



EFFECT OF E-PROCUREMENT ON THE TECHNOLOGICAL KNOW-HOW IN SMALL AND MEDIUM ENTERPRISES (SMES) IN ENUGU STATE.

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Abstract: The study evaluated the effect of e-procurement on the technological know-how in Small and medium Enterprises (SMEs) in Enugu state. The specific objectives were to: evaluate the effect of E-informing on the development of production; and ascertain the effect of E-tendering on the operation of the Product in small and medium Enterprises. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. A total population of 323 selected owners and employees of the study organisations. Two hundred and eighty (280) owners and employees returned the questionnaire and accurately filled. Data was presented and analyzed using Likert Scale and the hypotheses using Z – test. The findings indicated E-informing had significant positive effect on the development of production in Small and medium Enterprises. $Z(95, n = 280) 7.052 < 8.367, p < 0.05$ and E-tendering had significant positive effect on the operation of the Product in small and medium Enterprises $Z(95, n = 280) 6.155 < 9.024, p < 0.05$. The conclusion of the study was based on its findings which showed that e-informing and e-tendering had significant positive effect on the development of production and operation of the production in small and medium enterprises. The study recommended among others that the small and medium enterprises should make use of E-informing to improve communication and coordination between buyers and suppliers, more efficient and effective decision making, increased transparency and accountability, and reduced costs.

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INTRODUCTION

1.1 Background of the study

E-procurement (electronic procurement, sometimes also known as supplier exchange) is the business-to-business or business-to-consumer or business-to-government purchase and sale of supplies, work, and services through the Internet as well as other information and networking systems, such as electronic data interchange and enterprise resource planning. Today, e-procurement involves everything from supplier evaluation and selection to contract management, electronic orders and payments. The goal of using an e-procurement system is to acquire products or services at the best possible price and at the best possible time. To meet this objective, it's important for businesses to establish relationships with suppliers. This enables procurement personnel to negotiate contracts with suppliers (Awati & Pratt, 2021). Buying and selling goods online allows companies to reach a more diverse audience and enhance the speed of transactions. Learning more about this process helps organizations implement it within their own business operations. As companies seek to maximize their profits and improve their operations, using the e-procurement process can be a convenient and lucrative option (Indeed, 2023).

E-informing is vital in the e-procurement process. It involves a two-way exchange of information between all parties involved in the process to generate mutually beneficial outcomes. Technology plays an important role

in procurement because it can help companies find the best deals on goods and services. Technology can also help companies find new suppliers or manufacturers that may have lower prices than those they are currently using. Technology has transformed procurement over the years and continues to do so. When it comes to procurement, there are a variety of ways in which technology has affected the way businesses operate (Oboloo, 2023). In terms of future adoption of technology in the procurement process, there are many different possibilities that remain open for exploration. The role of technology in procurement has evolved over the years to become an essential tool for businesses. In today's economy, technology can help speed up the procurement process, improve communication between different departments within a company, and reduce the time it takes to find and approve vendor proposals (Oboloo, 2023).

The rise of E-procurement system has given great impact to organizations as everything becomes easy when compared to the old methods of business transaction. An E-procurement system has been significant to different organization. Electronic procurement or E-Procurement is a method for requisition for goods and services in organization throughout the internet. An E-Procurement is a part of the supply chain and its enables suppliers to sell their products and services. E-Procurement as useful tool to improve their selling efficiency, simplify their selling process,

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increase their administrative saving, increase their job performance and job productivity and improve their management system (Syed, Rahman, Radzai & Hamdan, 2019). At the present time, technology is very imperative as it makes it easier for firms to carry on its activity effectively and efficiently. The present study tends to evaluate the effect of e-procurement on the technological know-how in small and medium enterprises (SMEs) in Enugu State.

1.2 Statement of the Problem

E-procurement is a system used in firms and organizations to display their services and products. Digitization has changed business processes significantly, and the small and medium enterprises are not different. These digital solutions have improved efficiency, reduce errors, and enable organizations to improve their margins from within the existing system. An e-procurement system can play a significant role in ruling out the need for paper-based documents for supply chain operations.

As technology continues to revolutionize the way businesses operate, e-procurement has become more and more popular. While it has many benefits, some companies face a unique challenge in adopting the e-procurement method as a result of poor e-informing and tendering within the organization. To improve organizations performance, they must without fail augment their procedures and operations.

Adopting e-procurement method in the organization has shown to be of great importance in the organization but

nevertheless, has it short falls which results to poor development and operation in the organization. In other to solve these challenging issues the study sought to examine the effect of e-procurement on the technological know-how in small and medium enterprises (SMEs) in Enugu State.

1.3 Objectives of the study

The main objective of the study was to evaluate the effect of e-procurement on the technological know-how in Small and medium Enterprises (SMEs) in Enugu state. The specific objectives were to:

- i. Evaluate the effect of E-informing on the development of production in Small and medium Enterprises
- ii. Ascertain the effect of E-tendering on the operation of the Product in small and medium Enterprises

1.3 Research Questions

The following Research questions guided the study

- i. Evaluate the effect of E-informing on the development of production in Small and medium Enterprises
- ii. Ascertain the effect of E-tendering on the operation of the Product in small and medium Enterprises

1.4 Statement of the Hypotheses

The following Hypotheses guided the study

- i. E-informing has effect on the development of production in Small and medium Enterprises

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- ii. E-tendering has effect on the operation of the Product in small and medium Enterprises

2.0 Review of the Related Literature

2.1 Conceptual Review

2.1.1 E-procurement

E-procurement, or electronic procurement, is a digital transaction process that involves using the internet to buy and sell goods and services. This process employs a supplier's closed system, meaning that only their registered customers can use and gain benefits from it. Implementing e-procurement creates a direct connection between the supplier and buyer, helping to streamline business-to-business (B2B) or business-to-consumer (B2C) processes like emails, invoices, purchase orders and bids. Since e-procurement is an online business measure, it uses networked systems and web interfaces for supply chain operations. The e-procurement process is a development of the 1980s, having spawned from the introduction of Electronic Data Interchange (EDIT), a method that describes the transference of data and information from one system to another. With EDI principles, e-procurement enables companies to generate online catalogs for their suppliers, (Indeed, 2023). Electronic procurement, also known as e-procurement or supplier exchange, is the process of requisitioning, ordering and purchasing goods and services online. It is a business-to-business process. Unlike e-commerce, e-procurement utilizes a supplier's closed system and is only

available to registered users. E-procurement facilitates interactions between preferred suppliers and customers through bids, purchase orders and invoices, (Rahul, 2023).

2.1.1.1 E-tendering

Electronic tendering (e-Tendering) is an advanced procurement process to improve compliance, visibility, and decision-making across the S2P journey. Electronic tender ("e-Tendering") is a significant part of the e-procurement chain. It is a process to send or receive tenders via electronic/digital procurement modes. It streamlines the procurement process and boosts efficiency with access to a higher-quality vendor pool. e-Tendering is a crucial part of the e-procurement process with the primary intent of facilitating an efficient way of sourcing suppliers or vendors. This digital tendering automates functions inducing managing tenders, allowing for smoother and controlled procurement. Subsequently, allowing the procurement manager to manage and evaluate bids with ease, (Aavenir, 2023). E-Tendering is part of the process of conducting procurement online, primarily to facilitate a more efficient way of sourcing suppliers. None of the software used in the process resides on the computers of either procurer or supplier, while all exchanges of documentation are done via the internet, from the advertising of the requirement to the placing of the contract. Through this entirely digital framework, it automates the process of managing tenders, allowing for smoother, more

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controlled procurement that lets the procurer manage and evaluate bids with ease, (Medius, 2023).

2.1.2 Technological Know-how

Technical know-how means a body of accumulated knowledge and experience in any technical field for doing or executing a particular activity. It constitutes an economic asset, which belongs to whoever has developed it or has properly acquired it. It is not tangible in nature and is represented through drawings, designs, formulae etc. Taxation of technical know-how under service tax law has been a contentious issue for quite a while. The problem is limited to the transfer of the right to use technical know-how since a permanent transfer of such know-how can only be treated as a sale and cannot constitute a service at all. This definition of consulting engineer contemplates that advice, consultancy or technical assistance is a service, (Madhavan, 2023). Technology Know-how means the information and data including formulae Technology design specifications, techniques, procedures, plans, discoveries and inventions (whether patented or not) as used at any time by the Licensor in growing, marketing and selling Shiitake Mushrooms including the production of Logs and Spawn as well as other exotic and medicinal mushrooms and mushroom by-products at their facilities in Singapore and by any other licensees wherever legally possible, which pertain to the use and exploitation of the Process or the cultivation or marketing and sale of Shiitake

Mushrooms and other exotic mushrooms by means of the Process, together with any further information or data pertaining thereto as may be available with the Licensor, (Lawinsider, 2023).

2.1.2.1 Development of production

Product development also called new product management is a series of steps that includes the conceptualization, design, development and marketing of newly created or newly rebranded goods or services. Product development includes a product's entire journey -- from the initial idea to after its market release. The objective of product development from a business standpoint is to cultivate, maintain and increase a company's market share by satisfying consumer demand. From a customer standpoint, it's to ensure value in the product as a quality good or service. Not every product will appeal to every customer or client base, so defining the target market for a product is a critical step that must take place early in the product development process. Organizations should conduct quantitative market research at all phases of the design process, including before the product or service is conceived, while the product is being designed and after the product has been launched, (Gillis, 2023). Product development refers to the creation of a new product which has some utility; or up-gradation of the existing product; or enhancement of the production process, method or system. In simple words, it is all about bringing a change in the present goods or

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services or the mode of production. When the company notices a downfall in the product performance regularly, which is not due to change in the economy or other factors which are beyond control, it should inspect the product line to find out the reason, (Anjali, 2018).

2.1.2.1 Operation of Products

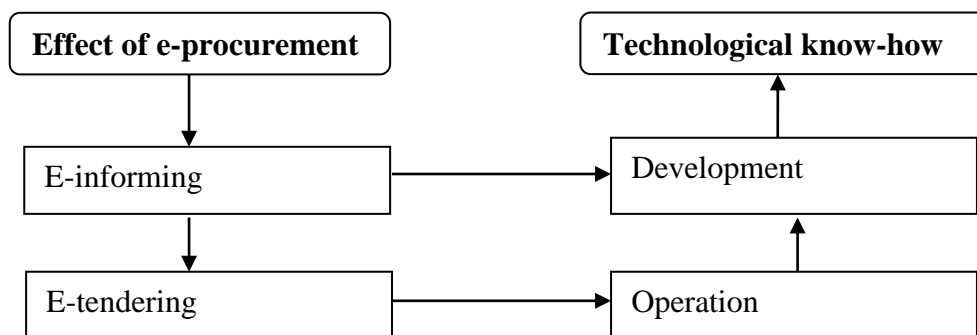
Product operations, or prod ops, is a role that's becoming increasingly common, but the specific definition varies from organization to organization. This may include streamlining communication within the product team and with other parts of the company, standardizing planning and other processes, and putting together onboarding and training programs, best practices and support resources. In most Product Led Growth companies, the product

ends up being the central thread for almost every stage of the customer journey (think trial stage through onboarding and renewals), and so optimizing the processes that a user goes through while experiencing your product is crucial to being successful, (Paxton, 2021). Product Operations is a cross-functional role designed to guarantee successful collaborative work among all teams connected to the product lifecycle, from product managers, R&D, and engineering to product marketing managers, sales, and customer success teams. Product Ops is a must-have operational position focused on streamlining the product development processes across the entire organization and therefore increasing efficiency, helping to make a better product, and ultimately improving customer engagement, (Becchetti, 2023).

2.1.3 Conceptual Framework of the study

INDEPENDENT VARIABLES

DEPENDENT VARIABLES



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2.2 Theoretical Framework

The study was anchored on social network theory

2.2.1 Social network theory

Social network theory was developed by Émile Durkheim and Ferdinand Tönnies 1894. Social media have contributed immensely to the growth of SMEs in Nigeria, helped in customer engagement and retention and also facilitate advertisement of goods and services. A social network is a social structure made up of a set of social actors (such as individuals or organizations), sets of dyadic ties, and other social interactions between actors. The social network perspective provides a set of methods for analyzing the structure of whole social entities as well as a variety of theories explaining the patterns observed in these structures (Wasserman & Faust, 1994). The study of these structures uses social network analysis to identify local and global patterns, locate influential entities, and examine network dynamics.

Social network theory focuses on the role of social relationships in transmitting information, channeling personal or media influence, and enabling attitudinal or behavioral change. Social networks are networks of social interactions and personal relationships (Shires & Chapel, 2020). SNT is a way to account for the social connections that an individual employs to reach valued information. Every organization is using social network sites for their professional benefits like creating customer relationship. So

it becomes the need and it's the time for organizations to design workforce according to changing environments. Prior to digital technology, electronic transmission was limited to analog technology, which conveys data as electronic signals of varying frequency or amplitude that are added to carrier waves of a given frequency. Digital technology is primarily used with new physical communications media, such as satellite and fiber optic transmission (TechTarget, 2022). The companies that are focused on innovation are in search of new ideas, beyond their formal research and development teams and the traditional procedures that follow them (Fotini, 2010). The rise of social media is to support these efforts of "open innovation" allowing companies to develop channels of communication with customers, academics and specialists, which they could never reach before.

2.3 Empirical Review

2.3.1 The effect of E-informing on the development of production in Small and medium Enterprises

Okeke, Oboreh, and Ezeaghaego (2016) conducted a study on the Effect of E-Commerce and the Growth of Small Scale Enterprises in Selected Enterprises in Anambra State. This study examined the effects of e-commerce on the growth of small scale enterprises in Anambra State. The study became necessary following the fact that E-commerce is changing all business functional areas and their important tasks all over the world. The study

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reviewed relevant theoretical and empirical literatures and is anchored on two theories. Technology, Organizational and Environmental Model (TOE model) and Resources-Based View Theory. The data used were generated from the selected small scale enterprises in Nnewi, Onitsha and Awka. The data generated were analyzed using percentage analysis while the hypotheses formulated were tested using Z-test statistics. The study found that business-to-customer (B2C) exerts significant effect on the performance of small scale enterprises. It also revealed that E-commerce adoption has significant effect on growth of small scale enterprises.

Sedighi and Behroz (2018) conducted a study on the Effect of E-Commerce on SME Performance. In recent decades with development of internet, the e-commerce has been recognized as an instrument for organizing the business model. In applying the e-commerce, the large firms generally face lower financial and infrastructural barriers while the small to medium enterprises face with resource limitations, particularly the financial resources in applying this tool. Hence, the main objective of this research is to investigate the effect of e-commerce on Small to Medium Enterprises (SME) performance. This research is a descriptive-correlative research. The population of this research involves all managers of SMEs in Tehran which was determined to be 373 subjects based on Kerjcie Morgan table as the sample size. The researcher administrated

questionnaire was provided based on studies (Soto-Acosta et al. 2015, 2015). The data analysis was based on structural equation modeling. In this research, the partial least square was also used. The results indicated that using the e-commerce is significantly effective on SME performance and e-commerce application is significantly effective on performance elements such as financial performance, internal process, customers, growth and learning. The relationship between e-commerce and performance and its elements was also moderated by innovation.

Khaoya & Muchelule (2019) carried out a study on the Effect of e-procurement on performance of small and medium size enterprises: a case of Bungoma County. This study examined the effects of E-procurement on Performance of Small and Medium Enterprises (SMEs) in Bungoma County. The descriptive research design was used, and the questionnaire was the data collection instrument. The targeted population comprised of 324 respondents representing five Constituencies according to the study objectives; that is, online customer service and technology integration to e-procurement on performance of SMEs. Both quantitative and qualitative data were collected. Analysis of data was done using SPSS version 23. Correlation and regression analysis were used to obtain the relationship between the variables. The analyzed results were presented using tables. The results showed that the research was focus on primary data that was

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being collected from questionnaires. A good response rate of 85.49% was realized. It was established that most of the electronic procurement indicators have positive impact on performance of the firm small and medium enterprises in Bungoma County. The study findings showed that the online customer service and technology integration had a significant influence on performance of the SMEs.

Madzimure, Mafini and Dhurup (2020) carried out a study on E-procurement, supplier integration and supply chain performance in small and medium enterprises in South Africa. With rapid changes in technology and the globalisation of markets, firms, especially small to medium enterprises (SMEs), require support to adapt to technology and make use of e-procurement functions to develop competitive advantages. Information systems such as e-procurement have become increasingly linked with other business activities such as supply chain integration to initiate the growth of SMEs. This study investigated the relationship between e-procurement, supplier integration and supply chain performance in retail SMEs in South Africa. A quantitative research approach was followed in which a sample of 283 owners and managers of SMEs in Gauteng Province, South Africa, were surveyed using a structured questionnaire. The study considered five e-procurement components, namely e-sourcing, e-negotiation, e-informing, e-design and e-evaluation. The collected data were analysed

using structural equation modelling. The results of the study showed that two e-procurement components, namely e-design and e-negotiation, exerted a significant positive influence on supply chain integration. The other three e-procurement components, namely e-sourcing, e-evaluation and e-informing, were statistically insignificant in influencing supply chain integration. The study further revealed that supplier integration exerts a positive and significant linear relationship with both the tangible and intangible dimensions of supply chain performance (SCP).

Singh and Chan (2022) carried out a study on the Impact of Electronic Procurement Adoption on Green Procurement towards Sustainable Supply Chain Performance-Evidence from Malaysian ISO Organizations. Emerging technologies such as electronic procurement have rapidly become common practice in recent years. With the advent of internet technologies and open innovations, the traditional procurement system is transformed into an electronic procurement system. Technology adoption is influenced by multiple factors, including the adopter, technology, and ecosystem in which they function. Considering this, E-procurement is still being adopted slowly. This research aims to investigate the extension of the adoption of E-procurement and identify the relationships between the E-procurement technologies and green procurement practices across different sectors of ISO 14001-certified Malaysian enterprises.

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This research is supported by the Technology Acceptance Model, one of the significant theories of technology adoption. Using SPSS and SmartPLS, the survey data is analyzed quantitatively.

2.3.2 The effect of E-tendering on the operation of the Product in small and medium Enterprises

Flynn and Davis (2016) conducted a study on investigating the effect of tendering capabilities on SME activity and performance in public contract competitions. Barriers to small and medium-sized enterprise (SME) participation in public procurement have been the focus of research for many years. Much less attention has been paid to the predictors of SME success. This article examines the role that tendering capabilities – relational and procedural – play in explaining SME activity and performance in public contract competitions. Analysis of primary survey data from 3010 SMEs supports a capability-based perspective. Procedural capability has a significant effect on number of tenders submitted and value of contract sought. Relational capability does not. However, procedural and relational capabilities have a significant and positive effect on contract win-ratio and percentage of total revenue derived from public contracts. For SMEs, these findings underline the importance of investing in tendering skills and devising buyer engagement strategies. Enterprise support agencies and public sector organisations can play their part through the provision of targeted training

programmes and better communication with SME suppliers, respectively.

Sanche-Rodriguez, Martinez-Lorente and Hemsworth (2019) carried out a study on E-procurement in small and medium sized enterprises; facilitators, obstacles and effect on performance. The purpose of this paper is to analyze e-procurement in small and medium-sized enterprises (SMEs) and its relationship with top management support, IT obstacles and strategic purchasing and the effect of e-procurement on performance (procurement performance and business performance). The hypotheses were tested using a sample of 199 managers from SMEs in manufacturing. Findings The results indicated a significant relationship between e-procurement in SMEs and top management support, IT obstacles and strategic purchasing. Similarly, the authors found a positive relationship between e-procurement and procurement process performance and business performance. Practical implications The findings stress to SME managers, the need to pay attention to top management support, IT obstacles and strategic purchasing when implementing e-procurement. Similarly, it provides evidence of the benefits of e-procurement on procurement process performance and business performance.

Boafo, Ahudey & Darteh (2020) conducted a study on Evaluating E-Procurement Impact in the Public Sector. Despite the several benefits gained as a result of e-procurement, the actual potential of it in the public sector in Ghana has

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not been realized. Studies has further suggested that little is known of e-procurement in most organizations. This demonstrates that the area is under- researched and hence, there is a gap that needs to be filled in literature on the aspect of e-procurement and its impacts in the public sector in Ghana. Therefore the study was to assess the impact of e-procurement in the Ghanaian public sector. The research design was descriptive. Both primary and secondary data was used. Purposive sample method was used to select 15 public sector organisations in Ghana for the study. Multiple linear regression was used to analyze the data. Findings revealed that, e-procurement leads to an effective E-tender evaluation (ETE), improves transparency in supply selection, improve procurement record management and effective supply relationships can be made easy.

Mutunga, & Makhamara (2020) conducted a study on the E-invoicing and the performance of small and medium enterprises in Nairobi City County Kenya. SMEs carry out a significant task to economic function of a country. They are main source of income to numerous entrepreneurs and also, they offer job opportunities mostly to the youths. However, despite the crucial role the SMEs play, they face numerous challenges which have impacted on their performance with some closing down. One of the areas the SMEs face challenges is invoicing challenges which have prompted businesses to adopt e-invoicing technologies so as to enhance their procurement functions. The

purpose of this study was to investigate influence of e-invoicing on performance of SMEs within City County of Nairobi, Kenya. During the study, descriptive research design was adopted. Target population comprised of 3000 licensed and registered SMEs working within City County of Nairobi, Kenya. Sample size comprised of 97 SMEs owners or managers. The unit of observation comprised SMEs' owners and managers. From the target population, stratified random sampling technique was utilized to select 97 respondents. The study used structured questionnaires to collect data. Secondary data was used to supplement the primary data. Data was gathered from journals, reports, web sources and other relevant publications. Quantitative data was analyzed using descriptive statistics and inferential statistics data with the help of Statistical Package for Social Science (SPSS). In addition, descriptive statistics included percentages and frequencies. Correlation analysis and regression analysis were employed to determine the impact of e-invoicing on the performance of the SMEs. Frequency tables were used to present the findings. The study found that e-invoicing has a significant influence on SMEs performance within Nairobi, Kenya.

Masuku & Hlongwane (2022) conducted a study on the Influence of E-Procurement on the Effectiveness of Micro-scale and Medium-sized Businesses in South Africa. The goal of this survey was to look into how e-procurement

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affected the performance of small and medium-sized businesses in Cape Town, South Africa. The descriptive research approach was used. 3000 small and medium-sized businesses operating in Cape Town, South Africa, were the target population. 97 owners or managers of Small and Medium Sized Businesses made up the sample size. Owners and managers of Small and Medium Sized Businesses made up the observational unit. Using a stratified random selection approach, 97 respondents were chosen from the target demographic. According to the study, e-tendering had no appreciable impact on the performance of small and medium enterprises in Cape Town, South Africa. However, the performance of small and medium enterprises in Cape Town is significantly impacted by e-sourcing. E-invoicing also has a big influence on Cape Town's small and medium enterprises' performance. Additionally, e-payment has a big impact on Cape Town, South Africa's Small and Medium Enterprises' performance. E-tendering has a marginally beneficial impact on Cape Town SMEs' performance. However, the majority of SMEs do not have an online system for managing supplier contracts that simplifies the tendering

procedure. Small and medium-sized businesses should adopt and use e-tendering to streamline the procurement process and reduce associated expenses.

3.0 Methodology

The area of the study was Enugu state, Nigeria. The study use of sixty one (61) registered Small and medium Enterprises (SMEs) in Enugu state, Nigeria were used. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. A total population of 323 selected owners and employees of the study organisations. Two hundred and eighty (280) owners and employees returned the questionnaire and accurately filled. That gave 87 percent response rate. The validity of the instrument was tested using content analysis and the result was good. The reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.71 which was also good. Data was presented and analyzed by mean score and standard deviation using Sprint Likert Scale. The hypotheses were analyzed using Z – test statistic tool.



4.0 Data relating to research question

4.1.1 The effect of E-informing on the development of production in Small and medium Enterprises

Table 4.1.1: Responses on the effect of E-informing on the development of production in Small and medium Enterprises

		5 SA	4 A	3 N	2 DA	1 SD	ΣFX	- X	SD	Decisio n
1	E- Sourcing information leads to new product development.	580 116 41.4	324 81 28.9	48 16 5.7	44 22 7.9	45 45 16.1	1041 280 100%	3.72	1.470	Agree
2	The e sourcing help streamline and simplify strategic sourcing activities.	620 124 44.3	272 68 24.3	30 10 3.6	70 35 12.5	43 43 15.4	1035 280 100%	3.70	1.509	Agree
3	The procurement processes performed by an organisation's procurement team are facilitated by e-informing.	460 92 32.9	384 96 34.3	93 31 11.1	10 5 1.8	56 56 20.0	1003 280 100%	3.58	1.464	Agree
4	E-sourcing administers all aspects of sourcing strategy from negotiations to contract lifecycle management.	570 114 40.7	384 96 34.3	42 14 5.0	80 40 14.3	16 16 5.7	1092 280 100%	3.90	1.240	Agree
5	Buyers collect information about suppliers including their products, services, and pricing through e sourcing.	460 92 32.9	384 96 34.3	63 21 7.5	70 35 12.5	36 36 12.9	1013 280 100%	3.62	1.386	Agree
Total Grand mean and standard deviation								3.70 4	1.413 8	

Source: Field Survey, 2023

Table 4.1.1, 197 respondents out of 280 representing 70.3 percent agreed that E-Sourcing information leads to new product development with mean score 3.72 and standard deviation of 1.470. The e sourcing help streamline and simplify strategic sourcing activities 192 respondents representing 68.6 percent agreed with mean score of 3.70 and

standard deviation of 1.509. The procurement processes performed by an organisation's procurement team are facilitated by e-informing 188 respondents representing 67.2 percent agreed with mean score of 3.58 and standard deviation of 1.464. E-sourcing administers all aspects of sourcing strategy from negotiations to contract lifecycle management 210 respondents

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representing 75.0 percent agreed with mean score of 3.90 and 1.240. Buyers collect information about suppliers including their products, services, and pricing through e

sourcing 188 respondents representing 69.2 percent agreed with a mean score of 3.62 and standard deviation 1.386.

4.2. The effect of E-tendering on the operation of the Product in small and medium Enterprises

Table 4.2.1: Responses on the effect of E-tendering on the operation of the Product in small and medium Enterprises

		5	4	3	2	1	ΣFX	-	SD	Decisio
		SA	A	N	DA	SD		X		n
1	E-tendering offers improved visibility of operations.	475	504	21	42	31	1073	3.83	1.280	Agree
		95	126	7	21	31	280			
		33.9	45.0	2.5	7.5	11.1	100%			
2	The e-tendering shows compliance and decision-making across source-to-pay operation.	475	504	3	58	29	1066	3.82	1.289	Agree
		95	126	1	29	29	280			
		33.9	45.0	.4	10.4	10.4	100%			
3	The provision of the best possible value- for- money outcome from procurement activity is achieved with e-tendering.	425	508	18	94	15	1060	3.79	1.199	Agree
		85	127	6	47	15	280			
		30.4	45.4	2.1	16.8	5.4	100%			
4	By incorporating specific service key performance indicators (KPIS) in the e tender documentation, suppliers will be aware of the standards you which to achieve.	520	360	60	12	60	1012	3.61	1.522	Agree
		104	90	20	6	60	280			
		37.1	32.1	7.1	2.1	21.4	100%			
5	For effective and economical solutions, e tender produces rapid, tangible results.	500	292	103	46	49	990	3.54	1.478	Agree
		100	73	35	23	49	280			
		35.7	26.1	12.5	8.2	17.5	100%			
Total Grand mean and standard deviation								3.71	1.353	
								8	6	

Source: Field Survey, 2023

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Table 4.2.1, 221 respondents out of 280 representing 78.9 percent agreed that E-tendering offers improved visibility of operations with mean score 3.83 and standard deviation of 1.280. The e-tendering shows compliance and decision-making across source-to-pay operation 221 respondents representing 79.9 percent agreed with mean score of 3.82 and standard deviation of 1.289. The provision of the best possible value- for- money outcome from procurement activity is achieved with e-tendering 213 respondents representing 75.8 percent agreed with mean score of 3.79 and

standard deviation of 1.99. By incorporating specific service key performance indicators (KPIS) in the e tender documentation, suppliers will be aware of the standards you which to achieve 194 respondents representing 69.2 percent agreed with mean score of 3.61 and 1.522. For effective and economical solutions, e tender produces rapid, tangible results 173 respondents representing 61.8 percent agreed with a mean score of 3.54 and standard deviation 1.478.

4.3 Test of Hypotheses

4.3.1 Hypotheses one: E-informing has effect on the development of production in Small and medium Enterprises

Table 4.3.1 shows the Z – test of Hypotheses one: E-informing has effect on the development of production in Small and medium Enterprises

One-Sample Kolmogorov-Smirnov Test

	E-Sourcing information leads to new product development.	The sourcing help streamline and simplify strategic sourcing activities.	The procurement processes performed by an organisation's procurement team are facilitated by e-informing.	E-sourcing administers all aspects of sourcing strategy from negotiations to contract lifecycle management.	Buyers collect information about suppliers including their products, services, and pricing through e sourcing.
N	280	280	280	280	280
Uniform Parameters ^a , ^b					
Minimum	1	1	1	1	1
Maximum	5	5	5	5	5
Most Extreme Differences	.454	.443	.421	.500	.421
Positive	.161	.154	.200	.057	.129
Negative	-.454	-.443	-.421	-.500	-.421
Kolmogorov-Smirnov Z	7.590	7.410	7.052	8.367	7.052
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from 7.052 to 8.367 and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that E-informing had significant

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positive effect on the development of production in Small and medium Enterprises

Decision

Furthermore, comparing the calculated Z- value ranges from 7.052 to 8.367 against the critical Z- value of .000(2-tailed test at 97percent level

4.3.2 Hypotheses two: E-tendering has effect on the operation of the Product in small and medium Enterprises

Table 4.3.2 shows the Z – test of Hypotheses two: E-tendering has effect on the operation of the Product in small and medium Enterprises

One-Sample Kolmogorov-Smirnov Test

	E-tendering offers improved visibility of operations.	The e-tendering shows compliance and decision-making across source-to-pay operation.	The provision of the best possible value-for-money outcome from procurement activity is achieved with e-tendering.	By incorporating specific service key performance indicators (KPIs) in the e tender documentation, suppliers will be aware of the standards you which to achieve.	For effective and economical solutions, e tender produces rapid, tangible results.
N	280	280	280	280	280
Uniform Parameters ^{a,b}	1	1	1	1	1
Minimum	5	5	5	5	5
Maximum	.539	.539	.507	.443	.368
Absolute	.111	.104	.054	.214	.175
Most Extreme Differences	-.539	-.539	-.507	-.443	-.368
Kolmogorov-Smirnov Z	9.024	9.024	8.486	7.410	6.155
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

a. Test distribution is Uniform.

b. Calculated from data.

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Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e $Z_{cal} > Z_{critical}$), reject the null hypothesis and accept the alternative hypothesis accordingly.

Result

With Kolmogorov-Smirnon Z – value ranges from $6.155 < 9.024$ and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that E-tendering had significant positive effect on the operation of the Product in small and medium Enterprises

Decision

Furthermore, comparing the calculated Z-value ranges from $6.155 < 9.024$ against the critical Z- value of .000(2-tailed test at 95percent level of confidence) the null hypothesis were rejected. Thus the alternative hypothesis was accepted which states that E-tendering had significant positive effect on the operation of the Product in small and medium Enterprises

4.4 Discussion of findings

4.4.1 E-informing had significant positive effect on the development of production in Small and medium Enterprises

Hypotheses one showed the calculated Z- value ranges from $7.052 < 8.367$ against the critical Z- value of .000(2-tailed test at 95percent level of confidence) which implies that E-informing had significant positive effect on the

development of production in Small and medium Enterprises. In support of this hypothesis, Khaoya & Muchelule (2019) carried out a study on the Effect of e-procurement on performance of small and medium size enterprises: a case of Bungoma County. This study examined the effects of E-procurement on Performance of Small and Medium Enterprises (SMEs) in Bungoma County. The results showed that the research was focus on primary data that was being collected from questionnaires. A good response rate of 85.49% was realized. It was established that most of the electronic procurement indicators have positive impact on performance of the firm small and medium enterprises in Bungoma County. The study findings showed that the online customer service and technology integration had a significant influence on performance of the SMEs.

4.4.2 E-tendering had significant positive effect on the operation of the Product in small and medium Enterprises

Hypotheses two revealed the calculated Z-value ranges from $6.155 < 9.024$ against the critical Z- value of .000(2-tailed test at 95percent level of confidence) which implies that E-tendering had significant positive effect on the operation of the Product in small and medium Enterprises. In the support of the result, Masuku & Hlongwane (2022) conducted a study on the Influence of E-Procurement on the Effectiveness of Micro-scale and Medium-



sized Businesses in South Africa. The goal of this survey was to look into how e-procurement affected the performance of small and medium-sized businesses in Cape Town, South Africa. The descriptive research approach was used. 3000 small and medium-sized businesses operating in Cape Town, South Africa, were the target population. 97 owners or managers of Small and Medium Sized Businesses made up the sample size. Owners and managers of Small and Medium Sized Businesses made up the observational unit. Using a stratified random selection approach, 97 respondents were chosen from the target demographic. According to the study, e-tendering had no appreciable impact on the performance of small and medium enterprises in Cape Town, South Africa. However, the performance of small and medium enterprises in Cape Town is significantly impacted by e-sourcing. E-invoicing also has a big influence on Cape Town's small and medium enterprises' performance. Additionally, e-payment has a big impact on Cape Town, South Africa's Small and Medium Enterprises' performance. E-tendering has a marginally beneficial impact on Cape Town SMEs' performance. However, the majority of SMEs do not have an online system for managing supplier contracts that simplifies the tendering procedure. Small and medium-sized businesses should adopt and use e-tendering to streamline the procurement process and reduce associated expenses. Additionally, small and medium-sized

businesses should switch to electronic invoicing to save money on the costs of printing, storing, and shipping paper invoices. The report also suggests that all small and medium-sized businesses implement e-payment to boost productivity by increasing payment efficiency and lowering mistakes associated with cash transactions. Additionally, small and medium-sized businesses should use e-sourcing since it expands their access to a wide range of suppliers and speeds up the contract award process.

5.0 Summary of finding

The following findings were made by the study

- i. E-informing had significant positive effect on the development of production in Small and medium Enterprises. $Z(95, n = 280) 7.052 < 8.367, p < 0.05$.
- ii. E-tendering had significant positive effect on the operation of the Product in small and medium Enterprises $Z(95, n = 280) 6.155 < 9.024, p < 0.05$

5.1 Conclusion

The conclusion of the study was based on its findings which showed that e-informing and e-tendering had significant positive effect on the development of production and operation of the production in small and medium enterprises. This shows that for e-procurement in the organization to be effective and active, organizations ought to enhance in technical knowledge as it will help in achieving the aim

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of adopting e-procurement method in the organization.

5.2 Recommendations

Based on the findings the following recommendation was proffered

- i. The small and medium enterprises should make use of E-informing to improve communication and coordination between buyers and suppliers, more efficient and effective decision making, increased transparency and accountability, and reduced costs.
- ii. The management of the small and medium enterprises should improve in the use of E-tendering for efficiency and widening the bandwidth, and help businesses lower their procurement overhead as time moves forward, leading to increased savings.

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