

**E-PROCUREMENT AND THE PERFORMANCE OF SMALL AND MEDIUM
ENTERPRISES IN NAIROBI CITY COUNTY KENYA**

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Declaration


This research project is my original work and has not been presented in any other University for a degree or other award. No part of this research project should be reproduced without permission of the Kenyatta University or the author.

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Operational Definition of Terms

E-Invoicing	Electronic form of billing which allows trading partners to present and monitor transactional documents between them and to make sure that their engagement terms are met
E-Payment	This is the process whereby payments are made and processed electronically
E-Procurement	This refers to use of IT to improve procurement which is responsive to various changes within the environment
E-Sourcing	This a process through which a firm identifies suppliers necessary for a detailed type of purchasing necessities via internet.
E-Tendering	This is to the process in which the firm request information from the perspective suppliers pertaining to the prices for the different products they intend to source form them via the use of the internet
Small and Medium Enterprises	Businesses with less than two hundred and fifty employees, less than fifty million Euros as yearly turnover and a total balance sheet which is not more than forty three million Euros

Abbreviations and Acronyms

B2B	Business to Business
G2B	Government to Business
ICT	Information and Communication Technologies
KAM	Kenya Association of Manufacturers
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
USA	United States of America

Abstract

Small and Medium Enterprises carry out a significant task to economic function of a country. They are main source of income to numerous entrepreneurs 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. The purpose of this survey was to investigate influence of e-procurement on performance of Small and Medium Enterprises within City County of Nairobi, Kenya. In this study specific objectives entailed examining influence of e-sourcing, e-tendering, e-payment and e-invoicing on the performance of Small and Medium Enterprises in City County of Nairobi. Schumpeter's Entrepreneurship Theory, Drucker's Entrepreneurship Theory and Economic Theory of Entrepreneurship were adopted to anchor the research study. During the study, descriptive research design was adopted. Target population comprised of 3000 licensed and registered Small and Medium Enterprises working within City County of Nairobi, Kenya. Sample size comprised of 97 Small and Medium Enterprises owners or managers. The unit of observation comprised Small and Medium Enterprises 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. Before data collection exercise, the researcher conducted a pilot study within Kiambu County so as to assess validity and reliability of the study tools. Secondary data however was used to supplement 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 assistance of Statistical Package for Social Science (SPSS). In addition, descriptive statistics included percentages and frequencies. Correlation analysis and regression analysis was employed to determine the impact of e-procurement on the performance of the Small and Medium Enterprises. Charts as well as frequency tables were used to present findings. The study found that e-tendering has no significant influence on the Small and Medium Enterprises performance within Nairobi, Kenya. However, e-sourcing has a significant influence on performance of Small and Medium Enterprises in Kenya Nairobi. In addition, e-invoicing has a significant impact on Small and Medium Enterprises performance within Nairobi, Kenya. Further, e-payment has a significant influence on Small and Medium Enterprises performance in Nairobi, Kenya. The recommends of this study is that Small and Medium Enterprises should adopt and utilize e-tendering to rationalize procurement process and minimize the costs involved. Additionally, small and medium enterprise should adopt e-invoicing to reduce costs associated with storage, printing and delivery of paper invoices. The study further recommends that all Small and Medium Enterprises should adopt e-payment to improve performance by improving efficiency in payments and reducing errors related to cash transactions. Further, small and medium enterprises should adopt e-sourcing as it increases access to numerous suppliers and reduce time taken to award a contract.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Across the world, integration of Internet and business has been a common phenomenon for so long. However, procurement as part of the key functions of an organization which is substantially likely to affect the organization survival or even profitability or has shifted into electronic platform in several large economic entities. In modern day competitive and highly dynamic sectors, businesses and corporate sectors have realized the need to be well-informed with developments new technological and also manage minimizing cost of operational while meeting the objectives and goals of an organizational and hence increase adoption of e-procurement (Subramanian, Qualls & Shaw, 2006). In total e-procurement implementation is expected to raise productivity as well as efficiency of organization business operations.

In the Small and Medium Enterprises (SMEs), the coming of e-procurement has emerged as a key ingredient in their procurement function enabling them to enhance their procurement function. Currently, SMEs adopt a wide range of e-procurement so as to enhance their sourcing as well as ordering processes as they cut on operational costs. In the United Kingdom, the adoption has become a key strategy among the SMEs whereby, about 47% of the SMEs have already adopted the e-procurement strategies (Fernandes & Vieira, 2015).

The SMEs have also greatly adopted e-procurement in Asia. In India for instance, the SMEs have recognized the huge benefits of procurement and are adopting various e-procurement strategies to enhance their procurement functions. According to Gopinath et al, (2016), the SMEs in India are increasingly using e-procurement solutions to increase flexibility in their procurement operations, to boost customer satisfaction, to enhance delivery, and to manage their inventory in an effective manner. Gopinath et al (2016), suggest that adopting e-procurement solutions has not only helped the businesses to gain and sustain competitive positions but has also brought greater transparency and eliminated unethical practices in their procurement practices. Similarly, in Malaysia, the SMEs have greatly adopted e-procurement in order to streamline their procurement operations. Tiwari

et al, (2019), claim that a large number of SMEs use the e-ordering, e-sourcing, e-tendering, and e-invoicing to enhance their procurement operations. The technologies have enabled the businesses to effectively communicate with customers and suppliers, to check for the prices of goods, to check the availability of goods and services, and to exchange purchase information with the internal as well as external parties.

In Africa, e-procurement has proved to be one of the most effective tools used by SMEs to bring good governance and to improve the procurement practices. While the level of adoption of several technologies is lower compared to that in Asia and Europe, it is worth noting that SMEs in Africa are striving to utilize the available technologies to boost their procurement practices among other business functions. In Nigeria for instance, according to Aduwo et al, (2016), SMEs have to some extent integrated e-procurement in order to maximize its benefits during the purchasing of goods and also services, in management of inventory as well as improving communication between the businesses and the suppliers and the consumers. This has helped to enhance the performance of the businesses. In South Africa, Sithole (2017) observed that the SMEs in South Africa are increasingly utilizing e-procurement technologies to enhance their operations. The common strategies adopted included e-notification, e-contract management partial e-tendering, e-contract awarding and e-invoicing. These technologies have largely revolutionized the procurement operations and to boost the performance of the businesses.

In Kenya, the SMEs are increasingly adopting and utilizing e-procurement technologies to enhance the ordering and sourcing processes. The adoption of the strategies is inspired by the pressure they have to deliver quality goods and services on a timely basis. A large number of these enterprises have been having challenges meeting the customers' demands due to delayed delivery of goods. Delayed supply of goods occurs due to lack of efficient and effective procurement systems which ultimately affect constant supply of goods to customers. This leads to customer dissatisfaction and poor business performance. The SMEs therefore adopt various e-procurement technologies such e-tendering to facilitate tendering processes, e-sourcing to determine appropriate suppliers, e-invoicing and e-payment to facilitate payments.

1.1.1 Performance

Every business has a fundamental goal of achieving good performance and gaining high returns. Firm's performance is the actual output a firm obtains which is measured in relation to the set goals. Barney (2001) argues that the performance of a firm is centered upon the notion that business is any anticipated association of assets which are productive also which includes financial, physical as well as human resources with an intension of accomplishing a shared goal. Barney (2001) argue that those providing assets to the business will only be willing to do so if they are sure and contended that they will get value and returns from their businesses. This therefore implies that value creation is the key purpose of business performance.

There are two key ways in which performance of a business can be measured, that is financial as well as non-financial methods. Financial performance refers to a subjective measure on how well a firm can generate revenues using its assets obtained from its initial mode of business (Singhania & Saini, 2018). Additionally, this term is utilized as a general computation of total financial health of a firm over a certain period of time, and also can be utilized to compare firms which are similar, within the same sector or to compare sectors or industries in aggregation. The firm's financial performance is mainly measured using accounting ratios. Common ratios used are the Return on Assets (ROA), Returns on Investments (ROI), Return on Capital Employed (ROCE), and Returns on Equity (ROE).

ROA reveals the profitability of a firm in relation to its total assets (Suardana, Astawa, & Martini, 2018). It indicates the efficiency with which the business can utilize its assets to generate returns. This ratio is obtained by dividing the annual earnings of the firm by the total assets held by the firm and presented as a percentage. Return on Investments (ROI) evaluates the investments' efficiency and compares different investments' efficiency (El-Halwagi, 2017). It is computed by dividing the returns with the investment cost and finding expressed as a ratio or percentage. ROCE is a measure that is used by firms to show profitability and efficiency of the capital investment of a firm. It is among the key financial ratios that companies use to determine profitability (Das, & Swain, 2018). As a general rule, high return on capital employed is taken to signify good performance. Returns on Equity is a ratio which shows the percentage of net income earned from the owner's capital.

The higher the profits profit made by a firm, the higher the return generated by the company.

Further, pperformance of a business can be measured non-financially. Oslon, Slater and Hult (2005) posits that the non-financial functioning of a firm can be measured based on market share, increase or decrease in employees, and other measures. In regards to the number of employees, many employees signify good performance while a small number of employees may be taken to imply poor performance (Bigsten & Gebreeyesus, 2007). This measure is mostly used when the firm does not have financial data. In this regard, the assumption made is made that the increase in size of employment is linked to greater profits.

In addition, performance of a firm can be non-financially measured using delivery time, brand reputation, market share and market position, the level of innovativeness, the manufacturing capacity, yield as well as resource conservation. In regards to time of delivery, if the firm delivers goods and services on time, it implies that the firm is well performing. Nevertheless, slow delivery of goods and services signify poor performance (Ittner & Larcker 2001). In regards to brand reputation, if the brand is highly recognized in the market, it signifies good performance. In terms of market positioning, if the firm is well positioned in the market, it signifies good performance while the poorly positioned firms are considered as poor performers. Furthermore, companies with low manufacturing productivity, poor innovative capacity, low yields, poor management of resources, and incompetence in management are considered as poor performers.

1.1.2 E-Procurement

E-procurement is defined differently by various writers. Gunasekaran et al (2009) elaborated e-procurement as a functioning procurement process which is supported by ICT. It is the process and also the relationship a business has with its specific suppliers and by use of systems which are computer based. Petersen, Handfield and Ragatz (2003) defined e-procurement as a process of utilizing internet to purchase goods or services. It is a process by which a business shifts its procurement process online to effectively link up with suppliers and to facilitate the sourcing and ordering process. In another definition, the

public procurement oversight authority (2009) suggest that e-procurement refers to business to business or Government to Business buying and sale of goods and services via the internet. A common theme in the different definitions is the integration of information technology and the use the internet in the procurement process.

There are different types of e-procurement strategies which a firm can adopt. One of them is e-tendering. This is the process whereby the business utilizes online platforms to request information from the prospective suppliers pertaining to the prices for the various goods they intend (Eei, Husain, &Mustaffa, 2012). This strategy enables the businesses to replace the manual paper based tender processes which are time consuming, costly and prone to errors. E-tendering is economical, and quick thus saves on cost and time. E-sourcing is another e-procurement strategy widely adopted by firms. It enables the businesses to access to a large number of the prospective suppliers than it would be the case with traditional sourcing processes (Gunasekaran *et al*, 2009).

Another strategy adopted by firms is e-invoicing. This technology enables businesses and trading partners to monitor transactional documents between them and to ensure the trading engagement terms are adhered to. Another technology that is largely adopted by firms is e-payment. This is a technology that is utilized by businesses to process payments electronically. This technology helps to simplify transactions, and to speed up procurement. By doing this, the business ensures timely delivery of goods to the customers leading to customer satisfaction.

E-procurement has numerous benefits to a firm. According to Kothari, Hu and Roehl (2004) e-procurement reduces the transaction and buying costs of a firm, shortens the procurement process, enhances the exchange of information between the firm and the suppliers, and increase the control of the procurement activities. According to Batenburg (2007), e-procurement increases process efficiency, facilitates the sourcing process and ultimately leads to customer satisfaction (Subramanian, Qualls, Shaw, 2006). Gunawardhana and Karunasena (2012) noted that e-procurement increases the competitiveness of the firm and effectiveness in the sourcing and ordering process. The e-procurement technologies help to reduce transactions costs, increases the ability of the

business to negotiate with suppliers, enables the business to easily identify appropriate suppliers, increases procurement process monitoring and control among other benefits.

1.1.3 Small and Medium Enterprises

SMEs are defined in regard to number of personnel, annual turnover as well as the balance sheet total. According to the European Commission (2003), SMEs are businesses with less than two hundred and fifty employees, less than fifty million Euros as annual turnover and a balance sheet total not exceeding forty-three million euros. Enterprises with lower than ten staffs are considered micro enterprises. Enterprises with less than fifty employees are considered small while those with less than two hundred and fifty are considered medium enterprises. Grasmuck (2000) defines an SME as a form of a small registered business entity with five or fewer employees and requiring seed capital of not more than \$35,000. According to Grasmuck (2000), this type of business usually has one owner and has up to employees.

Small medium firms play a significant function in any economy of a given nation and for this reason, they have increased considerably throughout the entire world since the 1960s (Calvin, 2002). According to Kayanula and Quartey (2012), SMEs are regarded as efficient and prolific job creators, the seeds of big businesses and the fuel of national economic engines. In Europe, the SMEs are regarded as key economic drivers with significant contribution to the GDP. In Poland for instance, the SMEs generates about 50% of the GDP and a key source of employment and income. The sector employs over 6.3 million persons out of the total 9.0 million of labor within private sector which signifies the significance of this sector (Oniszczyk-Jastrzabek et al, 2018). In the United States, the SMEs account for the vast majority of firms and contribute approximately half of the country's GDP. SMEs sector is a key determinant of the economy and is the key source of income to both the owners and those employed in the sector.

In Africa, SMEs are also known as key contributors to economic prosperity of nations. In Ghana, the SMEs represent approximately 92% of total businesses and also contribute approximately 70% of the country's GDP and provide above 80 employments (Selase, 2019). These SMEs operate both in urban and rural areas and a source of livelihood to a

large number of people. Some of these enterprises are organized while others are unorganized. The organized ones usually have established offices and have paid employees while the unorganized that comprises of artists who operate in open air spaces, non-permanent wooden constructions or even at their home. These enterprises also employ small number personnel of who work on a casual basis (Donkor et al, 2018).

In South Africa, SMEs account for approximately 91% of formal businesses and contributes approximately between 52% and 57% of the GDP and offer about 61% of job opportunities (Epoh & Mafini, 2018). In Uganda, the economy is normally assisted by the SMEs contributing approximately 90% of business in private sector. SMEs are major source of employments and also play an essential function in making of income for a large proportion of the people (Sunday et al, 2018). However, while the SMEs add to the economy of a country, they face alt of challenges including access to finance, lack of entrepreneurial skills, management skills, marketing and financial planning.

In Kenya, the SME sector is a very crucial sector and contributes significantly to the economic development. For this reason, the number of SMEs has increased greatly and this sector accounts for 75% of the job opportunities and contribute about 18.4% of the national Gross Domestic Product. More people are currently venturing into the Small and Medium Enterprise business as a way of curbing unemployment as well as reducing the poverty rates in the country and enhancing the standards of living. As a result, SMEs have sprung up in every town and village in the country with the youth playing a big part (Nyakundi, 2018).

SMEs in Kenya are broadly grouped under various categories including light manufacturing, services and commercial and trade. Most of these businesses share common characteristics such as the goods and services they offer and the mode of operation. This therefore implies that the SMEs undergo intense pressure from rivals and customers to lower prices which in turn shrink their profit margins. As a result, the SMEs have been constantly seeking effective innovative strategies of conducting their operations. While the SMEs are vital to the economy, their contribution to economic development is limited by numerous factors. Among the challenges faced are the procurement challenges they face.

The businesses have therefore largely adopted e-procurement technologies to streamline their sourcing and ordering processes.

1.2 Statement of the Problem

SMEs perform a key function in the socio economic growth in Kenya. Despite this importance, they face numerous challenges which have impacted on their performance with some closing down. According to Kenya National Bureau of Statistics (2017), the rate at which the SMES in Kenya are failing is alarming, which compromises its expected contribution to the attainment of the vision 2030. Further, according to KNBS (2017), a large number of SMEs is registered in the country but only a small number of them survive to the 10th year after formation. This agrees with the findings of a survey conducted by Sitienei (2018) which concluded that a large number of SMEs in Kenya do not survive up to their first birthday. While the SMEs contribute greatly to the economic prosperity of the nation, little research has been conducted to determine the challenges the businesses undergo. A review of past empirical literature brings forth various contextual, empirical, methodological gap which create the need for more research.

Chegugu and Yusuf (2017) performed a research study on outcome of e-procurement activities on performance of public hospitals in Uasin Gishu, Kenya. Findings noted that the hospitals have benefited a lot from e-procurement technologies. The e-tendering help the hospitals to achieve increased competitiveness in the tendering bids. Generally, the study established that e-tendering is crucial to the businesses in the medical field. Empirical and methodological gaps arise since the focus was on e-tendering only and contextual gaps arise as this study was not done in Nairobi.

Waganda (2018) conducted a survey on impact of e-procurement on performance of United Nations agencies, Nairobi. The findings indicated a positive association between e-invoicing and performance of procurement at the agencies. The use of e-invoices has enabled the agencies to minimize costs, to simplify the invoicing processes, to minimize the payment time, and to increase data security. Empirical and methodological gaps exist which create the need to address other dimensions of e-procurement.

Oteki et al, (2018) conducted an investigation on the impact of electronic order processing on performance of supply chain of firms processing sugar within Kenya. The findings of the study showed that adoption of e-sourcing has assisted the businesses to generate savings from their supply chains, to increase the visibility of crucial business information and to reduce the time required to accomplish procurement tasks. Empirical and methodological gaps exist which create the need to address other dimensions of e-procurement. Contextual gaps also exist as the study was not conducted in Nairobi.

From the available literature, empirical gaps were clear on need to focus on different dimensions of e-procurement. Therefore, it was crucial to undertake a study focusing on different dimensions of e-procurement and also impact on SMEs within the City County of Nairobi in order to fill gaps and expand knowledge base.

1.3 Objectives of the Study

1.3.1 General Objective

The key objective of this study was to investigate influence of e-procurement on performance of SMEs in Nairobi City County, Kenya.

1.3.2 Specific Objectives

The specific objectives of the study were;

- i. To establish influence of e-tendering on performance of SMEs in Nairobi, Kenya.
- ii. To analyze influence of e-sourcing on performance of SMEs in Kenya Nairobi.
- iii. To determine influence of e-invoicing on performance of SMEs in Nairobi, Kenya.
- iv. To analyze the influence of e-payment on performance of SMEs in Nairobi, Kenya.

1.4 Research Hypotheses

H₀1: E-sourcing has no statistically significant influence on performance of SMEs in Nairobi, Kenya

H₀2: E-tendering has no statistically significant influence on performance of SMEs in Kenya Nairobi

H₀₃: E-invoicing has no statistically significant influence on performance of SMEs in Nairobi, Kenya

H₀₄: E-payment has no statistically significant influence on performance of SMEs in Nairobi, Kenya

1.5 Significance of the Study

This investigation is important in a number of ways. It offers SMEs owners and managers a profound understanding of how e-procurement systems can increase efficiency and effectiveness of the sourcing and purchasing process. The study therefore, helps to inform e-procurement decisions among the SMEs in different sectors in Kenya. The SMEs gets an orientation for the conception and further adoption and advancement of technological systems in procurement processes. The e-procurement technology providers also benefit from the study. It creates key insights that help e- procurement technology providers, the government agencies, and development partners to comprehend the key role of e procurement technologies on performance of SMEs. This guides them in providing better technical support services and advisory services to the SMEs.

The study also benefits the policy makers and other researchers and academicians. To the policy makers, findings of this study enables them to understand how e-procurement influence the performance of SMEs as well as the challenges they face in adopting and using the various e-procurement technologies. It therefore guides the policy makers in formulating different policies that affect the SMEs and technology adoption by the businesses. To the scholars and researchers, this study contributes significantly to research and body of knowledge. The study enriches the existing knowledge and literature on impact of electronic-procurement on performance of an organizational. Therefore, report avails a reference material for scholars as well as other researchers who would like to further research based on same area or in other similar areas.

1.6 Scope of the Study

This study investigated influence of e-procurement strategies on performance of SMEs within City County of Nairobi. Nairobi was chosen because it has a high concentration of SMEs which are a source of income to large number of people. Nairobi city is also very

advanced in the use of various technologies among them been e-procurement. Independent variables were e-procurement strategies whose indicators were e-sourcing, e-tendering, e-payment and e-invoicing while dependent variable was performance of SMEs. This research deployed descriptive design. In addition, study population comprised of 3,000 SMEs registered and operating in Nairobi County (see Appendix III). The respondents of interest were the SMEs owners and managers. The study was conducted between January 2020 and June 2020.

1.7 Limitations of the Study

This study however faced one limitation since SMEs were reluctant to give data and information pertaining to the performance of their businesses due to fear that their competitors may use the information against them. To alleviate this, researcher assured respondents involved that data and information given was to be utilized strictly for educational purposes and that their identity of their businesses was to be kept confidential.

1.8 Organization of the Study

This research project is structured as follows. First chapter covers the introduction of the study. It covers the study background, the statement of the problem, research objectives, as well as research questions. This chapter also covers significance of the study, the scope also the limitations of research study. Chapter two presents literature review. It comprises of theoretical framework, empirical literature review, summary of research gaps, and finally conceptual framework of this study. Chapter three entails methodology that was used to answer research questions. It covers the research design, the target population, sample size and sampling procedures, data collection tools and procedures, the pilot study process, data analysis methods and presentation, and finally ethical consideration.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses e-procurement concept, a review of the literature on effect of electronic-procurement strategies on organizational performance on SMEs, theoretical review and a conceptual framework of the study.

2.2 Theoretical Review

This study was based on Schumpeter's Entrepreneurship Theory, Economic Theory of Entrepreneurship as well as Drucker's Entrepreneurship Theory.

2.2.1 Schumpeter's Entrepreneurship Theory

The theory was founded by Schumpeter (1991). The theory was premised on the idea that creativity and innovation are key factors in any entrepreneur's field. While Schumpeter (1991) argues that entrepreneurship knowledge can go a long way in helping the firm to become successful, the entrepreneur should be innovative in order to accumulate a lot of profit in a highly competitive and dynamic market. In the entrepreneurship theory, Schumpeter chooses a case of a capitalist closed economy that is in static equilibrium. He argued that the entrepreneurs always interfere this equilibrium position through the introduction of an innovation which helps to propel the economy to a new development level. In this case, innovation could occur in different ways such as innovation of recent products, methods of production, innovation in management processes, among other innovations.

The entrepreneurship theory is suitable to this study because it accentuates function of e-procurement on performance of the SMEs. In relation to Schumpeter's Entrepreneurship Theory, the SMEs adopt e-procurement as an innovation to enable them perform above rivals. The SMEs in Nairobi have employed several e-procurement technologies in order to increase operational efficiency. In this study therefore, Schumpeter's Entrepreneurship Theory offered a guide in the understanding of these technologies on the procurement processes and the overall performance.

2.2.2 Economic Theory of Entrepreneurship

Economic Theory of Entrepreneurship was founded by Papanek (1962) and improved by Harris (1970). The theory states that economic incentive is the key factor that promotes entrepreneurship. The economic gains inspire the entrepreneurs to undertake diverse entrepreneurial initiatives and to adopt measures in order to develop entrepreneurial competencies. The entrepreneurs' inner urge and the desired economic gains have great influence on the development and improvement of entrepreneurial competencies. In the case of SMEs, the desire to achieve greater results inspires the owners to seek means of improving operational efficiencies and competencies. Having identified gaps in the procurement functions, the SMEs now adopt modern specialized e-procurement technologies in pursuit of efficient and effective procurement.

The Economic Theory of Entrepreneurship is relevant and applicable in the study of the e-procurement embracing by SMEs within Nairobi. As a remedy to numerous procurement challenges the businesses have been facing, they largely adopt and integrate technology in their procurement operations. The e-procurement strategies adopted are expected to enhance the sourcing and ordering processes and to improve the performance. In this study, the economic theory of entrepreneurship assisted in understanding the influence of e-procurement on the procurement efficiency and on the business performance.

2.2.3 Drucker Entrepreneurship Theory

Drucker Entrepreneurship theory was founded by Drucker (1985). In this theory, Drucker views an entrepreneur as a unique agent of change. According to Drucker (2014) an entrepreneur is always in constant investigation for changes, reacts to the changes, and also exploits the changes as opportunities. According to Drucker, entrepreneurs should be highly hard working and innovative and should always be ready to exploit any innovative opportunities available. In the context of the SMEs, the business environment in which they operate is highly dynamic. Therefore, the entrepreneurs should be innovative and should seek strategies that would enable them improve their performance and hence the significance of the e-procurement.

Drucker Entrepreneurship theory was helpful in explaining the innovative strategies that SMEs in Nairobi currently adopt in order to increase their operational efficiency. The ordering and sourcing process have always been a key challenge to SMEs, which leads to delayed supply of goods and customer dissatisfaction. E-procurement has therefore emerged as a solution to this problem and SMEs are highly using different e-procurement technologies to enhance their procurement process.

2.3 Empirical Literature Review

2.3.1 E-Tendering and SMEs Performance

E-Tendering is the process through which a firm sends request for information as well as prices to suppliers and receives response through internet technologies (McConnell, 2009). This is an e-procurement stage that entails union of e-submission and e-access phases. This particular union comes as result of electronic advertisements for calls on contract and tenders notices at phase of e-noticing. E-Informing also known as e-noticing is an e-procurement stage which involves gathering and also distributing information on purchasing both to and from internal as well as external parties via internet supported by on-line notification systems (McConnell, 2009). This increases the effectiveness of the tendering process which leads to improved procurement performance (Gunawardhana *et al*, 2012).

The role of e-tendering has been examined by numerous researchers. Eadie *et al* (2007) examined factors affecting adoption of e-procurement and migration at firm level focusing on the firms in various industries. The study used secondary data which was analyzed using multi-nominal logistic regression. From the analysis, the study established that e-tendering was positively correlated with the procurement performance. The adoption of e-tendering helped in cost reduction thus contributing to the competitive advantage of the organisation. The e-tendering also helped to enhance and increase the communication between various parties involved in procurement process. Empirical gaps arise as this study was not focused on influence of e-sourcing, e-payment, e-invoicing and also the focus was not on SMEs. Contextual gaps also exist as the study was not conducted in Kenya and hence the need for another to bridge the gaps.

Gunawardhana and Karunasena (2012) performed a survey on responsibility of e-procurement at the ministry of water and drainage in Srilanka. The study established a positive association between e-tendering and procurement performance. The study concluded that the e-tendering improves the coordination of procurement operations and the flow of information and communication between the departments involved in the tender processes. The e-tendering had an alert system that would always remind its users concerning essential issues and functions which have been accomplished by various teams, helped to reduce human errors and to direct documents to suitable and relevant parties. Empirical gaps exist since the study was not focused on influence of e-tendering, e-payment and e-invoicing and did not focus on SMES. Contextual gap also exist as the study was not done in Kenya. Empirical gaps arise as the study was not focused on influence of e-sourcing, e-payment, and e-invoicing. Focus of the study was also on SMEs. Contextual gaps also exist as the study was not conducted in Kenya.

Locally, Chegugu and Yusuf (2017) investigated the impact of e-procurement activities on performance of public hospitals within Uasin Gishu, Kenya. Data in this investigation was gathered from a sample of 367 participants comprising of junior staff in the hospital. From the analysis, the study found out that the hospitals have benefited a lot from e-procurement technologies. The e-tendering help the hospitals to achieve increased competitiveness in the tendering bids. Overall, this study showed that e-tendering is crucial to the businesses in the medical field. While the study assisted greatly to the understanding on influence of e-procurement on performance. Further, empirical gaps emerge as the investigation did not focus on impact of e-sourcing, e-payment, and e-invoicing. Focus of the study was also not on SMEs. Contextual gaps also arise as the survey was not done in Nairobi.

2.3.2 E-Invoicing and SMEs Performance

E-invoicing is a process through which a business sends and receives invoices through electronic means (Brun, 2008). According to Hernandez- Ortega (2011), an e-invoice enables a business to gather information pertaining to transactions and to transmit it through a network. The e-invoices enable the business to maintain business information throughout the supply chain and to enhance the authentication and non-repudiation of origin and receipt, confidentiality and privacy.

The benefits of e-invoicing have been documented by numerous researchers. Chegugu and Yusuf, (2017) analyzed the effect of practices on electronic procurement on performance of an organizational of public hospitals within the county government of Uasin Gishu in Kenya. Descriptive research design was deployed to gather data in 5 hospitals from a sample of 367 respondents which was analyzed by deploying of quantitative and qualitative methods. From the analysis, research study acknowledged that the adoption of e-invoicing had greatly helped to enhance the procurement process at the hospitals. From the e-invoicing, the hospitals were able to easily monitor charges from purchasers to suppliers. While the study added to the understanding on role of e-procurement, empirical gaps exists as the study did not e-sourcing, e-payment, and also e-tendering. Thi study did not also focus on SMEs. Contextual gaps also exist as the study was not in Nairobi City County.

Waganda (2018) performed an investigation on effects of e-procurement on performance of United Nations agencies within Nairobi. The investigation used an exploratory research design and both primary as well as secondary data. In addition, primary data was gathered from procurement managers and other personnel in procurement process while secondary data was gathered from different journals and publications. Based on the regression analysis conducted, the study established a positive association between e-invoicing and performance of procurement at the agencies. The use of e-invoices has enabled the agencies to reduce costs, to simplify the invoicing processes, to reduce the payment time, and to increase data security. Although this study was very informative on the role of e-invoicing, empirical exist as the study did not use e-sourcing, e-payment, and e-tendering. The investigation did not also focus on SMEs. Contextual gaps also exist as the study was not conducted in Nairobi City County.

Similarly, Chegugu and Yusuf (2017) established that e-invoicing has facilitated financial processing between the hospitals in Uasin Gishu and the suppliers. This investigation had empirical gaps as it did not focus on e-sourcing, e-payment, and e-tendering. This study did not also focus on SMEs. There was also a contextual gap as the study was not conducted in Nairobi City County.

2.3.3 E-Sourcing and SMEs Performance

E-sourcing refers to the use of the internet in identification of the contractors. It is the use of internet to identify recent suppliers for a particular category of procurement requirements. Firms shift their process procurement online so as to reach a large number of suppliers as would also be the case via the normal channels.

E-sourcing has numerous benefits to the business as documented by several researchers. Mora-Monge et al (2010) performed a study on impact of e-procurement on procurement practices and performance of various industries in USA. The study showed that adopting of e-procurement had greatly improved ordering and sourcing processes at the firms. The e-sourcing technologies enabled the businesses to reduce the costs incurred in the procurement operations, and to curb and minimize errors in the sourcing and ordering processes. Contextual gaps emerge on the need to undertake another study focusing on the impact of e-tendering, e-payment, and e-invoicing on performance. There is also need to conduct a study focusing the SMEs sector. There was also a contextual gap as the study was not conducted in Kenya and hence the need for another study in Kenya.

In another study Swamy, Nanjundeswaraswamy and Nalini, (2014) analysed influence of e-procurement on ordering and sourcing of different companies in the different economic sectors in India. The data used this study was collected from a sample consisting of 53 sellers, 56 buyers, 52 service providers and 54 academicians. Data was gathered using emails, and personal face to face interviews with telephone interviews conducted with procurement managers. From analysis, the study found that adoption of E-procurement technologies offers the businesses numerous benefits particularly cost saving the sourcing and ordering processes. The e-sourcing technologies have increased the procurement cycle times, has reduced unauthorized buying, and has enabled the businesses to have highly organized information and tighter integration of the procurement function. An empirical gap exists as the study did not focus on the influence of e-tendering, e-payment as well as e-invoicing. Also, the focus of the study was not on SMEs. Contextual gaps also exist as the investigation was not performed in Kenya.

Locally, Oteki *et al*, (2018) analysed influence of electronic order processing on supply chain performance of sugar processing firms in Kenya. The study used primary data that was collected from a sample of 367 respondents through questionnaire and interviews. From the analysis, the study established a significant relationship between e-sourcing and the procurement performance. The study found out that the adoption of e-sourcing has enabled the businesses to generate savings from their supply chains, to increase the visibility of crucial business information and to reduce the time required to accomplish procurement tasks. Empirical gaps exist since the study did not focus on the influence of e-tendering, e-payment, and e-invoicing and did not cover SMES. There was also a contextual gap as the study was not conducted in Nairobi.

In another study, Mose, Njihia, and Magutu (2013) assessed influence of e-procurement on organizational performance of large-scale processing industries in Nairobi as well as the critical factors of success and problems that businesses face in embracing and implementing the e-procurement current technologies. Based on the data collected from a sample of 46 respondents sampled from 455 large manufacturing firms, the study established that e-procurement increases performance of procurement process. The adoption of e-sourcing has greatly helped to facilitate the sourcing and ordering procedures and has enhanced the electronic documentation of bidding process thus enhancing transparency, accountability as well as the general purchasing process. Empirical gaps exist in this study. This is because the study did not emphasize on effects of e-tendering, e-payment, and e-invoicing and did not cover SMEs. There was also a contextual gap as the study was not conducted in Nairobi City County.

2.3.4 E-Payment and SMEs Performance

E-payment is the process whereby payments are made and processed electronically. According to Songip *et al.*, (2013), e-payment enables businesses to carry out financial transactions in a quick, efficient and secure way. By speeding up payments, e-payment speeds up the procurement and ensures timely delivery of goods. This ultimately increases customer satisfaction through constant and timely supply of goods.

Barngetuny and Kimutai (2015) performed an investigation on impacts of e-procurement on performance of management of supply chain in County of Elgeyo-Marakwet focusing on role of e-payment. Based on primary data gathered from a sample of 30 personnel in the county of Elgeyo Marakwet and 10 personnel from referral hospital Iten in the County, the study found that the e-payment system had offered a convenient means of making payments. This has increased the effectiveness of the supply chain and has increased information transparency. Although this study was very informative on the role of e-invoicing, empirical exist as the study did not focus on the influence of e-sourcing, e-invoicing, and e-tendering and did not also focus on SMEs. Contextual also emerge as the investigation was not performed in City County of Nairobi.

In another study, Chegugu and Yusuf, (2017) analyzed the impact of electronic procurement practices on performance of an organizational of public hospitals in county government of Uasin Gishu in Kenya. Descriptive research design was deployed to gather data in 5 hospitals from a sample of 367 respondents which was analyzed using both quantitative as well as qualitative techniques. From the analysis, this study established that the adoption of e-payment had greatly helped to initiate transactions. The study revealed that e-payment enables hospitals to make prompt payments cheaply to suppliers after the delivery of goods. The hospitals incur less cost through e-banking processes as would be the case with other modes of payment. Empirical gaps arise since the survey did not focus on influence of e-tendering, e-payment, and e-invoicing. The study in addition did not emphasis on SMEs and therefore the need for an investigation focusing on SMEs. Contextual gaps also exist as the investigation was not performed in City County of Nairobi.

Khaoya and Muchelule (2019) conducted an investiagtion on effects of e-procurement on performance of SMEs in Bungoma County. This investigation used descriptive research design and primary data was colecetd by use of structured questionnaires. Further, data was anaysed using correlation and also regression methods to determine relationahip between variables. Based on the analysis carried out, the study showed a significant association between e-payment methods used by the businesses and performance. The e-payment platforms enable the enterprises to make timely payment for goods to their suppliers to

bolster the relationship between the businesses and their suppliers. Empirical gaps arise as this study did not emphasis on the influence of e-sourcing, e-tendering and e-invoicing. Contextual gap emerge as the investigation was not performed in City County of Nairobi.

2.4 Summary of Literature Review and Research Gaps

Literature review as well as research gaps are summarized is shown in the table below.

Author, Year	Focus of the Study	Methodology	Research Findings (Summary)	Research gap and the focus of recent study	How the current study filled the gaps
Mora-Monge et al (2010)	Study objective was to analyze impact of e-sourcing on procurement practices of various firms in USA	The study utilized primary data which was analyzed using regression method	The e-sourcing technologies enabled the businesses to reduce the costs incurred in the procurement operations	The study did not emphasize on effect of e-tendering, e-payment, and e-invoicing. Contextual gaps arise as this study did not emphasize on SMEs and it was not done in Kenya.	The empirical gap was resolved by focusing on other e-procurement variables such as e-tendering, e-payment, and e-invoicing. The contextual gap was resolved by conducting a study on SMEs in Nairobi city county in Kenya.
Swamy, Nanjundeswaraswamy and Nalini, (2014)	The study objective was to analyze influence of e-procurement on ordering and sourcing processes.	Primary data was gathered from a sample consisting of 53 sellers, 56 buyers, 52 service providers and 54 academics.	The e-sourcing technologies have increased the procurement cycle times, and has reduced unauthorized buying.	Empirical gaps arise since the study only focused on e-sourcing. Contextual gaps exist as this study did not emphasize on SMEs and it was not done in Kenya.	The empirical gap was resolved by focusing on more e-procurement variables and focusing on the SMEs. The contextual gap were addressed by conducting the study in Kenya focusing on SMEs.
Oteki et al, (2018)	Objective of this study	The study used	E-sourcing has enabled	Empirical gaps emerges	The empirical gap was

	was to analyze the influence of electronic processing order on performance of supply chain on sugar processing industries in Kenya	primary data that was collected from a sample of 367 respondents through questionnaire and interviews	the businesses to generate savings from their supply chains, to increase the visibility into the procurement process.	as the study only focused on e-sourcing. Contextual gaps existed since the study did not emphasize on SMEs in city county of Nairobi.	resolved by focusing on more e-procurement variables Contextual gaps were addressed by focusing on SMEs in city county of Nairobi.
Mose, Njihia, and Magutu (2013)	The study objective was to analyze influence of e-procurement on performance of large scale manufacturing firms within Nairobi.	Data was gathered from a sample of 46 participants	E-sourcing has greatly helped to facilitate the sourcing and ordering procedures.	There were empirical gaps since the study only focused on e-sourcing Contextual gaps existed as the study did not emphasize on SMEs	The empirical gap was resolved by focusing on more e-procurement variables and focusing on the SMEs. Contextual gaps were addressed by aiming on SMEs in city county of Nairobi
Eadie (2007)	The key objective during this study was to analyze factors that affect e-procurement adoption.	This study used secondary data which was analyzed using multinomial logistic regression	E-tendering helped in cost reduction thus contributing to the competitive advantage of the organization	Empirical gaps exist as this study only focused on e-tendering. Contextual gaps exist since the study was not conducted in Kenya and did not cover SMEs	Empirical gaps were addressed by neither covering nor e-procurement variables. Contextual gaps were addressed by conducting the study in Nairobi Kenya focusing on the SMEs.

Gunawardhana and Karunasena (2012)	The objective of the study was to analyze role of e-procurement at the ministry of water and drainage in Srilanka	The study used primary data which was analyzed using regression method	E-tendering improves the coordination of procurement operations and the flow of information and communication.	Empirical gaps exist on the need to focus on more e-procurement variables. Contextual gaps occur on need to emphasis on SMEs in Kenya.	Empirical gaps were addressed by focusing on other variables such as e-sourcing, e-payment also e-invoicing. Contextual gaps were addressed by focusing on SMEs in city county of Nairobi
Chegugu and Yusuf (2017)	The objective of the study was to analyze influence of e-procurement practices on performance of public hospitals in Uasin Gishu, Kenya	Primary data was collected from junior staff in the hospital	E-tendering has helped the hospitals to achieve increased competitiveness in the tendering bids	Empirical gaps exist because the study only focused on e-tendering Contextual gaps exist on the need to emphasis on SMEs in city county of Nairobi.	Empirical gaps will be addressed by focusing on e-tendering, e-payment, e-sourcing and also invoicing Contextual gaps were filled by concentrating on SMEs in city county of Nairobi
Chegugu and Yusuf, (2017)	The objective in this study was to analyze effect of electronic procurement practices on organizational performance of public hospitals in	Primary data was gathered from a sample of 367 participants	E-invoicing has enabled the hospitals to monitor charges from purchasers to suppliers	Empirical gaps exist as this study only focused on e-invoicing. Contextual gaps exist on the need to emphasis on SMEs in Nairobi city council.	Empirical gaps were addressed by focusing on e-tendering, e-payment, and e-sourcing in addition to e-invoicing. Contextual gaps were filled by concentrating on SMEs in city county of Nairobi.

	Uasin Gishu.				
Waganda (2018)	The study objective was to analyze impacts of e-procurement on performance of United Nations agencies within Nairobi	Primary data was gathered from procurement managers and analyzed using regression analysis	The study established a positive association between e-invoicing and procurement performance at the agencies	Empirical gaps exist on the necessity to emphasis on more e-procurement variables. Contextual gaps exist on the necessity to emphasis on SMEs.	Empirical gaps were addressed by focusing on e-sourcing, e-tendering, and e-payment Contextual gaps were addressed by focusing on SMEs in city county of Nairobi.
Barngetuny and Kimutai (2015)	The objective of this study was to analyze effects of e-procurement on supply chain management performance in Elgeyo-Marakwet County	This study utilized primary data gathered from a total sample of 30 personnel	The study found that e-payment system had offered a convenient means of making payments	Empirical gaps exist on necessity to emphasis on more e-procurement variables. Contextual gaps exist on the need to emphasis on SMEs in city county of Nairobi.	This study did not focus on influence of e-sourcing, e-invoicing e-and tendering The contextual gaps were addressed by focusing on SMEs in city county of Nairobi.
Khaoya and Muchelule (2019)	The objective of this study was to analyze effects of e-procurement on performance of SMEs in Bungoma County	This study employed primary data which was analysed using correlatin and regression methods	E-payment platforms enabled the etreprises to make timely payment for goods to their suppliers	Empirical gaps exist on the necessity to emphasis on other e-procurement variables.	Empirical gaps to be filled by focusing on e-sourcing, e-tendering, and e-invoicing The contextual gap to be filled by concentrating on SMEs in city

					county of Nairobi.
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2.5 Conceptual Framework

Conceptual Framework presents association between independent variables and dependent variable of a study. In this research, independent variable is e-procurement. The specific indicators of this study were e-tendering, e-sourcing, e-valuation, and also e-payment. Dependent variable was the performance of SMEs in Nairobi County, which was measured, based on customer satisfaction, profitability, supplier relationships, and cost efficiency. Conceptual framework is presented as follows;

Independent Variables

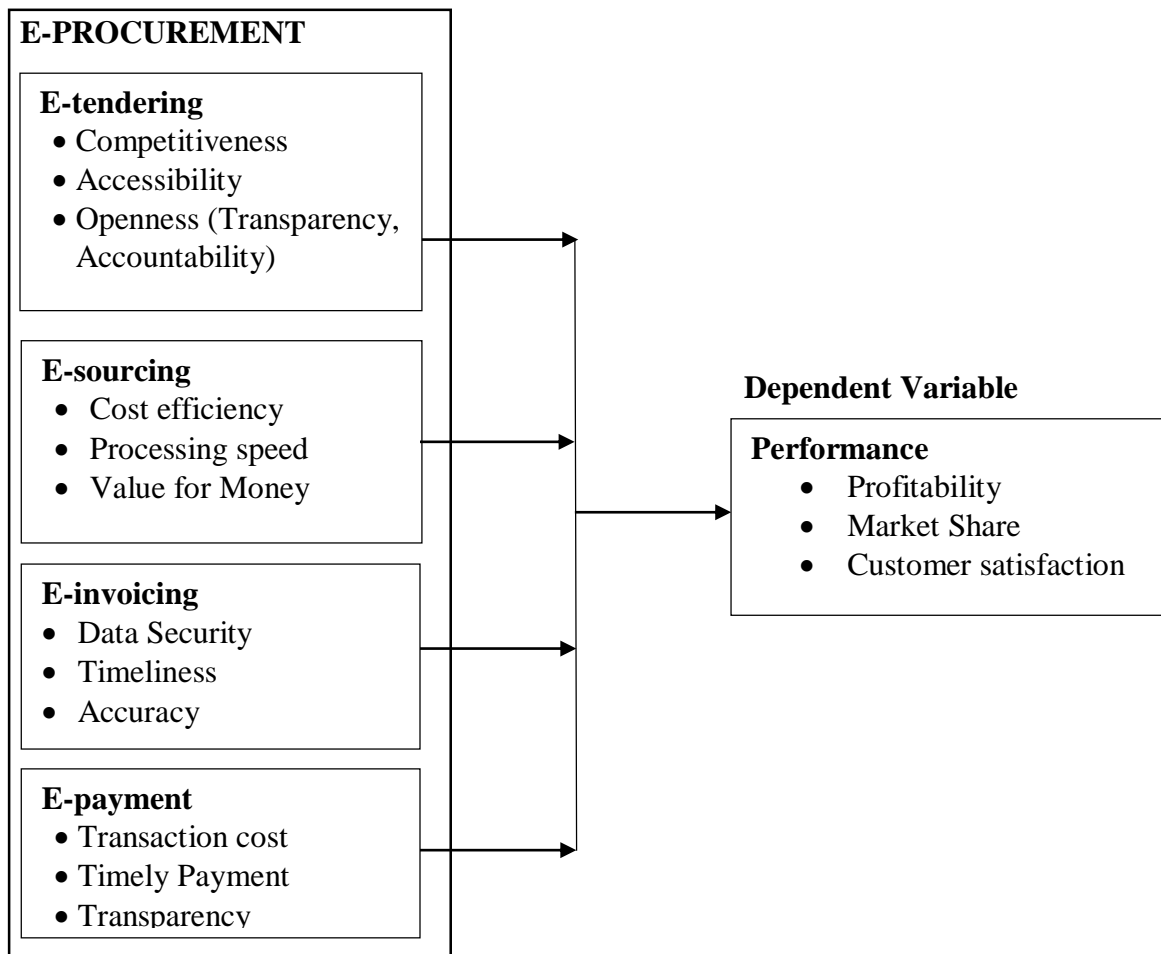


Figure 2.1: Conceptual Framework

Source: Author (2019)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter comprises the methods also procedures which were used to conduct this study. Further, it discusses research design, study population, determination of sample size and also sampling procedures, tools for data collection, procedures and also data analysis methods and presentation.

3.2 Research Design

A research design refers to a plan that shows a manner in which a research study is conducted (Creswell & Poth, 2017). This study adopted a descriptive research design. The rationale for choosing this design was that it enables the researcher to collect information pertaining to the recent status of phenomena and to describe the prevailing status in connection to the study variables. The design was therefore suitable in determining the influence of e-procurement on performance of SMEs within Nairobi County.

3.3 Target Population

Target population is defined as a certain group of people or items having shared physical features which researcher is attracted in assessing (Mugenda & Mugenda, 2012). In this study target population was owners of all registered and licensed SMEs within Nairobi County. According to the Nairobi City County Records (2019), there are 3000 SMEs that are registered, licensed and operational in the Nairobi City County. The target population therefore comprised of 3000 SMEs owners.

3.4 Sample and Sampling Procedure

A sample refers to a smaller and manageable section of a population which is taken and studied to represent entire group. In this research, the sample size of SMEs was computed using the Taro Yamane formulae as shown below;

$$n = \frac{N}{1 + N(e^2)}$$
$$n = \frac{3000}{1 + 3000(0.1^2)}$$

n=97 SMEs

The study utilized a stratified random sampling method to select SMEs to participate in the study. This stratification method was preferable as it made sure all SMEs in various sectors are represented in the study hence eradicating bias. Applying random selection method in each category ensured all the businesses had equal chances of selection to partake in the study. The various categories included General trade Transport, Industrial factories and workshops, health and entertainment, professional and technical services, cereals and groceries, manufacturing, textiles, agricultural producers and processors, and hotels and lodging hotels. Simple random was applied within each category to select the firms to be included in the sample. The SMEs owners or managers were sampled through purposive sampling as they were deemed well conversant with the operations of the SMEs and thus suitable to give the required data and information.

Table 3. 1: Category of SME, Target Population and Sample Size

Category of SMEs	Total Number	Percentage	Sample
General Trade, Wholesale, Retails, Stores	1,110	36	35
Professional and Technical Services	780	26	25
Transport, Storage and Communications	720	25	24
Industrial Plants, Factories and Workshops	390	13	13
Total	3,000	100	97

3.5 Data Collection Instruments and Procedures

The study deployed both primary as well as secondary data. Further, primary data was gathered using structured questionnaires. The rationale for choosing questionnaire was that it permits for collection of wide range of data from a large sample; it is economical and time-saving (Bloch, Phellas& Seale, 2011). These questionnaires were given out to the respondents by the researcher with assistance of 2 research assistants. Secondary data was collected from journal articles, reports, web sources, and other relevant publications.

3.6 Validity and Reliability of the Research Instrument

3.6.1 Validity of the Research Instrument

According to Kothari (2004), validity refers to a measure of how well an instrument used in research can measure that which it is meant to measure (Kothari, 2004). Validity analysis enables the researcher to measure research instruments accuracy and the sincerity of the findings obtained in the research. This research study used content validity as well as face validity. According to Kothari (2004), content validity is a measure of the extent to which data is gathered using a specific concept (Kothari, 2004). In this study, the researcher utilized content and face validity to determine if questionnaires had issues in terms of clarity and to determine and correct errors. Consultations and also discussions with various supervisors were done to determine content validity. Further, face validity was carried out to find clarity as well as ambiguity of questions. Determination of validity of the questionnaires also involved a pilot study. This was done two weeks before conducting the actual study. The piloting process was conducted in Kiambu County whereby 6 SMEs owners were sampled from various sectors to partake in the process. The pilot process assisted the researcher to recognize the likely challenges in actual data collection exercise. It also helped the researcher to improve the research instrument.

3.6.2 Reliability of the Research Instrument

Reliability is defined as ability of a research instrument to yield consistent findings over a given period (Kothari, 2004). To assess reliability of research questionnaire, researcher utilized a test retest technique. This helped to determine consistency of questionnaires. Internal consistency was computed using the Cronbach coefficient alpha. A Cronbach value greater than 0.7 was acceptable for the research instrument to be considered reliable

Table 3. 2: Cronbach's Reliability Alpha

Construct	No. of items	Cronbach's Alpha
E-tendering	8	.717
E-sourcing	6	.866
E-invoicing	6	.918
E-payment	6	.864

Source: Research Data (2020)

The results show that e-tendering had a Cronbach's alpha of 0.717; e-sourcing had a Cronbach's alpha of 0.866; e-invoicing had a Cronbach's alpha of 0.918; and e-payment had a Cronbach's alpha 0.864. This means that all variables in this survey were reliable and hence there was no need to adjust the instrument.

3.8 Data Analysis and Presentation

Data was analyzed using quantitative analysis method. Quantitative analysis is defined as a technique which seeks to understand behavior using mathematical as well as statistical modeling, research and measurement (Kwiatkowska, Norman, & Parker, 2006). Data gathered was further coded and also entered in the Statistical Package for Social Studies (SPSS) and then analyzed by use of descriptive statistics and inferential method. Descriptive analysis involved percentages and frequencies while inferential analysis was carried out using correlation analysis and multiple regression analysis technique. Regression analysis helped to determine influence of e-procurement on SMEs performance of Nairobi City County.

Regression model was as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

Y= Performance

β_0 = Constant of the model

β_1 = E-sourcing

β_2 =E-tendering

β_3 = E-invoicing

β_4 = E-payment

ε = Error term

3.9 Ethical Issues

Ethics refers to the norms which guide choices of moral concerning a behavior and the manner in which people should relate to each other (Carrol & Buchholtz, 2000). As part of ethical considerations, the researcher first attained a permit from the university and a license from NACOSTI. Researcher clarified the study purpose to the participants to make them fully wholly aware about the study so that they give consent prior to administering questionnaires. The researcher upheld privacy of the data that respondents gave so as to make sure they were protected. In addition, the researcher never got involved in activities that were likely to cause physical or psychological harm to participants during the research process

CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter concentrated on data analysis, results interpretation as well as presentation and discussion of the findings based on general and also specific objectives of the study. The major aim of this research study was to examine impact of e-procurement on the SMEs performance within the Nairobi City County, Kenya. Specific objectives in this study were to find out influence of e-tendering, e-invoicing e-sourcing and e-payment on performance of SMEs in Nairobi, Kenya. Findings obtained were presented in figures and tables (graphs and also pie charts).

4.2 Response Rate

In this study, the sample size was 97 owners or managers of registered and licensed SMEs within Nairobi County. During the data collection process 97 questionnaires were dispersed, out of which 86 were completely filled and given back to the researcher. Thus, response rate in this research study of was 88.66%. Kothari (2009) argue that a response rate which is more than fifty percent is regarded as sufficient for data analysis and also for reporting whereas a response rate which is more than seventy percent is considered excellent. Therefore, in this study the response rate was within the limits which are acceptable for drawing conclusions as well as making recommendations.

Table 4. 1: Questionnaire Response Rate

Research Instrument	Sample Size	Percent
Questionnaires issued	97	100
Questionnaires returned	86	88.66
Questionnaires not returned	11	11.34
Total	97	100

4.3 General Information

Respondents' general information consisted of gender, education level, number of years in business, number of staffs and number of suppliers.

4.3.1 Gender of the Respondents

Respondents in this study were requested to specify their gender. From these findings, 65.1% of the participants were male whereas 34.9% of the respondents were female. It means that utmost of SMEs' owners and managers in Nairobi County were male.

4.3.2 Education Level of the respondents

The participants were asked to specify their highest education level. The results obtained were indicated in the Figure 4.1.

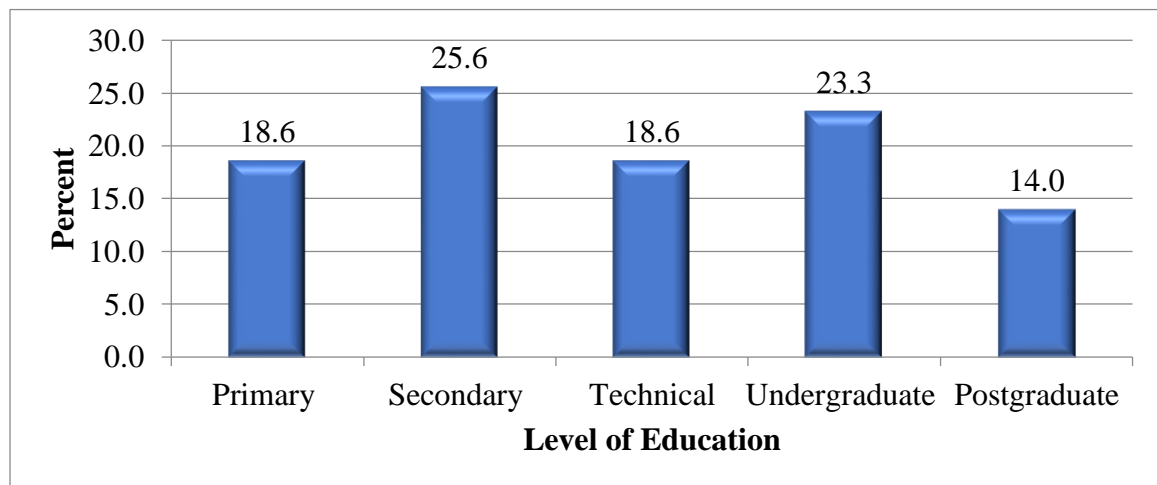


Figure 4. 1: Education Level of the Respondents

Source: Research Data (2020)

From the results, 25.6 % of the participants specified that respondents had secondary education being their highest education level, 23.3% pointed out that they were undergraduates, 18.6 % specified that they had technical certificates, the same percentage (18.6 %) indicated that they had primary education while 14.0 % specified that they had post graduate degrees. This implied that most of the SMEs' owners and managers in Nairobi County had secondary certificates.

4.3.3 Number of Years in Business

As part of general information, participants were asked to specify number of years they had operated their businesses. The results given were indicated in the Figure 4.2.

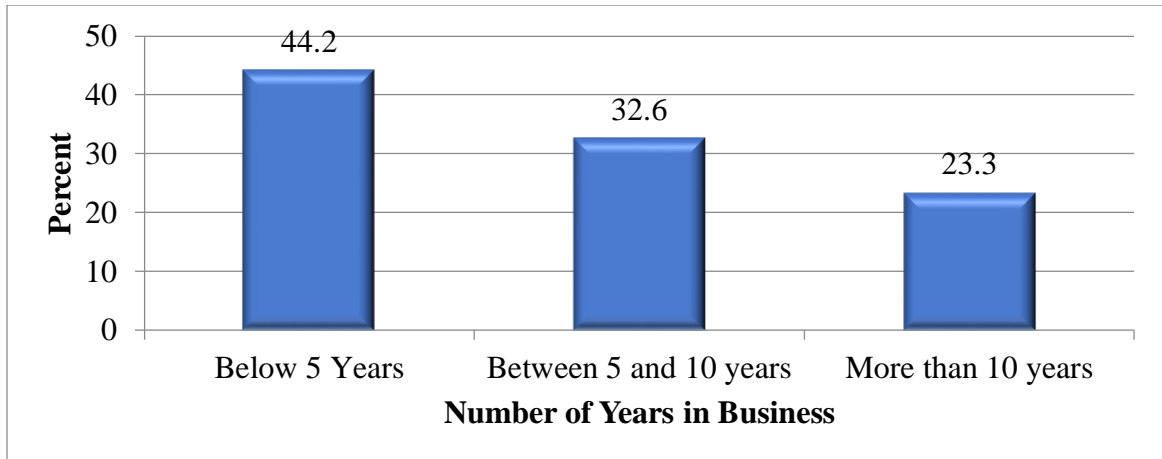


Figure 4. 2: Number of Years in Business

Source: Research Data (2020)

From the findings, 44.2% of the participants revealed they had been in business for less than 5 years, 32.6 % specified they had worked in their businesses for a period of between 5 and 10 years, while 23.3% specified that they had been in business for more than 10 years. This means that most of SME owners had operated their businesses for less than 5 years.

4.3.4 Number of Employees

The participants were also requested to specify the number of staffs they had in their businesses. Results were revealed in Figure 4.3.

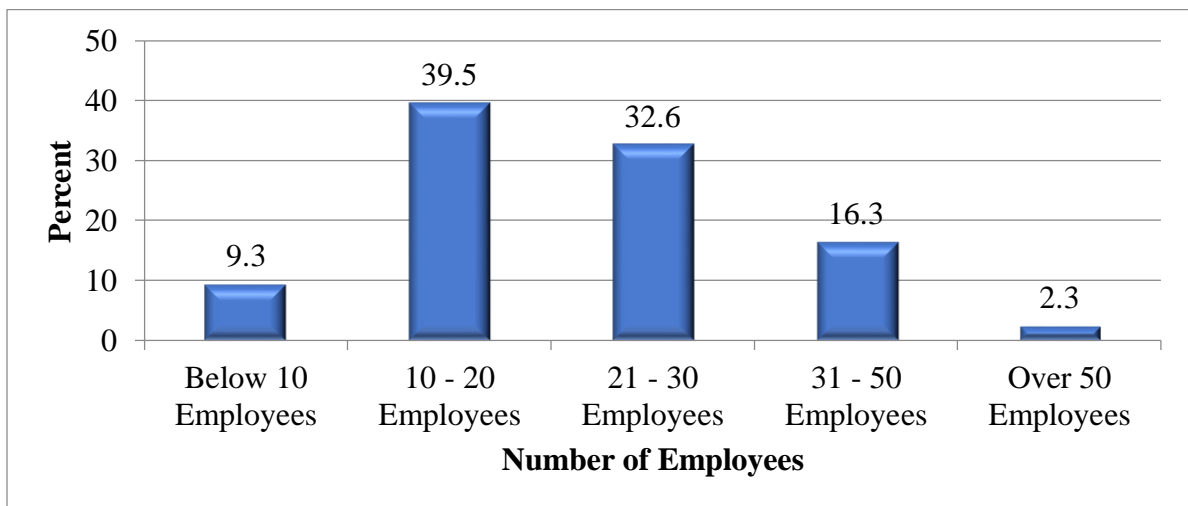


Figure 4. 3: Number of Employees

Source: Research Data (2020)

From the results 39.5 % of the participants had employees ranging between 10 and 20, 32.6% had between 10 and 20 employees, 16.3% had between 21 and 30 employees, 9.3% had below 10 employees while 2.3% had more than 50 employees. It means that most of the SMEs within Nairobi County had between 10 and 20 employees.

4.3.5 Number of Suppliers

The participants were also requested to specify the number of suppliers they had in their businesses. The findings were indicated in Figure 4.4.

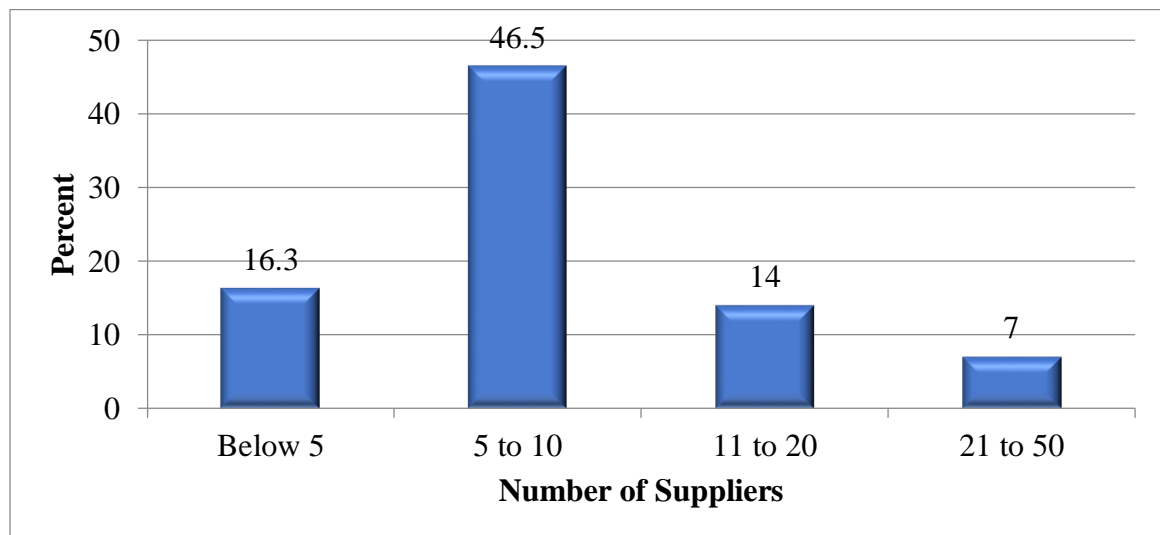


Figure 4. 4: Number of Suppliers

Source: Research Data (2020)

From the results, 46.5% of the participants revealed that they had between 5 and 10 suppliers, 16.3% of the respondents had less than 5 suppliers, 14.0% had between 11 and 20 suppliers while 7.0% had between 21 and 50 suppliers. This means that most of the SMEs in County of Nairobi had between 5 and 10 suppliers.

4.4 Use of e-procurement Practices

The respondents during the study were asked to specify their level of agreement on different statements relating to use of e-procurement practices. A Likert scale of 5-point in this study was utilized where by 1 signified no-extent, 2 signified small-extent, 3 signified moderate-extent, 4 signified large-extent, 5 signified very large extent. Findings were as depicted in Table 4.2.

Table 4. 2: E-Procurement Practices

	1	2	3	4	5	Mean	Std. Deviation
E-tendering	10.5	20.9	44.2	17.4	7.0	2.895	.041
E-invoicing	5.8	9.3	27.9	12.8	44.2	3.888	.026
E-sourcing	5.8	23.3	10.5	14.0	46.5	3.935	.068
E-payment	9.3	11.6	16.3	18.6	44.2	3.767	.369

Source: Research Data (2020)

From the results, the participants indicated with a mean of 3.935 (std. dv =0.068) that their businesses were using e-sourcing to a large extent. Further, the participants revealed with a mean of 3.888 (std. dv =0.026) that their businesses were using e-invoicing to a large extent. With a mean of 3.767 (std. dv =0.369) participants revealed that their businesses were using e-payment to a large extent. As indicated with a mean of 2.895 (std. dv = 0.041), the respondents revealed that they moderately used e-tendering. These findings agree with Eei, Husain, and Mustaffa, (2012) findings that e-invoicing, e-payment and e-sourcing are the most used e-procurement practices among small and medium enterprises.

4.5 E-Tendering

The first objective of this study was to assess influence of e-tendering on performance of SMEs within Nairobi, Kenya.

4.5.1 Influence of E-Tendering on Performance

The participants were requested to specify their level of agreement on different statements relating to e-tendering and various performance metrics. A Likert scale of 5-point was used whereby 1 symbolized no extent, 2 symbolized small extent 3 symbolized moderate, 4 symbolized large extent and 5 symbolized very large extent. The results were shown in Table 4.3.

Table 4. 3: E-Tendering and Performance

	1	2	3	4	5	Mean	Std. Deviation
E-tendering has increased the profitability of the business	11.6	11.6	33.7	19.8	23.3	3.314	1.277
E-tendering has increased customer satisfaction	9.3	0.0	38.4	36.0	16.3	3.500	1.071
E-tendering has increased the market share of the business	9.3	23.3	25.6	18.6	23.3	3.233	1.299

Source: Research Data (2020)

As indicated by a mean of 3.500 (std. dv = 1.071), respondents had a large extent that e-tendering has increased customer satisfaction in the business. Gunawardhana *et al*, (2012) found a positive association between e-tendering and business performance measures including customer satisfaction. The participants were neutral on the statement indicating that e-tendering has increased the profitability of a firm, as indicated by a mean of 3.314 (std. dv = 1.277). Further, the participants were neutral on the statement indicating that e-tendering has increased the market share of the business. This is indicated with a mean of 3.233(std. dv = 1.299).

4.5.2 E-Tendering and Business Performance

The participants were also requested to specify the extent of their agreement with various statements relating to e-tendering and business performance. The findings were shown in Table 4.4.

Table 4. 4: E-Tendering and Business Performance

	1	2	3	4	5	Mean	Std. Deviation
The business has an online supplier contract management system that facilitates tendering processes.	9.3	14.0	7.0	15.1	54.7	2.219	1.424
E-tendering increases the accessibility and enhances the procurement process.	7.0	12.8	20.9	18.6	40.7	3.333	1.305
E-tendering increases the competitiveness of the procurement process	9.3	11.6	14.0	48.8	16.3	3.512	1.176
E-tendering improves transparency and openness in the tendering process.	9.3	60.5	7.0	14.0	9.3	2.535	1.134
E-tendering enables the business to conduct online screening and selections of suppliers	14.0	19.8	45.3	11.6	9.3	2.826	1.108

Source: Research Data (2020)

The participants agreed with a mean of 3.512 (std. dv = 1.176) that e-tendering increases the competitiveness of the procurement process. As indicated by a mean of 3.333(std. dv = 1.305), respondents also were neutral on statement indicating that e-tendering increases accessibility and enhances the procurement process. With a mean of 2.826 (std. dv = 1.108), the participants were neutral on statement indicating that e-tendering enables the business to conduct online screening and selections of suppliers. In addition, with a mean of 2.535 (std. dv = 1.134), the respondents were neutral on the statement indicating that e-tendering improves transparency and openness in the tendering process. Eadie *et al.* (2007) indicated that e-tendering helps to enhance and increase the communication between different parties that are involved in procurement process, which in turn should improve transparency and openness. The participants disagreed with the statement indicating that

their business has an online supplier contract management system that facilitates tendering processes. This is indicated by a mean of 2.219 (std. dv = 1.424).

4.6 E-Sourcing

The second objective of this study was to assess influence of e-sourcing on performance of SMEs within Nairobi, Kenya

4.6.1 Influence of E-Sourcing on Performance

Participants were requested to specify their level of agreement with different statements on the influence of e-sourcing on the different performance metrics in their businesses. Results were indicated in Table 4.5.

Table 4. 5: E-Sourcing and Performance

	1	2	3	4	5	Mean	Std. Deviation
E-sourcing has improved the performance of the business	11.6	12.8	12.8	16.3	46.5	3.733	1.451
E-sourcing has increased customer satisfaction	11.6	9.3	61.6	9.3	8.1	2.930	.992
E-sourcing has increased the market share of the business	9.3	18.6	14.0	50.0	8.1	3.291	1.147

Source: Research Data (2020)

As indicated by a mean of 3.733 (std. dv =1.451), respondents had a large extent agreed that e-sourcing has improved performance of business. These study findings concur with Oteki *et al*, (2018) findings that adoption of e-sourcing enables businesses to generate savings from their supply chains, to increase the visibility of crucial business information and to reduce the time required to accomplish procurement tasks. The participants were neutral on the statement indicating that e-sourcing has increased the market share of their businesses, as indicated by a mean of 3.291 (std. dv = 1.147). Further, as indicated by a mean of 2.930 (std. dv = 0.992), participants were moderate on the statement indicating that E-sourcing has increased customer satisfaction. The findings concur with Songip et al. (2013) findings that e-payment speeds up the procurement and ensures timely delivery of

goods, which ultimately increases customer satisfaction through constant and timely supply of goods.

4.6.2. E-Sourcing and Business Performance

The respondents were further requested to specify the extent of their agreement with various statements on e-sourcing and business performance. The results were indicated in Table 4.6.

Table 4. 6: E-Sourcing and Business Performance

	1	2	3	4	5	Mean	Std. Deviation
E-sourcing has offered cost efficient means of sourcing goods.	9.3	11.6	12.8	12.8	53.5	3.895	1.406
E-sourcing has helped to reduce delays in the sourcing process and has helped to increase the processing speed.	4.7	11.6	9.3	55.8	18.6	3.721	1.048
E-sourcing has helped my business to get value for money	7.0	9.3	65.1	9.3	9.3	3.047	.919

Source: Research Data (2020)

The respondents agreed that e-sourcing has offered cost efficient means of sourcing goods. This is indicated with a mean of 3.895 (std. dv = 1.406). The results agree with Mora-Monge et al (2010) findings that e-sourcing technologies enabled the businesses to reduce the costs incurred in the procurement operations, and to curb and minimize errors in the sourcing and ordering processes. Further, the respondents agreed that e-sourcing has helped to reduce delays in the sourcing process and has helped to increase the processing speed. This is indicated with a mean of 3.721 (std. dv = 1.048). These results agree with Khaoya and Muchelule (2019) argument that the e-payment platforms enable the enterprises to make timely payment for goods to their suppliers to bolster the relationship between the businesses and their suppliers. The respondents were neutral on statement indicated that e-

sourcing has helped their business to get value for money. This is indicated by a mean of 3.047 (std. dv = 0.919).

4.7 E-Invoicing

The third objective in this study was to assess influence of e-invoicing on SMEs performance in Nairobi, Kenya

4.7.1 Influence of E-Invoicing on Performance

The respondents further were asked to specify their level of agreement with different statements on the influence of e-invoicing on the different performance metrics in their businesses. The findings were shown in Table 4.7.

Table 4. 7: Influence of E-Invoicing on Performance

	1	2	3	4	5	Mean	Std. Deviation
E-invoicing has increased the profitability of the business	7.0	9.3	7.0	51.2	25.6	3.791	1.139
E-invoicing has increased customer satisfaction	5.8	4.7	57.0	16.3	16.3	3.326	.999
E- E-invoicing has increased the market share of the business	18.6	54.7	16.3	3.5	7.0	2.256	1.031

Source: Research Data (2020)

From the results, participants agreed by a mean of 3.791 (std. dv = 1.139) that e-invoicing has increased the profitability of the business. As indicated with a mean of 3.326 (std. dv = 0.999), respondents were moderate on statement that e-invoicing has increased customer satisfaction. These findings differ with Waganda (2018) findings that e-invoicing has significant effect on customer satisfaction. The participants disagreed on the statement that e-invoicing has increased market share of the businesses. This is indicated with a mean of 2.256 (std. dv = 1.031).

4.7.2 E-Invoicing and Business Performance

The respondents were asked to specify the extent of their agreement with various statements on e-sourcing and business performance. The results were shown in Table 4.8.

Table 4. 8: E-invoicing and Business Performance

	1	2	3	4	5	Mean	Std. Deviation
The e-invoicing has highly enhanced data security at my business.	9.3	11.6	9.3	11.6	58.1	3.977	1.414
The e-invoicing has reduced delays and highly promoted timeliness in invoicing settlements by the suppliers.	7.0	9.3	11.6	58.1	14.0	3.628	1.063
The e-invoicing has helped to prevent invoice errors and to enhance accuracy	9.3	4.7	25.6	51.2	9.3	3.465	1.048

Source: Research Data (2020)

As indicated with a mean of 3.977 (std. dv = 1.414), participants agreed e-invoicing has highly enhanced data security at their business. Further, the respondents agreed that the e-invoicing has reduced delays and highly promoted timeliness in invoicing settlements by the suppliers as indicated with a mean of 3.628 (std. dv = 1.063). However, respondents were moderate on the statement that the e-invoicing has reduced delays and highly promoted timeliness in invoicing settlements by the suppliers. This is indicated with a mean of 3.465 (std. dv =1.048). The results agree with Waganda (2018) argument that use of e-invoices has enables supply chain organizations to reduce costs, to simplify the invoicing processes, to reduce the payment time, and to increase data security.

4.8. E-Payment

The fourth objective in this study was to determine influence of e-Payment on SMEs performance in Nairobi County, Kenya

4.8.1 Influence of E-Payment and Performance

The respondents were asked to specify their level of agreement with various statements on the influence of e-payment on the different performance metrics in their businesses. The findings were indicated in Table 4.9.

Table 4. 9: E-Payment and Performance

	1	2	3	4	5	Mean	Std. Deviation
E-payment has increased the profitability of the business	16.3	11.6	18.6	44.2	9.3	3.186	1.251
E-payment has increased customer satisfaction	10.5	10.5	58.1	4.7	16.3	3.058	1.110
E-payment has increased the market share of the business	10.5	7.0	9.3	14.0	59.3	4.047	1.388

Source: Research Data (2020)

As shown in the results, the participants agreed with a mean of 4.047 (std. dv = 1.388) with the statement indicating that e-payment has increased the market share of the business. The respondents were moderate on the statement indicating that e-payment has increased profitability of the business, as indicated with a mean of 3.186 (std. dv = 1.251). Further, respondents were also moderate on the statement that e-payment has increased customer satisfaction, as indicated with a mean of 3.058 (std. dv = 1.110). Songip *et al.*, (2013) indicated that by speeding up payments, e-payment speed ups the procurement and ensures timely delivery of goods, which subsequently improves customer satisfaction.

4.8.2. E-Payment and Business Performance

The respondents were also requested to indicate the extent of their agreement with various statements on e-sourcing and business performance. Their results were shown in Table 4.10.

Table 4. 10: E-Payment and Business Performance

	1	2	3	4	5	Mean	Std. Deviation
E-payment has helped to reduce transaction costs.	11.6	7.0	7.0	16.3	58.1	4.023	.414
E-payment has helped the business to reduce to reduce the time taken to pay suppliers.	9.3	7.0	18.6	48.8	16.3	3.558	.134
E-payment has helped to increase transparency in the payment process.	4.7	9.3	16.3	23.3	46.5	3.977	.198

Source: Research Data (2020)

Respondents agreed that e-payment has helped to reduce transaction costs. This is indicated by mean of 4.023 (std. dv = 0.414). Further, participants agreed that e-payment has helped to increase clarity in payment process as indicated with mean of 3.977 (std. dv = 0.198). The respondents also agreed that e-payment has helped the business to reduce the time taken to pay suppliers as shown with a mean of 3.558 (std. dv = 0.134). These findings agree with Barngetuny and Kimutai (2015) argument that the e-payment system offers a convenient means of making payments. This increases the effectiveness of the supply chain and increases information transparency.

4.9 Inferential Statistics

The study used inferential statistics which comprised of correlation analysis and also regression analysis to examine influence of e-sourcing, e-invoicing e-tendering and e-invoicing on performance of SMEs in Nairobi, Kenya

4.9.1 Correlation Analysis

During the study Pearson correlation analysis was utilized to examine relationship between study independent variables (e-sourcing, e-tendering, e-invoicing and e-payment) and dependent variable (performance of SMEs in Nairobi).

Table 4. 11: Correlation Coefficients

		Performance of SMEs	E- Tendering	E- Sourcing	E- Invoicing	E- Payment
Performance of SMEs	Pearson	1				
	Correlation					
	Sig. (2- tailed)					
	N	86				
E-Tendering	Pearson	.368	1			
	Correlation					
	Sig. (2- tailed)	.034				
	N	86	86			
E-Sourcing	Pearson	.760	.183	1		
	Correlation					
	Sig. (2- tailed)	.002	.093			
	N	86	86	86		
E-Invoicing	Pearson	.991	.098	.024	1	
	Correlation					
	Sig. (2- tailed)	.000	.108	.187		
	N	86	86	86	86	
E-Payment	Pearson	.839	.183	.098	.059	1
	Correlation					
	Sig. (2- tailed)	.003	.093	.108	.123	
	N	86	86	86	86	86

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

Source: Research Data (2020)

As shown in Table 4.11, e-tendering has a weak positive but significant correlation with SMEs performance in Nairobi County ($r= 0.368$, p value $=0.034$). This correlation was significant because p value (0.000) was below 0.05 which is the significant level. These results are contrary to Chegugu and Yusuf (2017) findings that e-tendering helps institutions to achieve increased competitiveness in the tendering bids, which in turn improves performance.

The results show that e-sourcing had a positive and also significant correlation with performance of SMEs in Nairobi County ($r=0.760$, p value $=0.000$). The correlation was significant because the p value (0.000) was below 0.05 the significant level. This findings

concur with Swamy, Nanjundeswaraswamy and Nalini, (2014) findings that e-sourcing technologies have increased the procurement cycle times, has reduced unauthorized buying, and has enabled the businesses to have information which is highly organized and tighter incorporation of procurement function.

Results show that e-invoicing has positive and also a significant correlation with performance of SMEs in Nairobi County ($r=0.991$, p value $=0.000$). The correlation was significant because the p value (0.000) was below 0.05 the significant level. These findings concur with findings of Waganda (2018) that there exist a positive correlation between e-invoicing and performance of procurement at United Nations agencies in Nairobi.

Further, the results show that e-payment has positive and significant correlation with performance of SMEs in Nairobi County ($r=0.839$, p value $=0.000$). The association was significant because p value (0.000) was below 0.05 the significant level. These results concur with Barngetuny and Kimutai (2015) findings that the use of an e-payment system led to convenient means of making payments, which in turn increased the effectiveness of the supply chain and has increased information transparency.

4.9.2 Regression analysis

Multivariate regression analysis was adopted to evaluate the weight of correlation between dependent (SMEs performance in City County of Nairobi, Kenya) and independent variables in this study (e-tendering, e-sourcing, e-invoicing and e-payment).

The multivariate regression model used was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Whereby; Y = dependent variable (the performance of SMEs in the City County of Nairobi, Kenya), β_0 = Constant Term; β_1 - β_4 = regression coefficients; X_1 = e-tendering; X_2 = e-sourcing; X_3 = e-invoicing, X_4 = e-payment and ε = error term.

Table 4. 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925 ^a	.857	.849	1.12413

Source: Research Data (2020)

The R-squared was utilized to explain the difference in dependent variable (the SMEs performance in City County of Nairobi, Kenya) that could be illustrated by independent variables in this study (e-tendering, e-sourcing, e-invoicing and e-payment). The R squared was 0.857 and this meant that 85.7% of dependent variable (the SMEs performance in City County of Nairobi, Kenya) could be clarified in this study by independent variables (e-tendering, e-sourcing, e-invoicing and e-payment).

Table 4. 13 Analysis of the Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.352	4	4.088	52.410	.000
	Residual	6.358	81	.078		
	Total	22.71	85			

Source: Research Data (2020)

The ANOVA was adopted to evaluate if the model used was good fit for the data. As shown in Table 4.13, F-calculated was 52.410 which was more than the F-critical (2.484) and the p value (0.000) was below significant level which is (0.05). Therefore, model was a good fit for the data and therefore could be utilized in explaining influence of independent variables (e-tendering, e-sourcing, e-invoicing and e-payment) on dependent variable (the SMEs performance within Nairobi City County, Kenya).

Table 4. 14: Regression Coefficients

	Unstandardized		Standardized		t	Sig.
	Coefficients		Coefficients			
	B	Std. Error	Beta			
(Constant)	2.981	1.036			2.877	0.168
E-Tendering	0.098	0.083	0.093		1.181	0.065
E-Sourcing	0.376	0.099	0.354		3.798	0.009
E-Invoicing	0.531	0.115	0.529		4.617	0.000
E-Payment	0.448	0.109	0.426		4.110	0.000

Source: Research Data (2020)

Regression equation used was as follows,

$$Y = 2.981 + 0.098X_1 + 0.376X_2 + 0.531X_3 + 0.448X_4$$

The findings revealed that e-tendering has positive but insignificant influence on SMEs performance in Kenya ($\beta_1=0.098$, p value= 0.065). The relationship was insignificant since (0.05) which is the significant level was below the p value (0.065). This means that E-Tendering has no any significant impact in performance of SMEs in Kenya. The findings obtained differ with those of Chegugu and Yusuf (2017) who realized that e-tendering has a positive and significant influence on organization performance. In addition, these findings are contrary to Gunawardhana and Karunasena (2012) findings that there is a positive association between e-tendering and also performance of procurement.

In addition, the results found that E-Sourcing has positive as well as significant influence on performance of SMEs in Kenya. ($\beta_2= 0.376$, p value= 0.009). This association was significant because the p value (0.009) was below 0.05 which is the significant level. This means that E-Sourcing leads to an increase in performance SMEs in Kenya. These findings agree with Oteki *et al.* (2018) findings that e-sourcing has positive and also significant effects on performance of organizations in supply chain. These findings agree with Mose, Njihia, and Magutu (2013) findings that e-sourcing has greatly helped to facilitate the sourcing and ordering procedures and has enhanced the electronic documentation of

process of bidding thus increasing transparency, accountability and the general procurement process.

Furthermore, the findings established that e-invoicing has positive also significant effect on performance of SMEs in Kenya. ($\beta_3=0.531$, p value=0.000). This association was significant as p value (0.000) was below 0.05 which is the significant level. This means that e-invoicing has significant effect on SMEs performance in Kenya. The study findings concur with those of Waganda (2018) who established a positive association between e-invoicing and performance of procurement at the agencies. The findings also are in line with Chegugu and Yusuf, (2017) findings that the adoption of e-invoicing had greatly helped to enhance the procurement process at the hospitals.

Moreover, the findings found that E-Payment has positive as well as significant impact on SMEs performance within Kenya. ($\beta_4=0.448$, p value= 0.000). Since p value (0.000) was below 0.05 which is the significant level, the relationship was significant. This means that E-Payment leads to rise in performance of SMEs in Kenya. These findings are in line with the results of Chegugu and Yusuf, (2017) that e-payment has a positive influence on organization performance. In addition, these findings agree with Khaoya and Muchelule (2019) findings that e-payment platforms enable the enterprises to make timely payment for goods to their suppliers to bolster the relationship between the businesses and their suppliers.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter involved discussion of findings' summary, conclusions as well as recommendation for further studies. Major purpose of the research was to evaluate influence of e-procurement on performance of SMEs in County of Nairobi, Kenya. Further, specific objectives of this study were to examine effects of e-tendering, e-sourcing, e-invoicing and e-payment on performance of SMEs in Nairobi, Kenya.

5.2 Summary

This sub-section involved discussion as well as presentation of findings' summary in relation to study specific objectives. In this study specific objectives were to establish effects of e-tendering, e-sourcing, e-invoicing and e-payment on performance of SMEs in Nairobi, Kenya.

5.2.1 E-Tendering and Performance of SMEs

This study found that e-tendering has positive but insignificant effect on performance of SMEs in County of Nairobi. Further, the study revealed that e-tendering increases competitiveness of the procurement process. However, most SMEs lack an online supplier contract management system that facilitates tendering processes. It was established that e-tendering has improved customer satisfaction. This study found that e-tendering has increased the market share and the profitability of the business. It was also found that e-tendering increases the accessibility and enhances procurement process. In addition, e-tendering increases competitiveness of procurement process also enables business to conduct online screening and selections of suppliers. Further, e-tendering moderately improves transparency and openness in the tendering process.

5.2.2 E-Invoicing and Performance of SMEs

The results indicated that e-invoicing has positive as well as significant impact on SMEs performance within Nairobi County. Use of e-invoices has enables supply chain organizations to reduce costs, to simplify the invoicing processes, to reduce the payment time, and to increase data security. The study also found that e-invoicing has increased the profitability of the SMEs. In addition, the results revealed that e-invoicing moderately

increased customer satisfaction, but did not increase market share of SMEs. The study established that e-invoicing has highly enhanced data security at my business. Further, the study found that e-invoicing has reduced delays and highly promoted timeliness in invoicing settlements by the suppliers. In addition, it was found that e-invoicing has moderately helped prevention of invoice errors and enhanced accuracy.

5.2.3 E-Payment and Performance of SMEs

The study found that E-Payment has a positive also significant effect on SMEs performance in Kenya. E-payment system offers a convenient means of making payments. This increases the effectiveness of the supply chain and increases information transparency. The study also found that e-payment has improved market share of SMEs. Further it was found that E-payment has helped to reduce transaction costs. In addition, the study established that E-payment has helped to increase clarity in payment process. Furthermore, the study found that E-payment has helped the business to reduce to reduce the time taken to pay suppliers. By speeding up payments, e-payment speed up the procurement and ensures timely delivery of goods, which subsequently improves customer satisfaction. The study found that E-payment moderately increased the profitability of the business. Further, the study revealed that E-payment has moderately increased customer satisfaction.

5.2.4 E-Sourcing and Performance of SMEs

This study showed that e-sourcing has a positive as well as significant impact on SMEs performance in Kenya. From these findings, it was found that E-sourcing has improved performance of the business. Adoption of e-sourcing enables businesses to generate savings from their supply chains, to increase the visibility of crucial business information and to reduce the time required to accomplish procurement tasks. Moreover, it was established that e-sourcing has offered cost efficient means of sourcing goods. E-sourcing technologies enabled the businesses to reduce the costs incurred in the procurement operations, and to curb and minimize errors in the sourcing and ordering processes. In addition, e-sourcing has helped to reduce delays in the sourcing process and has helped to increase the processing speed.

However, the study revealed that e-sourcing has moderately helped my business to get value for money. Further it was established that e-sourcing has moderately increased customer satisfaction. E-payment speeds up the procurement and ensures timely delivery of goods, which ultimately increases customer satisfaction through constant and timely supply of goods. In addition, the study found that e-sourcing has moderately increased the market share of the business.

5.3 Conclusions

This research concludes that e-tendering has positive but insignificant effect on SMEs performance in Nairobi County. However, most SMEs lack an online supplier contract management system that facilitates tendering processes. It was established that e-tendering increases customer satisfaction, moderately increases the market share and profitability of businesses.

The study also concludes that e-invoicing has positive as well as significant influence on SMEs performance within Nairobi County. Study revealed that e-invoicing improved the performance of the business and moderately improved customer satisfaction and market share. The study also established that the e-invoicing highly enhanced data security in businesses and reduced delays and highly promoted timeliness in invoicing settlements by the suppliers.

The study further concludes that e-payment has positive as well as significant impact on SMEs performance within Nairobi County. In addition, the study established that e-payment enables to reduce transaction costs, increase transparency and to reduce the time taken to pay suppliers. The study found that e-payment has moderately increased profitability of the business, but moderately increased customer satisfaction and market share of businesses.

The conclusion of this study was that e-sourcing has positive as well as significant impact on SMEs performance in Nairobi County. This research showed that e-sourcing improved the performance of the business, offered cost efficient means of sourcing goods and helped to reduce delays in the sourcing process. Further, e-sourcing moderately increased customer satisfaction and the market share of SMEs within Nairobi County.

5.4 Recommendations

The study found that most SMEs within Nairobi county lack an online supplier contract management system that facilitates tendering processes. This survey therefore recommends the embracing of e-tendering management system by SMEs to ensure effective and efficient tender awarding and also ensure the suitable criteria for contractor selection. The study further recommends that SMEs should adopt and utilize e-tendering to streamline the process of procurement and reduce the costs involved.

The findings also established that e-invoicing increases performance in terms of clients satisfaction. Therefore this research recommends that all SMEs within Nairobi County should work towards ensuring full adoption of electronic invoicing which will in turn improve services offered to customers hence making them more satisfied. In addition, small and medium enterprise should adopt e-invoicing to reduce costs associated with storage, printing and delivery of paper invoices.

The study found that e-payment increased customer satisfaction and improved profitability of SMEs. This study therefore recommends adoption of electronic payment by all SMEs in Nairobi County so as to ensure easy, fast and safe transactions hence increasing the level of customer satisfaction. The study further recommends that all SMEs should adopt e-payment to improve performance by improving efficiency in payments and reducing errors related to cash transactions.

The study found that e-sourcing has moderately increased the market share of the SMEs and improved customer satisfaction. This study therefore recommends that SMEs within Nairobi County should embrace supplier management systems which will help them track their entire suppliers and ensure continuous supply of good hence increasing market share and improving the level of customer satisfaction. Further, small and medium enterprises should adopt e-sourcing as it increases access to many suppliers and reduce time taken to award a contract.

5.5 Recommendation for Further Studies

The major aim of this investigation was to examine influence of e-procurement on the SMEs performance in City County Nairobi, Kenya. However, this study was only limited

to SMEs operating within the City County of Nairobi. Hence, this study recommends that additional investigations should be performed on influence of e-procurement on SMEs performance in other counties in Kenya. Besides that, this investigation found that 85.7% of the SMEs performance in City County of Nairobi could be illustrated by e-procurement (e-tendering, e-invoicing e-sourcing and e-payment). Therefore, this study recommends additional study to be performed in order to evaluate other factors which influence performance of SMEs across Kenya.

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APPENDICES

Appendix I: Introduction Letter

Dear Sir/Madam,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY

I am a student at Kenyatta University pursuing a Master's degree in Business Administration. I am conducting a research as part of the requirement in accomplishing my course degree on the influence of e-procurement strategies on the performance of small and medium enterprises within Nairobi County. Given your exceptional position in your business and experience that you have, you have been selected as one of the participants. Your task in this research study will only entail filling a questionnaire. In addition, the questions which are to be asked will only relate to your opinions and experience in relation to the issue under study. It is necessary that you get to understand that there is no answer which is either correct or wrong. This research study is aimed at permitting you to give details concerning what you sincerely think. In regard to this I am kindly requesting you to devote some time to engage in this exercise. Further, I will also observe anonymity and I promise you that the responses you will provide will not be revealed to anyone.

Thank you.

Julius MumoMutunga

The Researcher

Appendix II: Research Questionnaire

Kindly provide your responses in the spaces given by ticking at the box that matches your answer.

Part A: General Information

1. Gender

Male [] Female []

2. Education Level

Primary [] Secondary []

Technical [] Undergraduate []

Post graduate []

3. Please indicate the number of years your business has been in existence

Below 5 Years [] Between 5 and 10 Years []

More than 10 Years []

4. Please indicate the number of employees you have

Below 10 employees [] 10-20 employees [] 21- 30 employees []

31-50 employees [] Over 50 employees []

5. How many suppliers/contractors do you routinely engage with?

Below 5 [] 5 – 10 [] 11 – 20 []

21 – 50 [] More than 50 []

6. Kindly indicate the degree to which your business uses following e-procurement practices. Use a scale where **1 Represent No-Extent, 2 Represent Small-Extent, 3 Represent Moderate-Extent, 4 Represent Large-Extent, 5 Represent Very Large Extent**

E-procurement Strategies	1	2	3	4	5
E-tendering					
E-invoicing					
E-sourcing					
E-payment					

Part B: E-tendering and Performance

7. Please give your rating on influence of e-tendering on performance of your business. Use rating criteria where **1 represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree.**

Statement	1	2	3	4	5
E-tendering has increased the profitability of the business					
E-tendering has increased customer satisfaction					
E-tendering has increased the market share of the business					

8. Please give your rating on influence of e-tendering on different performance metrics at your business. Use a rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree**

E-tendering	1	2	3	4	5
Business has an online supplier contract management system that facilitates tendering processes.					

E-tendering increases the accessibility and enhances the procurement process.					
E-tendering increases the competitiveness of the procurement process					
E-tendering improves transparency and openness in the tendering process.					
E-tendering enables the business to conduct online screening and selections of suppliers.					

Part C: E-sourcing and Performance

11. Please give your rating on influence of e-sourcing on performance of your business. Use a rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree.**

Statement	1	2	3	5
E-sourcing has improved the performance of the business				
E-sourcing has increased customer satisfaction				
E-sourcing has increased the market share of the business				

12. Please give your rating on influence of e-sourcing on different performance metrics at your business. Use a rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree.**

E-sourcing	1	2	3	4	5
E-sourcing has offered cost efficient means of sourcing goods.					
E-sourcing has helped to reduce delays in the sourcing					

process and has helped to increase the processing speed.					
E-sourcing has helped my business to get value for money					

Part D: E-Invoicing and Performance

9. Please give your rating on influence of e-invoicing on performance of your business. Use a rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree.**

Statement	1	2	3	4	5
E-invoicing has increased the profitability of the business					
E-invoicing has increased customer satisfaction					
E- E-invoicing has increased the market share of the business					

10. Please give your rating on influence of e-invoicing on different performance metrics at your business. Use the rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree**

E-invoicing	1	2	3	4	5
E-invoicing has highly enhanced data security at my business.					
The e-invoicing has reduced delays and highly promoted timeliness in invoicing settlements by the suppliers.					
The e-invoicing has helped to prevent invoice errors and to enhance accuracy.					

Part E: E-Payment and Performance

13. Please give your rating on influence of e-payment on performance of your business. Use a rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree.**

Statement	1	2	3	4	5
E-payment has increased the profitability of the business					
E-payment has increased customer satisfaction					
E-payment has increased the market share of the business					

14. Please give your rating on influence of e-payment on different performance metrics at your business. Use the rating criteria where **1 Represent Strongly Disagree, 2 Represent Disagree, 3 Represent Neutral Stand, 4 Represent Agree, 5 Represent Strongly Agree**

E-payment	1	2	3	4	5
E-payment has helped to reduce transaction costs.					
E-payment has helped the business to reduce to reduce the time taken to pay suppliers.					
E-payment has helped to increase transparency in the payment process.					

THANK YOU FOR YOUR CONTRIBUTION

Appendix III: List of SMEs

	Business Name	Nature of business	Street
1	interfirm Kenya ltd	retail of stationary	jansala rd
2	james karuku maina	beauty parlour	mfangano st
3	purie cosmetics	beauty shop	river rd
4	nelius boutique	boutique	koinange st
5	samwa agencies	electrical goods	charles rubia rd
6	fixmix electricals	retail of electricals and accessories	cross rd
7	green point sustainable solutions ltd	supplies	mamlaka rd
8	brennytex	tailoring and accessories	river rd
9	aibo enterprises	accessories sales	tom mboya opposite posta
10	ultimate accessories	accessories	luthuli ave
11	mount kenya maorning dew ltd	agriculture products for exports	biashara st
12	niro tours and travel limited	air ticketing services	koinange st
13	flying blue tours n travel	air ticketing services	monrovia st
14	kos general supplies	airtime	tsavo rd
15	harmony options	assorted gifts items	veteran hse
16	annevix enterprises	assorted hawkers commodities	tamworth rd
17	tumaini traders	assorted hawkers commodities	kamukunji trader centre
18	joseph maina kirigi	assorted items	ahero st
19	polythene	assorted items	ronald ngala st
20	jewawa shop	assorted items	taveta rd
21	jopurt enterprises	assorted items	gaberone rd
22	real audio and visual production	audio studio/phonand video	duruma rd
23	gikema auto traders	auto accessories	kirinyaga rd deston building
24	bash auto paints	auto paints /mpesa services	komarock kayole extention
25	kymco auto spares	auto spares	lower kirinyaga rd
26	captain auto spares	auto spares	kirinyanga rd

27	kabu auto spares	auto spares	race course rd
28	adonai auto	auto spares	cross lane
29	moses kim auto spares	auto spares	lower kirinyaga rd
30	jomo auto spares	auto spares	kirinyaga st
31	toolman hardware	auto spares	ambala rd
32	bei nafuu auto spares	auto spares	ambala rd
33	arusakina ltd	auto spares	kirinyaga rd
34	roykeys auto spares	auto spares	race course rd
35	rimmers auto spares	auto spares	lower kirinyaga rd
36	kiawa auto spares (nrb)	auto spares	kombo munyiri rd
37	promise enterprise	auto spares and hardware	temple rd
38	jorias enterprises	auto spares and accessories	kirinyaga rd
39	kenna auto spares	auto spares and mpesa	kirinyaga rd
40	diamond auto suspension shop	automotive spare parts	factory st
41	eddietimes auto spare	autospare	kirinyaga rd
42	evematt agencies	autospare	race course rd
43	scissors and clippers barbershop	babershop	moi ave elite arcade
44	charlie's angels bany shop	baby botique	tom mboya st
45	newborn to kneehigh	baby clothes	moi ave
46	mataano baby shop	baby shop	popo st
47	zuri kids fashion	baby shop	moi ave
48	glorius hair n beauty	baby wears	tsavo rd
49	bag mania investments	bags/beauty	tom mboya st
50	first impression	bags/shoes/clothes	moi ave
51	pauline kabura muhia	bales	gikomba market
52	chiriku shop	band saw blade	gikomba
53	heights barber shop	barber	agoi rd
54	mar-gic barber	barber	duruma rd
55	alicol kinyozi	barber shop	taveta rd
56	stewa barber shop	barber shop	racecourse rd
57	nifnif barber shop	barber shop	redcross rd
58	bonga barber shop	barber shop	mfangano st
59	quintex barber shop	barber shop	temple rd
60	cabral street barbers	barber shop	imenti hse

61	pegem executive barber shop	barber shop	thome
62	mancave barbers	barber shop	loita street
63	pop in barbers	barber shop	sheikh karume rd
64	lagos lane barber shop	barber shop	tom mboya st
65	classic barber shop	barber shop	moi ave
66	ever classic barber shop and spa	barber shop	680 hotel
67	ushindi barber shop	barber shop	muindi mbingu st
68	bellhills barber shop	barber shop	race course rd
69	excel barber shop	barber shop	loita street
70	executive barbers	barber shop	mfangano st
71	boon suppliers	barber shop	koinange st
72	mikes barber shop	barber shop	south B shopping centre
73	mount hermon products	barber shop	moi ave
74	boys II men barber shop	barber shop	karume rd
75	newline barber shop	barber shop	park rd KAA hotel ngara
76	densa barber shop	barber shop /massage parlour	gede street
77	salt executive barbers and beauty parlour	barber shop and beauty parlour	mfangano st
78	capital hill barber shop	barber shop and salon	muranga rd
79	salt executive barbers and beauty parlour	barber shop/beauty parlour	ronald ngala st
80	trendy cuts barber shop	barbershop	kimathi st
81	adam's lounge executive barbershop	barbershop	mama ngina st
82	invertex solar technologies	batteries /solar pannels /inverters	landhies rd
83	papa sambuna enterprises	beads wear	dubois rd
84	file n style nail spa	beauty	imenti hse off tom mboya st
85	walter nyoike mberethi	beauty /cosmetics	tom mboya street
86	gloria paskazia wekesa	beauty accessories	imenti hse
87	royal lady shop	beauty and accessories	dubois rd
88	passionate barber and beauty	beauty and barber	ronald ngala st -stall 55

89	dyan enterprises	beauty and cosmetics	munyu rd /sheikh karume rd
90	sakita enterprises	beauty and cosmetics shop	dubois rd
91	carol beauty collection	beauty and cosmetics shop	tom mboya st
92	emma gatwiri mugambi	beauty and hawkers ware	racecourse rd
93	beampoint logistic ltd	beauty and health products	tumaini hse
94	candy beauty	beauty art	mfangano street
95	xpression tattos and piercing	beauty cosmetics	tom mboya st
96	A and J beauty parlour	beauty cosmetics	mpi ave
97	vals makeup studio	beauty cosmetics	moi ave -sasa mall
98	glorious beauty spot	beauty cosmetics	dubois rd
99	saida cosmetic shop	beauty cosmetics	tom mboya st
100	modan cosmetics	beauty cosmetics and accessories	dubois rd
101	avodah investments	beauty n cosmetics	river rd
102	la nails beauty	beauty n cosmetics	nairobi
103	riss nail parlour	beauty n salon	tom mboya st
104	keshy beauty parlour	beauty parlour	moi ave
105	jakes beauty parlour	beauty parlour	mfangano street
106	mercy mburu beauty parlour	beauty parlour	mfangano st
107	marto beauty parlour	beauty parlour	mfangano st
108	7 stars beauty lounge	beauty parlour	mfangano street
109	mystique collections	beauty parlour	tom mboya st
110	prime salon	beauty parlour	mfangano lane
111	dashing divas	beauty parlour	star mall tom mboya st
112	dainty beauty parlour	beauty parlour /babrber shop	kimathi st - corner hse
113	P and J beauty parlour	beauty parlour and kinyozi	munyu rd
114	jediddah wanjiru	beauty parlour/accessories	ronald ngala
115	classic beauty parlour	beauty products	river rd
116	solomon h karanja	beauty products	duboid rd

117	nevira upward beauties	beauty products	dubois rd
118	lylis beauty shop	beauty products	dubois rd alshon hse
119	pretty beauty shop	beauty products	dubois rd
120	maggie beauty shop	beauty products	dubois rd
121	symicks enterprises	beauty products	ronald ngala st
122	mikelvis beauty shop	beauty products	dubois rd
123	lheritier ltd	beauty products	moi ave -sasa mall
124	sleek beauty shop	beauty products	river rd
125	joy beauty collection	beauty products	dubois rd
126	barbie beauty shop	beauty products	tom mboya - star mall
127	style pont beauty	beauty products	dubois rd
128	syrene beauty shop	beauty products	dubois rd
129	living murungi kahwai T/A exquisite perfumes	beauty products	tom mboya st
130	sleek fashion accessories	beauty products /accessories	mfangano st- terry-stall-g 13
131	keziah gathoni mwangi	beauty products and accessories	accra dubois rd
132	true royal treat	beauty products and nail art	taveta rd
133	ralph hair works	beauty salon	moi ave
134	kings and queens beauty palour	beauty salon	mfangano st
135	smartlady beauty salon	beauty salon	ronald ngala
136	golden touches beauty salon	beauty salon	moi ave
137	glammy beauty shop	beauty services	nairobi cbd
138	pretty make up	beauty services	kaunda street
139	tandu botique n beauty shop	beauty shop	moi ave
140	mwangi's beauty prlour shop ll	beauty shop	mfangano st
141	jans collection	beauty shop	river rd
142	mwangi wairimu damaris	beauty shop	tom mboya
143	kuwait beauty cosmetics shop	beauty shop	tom mboya st
144	winam enterprises ltd	beauty shop	dubois rd
145	trendy fashions	beauty shop	muruka lane
146	sween beauty shop	beauty shop	moktar daddah street
147	lukas W kimani	beauty shop	mfangano st

