

Effects of E-Procurement on the Organizational Performance of County Governments in Kenya: A Case study of Bungoma County Government

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Abstract: E-procurement plays an important role in achieving a firm's goals. It is more than just a system for making purchases online. It provides an organized way to keep an open line of communication with potential suppliers during a business process. This study was investigating the Effects of E-Procurement on organizational performance of Public organizations focusing on Bungoma County Government. The study was guided by the following specific research objectives: To establish the effects of E-Tendering on the performance of Bungoma County Government, to establish the effects of E-Auction on the performance of Bungoma County Government, To establish the effects of E-Purchasing on the performance of Bungoma County Government and to establish the effects of E-Invoicing on the performance of Bungoma County Government. The study utilized a case study research design and targeted employees of Bungoma County Government in the departments of procurement totaling to 150. The study employed simple random Sampling and purposive sampling. The main research instrument that was used was questionnaires which were administered personally by the researcher after getting authorization from Jomo Kenyatta University of Agriculture and Technology and the Bungoma County Government. Validity of research instruments was ensured through careful examination of the content of the test and removing from it all those elements that may prejudice participant's responses. In order to test the reliability of the instrument to be used in the study, the test - retest method were used, where the questionnaires were administered twice within at interval of two weeks to the respondents who were not involved in the study. Collected data were analyzed using both quantitative and qualitative measures. Qualitative data regarding the factors influencing Supplier Relationship Management was analyzed using content analysis to measure the semantic contents of the message. Qualitative data were analyzed using statistical data analysis. The data were tabulated in pie-charts, tables and graphs for easier understanding and presentation.

Keywords: E-tendering, E-auction, E-purchasing, E-invoicing and organizational performance.

1. INTRODUCTION

Background:

E-Procurement refers to the use of Internet-based(integrated) information and technologies (ICTs) to carry out individual or all stages of the procurement process including search, sourcing, negotiation, ordering, receipt, and post-purchase review (Croom& Brandon-Jones, 2004). E-procurement is the generic term applied to the use of integrated database systems and wide area (commonly web-based) network communication systems in part or all of the purchasing process.

The procurement process encompasses the initial need identification and specification by users, through the search, sourcing and negotiation stage of contracts and order placement and on to include mechanisms that register receipt, trigger payment and support post-supply evaluation. As Neef(2001) notes, electronic procurement represents a significant and important development in the employment of e-business in supply chain management. While there are various forms of e-Procurement that concentrate on one or many stages of the procurement process such as e-Tendering, e-Marketplace, e-Auction/Reverse Auction, and e-Catalogue/Purchasing, e-Procurement can be viewed more broadly as an end-to-end solution that integrates and streamlines many procurement processes throughout the organization.

Electronic procurement systems represent an important development for the purchasing process (Neef, 2001), offering benefits to the organisation through purchase process efficiency gains and price reductions (Croom, 2000; Essig& Arnold, 2001; de Boer, Harink&Heijboer, 2002). Although e- Procurement systems offer robust and usually rich functionality, they are designed specifically to excel in just one or a few applications and thus pose various challenges (Cuthbert, Hamzic& Archer, 2003). As with e-Procurement, implementation has been defined in different ways. A typical general definition from the Information Systems (IS) literature, states that implementation is “an effort beginning with the first thought of developing a system and not ending until the project is completed or abandoned” (Ginzberg,). Chan &Swatman (1998), however, state that IS implementation is best described as a process of organizational change that extends over a considerable period of time. More recent definitions of the term stem from the diffusion-based models of innovation adoption in relation to e- Commerce/e-Business (Srinivasan, Lilien& Rangaswamy, 2002).Cooper and Zmud (1990) propose a five-stage framework of initiation, adoption, acceptance, routinization, and infusion explaining how an IT solution (application) is implemented in organizations. While private and public sector organizations have been utilizing Information Technology (IT) systems to streamline and automate their purchasing and other processes, it is only in the past decade that e-Procurement systems have attracted attention. While there is debate about how recently e-Procurement has emerged (Dai & Kauffman, 2001; Koorn, Smith & Mueller, 2001), there is no doubt that the use of the Internet in e-Procurement provides several advantages over earlier inter-organizational tools. For example, Electronic Data-Interchange has been providing automated purchasing transactions between buyers and their suppliers since it was launched in the 1960s.

Enterprise Resource Planning (ERP) followed in the 1970s, and then came the commercial use of the Internet in 1980s. It was only in the 1990s that the World Wide Web - the multimedia capability of the Internet - became widely enabled and provided the essential resource for the automation of procurement (OGC, 2002).Some of the commonly used tools in the public sector are e- Tendering, e-RFQ, e-Auctions, e-Catalogues, and e-Invoicing. These tools, including complete marketplace technologies, have been developed by the key players in the e Procurement market such. Regardless of the various shapes and sizes of e-Procurement systems in the market, it has been argued that the basic procurement process is the same across the public sectors and can be addressed with straightforward technology to automate standard processes (NePP, 2005). A number of public sector agencies worldwide have identified Electronic Procurement (e-Procurement) as a priority e-Government agenda and have implemented or are in the process of implementing e-Procurement systems. This research aims at finding out the factors affecting the implementation of e- procurement by public sector organizations in Kenya

E-procurement:

Various researchers defined e-procurement differently: Parida and Parida (2005) define e- procurement as a technology solution that facilitates corporate buying using the Internet.Essentially an Internet/Intranet based purchasing application or hosted service that streamlines buying, trading partners, maximizes trade efficiency across the entire supply chain, and provides strategic e-commerce capabilities in Internet time; Process which supports the procurement and sourcing activities via Internet technologies and enables an efficient negotiation between buyers and suppliers (Gimenez and Lourenço 2004); Electronic acquisition of goods and services in a firm (Turban &King 2006); The automation of the procurement processes so that the sourcing, vendor selection, procurement processes, shipment status tracking and payments can be made in an online environment (Bhaskar 2005).E-Procurement refers to the use of Internet-based (integrated) information and communication technologies (ICTs) to carry out individual or all stages of the procurement process including search, sourcing, negotiation, ordering, receipt, and post-purchase review (Croom& Brandon- Jones, 2004). While there are various forms of e-Procurement that concentrate on one or many stages of the procurement process such as e-Tendering, e-Marketplace, e-Auction/Reverse Auction, and e-Catalogue/Purchasing, e-Procurement can be

viewed more broadly as an end-to-end solution that integrates and streamlines many procurement processes throughout the organization. Although the term end-to-end e-Procurement is popular, industry and academic analysts indicate that this ideal model is rarely achieved (Department of Information Resources, 2001) and e-Procurement implementations generally involve a mixture of different models.

Organizational Performance:

Organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). According to Richard et al. (2009) organizational performance encompasses three specific areas of firm outcomes: Financial performance (profits, return on assets, return on investment.); Product market performance (sales, market share.); and Shareholder return (total shareholder return, economic value added.). Organizational performance is probably the most widely used dependent variable in organizational research today yet at the same time it remains one of the most vague and loosely defined constructs. The biggest challenge to organizational performance is the external environment. All organizations operate within some external environment. The challenges that may arise from the external environment include political, economic, socio-cultural, environmental and technological (Snider & Rendon, 2001). The concept of organizational performance refers to the change in which the managers and governing body of an organization put into place and manage a programme which measures the current level of performance of the organization and then generates ideas for modifying organizational behavior and infrastructure which are put into place to achieve higher output. The primary goals of organizational performance are to increase organizational effectiveness and efficiency to improve the ability of the organization to deliver goods and/or services. Another area in organizational performance that sometimes targets continuous improvement is organizational efficacy, which involves the process of setting organizational goals and objectives in a continuous cycle. Organizational performance at the operational or individual employee level usually involves processes such as statistical quality control. At the organizational level, performance usually involves softer forms of measurement such as customer satisfaction surveys which are used to obtain qualitative information about performance from the viewpoint of customers (Kaplan & Norton, 2001).

Sababu (2001) conducted a study on the effect of business policy on organizational performance among consumer cooperatives in Kenya. The study established that formal strategic management systems in Kenya influence organizational performance. It was also established demographic and socioeconomic factors appear to have no direct effects on organizational performance. Ongore & K' Obonyo (2011) did an empirical review on the effects of selected corporate governance characteristics on firm performance in Kenya. The findings showed a significant positive relationship between managerial discretion and organizational performance. Ongore & K' Obonyo (2011) did an empirical review on the effects of selected corporate governance characteristics on firm performance in Kenya. The findings showed a significant positive relationship between managerial discretion and organizational performance. Researchers have argued that internal integration of various activities in an organization will be able to enhance economic performance. Flynn et al., (2010) define internal integration as the degree to which two departments collaborate in the management of both inter and intra departmental processes to provide maximum value for the firm. E-procurement has the capacity of acting as an integrative technology that enables integration and improvement of processes between departments (Vickery et al., 2003). Flynn et al., (2010) further assert that internal integration of organizational processes is a recipe for moderated corporate performance though there is no clear elaboration on how this happens. Narasimhan et al., (2003) concur that there exists a positive effect of e-procurement on firm performance even though no empirical evidence has confirmed this position.

Statement of the Problem:

During the first decade of the new millennium, public procurement greatly benefited from the diffusion of e-procurement. Specific sets of technologies and organizational solutions have been introduced worldwide, particularly granting Public Authorities the possibility to manage tendering procedures and auctions online. Similarly as what have already been witnessed in the private sector, the initial implementation of public e-procurement solutions has been saluted with a great hype. The benefits generated by e-procurement have actually been vary, depending on the implementation context, however e-procurement value impact, when applied intelligently, is indisputable (Aberdeen group, 2005). Driven by the increasing trend toward purchasing inputs and other raw materials from outside the organization, implementing electronic procurement (e-procurement) has become a significant tactic in most companies' e-business strategies (Ash & Burn 2006).

Today baseline procurement capabilities are rapidly becoming a cost of doing business. More and more companies are conscious of the needs to introduce Internet-based technologies in their order process, due to the benefits of saving transaction cost, increasing competitive sourcing opportunities, and enhancing inter-organizational coordination. The benefits resulting from implementing Web-based e-procurement system for direct procurement (i.e. purchasing production-related items) can be either belong to organizational level or inter-organizational level (Grey et al. 2005). The organizational-level benefits are generated by Web-based e-procurement through automating procurement process and reengineering the internal processes of an organization. The inter-organizational-level benefits are generated by Web-based e-procurement through reengineering the procurement process among trading partners and reconfiguring the linkages of trading partners.

E-procurement is rapidly transforming how organizations structure and coordinate their business relationships. Thus evaluating the factors affecting implementation of E-procurement becomes critical. Despite previous studies have revealed the importance of Web-based e-procurement to organizational performance, the level of implementation in many public sector organizations is still low. Investigating the factors affecting implementation of Web-based e-procurement is the area of research that has tremendous value for organizations in the new economy. E-procurement is among the Supply-side activities that have been identified as a key area where information systems enabled innovations are likely to yield significant benefits for organizations (European Commission, 2006). The success of any e-procurement application will depend on a variety of factors. Some organizations implement e-procurement technologies and they succeed whereas others fail in the same. In recent years, there has been an impressive accumulation of studies showing that E-procurement plays an important role in improving organizational performance and competitive ability in terms of cost reduction, product quality, ability to meet customer requirements (Wisner, 2009) and competitive advantage (Mentzer et al., 2011). If e-Procurement initiatives in the public sector are to assist the development of e-Procurement across the information economy, there should be wider discussion and agreement on how the achievement of success can be assessed.

Most studies such as (Ash & Burn 2006) have attributed the success of the procurement functions of organizations to the use of ICT especially E-procurement. Low transaction cost, increasing competitive sourcing opportunities, and enhancing inter-organizational coordination are some success factors that have been attributed to E-procurement. Since devolution took root in Kenya in 2013, County governments in Kenya have been under high pressure for better performance and to be accountable in their processes including procurement procedures. This resulted in a growing interest on adopting E-Procurement in an attempt to meet the demands for better performance and increased accountability to stakeholders. Despite the strong need to determine how E-Procurement can impact on the performance of County Governments, no research has been conducted. In an attempt to fill this knowledge gap, this study purposes to assess the effects of E-procurement on organizational performance of county governments in Kenya, focusing on Bungoma County as a case study area.

Objectives of the Study:

General objectives:

The general objective is to assess the effects of e-procurement on organizational performance of County Governments in Kenya.

Specific objectives of the study:

1. To assess the effects of E-Tendering on the performance of Bungoma County Government.
2. To determine the effects of E-Auction on the performance of Bungoma County Government.
3. To determine the effects of E-Purchasing on the performance of Bungoma County Government.
4. To evaluate the effects of E-Invoicing on the performance of Bungoma County Government.

Research Questions:

1. How does E-Tendering affect the performance of Bungoma County Government?
2. How does E-Auction affect the performance of Bungoma County Government?
3. How does E-Purchasing affect the performance of Bungoma County Government?

4. How does E-Invoicing affect the performance of Bungoma County Government?

Research Hypothesis

1. H₀₁: There is a significant relationship between e-Tendering and supply chain management
2. H₀₂: There is a significant relationship between e-Invoicing and supply chain management
3. H₀₃: There is a significant relationship between e-Auctioning and supply chain management
4. H₀₄: There is a significant relationship between e-Purchasing and supply chain management

Significance of the study:

The findings of the study is relevant to commercial state corporations in Kenya's strategic plan and operational plans in that it give the organizations the milestones in strategic measurements towards integrating e-procurement as a strategy for growth and performance .The findings of the study will also enable employees of commercial state corporations in Kenya to appreciate their role towards business development, growth and strategic adoption module for the success of the corporations. Staff will also be motivated towards improving the services they offer and understand customer's perception in service delivery in efforts to achieve the world class organizational status. Researchers will also benefit from the findings of this study since it provided additional knowledge to the already existing literature on e-procurement. The findings and gaps of this study may act as ground for further research. The findings of the study may also serve as a benchmark to other organizations who intend to adopt e-procurement. It will enable them to better understand the role and effects of e procurement in the performance of an organization.

Scope of the study:

To carry out a study on the effects of E-Procurement on the performance of County Governments in Kenya a case of Bungoma County Government, in Bungoma town. The researcher investigated the effects of E-Procurement on the performance of County Governments in Kenya and the focus was to investigate the effects of E-Tendering, E-Auction, E-Purchasing and E-Invoicing on the performance of Bungoma County Government.

2. LITERATURE REVIEW

Introduction:

The chapter entails the literature of other scholars on effects use of e- Procurement in firms. The bottom line of the study is to enrich the already existing work on e-Procurement attainable through critical consideration of other scholars' work. The researcher attempted to critic the findings and establish knowledge gap with a view to enhancing the effect of e-Procurement on organizational performance.

The theoretical framework:

Dialectical theory:

Dialectical theory begins with the Hegelian assumption that the organizational entity exists in a pluralistic world of colliding events, forces, or contradictory values that compete with each other for domination and control (Van de Ven& Poole, 1995).These oppositions may be internal to an organizational entity which may have several conflicting goals or interest groups competing for priority. But oppositions may also be external to the organizational entity. Van de Venand Poole uses dialectical theory to explain change in organizations as occurring when the opposing values, forces or events gain sufficient power to confront and engage the status quo. These opposing forces are termed thesis and antithesis, thesis being the status quo or the ruling way of "doing things". In such situation a new "synthesis" is developed which at a later stage becomes the status quo and again may be confronted by an opposing force. It must be added that the new situation or "way of doing things", the synthesis is not necessarily progress to a better state. Using dialectics will imply identifying challenges and dilemmas in terms of dialectical contradictions or theses and antitheses, and through data collection also identifying possible synthesizes or solutions. These may be in the form of work around, e.g. by specifying requirements which favor other goals than just costs. Findings from two case studies of procurement in local government identify different tensions in the procurement process (Moe et al, 2006).However dialectics serves a limited role as analytical lens in identifying conflicts.

The theory above states that the organization has a number of conflicting interests which compete for priority. It suggests that change in an organization occur when the opposing interests gain sufficient force to confront the usual way of doing things. This study investigates on the Effects of e- Procurement on the Performance of County governments in Kenya. It analyzes E-Procurement as a competing force which has confronted organizations including County Governments in Kenya to accept change by adopting e-procurement.

Agency theory and stakeholder management theory:

Agency theory attempts to describe the agency relationship, in which one party (the principal) delegates work to another party (the agent), who performs that work (Eisenhardt, 1989). Two problems can arise in such relationships, the desires and goals of the principal and agent can conflict, and it is difficult for the principal to verify what the agent actually is doing. Principal-agent researchers are concerned with a general theory of the principal-agent relationship, a theory that can be applied to employer-employee, buyer-supplier and other agency relationships. Agency theory is most relevant in situations in which contracting problems are difficult. These include situations in which there is a substantial goal conflict between principals and agents and sufficient outcome uncertainty to trigger the risk implications of theory (Eisenhardt, 1989).

Eisenhardt discusses the assumptions of the theory and raises the issue of principals learning about the agents when there is a long term relationship, when there may be less need for outcome-based contracts. This may be more the case with procurement in the private sector, where there are fewer regulations than in the public sector, and where tendering is not required. Private businesses are free to have long term relationships with software developers and consulting firms. Jones (1995) suggests that long term relationships with vendors may in the long run lead to higher effectiveness, due to the stability of the relationship being dependent on controlling goal conflicts. Sharma has extended the agency theory and focuses on the principal-professional relationship, where professionals can include consultants (Sharma, 1987). It is not uncommon for public entities to use IS-consulting houses in specifying requirements and even in the tendering phase and the selection of vendor. According to Sharma (1987), there are some specific distinctions of the principal-professional agency exchange. The greatest is the power asymmetry. In an owner-manager or manager-worker relationship, the principal have the power to design and enforce contracts and hence the power to enter or to dismiss incentives for the managers and the workers. In contrast, principal-professional exchanges are inherently those in which professionals have the power over lay principals by virtue of their expertise, functional indispensability, and intrinsic ambiguity associated with the services they provide. It also involves a considerable information asymmetry; the principal does not only know how the professional agent does the job, but also not what he or she does. This information asymmetry also makes it difficult for the principals to know beforehand how much service is actually needed. Dawson has expanded Sharma's work to study information asymmetry in IS consulting. Procurement can be viewed as involving at least two parts with different goals, a buyer and one or more vendors competing for the contract. However in addition to the agency relationship between buyer and competing vendors, there may be a number of internal stakeholders possibly with conflicting goals, adding complexity to the procurement process. These groups of internal stakeholders may include IT staff, procurement personnel, users, user representatives, line managers, financial officers and cost controllers. These may have conflicting interests even though there may not be an agency relationship between them; one common observation is that different user groups in different parts of a business may have conflicting requirements. Stakeholder management theory is helpful in this study which investigates on the Effects of e- Procurement on the Performance of County governments in Kenya. It assesses how E-procurement may be used to bring accountability and transparency thus strengthening the relationship between county procurement personnel and other stakeholders such as the county government, suppliers, the public, independent authorities, and national government authorities.

Stakeholder relations theory:

Eisenhardt and agency theory has been influential development of stakeholder theory (Jones, 1995, Hill and Jones, 1992) Flak and Rose (Flak and Rose, 2005) have done a thorough literature study of stakeholder theory and discusses the strengths and weaknesses of the theory for theoretical contribution to the e-government field. Jones defines stakeholders as applying not only to groups easily characterized by words such as customers or employees but also to subgroups of customers and employees (e.g. shop workers and middle managers) who may have distinct and competing interests. This study investigates on the Effects of e- Procurement on the Performance of County governments in Kenya. It identifies different stakeholders, what conflicting goals or interests they may have, and to what extent this influences the process. Two obvious groups of stakeholders which may have conflicting goals are procurement officers in the County government and other stakeholders whom they are accountable to. There may also be conflicting goals between different

external stakeholders such as vendors and the public. The study aims to evaluate the effectiveness of E-procurement in streamlining organizational processes for overall performance of the County government with the end result being good stakeholder relations.

Strategic purchasing theory:

Chen, Paulraj and Lado (2004) in their optics states that strategic purchasing is a vital link in a working supply chain. According to this view strategic purchasing can give a firm a competitive advantage by enabling the firms to: foster close working relationships with a limited number of suppliers; Promote open communication among supplier's chain partners and Develop long-term strategic relationship orientation to achieve mutual gains. Chen et al (2004) states that strategic purchasing will lead to communications with suppliers, a limited number of suppliers and a way term orientation. Chen at al (2004) proves all of those connections Significant. The conclusion to be drawn from this theory is that strategic purchasing arrangement can be an important link in the supply chain and contributes towards enhancing internal user department satisfactory and the overall financial results of a company. This study investigates on the effects of E-procurement on the performance of County Governments in Kenya. The relevance of this theory in the study is based on the role of E-procurement on strategic purchasing. The study tried to establish whether strategic purchasing outcomes can be linked to E-procurement.

Purchasing effectiveness and purchasing efficiency theory:

Van Woole (2005) presents two areas in which purchasing performance can be measured, purchasing effectiveness and purchasing efficiency. The theory states that purchasing effectiveness is a measure of what has been accomplished and purchasing efficiency is a measure of what resources has been used to accomplish it. Based on Van Wools (2005) four dimensions, Cost/price, product/ quality, logistics and organization are determinants of efficiency and effectiveness. This study investigates the effects of E-Procurement on the performance of County Governments in Kenya. It tries to identify whether the determinants of efficiency and effectiveness in purchasing can be attributed to the adoption of E-procurement.

The Role of e-procurement:

Driven by the increasing trend toward purchasing inputs and other raw materials from outside the organization, implementing electronic procurement (e-procurement) has become a significant tactic in most companies' e-business strategies (Deloitte Consulting, 2001). Today baseline procurement capabilities are rapidly becoming a cost of doing business. More and more companies are conscious of the needs to introduce Internet-based technologies in their order process, due to the benefits of saving transaction cost, increasing competitive sourcing opportunities, and enhancing inter-organizational coordination.

Internal customer satisfaction, through E-Procurement function can usually contribute to the competitive position of any company in many other ways than first through cost serving Van Weele (2005) presents a few of these was such as: reduction of quality cost – e-procurement can reduce quality costs by making sure that selected suppliers deliver a product of service that does not exceed extensive quality control. E-Procurement can also reduce quality costs by making sure that the components bought do not load to complaints on the user department or final product to the customer. Product standardization internal customer satisfaction can be enhanced through E-procurement due to the product variety concept. This can be achieved by reducing the number of different components and or the number of suppliers via set product standards. Contribution to product design and innovation of then innovation in industry come from suppliers or are results from intensive interactions between suppliers and user department in any organization. By actively encouraging this kind of interactions E- Procurement can contribute to fast and to continued innovation and improvement of product and user satisfaction.

Stock reduction, through electronic transaction the sped and real time transaction processes, reduces the amount of stock laying idle in stores and thereby gainful capital employment in other key business proposes or areas. Service provider companies endeavor to meet their suppliers to be flexible too (Chen, Paulraj and Lado, 2004). Hence if a company wishes to offer flexibility to its customers it might also have to demand it from its suppliers. The EDI and synchronized data system can make it cashier to inform suppliers about charge in demand overtime fostering purchasing synergy. Many companies have a business unit structure where the business units are autonomous. In such a structure the business unit managers are responsible both revenue and cost, hence purchasing is usually done locally through E- Procurement, purchasing officers at the different units can make significant savings by coordination their purchasing with other units (Chen, Paulraj and Lado, 2004).E-Procurement system is a compound application that contains many usable functions to

assist company in processing the activities of purchasing transaction. The use of a Web-based procurement system can strengthen search ability, facilitate faster and more accurate data transmission, provide quicker and more plentiful information, and achieve relatively low communications and coordination cost. Hence, Web-based procurement mainly affects four of the organization's major B2B tasks: search, purchase processing, monitoring and control, and coordination (Subramaniam and Shaw 2002).

E-procurement has covered procurement automation for internal organizational processes, and supplier collaboration for inter-organizational processes. The former addresses automated, paperless internal process from end user item selection, to creation and routing of purchase request and approval to purchase order creation, and receiving. The latter is about connectivity with suppliers for electronic catalogs, transaction management and on-going relationship management. To realize the benefits of Web-based e-procurement, an understanding of the impacts influencing the value forming is needed so that the solution may be developed to facilitate the implementation of Web-based e-procurement system (Subramaniam and Shaw 2002).

E-procurement and organizational performance:

E-procurement system plays a fundamental role in B2B purchasing by streamlining the buying process and providing the information needed to make more effective purchasing decisions (Osmonbekov et al. 2002). Previous studies allude to the fact that many companies have found benefits from their implementation of e-procurement system. The adoption of Web-based e-procurement system in the B2B purchasing transaction allows firms to reduce transaction costs, improve internal procurement process efficiency, and increase collaboration with suppliers (Barbieri and Zanoni 2005). The benefits of technology-based supports for procurement activities can be organized into two broad categories: organizational level and inter-organizational level. In organizational level, previous studies suggested that implementing e-procurement system could make company's procurement process more efficient and effective through automating procurement process, reengineering the internal processes and enhancing inter-organizational coordination.

For example, Davila et al. (2003) thought that implementing e-procurement the firm could shorten the order fulfillment cycle time, lower inventory levels and the price paid for goods, and reduce administrative costs of procurement. Eakin (2003) argued that the benefits of e-procurement can be classified to hard benefits (such as price savings and process cost reductions), soft benefits (such as individual time freed up through more efficient processes), and intangible benefits (such as cultural change, financial approval for all spending, and high visibility of supplier performance). Presutti (2003) found e-procurement system can bring benefits to the company such as reducing time to-market cycles, reducing material and transactions costs, and reducing stock levels. Chaffey (2004) argued that the benefits of e-procurement include reduced purchasing cycle time and cost, enhanced budgetary control, elimination of administrative errors, increasing buyers' productivity, lowering prices through product standardization and consolidation of buys, improving the payment process, and improving information management.

Implementing Web-based e-procurement system not only could make the operational processes of the buyer organization more effective but also could make the order fulfillment process of the supplier organization more efficient and improve partner relationship management. The main objective of the order fulfillment process that buyer expected is supplier can deliver qualified products to fulfill its orders at the right time and right place (Lin and Shaw 1998). The order fulfillment performance can be improved if supplier can recognize the order, so that the order demand patterns are more transparent to the supplier. In order for supplier to enhance order fulfillment performance, buyer and supplier have to share information. For instance, Toyota shares its inventory and sales information with its suppliers. Having access to such information helps Toyota's suppliers plan and manage their operations better and Toyota can coordinate the inventory orders effectively; as a result, the implementation of just in time (JIT) delivery strategy can be achieved (Chopra and Meindl 2001). Web-based e-procurement enables the information to be shared among trading partners, such as sales forecasts, production schedules, inventory levels, and product specifications.

Developing a purchasing strategy that enhance internal customer satisfaction on e-Procurement function is a complex process and there are a lot of factors that has to be taken into account, which factors vary between companies, commodities, situation and environment. Dobler and Burt (1996) states that if suppliers are involved earlier in the buyer design process of the E-procurement system, they can contribute with their expertise in the following areas: Material specifications, tolerances, standardization, order sizes, process ethanol's in supplier manufacturing, packaging, inventory & transportation, via a web designed interlink. Further Dobler and Burt (1996) states that another aspect to consider when developing a strategy is how many parallel sources supply should be used.

A company can choose to take all supply from a single supplier, which is usually called single sourcing, or they can take their supplies from two or more suppliers, called dual or multiple sourcing. The different strategies are appropriate in different situations. According to Dobler and Burt (1996) single sourcing is appropriate when. Bottler prices can be achieved through larger volumes (economies of scale), quality is important, A strong influence over a supplier is advantageous, In addition to quality, control and coordination required with just-in-time manufacturing require a single source, significantly lower freight costs many result; special tooling or machinery is required, and the use of more than one supplier is impractical or excessively costly, total system inventory will be reduced, an improved commitment on the supplier's part results, improved interdependency and risk sharing result and time to market is critical.

On the other hand Dobler and Burt (1996) states that dual or multiple sourcing many is appropriate. To protect the buyer of shortage, strikes or other emergencies, to maintain competition and provide a back-up source; to meet local content requirements for international manufacturing locations; more also to meet customer's volume requirements, avoid lethargy or complacency on the part of the single source supplier when the customer a small player in the market for a specific item, when technology part is uncertain and in areas where suppliers tend to leapfrog each other technologically.

Cronin- Harris (2004) state a company has two main windows to the outside world, the sales department and the purchasing department. Because of this they mean that the actions of these two departments are extremely visible and therefore important for the perception of the firm externally. According to Cronin (2004), studies have shown that behavior of the purchasing department in ethical issue has a major effect on the behavior of the rest of the company in similar situation (Internal customers). It is therefore essential to ensure ethical behavior from the purchasing department. The author states that the best way to ensure this through the development and enforcement of a relevant ethics policy and through continuous training and education.

According to Heinritz et al (1991), a purchaser is an agent for his/her company who has been given the authority by owner or management to commit funds. There are often monetary limit to the amount that may be spent by any single buyer without securing approval of the expenditure by general management. The author further states that authority should be comparable with responsibility and the ability to meet that responsibility. Hein Ritz et al (1991), states that managers gives purchasers authority, they usually control cost by restricting the amounts that a purchaser has the authority to sign for. There might be several steps of authority, for instance a single buyer ties the authority to sign deals up to a certain amount, over that amount the deal has to be signed by a senior purchaser up to a certain amount and over that by the chief procurement officer and above that by the CEO.

Effects of E-procurement:

Varieties of benefits of B2B e- procurement have been reported as achieved or expected in the academic literature. Among different benefits the most common ones are transactional costs and buying price reduction, process shortening improvement of information exchange and control. Such benefits are grouped into taxonomies that include operational and strategic (Croom 2006). E-procurement has a far greater potential for cost savings and business improvements than online retailing or enterprise resource planning systems, and will permanently and fundamentally reform the way business is done in the future (Neef 2010). Further, e-procurement, as well as other Internet technologies, provides recently unthinkable opportunities for efficient integration of supply chains. Thanks to their low acquisition and implementation costs, e-procurement technologies outperform similar functions of enterprise resource planning (ERP) applications in the cost of acquisition and speed of implementation, allowing even small businesses and highly fragmented industries to benefit from integrating into supply chains. Another important and frequently mentioned result of e-procurement implementation is shorter product development cycles rooted in the improvements of shorter order cycles, significant improvement in project management and team collaboration across supply chains and integrated information sharing across supply chains, allowed by e- procurement systems. The shortening of product development cycles due to e-procurement practices is already evident in the U.S. automotive industry. Hawking and Stein (2004) view e- procurement not only as a strategic player in the value chain but as a major driver in the extended supply chain. The use of e-equipment and systems improves quality, which in turn improves the level of output (Mukhopadhyay, 2007). This type of impact is mainly on the operational level and results in cost reduction, higher productivity and improved quality (Mukhopadhyay, 2008). Electronic commerce (e- commerce) tools provide the opportunity to enhance two elements of procurement process; communication and transaction aspects (Oslomebekor et al. 2002). As Eadie et al (2007) noted, the reduction in staff is an important way of producing competitive advantage through reduced costs. This is further supported by Egbu et al (2003) in his study which revealed that through implementation of an e-procurement system, a steel supplier was able to carry out a multi-million pound project with only 20% of the staff the company would normally

have used. Fifthly, e-procurement gives an organization competitive advantage over its competitors. As a centralized department can oversee all procurement activities and different offices worldwide can access the same documentation when required, this gives a distinct advantage over the much slower process of having to post documentation between offices. This extends the supply chain beyond geographical boundaries to a much wider group. Suppliers can be monitored on timely delivery, quality delivery of products and services hence performing suppliers can be contacted in future. This raises other logistical considerations which may impact on scheme quality (Eadie et al, 2007). This implies that with e- procurement, every prospective supplier and buyer is always accessible to his/her convenience. The result is not only greater market access but also increased productivity. Another benefit of e-procurement is improvement of communication: Eadie et al (2007) argues that e- procurement allows sections of electronic documentation to flow through the supply chain; it improves the speed of returns and subcontractor price visibility. He further notes that since it is easier to communicate requirements in a quicker more accessible manner, it will result in a better understanding of requirements and due compliance besides allowing clients to gauge the state of the market by seeing how much interest is shown in the tender. Hawking et al, (2004) as quoted in Eadie et al (2007) considered market intelligence and the decisions made on that intelligence as two separate drivers. They however state that since reliable procurement decisions cannot be made without market intelligence and each is reliant on the other for the purpose of this study these two are considered together as "Improved Market Intelligence and Enhanced Decision making". A reduced Operating and Inventory cost is also another benefit of e-procurement: This is from the fact that much if not all paperwork is eliminated. Postage costs are also not incurred, among other expenses associated with sending and receiving documents when sending them by post. Other benefits are enhanced inventory management, increased accuracy of production capacity and negotiated unit cost reduction (Hawking et al, 2004) as quoted in Eadie (2007).

Conceptual Framework:

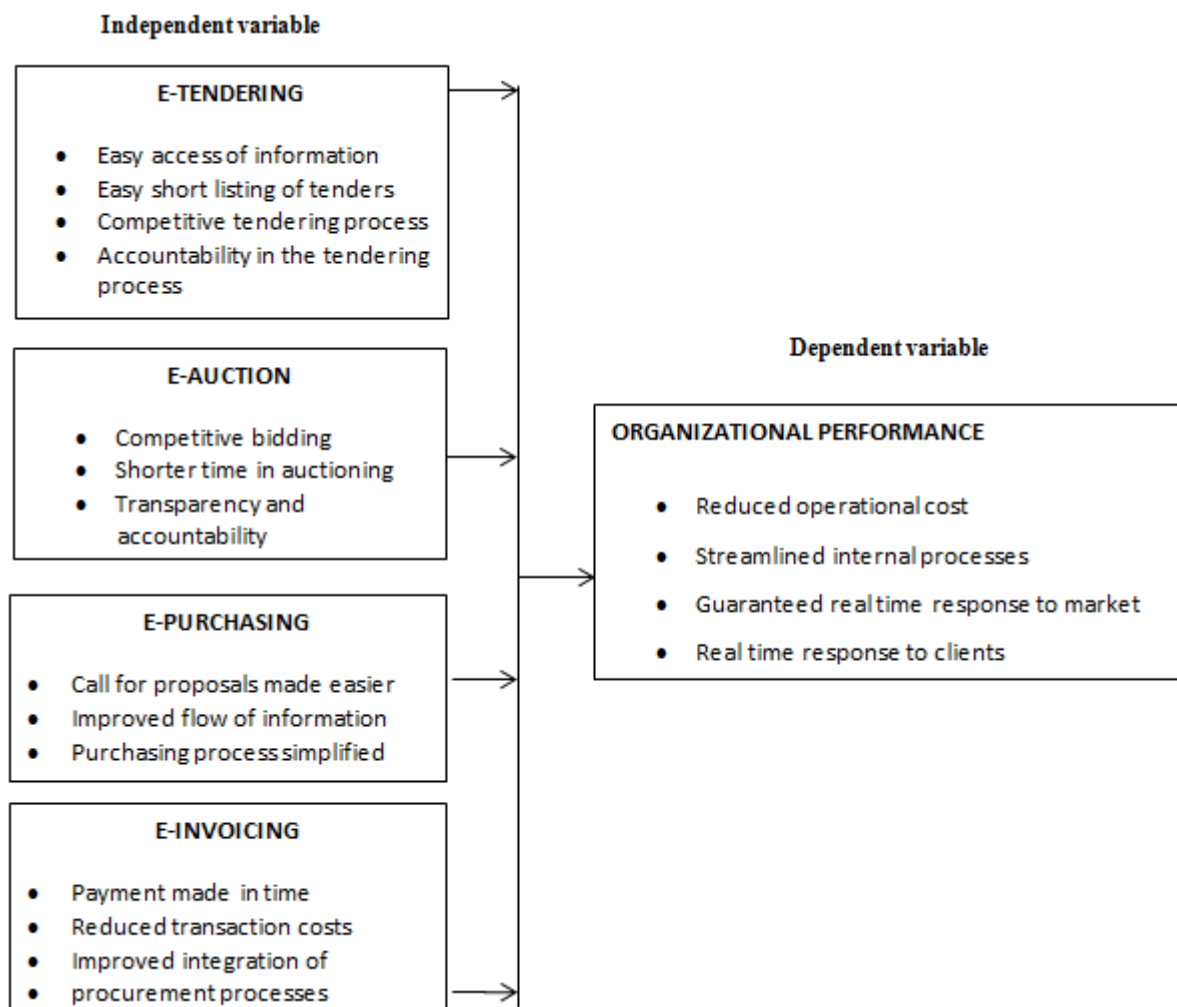


Fig1: conceptual framework

Review of Variables:**E-procurement:**

The potentials of e-Procurement have already been proven in a number of studies (Aberdeen, 2001; Eyholzer and Hunziker, 2000; Andersen, 2001). According to these studies, e-Procurement enables companies to decentralize operational procurement processes and centralize strategic procurement processes as a result of the higher supply chain transparency provided by e-Procurement systems. A study by (Eyholzer and Hunziker, 2000) shows that only 18 percent of the Swiss companies analyzed used electronic product catalogs, auctions or requests for quotations in procurement in the year 2000. According to this study, however, many companies were planning to implement e-Procurement systems at that time. Other studies show similar proportions for other countries (e.g. Industrial Distribution, 2001 and Administration, 2000 for the USA). A study by (Wyld, 2004) reports that currently almost half of all American companies use e-Procurement systems. The analysis by (Wyld, 2004) shows that in the US only 30% of the companies surveyed use eProcurement systems for requests for quotations, online auctions (25%) or eMarkets (33%). A second challenge is that, despite the overwhelming evidence which shows the advantages of eProcurement systems, proprietary systems such as electronic data interchange (EDI) continue to persist, and have to be included in a company's overall e-Procurement infrastructure. To do so, companies need to know the critical success factors in implementing e-Procurement strategies, processes and systems.

Croom (2000) & De Boer et al., (2002) mentioned that internal process efficiencies and automation are seen to be key drivers for increasing process efficiency. Tan et al., (2002) supported that supply chain integration influence majorly in product quality and customer service levels. Narasimhan& Das (2001) and Narasimhan& Kim (2002) definitely pointed that improved integration improves the performance of both the buyer and supplier. All of these indicated that firms which improve their supply chain integration are likely to increase their supply chain performance. Studies in ICT adoption frequently highlight in house technical capabilities and experience with ICT, as key contributory factors (Chapman et al, 2000). Price Waterhouse coopers (2002) defend this view by stating "we don't have enough internet human resources, and can't hire people". Implementing a new technology needs skill and knowledge to operate in the organizations and most organizations do not implement because organizations' employees are not familiar with new technology. Empirical evidence identifies that organization whose employees have the necessary skills and technical knowledge are more likely to implement e- Government applications (Lin and Lee, 2005). Petersen et al. (2003) conducted several case studies in both Japan and the US and concluded that only trusted and carefully chosen suppliers have to be involved in projects. They also stated that involving suppliers in organizations teams is critical when technology is advance or when the buying firm lacks sufficient knowledge or expertise. Langfield-Smith and Greenwood (1998) traced the origins of supplier partnership to Japanese automotive industry, and indicated that it was adopted by Western companies in the 1990s. They pointed to information exchange and cooperation as pillars of supplier partnership. Supplier partnership and development involves cooperative efforts to improve supplier capabilities with respect to technology, quality, delivery, and cost. It also encourages continuous improvements (Watts and Hahn, 1993). Burnes and Whittle (1995) stated that the main dimensions that characterize successful supplier development would include, but not limited to: integrating and improving activities and processes, continuous cooperation and long-term relationships, mutual benefits as a result of any improvement efforts, and apparent structure for both companies with regard to cost, price, and profit. Moreover, successful relationships in manufacturing setting are attributed by supplier development, cost savings and technology sharing (Handfield, 1993). Lascelles and Dale (1990) indicated that buying firms should treat their suppliers as partners. Handfield and Bechtel (2002) argued that investments in supplier relationships will reduce risk; by involving in activities that is usually regarded in the area of the other firm. Vonderembse and Tracey (1999) indicated that supplier partnership enables both parties to improve decision making process, enhance knowledge sharing, advance communication, and improve the overall performance of both parties. MacDuffie and Helper (1997) argued that the buying firm will gain from efforts done to improve the supplier performance, as both will share the productivity benefits.

Rebecca (2007) sought to pursue the understanding of current business-to-business e procurement practices by describing the success factors and challenges to its implementation in the corporate setting. The study through factor analysis resulted in three e-procurement success factors: supplier and contract management; end-user behavior and e-procurement business processes; and information and e-procurement infrastructure. Three challenge-to-implementation factors also emerged: lack of system integration and standardization issues; immaturity of e-procurement-based market services and

end-user resistance; and maverick buying and difficulty in integrating e-commerce with other systems. Gordon (2009) sought to establish perceived local government (LG) procurement best practice. Secondary research was then drawn upon to establish LG procurement's response to the economic recession. The study was set within the context of English LG. Its contribution is in highlighting that perceived best public procurement practice may well, in the short-term, be inappropriate and perhaps delay economic recovery. Suggestions for more radical short-term procurement strategic interventions were set out and justified as accelerating the economic recovery. The suggestions were considered appropriate, not only for the crisis, but also for future economic downturns or indeed any country facing such a situation. The analysis suggested that British LG procurement strategy generally remain unaltered from that adopted prior to the economic recession. It is then argued that current best practice may well hinder an economic recovery and a short-term shift in procurement strategy is required.

Effects of E-tendering on Supply Chain Management:

According to Eadie et al (2007), An organization which uses E-procurement has the following advantages: First, Price reduction in tendering: Empirical studies carried out Gebauer et al (1988) in the United States of America indicated that the two most important measures for the success of procurement processes are cost and time. In this method, there is no paperwork, postage fee and other costs associated with preparation and sending tender documents. It is also faster to send a document electronically as compared to the traditional method of sending tender documents through post office. It results to improved order tracking and tracing, for it is much easier to trace the orders and make necessary corrections in case an error is observed in the previous order. Secondly, there is reduction in time to source materials: In Reduction in time has been proved as a relevant benefit by Knudsen (2003) quoted in Eadie et al (2007), who says "E-procurement is a rapid efficient method of finding and connecting new sources, being a lean channel for communication". A lot of time is spend on paper invoicing in terms of writing, filing and postal communication but while in e-procurement, staff have sufficient time to engage on strategic issues of procurement The time wasted in moving from one town or country to another to look for a potential supplier or buyer is greatly reduced since with a click of a button, you can readily get the information in the internet. By extension, E-procurement leads to reduction in maverick buying. Maverick buying is when staff buys from suppliers than those with whom a purchasing agreement has been negotiated. Thirdly, Lower Administration costs: in his research, Rankin (2006) argues that e-procurement results in reduction in paperwork and this leads to lower administration costs. Fourthly, Reduction in procurement staff: since most of the procurement process is done electronically, the number of staff needed to facilitate the process reduces. As Eadie et al (2007) noted, the reduction in staff is an important way of producing competitive advantage through reduced costs. This is further supported by Egbu et al (2003) in his study which revealed that through implementation of an e-procurement system, a steel supplier was able to carry out a multi-million pound project with only 20% of the staff the company would normally have used. Fifthly, e-procurement gives an organization competitive advantage over its competitors. As a centralized department can oversee all procurement activities and different offices worldwide can access the same documentation when required, this gives a distinct advantage over the much slower process of having to post documentation between offices. This extends the supply chain beyond geographical boundaries to a much wider group. Suppliers can be monitored on timely delivery, quality delivery of products and services hence performing suppliers can be contacted in future. This raises other logistical considerations which may impact on scheme quality (Eadie et al, 2007). This implies that with e-procurement, every prospective supplier and buyer is always accessible to his/her convenience. The result is not only greater market access but also increased productivity. Another benefit of e-procurement is improvement of communication: Eadie et al (2007) argues that e-procurement allows sections of electronic documentation to flow through the supply chain; it improves the speed of returns and subcontractor price visibility. He further notes that since it is easier to communicate requirements in a quicker more accessible manner, it will result in a better understanding of requirements and due compliance besides allowing clients to gauge the state of the market by seeing how much interest is shown in the tender. Hawking et al, (2004) as quoted in Eadie et al (2007) considered market intelligence and the decisions made on that intelligence as two separate drivers. They however state that since reliable procurement decisions cannot be made without market intelligence and each is reliant on the other for the purpose of this study these two are considered together as "Improved Market Intelligence and Enhanced Decision making". A reduced Operating and Inventory cost is also another benefit of e-procurement: This is from the fact that much if not all paperwork is eliminated. Postage costs are also not incurred, among other expenses associated with sending and receiving documents when sending them by post.

Effect of E-invoicing on Supply Chain Management:

E-invoicing offers many benefits: significant cost reduction, process simplification, reduced payment time, greater security of data, as well as numerous environmental benefits. This is confirmed by enterprises and public authorities which already use it. Benston and Smith (1976:215) introduce transaction costs. They attempt to explain why individual corporations do not perform asset transformation themselves as a function of the transaction costs incurred in conducting such activities. As shown in transaction cost economics, the cost of the infrastructure is reduced per transaction when the volume of transactions increases. To create a financially viable e-invoicing solution, corporate needs to create this critical mass by a value network of alliance partners and technology solution providers to add the necessary desirability for electronic invoicing through the Financial Supply Chain. A Value Network is a web of relationships that generates economic value and other benefits through complex dynamic exchanges between two or more individuals, groups or organizations. The Value Network models mediating firms as creating value through three basic primary activities: network promotion and contract management; service provisioning; and infrastructure operations (Stabell and Fjeldstad, 1998). In a network firm (Economides, 1996) the customers are offered direct access to each other, as in payment mediation, or indirect access to a common pool, as in saving and loan services (Stabell and Fjeldstad, 1998) through the set of mediation activities performed by the firm.

Both value and cost are postulated as driven mainly by network characteristics (Stabell and Fjeldstad, 1998). Value and costs depend on the number of access points (network size effects), nodes or users that can be reached (positive demand externalities), and the variety of links between users (services provided). The costs for the users are in terms of charges for access to and use of the network, while the value is determined by the possibility to reach a large and relevant number of nodes through a variety of links. To provide greater value, value networks can increase their range of services offered by layering new services on top of the contract set and the infrastructure, (vertical expansion of service range) or increasing access to a larger pool of users (horizontal expansion of network scope). Electronic financial supply chain players need to streamline the settlement process in terms of both workflow and transaction cost by creating e-marketplaces with standardized settlement mechanisms via a finite number of trusted providers with both the range of necessary solutions and the openness and reach to enable transactions throughout the e-marketplace. Buenger et al. (1996) provide a framework of competing value drivers, indicating that organizations face different value propositions, which may change over time due to internal and external influences and experiences.

Effect of E-payment on Supply Chain Management:

E-payment is the fastest growth area in the global economy and almost carries potentials beyond measure. It provides consumers with the benefits of anytime, anywhere transactions, with lower costs. Moreover it, shortens the distance between the buyer and the seller and shrinks the world into a small village. (Porter,2001; Alberta E-Future Center, 2007). The uptake of e-payment is influenced by its potential to create business value and by awareness of its participants of the potential benefits (Salnoske, 1997). A major reason for most companies, irrespective of size, to participate in business is to extract some benefit from it. E-payment is no different (Kuzic, Fisher and Scollary, 2002). Standing [2001] stated more than ten e-payment benefits for both buyer and seller. Such as cost savings and speed in selling and purchasing, exposure to new customers (global reach), convenience and transparency to users, better quality of product/service (global reach), reduce need for office space and fewer resources required (ecological).

The development of information technology and computer networks enhanced the usage of e-payment and improved the use of supply chain management (SCM). SCM focuses on the integrated planning, co-ordination and control of all logistical business processes and activities in the supply chain to deliver superior consumer value at less cost to the chain as a whole, whilst satisfying requirements of other stakeholders, such as consumer interest organizations and government. Eventually, the complete implementation of the SCM concept should result in fully integrated much more effective supply chains with full information transparency and optimal allocation of value-adding processes (Mentzer& John, 2001; Vorst, 2002). All transactions are done in a specific virtual place called Business-to-Business (B2B) electronic marketplaces (emarketplaces). E-marketplaces are one of the most heralded developments in recent years. These marketplaces bring together businesses buying and selling goods and services in an online buying community. E-marketplaces propose to increase the efficiency and effectiveness of procurement activities by replacing traditional manual processes with automated electronic procedures and by expanding the number of available trading partners (Koch 2003; Chong, Shafaghi, Woollaston and Lui, 2010).The conceptual framework above illustrates the relationship between the

independent variables on one hand and the dependent variable on the other. E-procurement can be adopted through E-Tendering, E-Auction, E-Purchasing and E-Invoicing. E-procurement in totality has the potential of bringing the following benefits: reduces operational cost, streamlines internal process, guarantees real-time response to market and provides real-time response to the customer. These benefits are likely to affect organizational performance. There are other factors however that may intervene and determine the level of performance. These intervening variables include: financial resources, employee perception, and organizational culture.

Critique of existing literature:

The theories reviewed above have relevance to the development of business procurement function in relation to effective management and financial performance. In an organization purchasing management concept (PMC) could be analyzed using the theories, which help in understanding how an organization's E-Procurement system and procedures enhances internal customer levels at different levels. The strategic purchasing theory (Paulraj and Lado 2004) provides a vital link in a working supply chain. Strategic purchasing can give a firm a competitive advantage by enabling the firms to: Foster close working relationships with a limited number of suppliers; Promote open communication among suppliers chain partners and Develop long-term strategic relationship orientation to achieve mutual gains. Strategic purchasing arrangement can be an important link in the supply chain and contributes towards enhancing internal user department satisfactory and the overall financial results of a company. Van Woole (2005) presents two areas in which purchasing performance can be measured, purchasing effectiveness and purchasing efficiency. The theory states that purchasing effectiveness is a measure of what has been accomplished and purchasing efficiency is a measure of what resources has been used to accomplish it. Based on Van Wools (2005) four dimensions, Cost/price, product/ quality, logistics and organization enhance internal customer satisfaction through the E-procurement can be capitalized via this theory.

Summary:

The literature reviewed above indicates that there are many studies relating to the topic that has been done, however, empirical evidence on most other areas are lacking. The literature point to the fact that most of the studies already done are at the global scene and regional establishing a gap in terms of scope providing a rationale for further research attempts to zero in on this gap, especially in relation to the local context. First, empirical evidence indicates that no work on E-procurement has been done within County Governments in Kenya. Most of the studies done tend to touch more on business organizations which are profit oriented as opposed to County Governments. These provide considerable gaps in research and in particular for comparison purposes. Consequently, it is in this background the researcher contemplates the need to further explore and document the same for use in academia and in practice

Research gaps:

E-procurement constitutes a very important information technology managerial tool that has the potential of improving and integrating various functions across the organization. This internal integration can enhance the current performance of an organization as well as improve the future performance of the organization. E-procurement can also help drive future confidence in the face of both internal and external risk. E-Procurement can reduce quality costs by making sure that selected suppliers deliver a product of service that does not exceed extensive quality control. E-Procurement can also reduce quality costs by making sure that the components bought do not load to complaints on the user department or final product to the customer. The literatures reviewed have indicated that there are no studies that have been carried out on the effects of e-procurement on the performance of organizations in the public sector in Kenya. Studies on e-procurement are also few since the concept has not been adopted in most organizations. There is need therefore to conduct a study to establish the effects of e- procurement on the performance of Public Sector Organizations in Kenya.

3. RESEARCH METHODOLOGY

Introduction:

The research methodology guides the researcher in collecting, analyzing and interpreting observed facts (Bless and Achola, 1988). This chapter introduces the logical framework that was followed in the process of conducting the study. It is divided into: research design, population and sample, data collection and data analysis.

Research Design:

A research design encompasses the methodology and procedures employed to conduct scientific research. The design of a study defines the study type. The researcher employed a case study approach which allows for intensive observations and investigation of salient factors in the units of study (Kothari, 1990). On the whole, this research design facilitates a better understanding of the effects of E-Procurement on the performance of County Governments in Kenya.

Target Population:

Cooper and Emory (1995) define population as the total collection of elements about which the researcher wishes to make some inferences. An element is the subject on which the measurement is being taken and is the unit of the study. The population of interest in this study consisted of all 10 departments of Bungoma county government in Kenya.

Sampling:

A sample is a finite part of statistical population where properties are studied to gain information about the whole (Webster, 1985). Sampling is the procedure a researcher uses to gather people, places or things to study. It is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of characteristics found in the entire group (Orodho and Kombo, 2002). There was need to sample the population because not all the population were involved in the study due the limitations of both time and resources. The study was Limited to Bungoma County Government and used purposive sampling.

Sampling procedure:

Purposive sampling was used to select heads of departments and sections across the ten departments of the county government of Bungoma.

Data Collection methods and procedures:

Before proceeding to the field, the researcher sought permission from Jomo Kenyatta University of Agriculture and Technology. The researcher delivered the questionnaires personally. He ensured that instructions to respective respondents are made clear to them. A period of three days was given to respondents to fill the questionnaires, after which the researcher collected them.

Data Collection Instruments:

The main research instrument that was used in this study was questionnaires. In developing the questionnaire items, the fixed choice and open-ended formats of the item were used. This format will be used in all categories of the questionnaires. However, in the fixed choice item, it will involve "putting words" in the respondents' mouth, especially when providing acceptable answers, there is temptation to avoid serious thinking on the part of the respondent. The respondent end up choosing the easiest alternative and provides fewer opportunities for self-expression. It is because of this reason that it was necessary to combine this format of items with a few open-ended response items. Most of the items adopted a Likert scale (1-strongly disagree, 2-disagree, 3-undecided, 4-agree, 5-strongly agree). A questionnaire is a convenient tool especially where there are a large number of subjects to be handled. This is because it facilitates quick and easy derivation of information within a short time (Borg and Gall 1983). In this study, questionnaires will be administered to employees and supervisors because of their ability to appropriately interpret questions provided and supply relevant responses.

Validity of research instrument:

According to Paton (2002) validity is quality attributed to proposition or measure to the degree to which they conform to establish knowledge or truth. An attitude scale is considered valid, for example, to the degree to which its results conform to other measures of possession of the attitude. Validity therefore refers to the extent to which an instrument can measure what it ought to measure. It therefore refers to the extent to which an instrument asks the right questions in terms of accuracy. Mugenda (1999) validity is the accuracy and meaningfulness of inferences, which are based on research results. This will be done through careful examination of the content of the test and removing from it all those elements that may prejudice participant's responses. The researcher will ensure the validity of the instruments by consulting supervisor. Secondly, content validity of the instrument will be determined through piloting, where responses of the subjects will be

checked against the research objectives. This also gives a reason as to why content will be used. For a research instrument to be considered valid, the content selected and included in the questionnaire must be relevant to the variable being investigated argues (Mutai 2000).

Reliability of the Instrument:

According to Mugenda (1999), the reliability of an instrument is the measure of the degree to which a research instrument yields consistent results or data after repeated trials. In order to test the reliability of the instrument to be used in the study, the test - retest method will be used, where the questionnaires will be administered twice within at interval of two weeks to the respondents who will not be involved in the study. This established the extent to which the questionnaires elicit the same responses every time was administered. A Pearson's Product Moment Co-efficient between -1 and + were considered reliable for the study. The result obtained from the pilot study assisted the researcher in revising the questionnaire to make sure that it covers the objectives of the study.

Data Analysis and presentation:

According to Bryman and Bell (2003) data analysis refers to a technique used to make inferences from data collected by means of a systematic and objective identification of specific characteristics. Once data is collected it has to be edited to verify the completeness of data, coded in order to assign numbers or symbols to the various answers for effective categorization/classification, entered in order to convert the information gathered to a medium for viewing and manipulation; for this study statistical package for social sciences (SSPS) will be used and will finally be displayed through the use of frequency tables and charts. Collected data will be analyzed using both quantitative and qualitative measures. Qualitative data regarding the effects of E-procurement on organizational performance will be analyzed using content analysis to measure the semantic contents of the message (European Scientific Journal (May 2013 edition). Qualitative data will be analyzed using statistical data analysis. The data will be tabulated in pie-charts, tables and graphs for easier understanding and presentation

4. RESEARCH FINDINGS AND DISCUSSIONS

Introduction:

This presents the analysis and discussion of the research findings of the study. It analyses the findings obtained from data collection instruments the questionnaires. The discussion covers response rate followed by the descriptive statistics of the respondents related questions; like the gender, age and length of service within their various departments. The results of the reliability analysis and the regression assumption test also reported and finally the results of hypothesis testing are presented.

Response Rate:

The questionnaires were distributed to one hundred (100) respondents, the heads of departments and sections from Bungoma county government, from which ninety eight (98) respondents responded while two (2) were incompletely filled thus deemed not fit for study analysis. This represented a 98.00% response rate which is a good response rate and within acceptance levels. Those spoilt were two (2) one from department of agriculture and one from department of health.

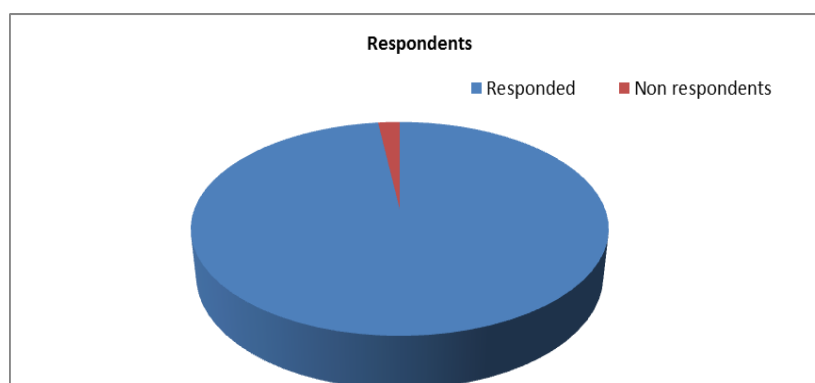


Figure 2: Response rate

Gender:

The study found that 60 of the respondents were male representing 61.20% while 38 of the respondents were female representing 38.80%. From table 4.1 below the respondent profile was analysed as follows.

Table 4.1 Gender

Gender	Frequency	Percentage
Male	60	61.20
Female	38	38.80
Total	98	100.00

Age:

The study found that 22 respondents representing 22.40% were between the age of 21-30 years. 28 respondents which represented 28.60% were of age between 31 and 40 years. The study also found that 32 respondents, which represented 32.70% were of the age between 41 and 50 years, while 16 respondents representing 16.30% were of the age above 50.

Table 4.2 Age of respondent

Age	Frequency	Percentage
21-30 years	22	22.40
31-40 years	28	28.60
41-50 years	32	32.70
Above 50 years	16	16.30
Total	98	100.00

Length of time:

The study found that 38 respondent which represent 38.80% had served the county government of Bungoma for a period of 1 to 3 years, 40 respondents representing 40.80% had served the county government for a period of 4 to seven years, 10 respondents representing 10.20% had served the county government for a period of 8 to 11 years, while 10 respondents representing 10.20% had served the county government for a period of above 11 years. The study found that most of the respondents who had served for 1 to 3 years were management staff who had been hired through the county service board after the formation of the first county government of Bungoma in 2013. This is because the former county councils did not have competent staff in management positions hence need to redeploy them and hire new qualified staff. Those respondents who had served in their departments between 4-7 years were experience qualified staff been retained by the county government based on their competence and experience. The study found that only 10.20% of the respondents had served for 8 to 11 years in their departments. These were the old qualified staff who were inherited from the county council and were promoted by the county government.

Table 4.3: Length of time

Length of service	Frequency	Percentage
1-3 years	38	38.8
4-7 years	40	40.80
8-11 years	10	10.20
Above 11 years	10	10.20
Totals	98	100.00

Analysis of the specific objectives:

The purpose of this study was to assess the effects of e-procurement on performance of County Governments in Kenya. The specific objectives of the study were; To establish the effects of E-Tendering on the performance of Bungoma County Government, to establish the effects of E-Auction on the performance of Bungoma County Government, To establish the effects of E-Purchasing on the performance of Bungoma County Government and to establish the effects of E-Invoicing on the performance of Bungoma County Government.

Table 4.4: Financial performance

Organizational Performance Question	% Strongly agree	% Agree	% Neutral	% Disagree	% Strongly disagree	% Total
Organizational performance can be measured in terms of Reduced operational cost	37.8	45	12.2	2.3	2.7	100
Guaranteed real time response to market is a measure of organizational performance	60.30	31.7	3.0	2.4	2.6	100
Streamlined internal processes is a measure of organizational performance	63.50	24.40	6.1	3.9	2.1	100
Real time response to clients	65	27	4.8	1.1	2.1	100

The study found that as per the question whether reduced operational cost is a measure of organizational performance, 37.8% strongly agreed, 49 respondents(45%) agreed, while 12 respondents(12.2%). On the question whether Guaranteed real time response to market.This a measure of organizational performance, 60.30% strongly agree, 31.7%) agree. On the question whether streamlined internal processes is a measure of organizational performance, 72 (63.50%) respondents strongly agree, 26 respondents (24.40%) agree.

Assessment of Multicollinearity:

Multicollinearity exists when there are strong correlations among the predictors and the existence of r value greater than 0.800, tolerance value below 0.100 and Variance Inflation Factor greater than 10 in the correlation matrix are the causes for the Multicollinearity existence (Field, 2009). Tolerance is a statistic used to indicate the variability of the specified independent variable that is not explained by the other independent variables in the model.

Relationship between variables:

A regression equation was used in stats to find out what relationship, if any, exists between sets of data (independent variables and the dependent variable). Regression is useful as it allows you to make predictions about data. Inferential statistics was carried out using regression model to establish the e-tendering, e-auctioning, e-purchasing and e-invoicing. The regression model established how and to what extent the independent variables explained the dependent variable. The study regressed organizational performance(Y) and the predictor (independent variables) variables and the results are as shown in table 4.12 below.

Table 4.5 ANOVA

Model	Sum of Squares	DF	Mean Square	F	Sig.
Regression	514.098	4	104.777	12.7154	.0000 ^p
1 Residual	278.960	94	5.5 84		
Total	793.058	98			

From the table 4.5 above, the significance value is 0.0000 which is less than 0.05, hence the model was considered statistically significant in predicting how the independent variables predict the dependent variable. The regression effect is statistically significant indicating that the prediction of the dependent variable is accomplished better than if done through chance. The F calculated (F =12.7154) which is greater than 5% level of significance showing that the overall model was significant. From table 4.13 below, e-tendering explained 12.48%, e-auctioning explained 5.64%, e-purchasing explained 14.67% and e-invoicing explained 18.76% of organisational Performance within various department of Bungoma County. Therefore the regression equation was formulated as

$$Y = 12.48 X_1 + 5.64X_2 + 14.67X_3 + 18.76X_4$$

The regression analysis whose results are presented in table 4.5 above provides a comprehensive analysis of the research questions in the study. Discussion of the specific questions that the research evaluated is as discussed below:-

Effect of e-tendering on organisational performance of Bungoma County Government:

From the results of analysis, e-tendering plays a vital role to enhance organizational performance of the county government. 59.2% of the respondents agreed with this while 40.80% strongly agreed. This was also confirmed by the regression analysis with the $F = 12.7154$ showing a strong relationship between organisational Performance and e-tendering. From the findings of the study, based on the fact that the main finding of the study was that majority of the respondents were of the opinion that there is increased tendency towards market structures and could be interpreted to mean that the market that enabled the supply of the companies products and services is large enough to accommodate the business. This could also imply to mean that the market is promising and thus profitable to the organization. The ability of the institution to penetrated into the market is not difficult as a result of low cost and little time needed in accessing the market and thus this enables that institution to make more strides, in addition to this, the study finding could also be interpreted to mean that it is due to small legal issues needed that the institution has been able to access the market. This is supported by a study done by Rebecca (2007) who reveals that to pursue the understanding of current business-to business e-procurement practices by describing the success factors and challenges to its implementation in the corporate setting. The study through factor analysis resulted in three e procurement success factors: supplier and contract management; end-user behaviour and e-procurement business processes; and information and e-procurement infrastructure. Three challenge-to-implementation factors also emerged: lack of system integration and standardization issues; immaturity of e-procurement-based market services and end-user resistance; and maverick buying and difficulty in integrating e-commerce with other systems.

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**Introduction:**

This chapter shows the summary of research findings, the conclusions made from the results, and the recommendations for policy and practice. The chapter also discusses a few limitations encountered as well as suggestions for future research.

Summary:

The response rate was 98% which was significant. Majority of the respondents were male at 61.20% while 38.80% were female. It met the constitutional a third gender rule. Most (32.70%) of the respondents were between 41 – 50 years while the minorities (16.30%) were above 50 years. Respondents of the age brackets between 21 – 30 years were 22.40 while those of age the bracket 31 – 40 years were 28.60%. This shows that the majority of the respondents were in their middle age and therefore in a better position to give reliable information. All the respondents were in management. This shows that majority of the respondents had reliable information.

Effect of e-tendering on the organisational performance of the county Government of Bungoma:

From the results of analysis, e-tendering plays a vital role to enhance organizational performance of the county government. 59.2% of the respondents agreed with this while 40.80% strongly agreed. This was also confirmed by the regression analysis with the $F = 12.7154$ showing a strong relationship between organisational Performance and e-tendering. From the findings of the study, based on the fact that the main finding of the study was that majority of the respondents were of the opinion that there is increased tendency towards market structures and could be interpreted to mean that the market that enabled the supply of the company's products and services is large enough to accommodate the business. This could also imply to mean that the market is promising and thus profitable to the organization. The ability of the institution to penetrated into the market is not difficult as a result of low cost and little time needed in accessing the market and thus this enables that institution to make more strides, in addition to this, the study finding could also be interpreted to mean that it is due to small legal issues needed that the institution has been able to access the market. This is supported by a study done by Rebecca (2007) who reveals that to pursue the understanding of current business-to business e-procurement practices by describing the success factors and challenges to its implementation in the corporate setting. The study through factor analysis resulted in three eprocurement success factors: supplier and contract management; end-user behaviour and e-procurement business processes; and information and e-procurement infrastructure. Three challenge-

to-implementation factors also emerged: lack of system integration and standardization issues; immaturity of e-procurement-based market services and end-user resistance; and maverick buying and difficulty in integrating e-commerce with other systems.

Conclusions:

The study concluded that among other factors that might have an effect on organisational performance major focus should be paid on e-tendering, e-auctioning, e-purchasing and e-invoicing so as an organization or institution can have greater organisational performance. On the basis of the afore-mentioned findings, the following deductions are expedient: The correlation and linear regression analysis employed for testing the two hypotheses revealed that; e-procurement has a significant effect on the organisational performance of the County Government of Bungoma and that there is a positive and significant relationship between e-procurement and organisational performance. Generally, this findings have a lot of implications on the economy and the nation at large, because if the businesses are doing well at the micro level due to e-procurement, then Gross Domestic Product at the national level too would be influenced positively.

Recommendations:

The institution should provide the supplier with access credentials for the supplier portal. This will increase user's access to information in the e-procurement (electronic procurement) service with effective internet and thus an increase in chances of selecting the best supplier company for e-tendering. The system should enhance government financial controls and improve accounting, recording and reporting through proper systems of invoicing with regard to both the supplier and the institution. Automated procurement process should be specific with requisition, tendering, contract warding and payment. The goal of the e-procurement in the institution should be to enhance the quality of public service delivery in the county and to provide timely, transparent and accurate financial and accounting information across both national and county government.

Areas for Further Research:

Piotrowicz & Irani, (2010) stressed that there are many obstacles in implementing E-procurement, in some cases the benefit of implementing an e-procurement solution have been hard to evaluate. Companies should use various measuring methods in order to fully track and understand how benefits are distributed according to the level and area of their impact therefore the area of further research that I would recommend is to look into effect of outsourcing purchasing functions on organization's performance.

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REFERENCES

- [1] Agheshin, E.A. (2001) 'E-procurement at Work: A Case Study,' *Production and Inventory Management Journal*, vol. 42, 1.
- [2] Andrea, J.C., and Margaret, T. (2009): "Critical success factors for B2B ecommerce use within the UK NHS pharmaceutical supply chain" *International Journal of Operations and production Management*, vol. 29 No. 11 pp 1156- 1185.
- [3] Archer, N. (2005) An Overview of the Change Management Process in government, *International Journal of Electronic Business*, 3, 1, 68-87.

- [4] Arnold, U. and Essig, M. (2002). *Digital Bidding in Public Procurement: Economic Effects of Electronic Sourcing in the Public Sector*, in 11th Annual International Purchasing and Supply Education and Research Association Conference. Twente University, Netherlands.
- [5] Baily, P. J. H. (2008). *Procurement principles and management*. Harlow, England: Prentice Hall Financial Times. pp. 394.
- [6] Bakos, G. (2007). B2B Progress in Italian Organization, A multiple case study. *Human Resources Procurement Journal*, 21(3), pp. 275- 292.
- [7] Bhatnagar, S. (2002). *Government: Lessons from Implementation in Developing Countries*, *Regional Development Dialogue*, 24, UNCRD, Autumn Issue, 164-174.
- [8] Botha, J., Bothma, C. & Geldenhuy, P. (2008). *Managing e-commerce in Business*, Cape Town, Juta & company Ltd
- [9] Burn, J. and Robins, G. (2003). *Moving towards E-government: A Case Study of Organizational Change Processes* *Logistics Information Management*, 16, 1, 25-35.
- [10] Carter, L. and F. Belanger (2005). "The utilization of e-Government services: citizen trust, innovation and acceptance factors." *Information Systems Journal* 15: 5-25.
- [11] Chen, P. (2008). *Electronic Governance*. Oxford Companion to Australian Politics/Oxford Reference Online. B. Galligan and W. Roberts, Oxford University Press.
- [12] Clarke, D. (2001). *E-governance in Ghana: National Information Clearing House*. Montego Bay, Jamaica, International Institute for Communication and Development.
- [13] Cooper, J. (2006). "The digital divide: the special case of gender." *Journal of Computer Assisted Learning* 22(5): 320-334.
- [14] Croom, S. R. and Johnston, R. (2003). E- Service; enhancing internal customer service through E- procurement. *International Journal of Service Industry management*.
- [15] Dangermond, J. (2002). "Web services and GIS." *Geospatial Solutions* 12(7): 56-57.
- [16] Davila, A., Gupta, M. and Palmer, R.J. (2002). *Moving Procurement Systems to the Internet: The Adoption and Use of E- Procurement Technologies Models*, Stanford GSB
- [17] Eng, T.Y (2004). *The role of e-marketplaces in supply chain management*, *Industrial Marketing Management*, 33(2).
- [18] Government of Kenya (2015). *E-procurement Processes in Kenyan County Tendering*. IFMIS Department: Retrieved from <http://www.ifmis.go.ke>,
- [19] Gunasekaran, A., & Ngai, E. (2008). Adoption of E- procurement in Hong Kong; An empirical Research, *International Journal production economics*, Vol. 33, pp. 133.
- [20] Hamisi, S. (2010). Challenges and opportunities of Tanzania's SMEs in adapting supply chain management. *African Journal of Business Management*, 5(4), pp. 1266- 1276
- [21] Hellen, W., and Christine, H. (2008). "E- Procurement in the United Nations; influences, issues and impact" *International Journal of Operations and Production Management*, Vol. 28, No. 9 pp831- 857
- [22] Ho, A.T.K. (2002). Reinventing Local Governments and the e-Government Initiatives, *Public Administration Review*, 62, 4, 424-433.
- [23] Hong, W., Zhu, K. (2006). "Migrating to internet based e-commerce: factors affecting e-commerce adoption and migration at the firm level", *Information and Management*, Vol. 43, pp. 204- 221.
- [24] Kauffman, J., Kriebel, A. (2008). "Where we're going, *Electronic procurement*, 12, pp. 27-33. Klakota, Robinson, F. (2009) "Electronic concepts and applications of B2B procurement ", 3rd edition, West Publishing company, United States of America, pp.730.

- [25] Kothari, C. R. (2003). *Research Methodology*. New Delhi: Willy Eastern Limited. India.
- [26] Ouko, P., Omar, S. & Simiyu T. (2009). *Effort of government service delivery in Procurement contracts: A case of UasinGishu County Government*: [Unpublished Thesis]: University of Nairobi.
- [27] Sekeran, U. (2010). *Research methods for business: A skill building approach*, (4th Ed). Sheel Print-N-Pack, Noida. India.
- [28] Thuo, H. (2009). *Realization of Local Governments and the e-procurement program in Public Administration*. MacMillan Publishers: Nairobi; Kenya62, 4, 424-433.
- [29] Wamego, J. (2005). *Tackling graft in public procurement*. Adili, Transparency International News Service Publication. Nairobi
- [30] Wu, F. (2007). "Antecedents and outcomes of e-procurement adoption: an integrative model", IEEE Transactions on Engineering Management, Vol. 54, No. 3, pp. 576.
- [31] Zhu, K., & Kraemer, K.L. (2005). *Post-adoption variations in usage and value of e-business by organizations: Cross-country evidence from the retail industry*. Inform. Systems Res. 16(1), 61- 84