elements collectively pertain to a component called entrepreneurial orientation (EO). The correlation between a company's entrepreneurial orientation (EO) and its performance has been thoroughly investigated, both in terms of theoretical frameworks (Basco, Hernández-Perlines, & Rodríguez-García, 2020) and empirical studies (Meekaewkunchorn, Szczepańska-Woszczyna, Muangmee, Kassakorn, & Khalid, 2021; Putniņš & Sauka, 2020; Shah & Ahmad, 2019). Nevertheless, there exist a multitude of unsolved inquiries (Moreno and Cassilas, 2008).

Entrepreneurial orientation (EO) refers to the strategic posture of an organization characterized by proactive, innovative, and risk-taking behaviors. It is essential for firms looking to gain competitive advantages and adapt to changing market conditions. Procurement performance pertains to the effectiveness and efficiency of an organization's procurement processes, including sourcing, purchasing, and managing supplier relationships. There is a significant relationship between entrepreneurial orientation and procurement performance, influencing how organizations manage their supply chains and procurement activities. Firms with a strong EO tend to build more collaborative relationships with suppliers, leading to better communication, trust, and joint problem-solving, which can enhance procurement performance. Organizations with high entrepreneurial orientation can more effectively adapt procurement strategies to market trends, leading to timely sourcing of materials and cost-effective purchasing decisions.

The willingness to engage in new ideas, processes, and products. In procurement, this can lead to the adoption of innovative sourcing techniques, new technologies, and more effective supplier relationship management. Miller (1983), enterprises that partake in somewhat risky undertakings, exhibit innovation in both the market and product domains, and are generally the pioneers in embracing proactive advancements,

hence outperforming their rivals, can be characterized as possessing an entrepreneurial mindset. Moreover, the propensity to take risks when pursuing opportunities. Organizations with a high EO may choose to partner with new suppliers or adopt unconventional procurement strategies, which could lead to improved performance and cost. The concept of proactiveness is closely associated with the notions of initiative and first-mover advantages. It entails the act of taking initiative by anticipating and actively seeking new opportunities. The ability to anticipate future needs and act in advance. Proactive procurement approaches can help organizations identify new suppliers, negotiate better contracts, and adapt to market changes rapidly, enhancing overall procurement performance. The concept of proactiveness in entrepreneurship is distinct from competitive aggressiveness and is characterized by the ability to seize initiative and act opportunistically in order to alter the business environment. With regards to competitive aggressiveness, the scope of the organization's efforts focuses on how to outperform competitors. A strong EO can motivate procurement teams to seek out better deals and leverage competitive advantages in supplier negotiations.

Various research investigating the correlation between entrepreneurial orientation (EO) and the success of small businesses have produced inconclusive findings since they relied on a single-dimensional assessment of EO. Multiple research (Zampetakis et al., 2017; Neneh & van Zyl, 2017; Mwangi & Ngugi, 2017) have demonstrated that entrepreneurial orientation (EO) significantly enhances the growth of small firms. Nevertheless, several additional studies (Slater & Narver, 2010; Walter et al., 2016; Moreno & Casillas, 2018) have failed to identify a substantial linear correlation between small business growth and entrepreneurial orientation (EO). The equivocal findings indicate that the connection between entrepreneurial orientation (EO) and growth is not simple, suggesting the existence of other factors that may come from within or outside the firm and have an impact.

The current knowledge base has not extensively examined the correlation between the utilization of e-sourcing among medium-sized firms in Kenya and procurement performance, as well as the indirect impact of entrepreneurial orientation on this correlation. Our proposal suggests a clear connection between the use of e-sourcing and the performance of procurement. This connection is influenced by several indirect causative factors. Therefore, we propose a hypothesis that.

***H_{O2}**: There is no significant moderating effect of entrepreneurial orientation on the relationship between e-sourcing and procurement performance of medium enterprises*

To eliminated potential confounders and improved the exogenous variable's and moderator's predictive power by controlling for other potential influences on the endogenous variable. These were firm size and firm age

Firm Size

The study took firm size into account. Larger enterprises have better internal control systems and are subject to greater market scrutiny (Bedard & Johnstone, 2004). Size of the company and performance are linked in previous research (Sharma & Kuang, 2014). Larger companies have stronger monitoring demands and incentives (Klein, 1998). Firms with larger size want more performance. Each year's firm size is a natural logarithm of total assets. Unlike small businesses, shareholders of medium enterprises put a lot of pressure on the company to perform well. So, management must match these expectations. The larger the company, the more invested capital, and thus the more attention from shareholders. Firm size affects procurement

performance quality. Previous studies such as Elghuweel et al. (2017) used the natural log of total assets to control firm size.

Firm Age

The length of a company's existence since establishment affects its performance. Various management and firm-level objectives drive this. Gemma and Masulis (2011) claim that older firms have less incentive to exaggerate e-procurement processes, establishing a link between age and performance. As a result, young companies may be more prone to falsifying sales performance (Belitski & Desai, 2019). Scholars have defined firm age as the number of years since incorporation (Ghafoor et al., 2019; Perols & Lougee, 2011; Wang & Hsu, 2013; Waswa et al., 2018). Using previous research, this study will calculate the firm's age by tallying the years from incorporation to observation. Thus, business age is an important factor to consider when evaluating performances.

Methodology

Data Collection

To assess the suggested model and hypotheses, we specifically targeted 3427 individuals who are owners or managers of officially registered medium-sized firms located in Nakuru County. A representative sample was selected using stratified random sampling technique from several industries including manufacturing, retail, transport, agricultural, hotel, automotive services, and hardware services. A sample size of 358 medium sized firms was determined using Yamane's formula (1967) after randomly selecting them from analysis. By removing 5 data cases that were major outliers, as they deviated from the normal distribution, we got 285 valid data sets that were used for further analysis for the study. different strata to ensure the elimination of bias. The owners and or managers of each of these medium enterprises were then chosen for the study.

A total of 290 questionnaires were collected, resulting in a response rate of 81.0 percent. This response rate aligns with Creswell's (2019) suggestion that response rates of 70 percent or higher are considered exceptional, while rates of 60 percent are considered good, and rates of 50 percent are suitable for data

Reliability and Validity

Data collected was tested for validity and reliability. Findings for reliability revealed that Procurement Performance (0.871), E-sourcing (0.838) and Entrepreneurial Orientation (0.831) were all found to be reliable and thus fit for use for further analysis.

Table 1: Reliability Analysis

Construct	Cronbach's Alpha	Number of Items
Procurement Performance	.871	10
E-sourcing	.798	6
Entrepreneurial Orientation	.831	6

For test of validity, principal components factor analysis for the main variables was used in order to examine the unrotated factor solution and determine the number of factors necessary to account for the variance in the variables (Jarvis, Mackenzie, and Podsakoff 2003). The results of the principal components factor

analysis revealed a KMO test statistic of 0.537. According to Kaiser (1974), KMO values greater than 0.5 are statistically sufficient. In this study, the value of 0.537 indicates that sampling was sufficient. Besides to the KMO test, the Bartlett's test of sphericity was also highly significant with 19254.883 at 714 degrees of freedom and P<0.05. Bartlett's Test of Sphericity generated a P value of 0.000, indicating that the dataset's constructs are significantly correlated. These results provide justification for further statistical analysis to be conducted. The factor analysis process yielded three components as indicated with Eigen values above 1 which implies that each factor can explain more variance than a single variable. The cumulative percentage of variance explained by the three factors is 81 per cent.

Table 2: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.537
Bartlett's Test of Sphericity	Approx. Chi-Square	19254.883
	df	741
	Sig.	.000
Total Variance Explained		81%

Construct Measurement

The variables utilized in this study were evaluated using scales derived from previous studies, with minor adjustments made to align with the specific setting of the current study. Respondents were asked to rate each of the main constructs on multi-item scales using a five-point ordinal scale (1 strongly disagree to 5 strongly agree) their degree of e-sourcing adoption and use, and entrepreneurial orientation and procurement performance. In this study, the dependent variable is procurement performance. Procurement performance which focuses on financial and non-financial benefits, efficiency of procedures, and effectiveness, and ability to establish a range of measures to evaluate procurement activities. Consistent with other studies this variable was measured using the ten retained items after factor analysis on a five Likert scale. E-procurement was the independent variable which was measured using six retained items after factor analysis on a five Likert scale. The study respondents were asked to indicate on a five-point Likert scale their level of agreement on statements describing e-sourcing. The moderator, entrepreneurial orientation was measured using measured six retained items after factor analysis on a five Likert scale.

Conditions for Moderation

Moderation analysis technique may be used to examine the impact of a third variable (moderating variable) on the relationship between variables the predictor and dependent variables. Moderation examines when or under what circumstances an effect occurs rather than attempting to establish a causal relationship between these other variables (Chandra & Sharma, 2019). A relationship's nature may be strengthened, weakened, or changed by the moderating variable. The study used the steps for testing moderation provided by Baron and Kenny (1986). The first step was to establish the influence of independent variables on the dependent variable. Then, the effect of the moderating variable on the dependent variable was established. Thereafter, the interaction terms were computed between the independent variables and the moderating variable. Then a multiple regression model was fitted with independent variables, moderating variable and the interaction term as predictors. Moderation was shown by the regression coefficient for the interaction terms. A

significant moderating effect was shown by a significant coefficient. For moderation to take place, three important conditions must be fulfilled (Hayes, 2013). The amount of variance accounted for with the interaction should be significantly more than the variance accounted for without the interaction. The coefficient for the interaction terms should be different from zero. The overall models with and without the interaction should be significant.

Model Specification

To test the hypotheses, the study adopted a hierarchical multiple regression model (Baron & Kenny, 1986). Three regression models were proposed for the purpose of analysis. The following sets of equation were used.

Model 1. Testing the effect of control variable firm size on firm performance.

$PP = \beta_0 + \beta_1 FS_{it} + \beta_2 FA_{it} + \varepsilon_{it}$ ..... *(1)*

Model 2. Testing the effect of the predictor variable e-sourcing on procurement performance.

$PP = \beta_0 + \beta_1 C_{it} + \beta_2 ES_{it} + \varepsilon_{it}$ ..... *(2)*

Model 3. Testing the effect of the moderating entrepreneurial orientation on procurement performance.

$PP = \beta_0 + \beta_1 C_{it} + \beta_2 ES_{it} + \beta_3 EO_{it} + \varepsilon_{it}$ ..... *(3)*

Model 4. Testing the moderating effect of entrepreneurial orientation on e-sourcing and procurement performance

$PP = \beta_0 + \beta_1 C_{it} + \beta_2 ES_{it} + \beta_3 EO_{it} + \beta_4 X1 + \varepsilon_{it}$ ..... *(4)*

Where:

PP = procurement performance

$\beta_1 \ldots \beta_4$= slope representing degree of change in independent variable by one unit variable.

C= Control Variables (Firm Size, Firm Age)

ES= e-sourcing

EO= Moderator (entrepreneurial orientation)

ε = error term

Results and Discussion

Demographic Information

Demographic information provides data on research participants and is required for determining whether the individuals in a particular study are a representative sample of the target population for purposes of generalization (Salkind, 2010).

Table 3: Gender of Respondents

		Frequency	Percent
Gender	Male	175	61.4
	Female	110	38.6
	Total	285	100.0
Education Level	Diploma	101	35.4
	Degree	159	55.8
	Postgraduate	25	8.8
	Total	285	100.0

Years of Experience	1-3 Years	74	26.0
	4-7 Years	99	34.7
	8-11 Years	60	21.1
	12 Years +	52	18.2
	Total	285	100.0
Years of Operation	Less than 3 Years	65	22.8
	3-7 Years	80	28.1
	8-12 Years	37	13.0
	13-17 Years	47	16.5
	18-22 Years	56	19.6
	Total	285	100.0
Number of Employee	49-100 employees	241	84.5
	>100 employees	44	15.5
	Total	285	100.0

Type of Ownership	Sole	111	38.9
	Partnership	136	47.7
	Ltd Company	38	13.3
	Total	285	100.0

The results in Table 3 imply that that a majority of respondents 175(61.4%) were male while 110(38.6%) were female. This shows that there is gender disparity in the MEs sector indicating a violation in the implementation of the constitutional two thirds gender rule in Kenya. Gender disparity in medium-sized enterprises (MEs) in Kenya presents a significant barrier to economic growth and empowerment particularly among women. Women entrepreneurs frequently encounter challenges in securing financing, attributed to inadequate collateral, limited credit history, and systemic biases within institutions. Women-led SMEs often face challenges in accessing markets as a result of existing gender norms and disparities in networking, information dissemination, and marketing channels. Moreover, women entrepreneurs often face restricted access to education and training opportunities, which can impede their capacity to manage and expand their businesses effectively. Additionally, current laws and regulations may not sufficiently support women's entrepreneurship or may present challenges for women to navigate. Furthermore, women frequently assume the dual roles of managing household responsibilities and business operations, which restricts their time and resources for business development. Cultural expectations surrounding gender roles may limit women's involvement in entrepreneurship and their recognition as business leaders.

A majority of the respondents 159(55.8%) were degree holders followed by 101(35.4%) respondents who had diploma qualifications. A paltry 25(8.8%) had postgraduate qualification. The education level of respondents offers insights into their knowledge, skills, and capabilities, potentially influencing business decisions and performance. Higher education levels may be associated with enhanced managerial practices, innovative strategies, and a deeper understanding of market dynamics, resulting in improved business outcomes. Analyzing the educational background of respondents' aids in identifying knowledge gaps and informs the creation of customized training programs or resources. Regarding years of experience, the study established that a majority of the respondents 99 (34.7) had worked for a period between 4 to 7 years in the ME establishment. This was followed by those who had worked for a period of between 1 and 3 years, 74(26%). Further a total of 60 (21.1%) of the respondents had worked for a period between 8 and 11 years.

This was closely followed by those that had worked for more than 12years 52 (18.2). More years of experience can indicate accumulated skills and knowledge, leading to better management practices and resilience against market changes.

The study sought to establish the number of years that an establishment had been in operation. Accordingly, the study established that 80 (28.1%) of the respondents said that the ME they worked for had been in operation for between 3-7 years. This was followed by those that said that their establishment had been in operation for less than three years 65 (22.8%). Those that said that their establishment had been in operation for between 18 and 22 years were 56 (19.6%) while those whose establishments had been in operation for between 13 and 17 years were 47 (16.5). A total of 37 (13%) of the respondents said that their establishment had been in operation for between 8 and 12 years. Length of firm operation helps to evaluate the stability and experience of a firm within the market. Firms operating for longer periods may have established reputations, customer bases, and operational efficiencies, influencing their financial performance and strategic decisions.

The study further sought to establish the number of employees employed by the MEs. Findings from the analysis revealed that a majority of the respondents 241 (84.5%) said that the MEs employed between 49 and 100 employees. Only 44 (15.5%) had employed more than 100 employees. Finally, the study sought to establish type of ownership of the MEs. Findings revealed that majority of the respondents 136(47.7%) said that most MEs were owned through partnership. This was followed by 111 (38.9%) of respondents who said that most MEs were sole partnership and only 38 (13.3) respondents said that the MEs where limited companies.

Descriptive Statistic, Correlation Analysis and Multicollinearity Test

Table 4 shows the summary statistics for the sampled variables, with procurement performance (PP) having the highest mean of, (M=4.40 and SD = 0.60). This was followed by e-sourcing (EP) (M = 4.19, SD = 1.01) and entrepreneurial orientation (EO) (M = 4.05, SD = 1.15) respectively. The variables were assessed for their correlations using Pearson's correlation analysis (Bougie & Sekaran, 2019). According to the findings presented in Table 4 the variables exhibit a positive correlation. The data shown in Table 5 depict results of the correlation which revealed that all the variables were positively and significantly related with procurement performance. This implies that electronic sourcing has a positive association with procurement performance such as a electronic sourcing increases, procurement performance of medium enterprises also increases. Further, as entrepreneurial orientation increases, procurement performance also increases. Specifically, a unit increase in electronic sourcing leads to 0.672 unit increase in procurement performance. Moreover, a unit increase in entrepreneurial orientation also leads to 0.197 unit increase in procurement performance.

Table 4; Descriptive Statistic Correlation Analysis

	Mean	**SD**	**PP**	**EP**	**EO**	**I/VIF**	**VIF**
PP	4.40	0.60	1				
ES	4.19	1.01	.672**	1		.736	1.359
EO	4.05	1.15	.197**	.076**	1	.979	1.021

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

PP- Procurement Performance, EP- Electronic Sourcing, EO- Entrepreneurial Orientation

Regression Analyses

Results presented in Table 5 show the effect of the control variables (firm age and firm size) on the Dependent variable (procurement performance). Findings indicate that Firm Size (β = 0.016, p= 0.280) and Firm Age (β = 0.034, p= 0.265) were both found to have an insignificant effect on procurement performance. This model explains 11.8% of the total variance in procurement performance as shown by R^2 0.008 which has a significant F= 1.124, p =.327.

Table 5: Coefficient Results for Control Variables

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	4.312	.073		59.239	.000
	Firm Size	.016	.015	.064	1.083	.280
	Firm Age	.034	.030	.066	1.117	.265
Model Summary						
R			.189			
R^2 Change			.118			
Std. Error of the Estimate			.36707			
Model Fit						
F change			1.124			
Sig.			.000			

Source: Field Data

Test for Direct Effect

The first hypothesis of the study hypothesized that there is no significant effect of e-sourcing on procurement performance of Medium Enterprises. To test this prediction, e-sourcing was regressed on procurement performance while controlling firm size and firm age. From the findings, it was established that firm Size (β = 0.000, p= 0.959, >0.05) and Firm Age (β = 0.022, p = 220, >0.05) was found to be insignificant in this model. This model explains 65.6% of the total variance in procurement performance as shown by R^2 = 0.656 which has a significant F= 88.239, p =.000. Further, results of the independent variable, e-procurement, presented in table revealed that there was a positive and significant effect between electronic sourcing and procurement performance (β = 0.150, p = 0.000, <0.05) implying that electronic sourcing leads to an increase in procurement performance. Thus, we reject the null hypothesis, and a conclusion is made that electronic sourcing has a significant effect on procurement performance. The null hypothesis is therefore rejected and a conclusion made that that electronic sourcing has a significant effect on procurement performance.

The findings are in line with Hsin et al., (2013) who noted that over the past three decades many organizations have exhibited tremendous growth in the use of e-sourcing. It has been commonly accepted that information infrastructure systems such as e-procurement have become increasingly connected and embedded with other infrastructure to initiate growth of enterprises.

Table 6: Coefficient Results for Direct Effect

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	Std. Error	Beta		
2	(Constant)	1.346	.199		6.760	.000
	Firm Size	.000	.009	-.002	-.052	.959
	Firm Age	.022	.018	.044	1.229	.220
	ES	.150	.041	.209	3.700	.000
Model Summary						
R			.810			
R^2 Change			.648			
Std. Error of the Estimate			.21779			
Model Fit						
F change			88.239			
Sig.			.000			

Source: Field Data

Testing For Moderating Effect of Entrepreneurial Orientation

The moderating effect was tested in a series of hierarchical blocks. In model 1, the control variables were tested. In model 2, the independent variable electronic sourcing was tested. In model 3, entrepreneurial orientation which is a moderator was also tested so as to establish the contribution on the model. Then a cross product of the moderator with the independent variable was then computed. In model 4, the interaction terms between the moderator and the independent variable were hierarchically tested.

With the inclusion of the moderator in the model, firm size does not significantly influence procurement performance (β = -0.001, p = 0. 866), moreover, firm age was positive and significantly insignificant on procurement performance (β = 0.018, p = 0.319). In addition, the analysis demonstrates that electronic sourcing (β = 0.332, p = 0.019) has a significant effect on procurement performance in this model. The results suggest an R2 value of 0.675, a change in R2 of 0.002, and a statistically significant F= 82.104, p = 0.000. This suggests that entrepreneurial orientation accounted for 0.2% of the variance in procurement performance. This work proposes, empirically tests, and extends the procurement performance model to describe how MEs utilize electronic sourcing by including entrepreneurial orientation.

Test for Interaction Term

The results of the interactions of entrepreneurial orientation on the relationship between electronic sourcing and procurement performance is presented in model 4. The results of the first interactions of **entrepreneurial Orientation** on the relationship between electronic sourcing and procurement performance. This Model indicates an improved R^2 of 0.690 and change in R^2 of 0.*013*, with F= .141, p = 0.000 which implies that the first interaction explains 0% of the variance in procurement performance. The findings regarding the controls in this model indicate that firm size (β = -0.001, p = 0***.831***) was found to be insignificant but firm age (β =0.018 p = 0.333) was found to be insignificant. Additionally, the study results show that electronic sourcing (β = 0.*130*, p = 0.001) was found to be significant. Since the p-value of the interaction is less than 0.05, we thus reject the hypothesis $H0_{1a}$ which stated that there is no significant

moderating effect of entrepreneurial orientation on the relationship between e-sourcing and procurement performance of MEs and conclusion made that entrepreneurial orientation moderates the relationship between electronic sourcing and procurement performance. The results are presented in table 7.

Table 7: Regression Analysis Results

	Model 1 β (SE)	**Model 2 β (SE)**	**Model 3 β (SE)**	**Model 4 β (SE)**
(Constant)	4.312 (0.073)	1.346 (0.199)	1.277 (0.198)	0.382 (0.511)
Control Variable				
Firm Size	.016 (0.015)	0.000 (0.009)	-0.002 (.009)	-.003 (.009)
Firm Age	0.034 (0.030)	.022 (0.018)	.018 (.018)	.017 (.018)
Main Effect				
E-Sourcing		.150 (.041)	.141 (.040)	-0.001 (.095)
Moderator				
Entrepreneurial Orientation			.033 (.012)	.033 (.098)
Interaction term				
X1				0.130 (.025)
Model Summary				
R	0.089	0.810	0.815	0.821
R Square	0.008	0.656	0.665	0.675
Adjusted R Square	0.001	0.648	.0656	0.664
St.Error of the Estimate	0.36707	0.21779	0.21528	0.21288
Change Statistics				
R Square Change	0.008	0.648	0.009	0.010
F Change	1.124	130.762	7.534	8.130
df1	2	4	1	1
df2	282	278	277	275
S. F Change	0.327	0.000	0.006	0.005

Mod Graphs help to simplify the interpretation of the complex nature of interactions in the model. Thus, the results in figure 1 can be shown on Mod Graphs to illustrate the interaction effects of entrepreneurial orientation on the relationship between electronic sourcing and procurement performance of MEs.

Figure 1 which depicts the mod graph showing the interaction effect reveals that at low levels of electronic sourcing, procurement performance is high with MEs who have high entrepreneurial orientation compared to those with low levels of entrepreneurial orientation. However, as electronic sourcing increases, procurement performance increases with both groups of MEs, but the increases is high with those who have high levels of entrepreneurial orientation.

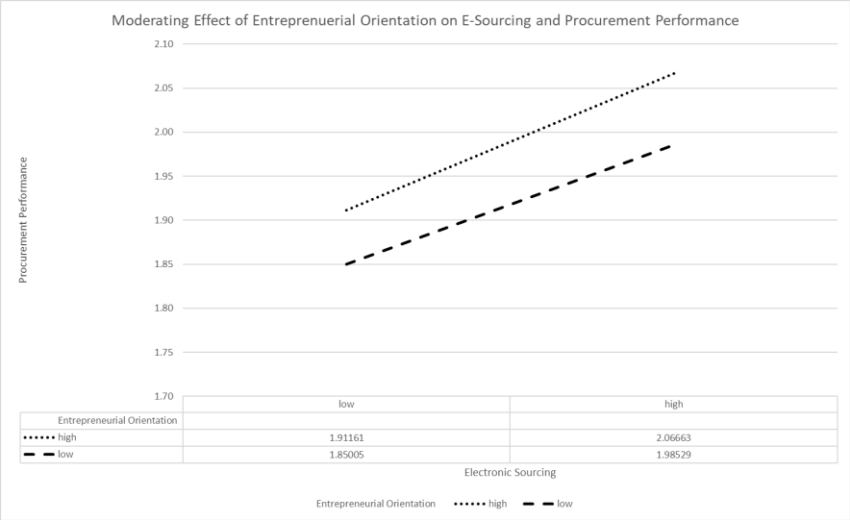

Figure 1: Figure 2: Moderating Effect of Entrepreneurial Orientation on the Relationship between E-Sourcing and Procurement Performance

The above relationship indicates a buffering moderation since the results from model 2 which shows the direct effect of the independent variables, electronic sourcing on the dependent variable, procurement performance has decreased in model 4 when the moderator is introduced. The buffering moderation is from $\beta = 0.150$, $p = 0.000$ which is significant in model 2 to $\beta = 0.109$, $p = 0.252$ in model 4 which is insignificant.

Conclusion

Based on the findings and hypothesis tested, the study concluded that there is a positive and significant effect between e-procurement and procurement performance. Specifically, the study concluded that e-sourcing had a positive and significant effect on procurement performance of ME. Moreover, the study concluded that entrepreneurial orientation does not moderate the relationship between electronic sourcing and procurement performance and the relationship between electronic ordering and procurement performance.

E-procurement technology or platforms play a significant role in procurement performance. Senior management of the organization should therefore strive to provide a platform or appropriate technology for e-procurement and its infrastructures. The selection of platforms for the usage of e-procurement should consider the risk, the future trend, the effectiveness, and the costs. The selection of e-procurement platforms should also consider the type of organizations and users who use them. Some approaches can measure the acceptance of e-procurement platforms. Similarly, MEs may consider managerial development courses on e-procurement that will equip their staff with the knowledge and skills needed to improve the performance of their firms.

The findings of this study also provide an insightful explanation to MEs management in making decisions regarding adoption of e-procurement practices which are aimed at improving their firm performance. Better procurement performance can be accomplished through identifying the factors which can hinder the adoption and use of e-procurement practices. Top management of MEs must positively instil positive attitude among their staff emphasizing the need to embrace technological innovations in their activities if they have to gain and maintain competitive advantage.

This study contributes conceptually to developing theoretical links and improving the theoretical rationale for the existing links. More specifically, the study contributes to knowledge with regard to the moderating effect of entrepreneurial orientation on the relationship between e-procurement and procurement performances of MEs. The results show that entrepreneurial orientation moderates the relationship between electronic sourcingand procurement performance and the relationship between electronic informing and procurement performance. The study recommends that government formulates supportive policies that encourage entrepreneurial orientation capacity building among MEs through trainings, access to credit, common equipment facilities, business incubation centres, technology transfer and creating local markets. The study further recommends that government supports the adoption of digital transformation technologies to enhance MEs productivity, efficiency and improved customer experience.

The government may use the findings of this study to formulate pertinent policies and guidelines to serve as a framework for medium-sized businesses' operations. In addition, the study recommends that the infrastructure and ecosystems of medium enterprises be improved and supported in order to stimulate and encourage growth determination among MEs in the country. In light of the positive correlation between e-procurement and procurement performance, it is recommended that the government and other organizations implement e-procurement platform to attract novel suppliers who can provide superior trade terms. Additionally, it is advisable that the government and interested stakeholders conduct periodic assessments of its current suppliers to ensure their ongoing compliance with the established criteria for conducting business.

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