Factors Affecting the Adoption of e-Procurement Systems among International Non-Governmental Organisations in Kenya

Victor Imbanga TSUMA[1]
Mark KANDA[2]

Department of Procurement and Logistics, School of Entrepreneurship and Procurement,
Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya, E-mail: vtsuma@gmail.com

Abstract   *The benefits of e-Procurement have been verified by many leading companies worldwide, and e-Procurement is a significant tactic in most companies' e-Business strategies. This study proposes sought to determine factors influencing the adoption of e-procurement systems among international NGOs in Kenya. The problem to the study is that the rate of e-procurement systems adoption has been much lower than the opportunity presented by the market and studies have shown that there has been inadequate evidence on the realization of e-procurement benefits. This research based its objectives on four procurement related factors on e-procurement; organization factors, innovation related factors, supply factors and strategic factors. The research shall adopt a descriptive cross-sectional research design while targeting the 510 International NGOs in Kenya with their procurement operations office in Nairobi. Taro Yamane formulae and principle of finite population sample size was used to find the sample. The primary was gathered directly from respondents using questionnaires while secondary data involved the collection and analysis of published material and information from other sources such as annual reports, published data. The research carried out a pilot study to pretest and validates the questionnaire and the interview guide. The researcher shall finally peruse completed questionnaires and document analysis recording sheets. Quantitative data collected was analyzed using SPSS and presented through frequencies and percentages. The information was displayed by use of tabulations, bar charts, graphs and pie charts and in prose-form. Content analysis was used to test the data of qualitative nature or aspect of the data collected from the open ended questions. This multivariate regression model was applied to determine the relative importance of each of the four variables with respect to the influence adoption of E-Procurement. The organizational factors influence e-procurement up to 82% of e-procurement, 93.5% the results indicated that innovation related factors influence the adoption of technology on procurement operations, 94% NGO managers find strategic factors to influence adoption of e-procurement among international NGOs and over 72% found the influence to be at great extent and even beyond.*

Key words   e-Procurement Systems, Non-Governmental Organisations, Kenya

1. Introduction

E-Procurement Systems in perspective

The benefits of e-Procurement have been verified by many leading companies worldwide, and e-Procurement is a significant tactic in most companies' e-Business strategies (Crook and Kumar, 2008). The consensus is that e-Procurement benefits organizations with respect to procurement cost and process efficiency associated with procurement activities (Choudhury and Hartzel, 2008). This is due to web-based e-Procurement solutions can support four major B2B tasks in organizations: search, processing, monitoring and control, and coordination (Subramaniam and Shaw, 2012).

Supply chain management (SCM) has exploded as a management's major concern over the last years, since with the exploitation of new Information and Communication Technologies (ICT) and in particular of Internet the potential to revolutionize, streamline and enhance supply chain operations has flourished (Patterson *et al.*, 2003). Specifically, e-procurement has been identified as an important element of e-business operational excellence for large firms (Barua *et al.*, 2001). E-procurement is defined as any ICT

designed to facilitate the acquisition of goods by a commercial or a governmental organization over the Internet (Davila *et al.*, 2003).

E-procurement ICT include e-procurement software, B2B auctions, B2B market exchanges and purchasing consortia that aim to automate workflows, consolidate and leverage organizational spending power and identify new sourcing opportunities online (Davila et al. 2006). Future advances would extend these ICT to create collaborative SCM tools (Cagliano *et al.*, 2005; Folinas *et al.*, 2007). E-procurement's benefits include: lower administration costs, inventories and purchasing prices; shorter order-cycle time; enhanced cooperation with suppliers, performance and multi-chain operations (Croom, 2000; Sigala, 2003).

Although these advantages may suggest a rapid migration from traditional to e-based procurement models, some firms are slow in adopting e-procurement. Actually, current studies revealed that this tremendous expected growth rate has been revised downwards (Lancioni *et al.,* 2003). However, prior studies on e-procurement have primarily focused on the evaluation of its benefits (Gupta, 2008) or its adoption in specific industries, mainly in NGOs (Min and Galle, 2003). Moreover, although the ICT and Internet adoption has been extensively examined in hospitality (Siguaw *et al.*, 2000), research investigating the level and factors impacting on the adoption and use of specific e-procurement ICT by foodservice companies has been minimal.

Global perspective on E-Procurement Systems

The donor and Non-governmental Organisations (NGO) community is very active in Kenya, with a wide range of operations including work in infrastructure, health, education, and policy development. Kenya is also a procurement base for regional relief and development activities in Somalia, Sudan and Rwanda. Multilaterals such as the World Bank group, the African Development Bank (AFDB), and the European Union (EU) generally operate through and in conjunction with the GOK. They operate at different levels and through different procurement mechanisms. Bilaterals such as USAID, DFID and JICA operate in conjunction with the GOK and have different procurement methods, usually project-based or delegated through institutions such as Crown Agents. UN Agencies generally have their own procurement network, as do large NGOs such as CARE. UNICEF, UNHCR and HABITAT all have large procurement offices in Nairobi. Larger local NGOs usually function with funds received from donors, and procurement is done according to the donor's stipulations.

NGOs procure vast amounts of goods, services and works to support their operations and interventions. One UN agency alone procures about KSh. 500 million worth of goods in Kenya annually. Procurement policies vary greatly among the donors and NGOs. NGOs normally stipulate the use of local sub-contractors where possible for the procurement of works and services. This, however, is not a condition for disqualification if it does not occur.

NGO's face challenges in implementation of information technology skills. Kassim and Hussin (2010) noted that the difficulties faced by suppliers are due to tedious procedures and lack of IT skills to perform e-procurement transactions. NGO's may outsource and use various modern technologies for cost savings and quality improvements in which the outsourcing vendor could achieve its return on investments and make sure that the system is performing effectively and efficiently.

Kenyan Perspective on E-Procurement Systems

In the past two decades, governments throughout the developing world have seen an explosion in the number of both foreign and local non-governmental actors (NGOs) providing social services in their territory. In Kenya, NGO growth has truly been increasing 1974; there were only 125 NGOs in Kenya. By 1990, there were over 400 registered with the government, soaring to nearly 3000 in 2007 (NGO Coordination Bureau 2006). While most of these non-governmental actors are not directly hostile to the state, they are providing welfare and other services that are traditionally associated with and often explicitly promised by governments in Africa such as education, health care, child and women's assistance, agricultural extension services, employment, and even in some cases, roads, wells and other infrastructure.

NGOs influence government offices and employees to improve the quality of services they provide. In so doing, NGOs and government both see the role of NGOs as "gap-filling," complementing the state. Contrary to some claims, NGOs are not replacing the government in service provision (Owiti *et al.*, 2004).

Instead of supplanting, NGOs supplement. NGOs have impacted the territoriality of the state by providing services in places that the government has been unable to reach, particularly in arid, sparsely populated areas, where the NGOs per capita ratio is highest.

Moreover, NGOs have influenced governance strategies within public administration. Individuals and departments in government have learned from NGOs, and have begun to mimic the tools they have seen NGOs use successfully for years, calling for participatory development and civic education so that their agencies can better serve the community (World Bank, 2014). Most NGOs in Kenya are involved in one or more of the following eight types of activities: agriculture, education, environment, general development, peace and governance, health, emergency or refugee relief, and programs directed at disadvantaged communities (specifically women, children, youth, the disabled and the elderly). Indeed, most NGOs in Kenya-whether established within the country by Kenyan citizens or abroad and are funded via international sources or local private sources.

1.1. Statement of the Problem

Non-Governmental Organizations (NGOs) play a major role in the development of the country through provision of public services and have become a strong entity in Kenya and very useful engines to promoting development. On the international scenes the global economy recorded a growth of 5.1% in 2006 compared to 4.5% (World Bank, 2003). In Kenya NGOs accounted for 10% of the country's Gross Domestic Product (GDP), provided employment opportunities to about 100,000 people in the formal sector and 3.7 million persons in the informal sectors of the economy (GOK 2004). One aim of the NGos making Kenya meet the millennium development goals and good governance by providing quality life for all its citizens and achieving Kenyan Vision 2030 (R.o.K, 2010).

However, in addition, NGOs in Kenya has been experiencing a myriad of problems including corruption, nepotism and mismanagement. For example a world bank report (2003) stated that a key area for corruption busting reform is the Civil society sector which when compared to similar economies are a drain on resources that could benefit the public and locus of corruption that thrives sector especially when coupled with lax oversight, mismanagement and fiduciary control procedures. E-Procurement is the only reforms to offer expenditure management and other support service in Non-Governmental Organization. The general story is one of loss, fraud, theft and gross mismanagement which are hampering improved and sustained performance and service delivery. In view of the myriad challenges of budgetary allocations, staffing, and deterioration and near collapse of infrastructure, negative admissibility by the governments on activities of international NGOs, coupled with actual and perceived concerns regarding safety and security results in negative publicity affecting NGOs efforts (Emiliani *et al.*, 2004). International Non-Governmental Organization have been experiencing challenges on their procurement performance but organizations which have enhanced their performance through embracing e-procurement strategy have been able to supersede others in terms of accountability and transparency (Subramaniam and Shaw, 2002).

Productivity of International Non-Governmental Organization was quite low while at the same time they continued to absorb excessive portion of the budget, becoming a principal cause of long term procurement problems (Heijden, 2003). NGOs operations had become inefficient, partly due to multiplicity of objectives, stifled the sector's initiatives and failing co-operate with government to merge procurement systems (McCrudden, 2004). 31% NGOs rely on old records in selecting their suppliers, while 69% search through internet catalogue in selecting suppliers (Chau *et al*., 2007).

A study by (Chan and Lu, (2004) found that organizations which adopted e-procurement have reduced costs through transactional and process efficiencies and thereby promoting their procurement performance. However, in Singapore, previous research by (Lai and Li, 2005) on the survey of the role of e-procurement adoption strategy shows that global organizations use of the internet is high, while in Kenya, previous research by (Kim *et al*., 2008) on usage, obstacles and policies on e-procurement show that only 33% of state corporations have implemented e-procurement as a strategy to improving services. The million dollar question was the use of e-procurement as a strategy to enhance or deteriorate the performance of the procurement function, but none of the existing research explores further how e-procurement strategy affects the procurement performance. This study therefore explains the factors affecting the adoption of e-procurement systems among international NGOs in Kenya.

1.2. General Objectives

The general objective of the study was to determine factors affecting the adoption of e-procurement systems among international NGOs in Kenya.

2.   Literature review

2.1. Factors Influencing E-Procurement Adoption

Despite the great benefits of e-procurement technologies, their adoption is still at their early stages (Davila *et al.*, 2006). A variety of factors may affect a firm's decision to adopt and implement a particular ICT. In consolidating prior studies examining innovation, Kwon and Zmud (2007) classified variables that potentially influence ICT adoption into five broad categories: individual, task and innovation related, organizational and environmental characteristics. Patterson *et al.* (2003) also showed that the following organizational and environmental factors positively affected the adoption of ICT in SCM: organizational size; decentralized organizational structure; supply chain strategy integration; transactional climate and supply chain member pressure, and environmental uncertainty. Kwon and Zmud (2007) also suggested that these factors may be important to differing degrees depending on the context or technology. For example, individual factors such as age or education are often more relevant with individual adoption of technology rather than organizational innovation whereby decisions are made by committees. Additionally, task characteristics may be isolated and examined when individual technologies are being studied.

2.2. Technology Acceptance Theory

Some studies used technology acceptance model or theory of planned behaviour in order to understand the adoption of new technology in public sector setting (Aboelmaged, 2010; Wahid, 2010; Davis, 2012). Although those models suggest perceived usefulness and perceived ease of use as critical antecedents to users' technology adoption process, those models are not specific on the implementation of a new technology such as e-procurement system. Our theoretical framework draws on Croom and Brandon-Jones (2007), which is found useful to understand key challenges of e-procurement implementation in government sector.

2.3. Innovation diffusion theory

The Innovation diffusion theory is a model grounded in business study. Since 1940's the social scientists coined the terms diffusion and diffusion theory (Parasuraman, 2010). This theory provides a framework with which we can make predictions for the time period that is necessary for a technology to be accepted. Constructs are the characteristics of the new technology, the communication networks and the characteristics of the adopters. We can see innovation diffusion as a set of four basic elements: the innovation, the time, the communication process and the social system. Here, the concept of a new idea is passed from one member of a social system to another. Harrington, (2011) redefined a number of constructs for use to examine individual technology acceptance such as relative advantage, ease of use, image, compatibility and results demonstrability.

2.4. Transaction cost theory

Transaction cost theory could serve as a good starting point for the analysis, which explains why certain tasks are performed by firms and others by markets (Holland, 2008). Transaction costs can be divided into coordination costs and transaction risk (Harrington, 2011). Coordination costs are the direct costs of integrating decisions between economic activities (such as search and bargaining costs). Transaction risk is associated with the exposure to being exploited in the relationship (Handfield, 2013).

Uncertainty and asset specificity are two factors, which increase coordination costs and transaction risk, respectively (Nolan, 2009). The use of information technology has facilitated the reduction of coordination costs, which has been extensively documented in the literature (Handfield, 2013). For example, electronic market places, facilitated through IT, reduce the cost of searching for obtaining information about product offerings and prices (Handfield, 2013). Also, collaboration facilitated by

information sharing can lower transaction costs (in particular coordination costs) as companies can thereby reduce supply chain uncertainty and thus the cost of contracting.

Uncertainty in the context of supply chains and more specifically in manufacturing is caused by supply uncertainty, demand uncertainty, new product development uncertainty, and technology uncertainty (Koh, 2006). Zhu and Hong (2006) classified uncertainty as primary, competitive, and supplier uncertainty. Primary uncertainty is consistent with Abell and Lim (2006) and Nolan (2009) and refers to the "lack of knowledge of states of nature" (Zhu and Hong 2006). Competitive uncertainty arises from the innocent or strategic actions of potential or actual competitors (Handfield, 2013).

2.5. Organizational policy

The ICT literature in general (Dewar and Dutton, 2006; Galbraith, 2007; Min and Galle, 2003) and in the hospitality industry (Sigala, 2003a; Siguaw *et al*., 2000) has demonstrated that larger organizations are more likely to facilitate ICT innovation and adoption due to their financial capacity, infrastructure and organizational power. By analogy, it can be claimed that e-purchasing adoption can be influenced by a large firm size and purchasing workforce. The rationale is that a buying firm with a larger purchasing unit is more likely to adopt e-purchasing, as it has greater information processing capacity, needs and organizational power than smaller firms. Moreover, a buying firm with a large purchasing unit is also more likely to possess the financial, skill resources and bargaining power to achieve the economies of scale required.

Within hospitality, affiliation with a hotel chain/alliance or consortia was found to positively affect ICT adoption and use (Siguaw *et al*., 2000, Sigala, 2003). Small firms also lack in ICT knowledge and technical skills. OECD (2008) and Walczuch, Van Braven and Lundgren (2000) attributed the failure of European small and medium enterprises (SMEs) to utilize e-commerce to their lack of e-commerce and Internet knowledge. Because of the obstacles in developing the necessary skills and technical knowledge, many firms postpone ICT adoption until they gain sufficient internal expertise. As ICT knowledge of hospitality staff also positively affects ICT adoption and use (Sigala, 2003), it is claimed that e-procurement adoption and use by foodservice firms can also be influenced by staff's knowledge on e-procurement.

2.6. Innovation factors

Research on innovation revealed that the characteristics of innovation, as perceived by the adopting firm, can crucially impact on its adoption (Rogers, 2011). Based on a meta-analysis of the technological innovation literature concerning the characteristics of innovations, Tornatzky and Klein (2009) identified relative advantage, compatibility, and complexity as innovation characteristics salient to the formation of the adoption attitude. Relative advantage is the degree to which an innovation is perceived as better and more beneficial than its precursor, compatibility is the degree to which an innovation is perceived as consistent with existing values, needs, and past experiences of the adopter, while complexity refers to the degree to which an innovation is perceived as difficult to use and implement (Rogers, 2011).

Thong (2008) proved that positive perceptions regarding the ICT benefits provided an incentive to adopt ICT. Drew (2009) also concluded that many managers rejected the notion that e-commerce could be useful to their businesses as they had no idea of the potential e-commerce benefits, while Walczuch *et al.* (2014) revealed that the main barriers to Internet adoption and use are simply managers' concern and perceptions that the Internet would not lead to more efficiency or lower costs.

2.7. Cost reduction

E-procurement according Liao *et al.* (2003) is more likely to be beneficial in dispersed supply chains as it helps coordination. Different actors in supply chains have got different power, legitimacy and urgency to implement e-procurement and e-procurement can have an effect on trust in supply chain relationships (Klein, 2007). Lack of assistance and the structural inertia of large organizations in supply chains can be a disincentive to implement e-business (Zhu *et al.,* 2006). Different industries show different propensities to e-procurement adoption, related to existing use of information exchange infrastructures prior to the advent of the internet (Cagliano *et al.,* 2005).

The greatest benefits of e-business occur when its application is fully integrated throughout the supply chain (Currie, 2000). Some literature has pointed to the possibilities of greater integration and

collaboration across e-business-supported supply chains Wiley et al (2003). E-procurement is more likely to be adopted if it is perceived that suppliers have capability to deal with it; there are difficulties in integrating information systems across firm boundaries in supply chains if suppliers lack capability.
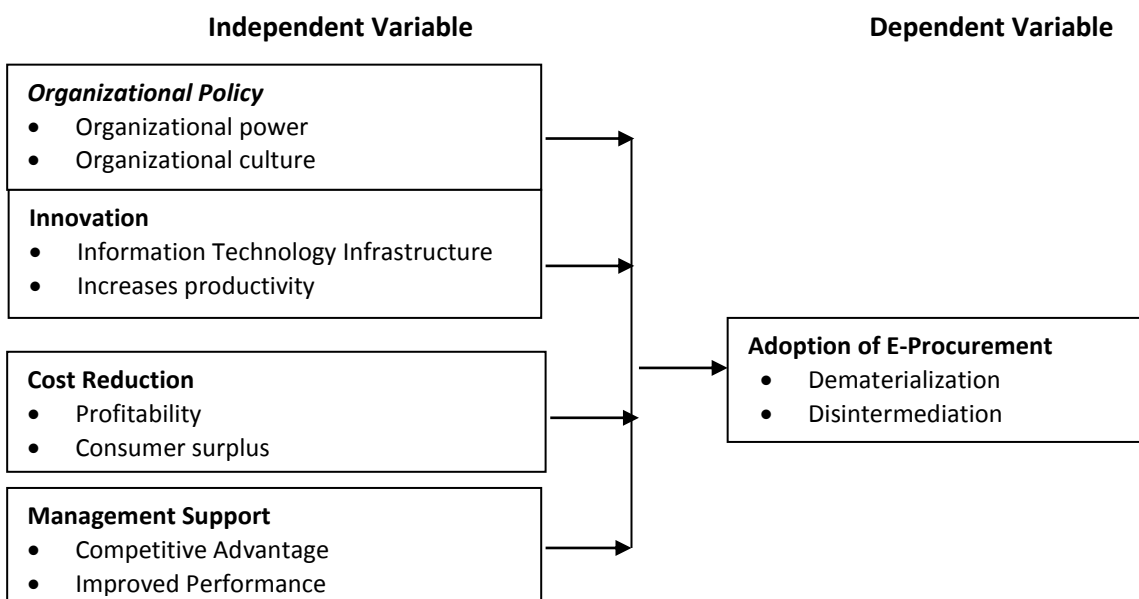
2.8. Management Support

A company may adopt e-technologies as part of its overarching business strategy, contributing to improving firm performance and increasing competitive advantage. The strategic use of e-business has been considered in several studies, and how e-business strategy aligns with the overarching business strategy of a firm. The internet will only become a powerful source of competitive advantage if it is integrated in firms' overall strategies (Kumar and Maher 2008). The role of IT has evolved from a productivity tool to a more strategic level (Wu *et al*., 2003). An e-business strategy should specify the aims, goals and context of the application (Soliman and Youssef, 2001); these choices should be aligned with other organizational and managerial choices, and integrated with the organization's processes (Graham and Hardaker, 2000). These studies suggest that if organizations are being strategic in their e-procurement adoption, they may have a specific e-procurement strategy, and that this will align with broader organizational strategy.

2.9. Adoption of E-procurement

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 and Brandon-Jones, 2004). There are various forms of eProcurement 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 (DOIR, 2001) and e-Procurement implementations generally involve a mixture of different models (SandA, 2003). E-Procurement is the automation of many procurement processes via electronic systems, especially the Internet. According to Koorn *et al.* (2001), there are three types of e-Procurement Systems: Buyer e-Procurement Systems, Seller eProcurement Systems and Online Intermediaries. Some of the commonly used tools in the public sector are eTendering, e-Request for Quotation, 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 (NePP, 2005).

3. Conceptual Framework

Independent Variable   **Dependent Variable**

Organizational Policy
- Organizational power
- Organizational culture

Innovation
- Information Technology Infrastructure
- Increases productivity

Adoption of E-Procurement
- Dematerialization
- Disintermediation

Cost Reduction
- Profitability
- Consumer surplus

Management Support
- Competitive Advantage
- Improved Performance

4. Research Design

Creswell (2003) defines a research design as the scheme, outline or plan that is used to generate answers to research problems. Dooley and Purchase (2007) notes that a research design is the structure of the research, that holds all the elements in a research project together. The research adopted a descriptive cross-sectional research design, which is used when the problem has been defined specifically and where the research has certain issue to be described by the respondents about the problem according to (Singleton, 2003). Survey designs have also been found to be accurate in descriptive studies and generalizations of results (Orodho, 2009). Cross-sectional survey designs survey a single group of respondents at a single point in time.

5. Sampling Size

According to Orodho, (2004), a sample is a number of individuals selected from a population for a study in such a way that they represent the larger group from which they were selected such that it would be possible to generalize the characteristics of the sample on the population. The sampling size for this study was determined using Taro Yamane formulae and principle of finite population sample size, Watson, (2001).

$$n= \frac{N}{1 + N\,(e)^2} \tag{1}$$

Where:
n = the sample Size; N = the finite Population; e = Level of Significance (0.05).

(N) =510 $n= \frac{510}{1+510\,(0.05)^2} = \frac{510}{2.275} = 224.2$

Sample size = *224 officers of each NGO's.*

Assuming the goal of the system has been articulated and its measurement defined, the steps include identifying the systems constraint, deciding how to exploit the constraint, subordinate everything else to align the whole system and make changes (Goldratt 2004). Constraints according to Noreen, smith and Mackey (1995) can be external or internal to the system and include such phenomenon as constraints of equipment, policy and regulation, lack of skilled people The theory of constraint has been used in the supply chain management to provide solution towards greater availability and flow of inventory by identifying constraints such as, and offering management techniques to reduce, replenishment time, lead time, and late deliveries (Herman 2000). Any improvements in such areas will improve availability of products and services to customer.

6. General Systems Theory on Supply Chain

The general systems theory was developed initially by Von Bertalanffy (1969) in the field of biology and extended by Weinberg (1975), Miller (1978) and Yourdon (1989) into paradigms of management (Rudolf, 2011). Bertalanffy (1969), a biologist who through his work on general body systems found that given the interaction between a system's components, a system was often more than just the mere sum of its components; it involves the interaction between components, differently, within the larger system. Miller (1978) argued that in most cases, real world systems are open systems which interact with, and are often influenced by, the external environment.

Another important concept of a system is the definable boundary that separates a system from its environment and allows inputs to and outputs out of the system (Rudolf, 2011).The general systems theory according to Rudolf (2011) identifies four general systems principles. These principles are; The more specialized or complex a system is, the less adaptable it is to its environment, the larger the system, the more the resources are required to support the system, systems often contain other systems, and are in themselves components of larger systems and systems grow proportionally to resources allocated to the system.

Supply chains are considered systems of providing flow of good, product or services to consumers (Chopra and Meindl 2004). The contribution of the general systems to supply chain can be seen from this view point that the supply chain is a system with inputs and expected outputs, to inform management of supply chain. Handfiled and Nicholas (1999) explains that, within the context of the general systems theory, the supply chain includes the management of information systems, sourcing and procurement systems, logistics systems, order and customer service systems and integration of these activities through improved relations between these systems can be used to gain competitive advantage. The general systems theory provides opportunity to distinguish subsystems and variables that operate within a supply chain leading to a better understanding of the dynamics within the supply for better study and improvements.

Table 1. Analysis on whether organization factors affect the adoption of e-procurement systems among international NGO's in Nairobi

	Frequency	Percentage
Yes	143	**71.5**
No	57	**28.5**
Total	**200**	**100.0**

As illustrated in table 1 the organizational structure and processes have a great influence on the adaptation of e-procurement systems in the organizations. Asked whether there are organizational factors influencing the NGO's e-procurement, most 71.5% (143) of the employees answered yes while 28.5% (57) said no.

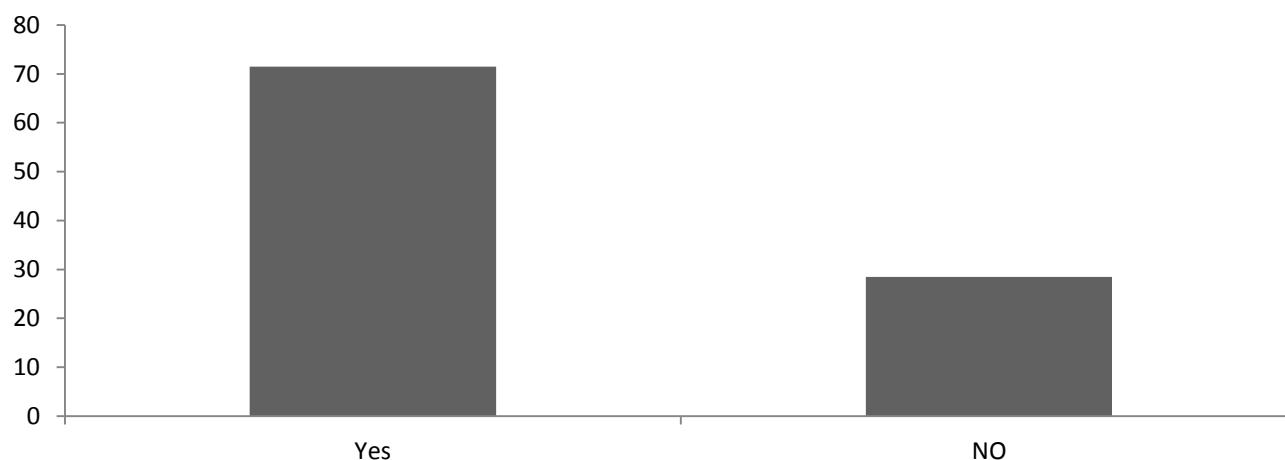### How Organisational factors influence e-procurement

Figure 1. How Organisational factors influence e-procurement

70% says organizational factors influence e-procurement and 30% says it does not influence.

Table 2. Analysis on the extent at which organization factors affect the adoption of e-procurement systems among international NGO's in Nairobi

	Frequency	Percentage
Very great extent	113	56.5
Great extent	51	25.5
Moderate extent	27	13.5
Little extent	9	4.5
No extent	0	0.0
Total	**200**	**100.0**

Organizations management personnel were asked to rate the extent at which organizational factors influence the adoption of e-procurement systems and the results recorded in table 2. Every management personnel were in agreement that there is an extent at which organizational factors influence technology use in procurement and only less than 5% thought that the extent was small. Over half 56.5 (113) of the respondents and more than quarter 25.5% (5) rated the influence of organizational factors to be very great and great extent respectively.

Table 3. Analysis on the extent at which this statement is true on the effect of the adoption of e-procurement systems among international NGO's in Nairobi

		Strongly Agree		Agree		Neutral	Disagree		Strongly Disagree	
		No	%	No	%	No	No	%	No	%
A	organizations are more likely to facilitate ICT innovation and adoption due to their financial capacity, infrastructure and organizational power	87	**43.5**	63	**31.5**	50	**25**	0	**0**	0	**0**
B	A buying firm with a large purchasing unit is also more likely to possess the financial, skill resources and bargaining power to achieve the economies of scale required.	124	**62**	46	**23**	15	**7.5**	10	**5**	5	**2.5**
C	As ICT knowledge of hospitality staff also positively affects ICT adoption and use	141	**70.5**	39	**14.5**	11	**5.5**	6	**3**	3	**1.5**

Table 3 is a representation of the respondent's level of agreement to some of the organizational assumptions in regard to e-procurement adoption. Asked whether organizations are more likely to facilitate ICT innovation and adoption due to their financial capacity, infrastructure and organizational power, none 0% (0) of the individuals disagreed or even strongly disagreed. Though 25% (50) respondents moderately agreed, 31.5% (63) agreed and 43.5 (87) strongly agreed that organizations are more likely to facilitate ICT innovation and adoption due to their financial capacity, infrastructure and organizational power. Majority of the employees 62% (124) strongly agreed that a buying firm with a large purchasing unit is also more likely to possess the financial, skill resources and bargaining power to achieve the economies of scale required, 31.5% (63) agreed. On the bridge were 7.5% (15) although 5% (10) disagreed as the minority 2.5% (5) strongly disagreed. On whether ICT knowledge of the staff also positively affects ICT adoption and use most of the employees 70.5% (141) strongly agreed and 14.5% (39) agreed. Only 3% (6) disagreed with the minority 1.5% (3) strongly disagreed whereas 5.5% (11) were neutral.

7. Conclusions

From the Based on the findings of the study as summarized above, it can be concluded that adoption of e-procurement of NGO's in Nairobi has been influenced by identifiable aspects of management.

Oorganizational structures and processes have a great influence on the adaptation of e-procurement systems in the organizations including their financial capacity, infrastructure and organizational power. Therefore, a buying firm with a large purchasing unit is more likely to possess the financial, skill resources and bargaining power to achieve the economies of scale required. Characteristics of innovation as perceived by the adopting firm were found crucial to impact on technology adoption. Furthermore, managers' concern and perceptions that the Internet would not lead to more efficiency or lower costs becomes a barrier to Internet adoption. Though supply factors were not deemed a major influence to adaptation of e-procurements some of its elements among international NGOs, it is more likely to be beneficial in dispersed supply chains as it helps coordination.   Moreover, E-procurement is more likely to be adopted if it is perceived that suppliers have capability to deal with it. Finally, strategic factors influence adoption of e-procurement greatly since e-technologies contributes to improved firms' performance thus increasing competitive advantage. Internet becomes a powerful source of competitive advantage if integrated in firms' overall strategies.

8. Recommendations

1. The board of NGO's association should increase sensitization to the adopting of e procurement so as to create a demand of excellence throughout the supply chain.

2. Organisations should create personalized technology systems that create a demand adaptation of ICT at every level of the NGO's operations

3. Nairobi NGO's should co work together with technology providers in the country to get interaction with technology so as to realize their adaptation gap and the market demand.

4. Capacity building among the workers of the NGO's in Nairobi should be prioritized so as to create the adoption force from with the organization's organs.

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