

An Assessment of Effect of E-Procurement on Organizational Performance: A Survey of International Non-Governmental Organizations in Nairobi-Kenya

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Abstract: Globally the performance of many international organizations are affected to a greater extent by their level of accountability, transparency and integrity of their procurement systems and processes. Organizations are increasingly adopting the use of technology to survive in the ever increasing competition. Entities that improve their procurement function through e-procurement create a competitive advantage. While e-procurement has the potential of being a critical catalyst in the performance of international Non-Governmental organizations, not many procurement entities have fully embraced this technology even when there is major academic knowledge in the field of procurement. The proactive employment of e-procurement processes of e-ordering, e-tendering, e-awarding, and e-invoicing by the international Non-Governmental organizations is a necessary condition for ensuring excellent organizational performance. This paper demonstrates that e-procurement is key in creating the efficacy and effectiveness in the delivery of services among the international NGOs. The e-procurement processes including e-ordering, e-tendering, e-awarding, and e-invoicing had significant influence on the performance of international NGOs with e-ordering presenting the strongest positive relationship to their performance. The paper noted that the enhancement of the success of NGOs heavily depends on personal competence within the procurement department. The NGOs success of project increases with improvement in human resource competence among procurement officers. Further, team training on e-Procurement had great impact on the performance of Nairobi based international NGOs. The stakeholders' involvement also played a significant role in development and success of NGOs.

Keywords: Performance, e-procurement, e-ordering, e-tendering, e-awarding, e-invoicing.

1. INTRODUCTION

In the recent past, there has been an emergence of new technologies of electronic commerce that threatened the existing models of doing business by introducing a new wave of doing things and largely promised a higher level of revolutionized practices of working (Trkman and McCormack, 2010). The growth of use and application of e-commerce in business and supply markets saw many business people and governments adopt a unique method of supply chain that is technologically influenced in all major organizations and sectors globally. Following this new era, the old procurement functions were greatly affected and shift to e-procurement was adopted that embraced both strategic sourcing activities and transactional buying (Mohamad and Ismail, 2009). Emergence of the procurement activity, while enhancing supply chain corporate goals, is one major factor behind this development.

Procurement means buying of goods and services in the organization. Such services may be hiring of contractors or consultants to offer a certain defined services which are of monetary value. It is an internal service which connects the operations of an organization with external entities. Procurement involves interface between product providers, buyers,

and place of contact (Orina, 2013). For all market players to e-procurement, useful information needs to be available to all. The e-procurement process in nut shell involves the application of optimal spend, buying cycle, as well as improving the process of workflow, tendering, and supporting bidding. These activities if done in a common market will facilitate the search for products in the online platform. Technological application of e-procurement has been tested and approved to have enabled a collaboration and integration of activities in the chain of supply (Doherty, McConnell and Ellis-Chadwick, 2013).

Many entities that embrace e-procurement use different stages of implementing it. The preparation and storage of organizational data can be well done by use of E-procurement to electronically store data for years without being damaged or altered (Lippert and Govindarajulu, 2015). With internet reaching every corner of the republic of Kenya, and with technicians to initiate e-procurement, this initiative can be rolled in all private, public, and governmental organizations to enable access to crucial information about procurement. E-procurement enables organizations to do things at minimum costs and in time hence promoting higher performance and reduce lead time in many deliveries (Makau, 2014). Basically, we have 6 known types of e-procurement according to (Lippert and Govindarajulu, 2015). They include; e-sourcing, e-tendering, e-ordering, e-reverse auctioning/e-auctioning, web-based enterprise resource planning, and e-informing. Basic advantages common to all include reduced purchasing costs, easy compliance with agreements, excellent communication, easy planning, low transaction costs, reduced time of buying process, and improved personal efficiency during procurement (Trkman and McCormack, 2010). The adoption of e-procurement is meant to achieve objectives including efficiency, economy, and fairness among potential players, while minimizing discrimination and maintaining accountability and transparency. One major benefit brought by e-procurement is saving that come from purchasing transactions that reduce costs of manual operations because paper work will be kept at minimal, few mistakes will be done, and a reliable purchasing process will be achieved (Eyaa and Oluca, 2011). Another benefit is that the system leads to reduction of price of products and offers efficiency gains in internal service and purchasing function while enhancing collaboration between internal and external functions of an organization and offers opportunities to the entity (Quesada, González, Mueller and Mueller, 2010). On the other hand, the barriers in an effort to implement this system in many countries include low technological advancement, problems in change adoption by employees, inability of small enterprises to materialize savings in their buying process, and overall cost implementation (Mohamad and Ismail, 2009)

An International Non-Government Organizations (INGO) is an NGO with international scope and offers general services of dealing with issues in more than one country. For the last 30 years, INGOs has enabled the delivery of personal services in especially poor nations, and have attracted the attention of official donors because they were credited for their cost-effectiveness and reliability (Ferguson and Heidemann, 2009). In Kenya, this research has established that INGOs respond rapidly to any human crisis through support from governments and well-wishers. International Non-Governmental Organizations INGOs are non-profit organizations and do not share profits made from their operations but plough the profit made back to the community (NGO Coordination Board, 2016). In the view of (Brunt & McCourt, 2016), the working of these INGOs involve a lengthy chain of borrowing and receiving money from donors as channeled through the government, receive the money and channel them to the implementing partner and then to the intended beneficially.

This e-procurement has been embraced in almost all countries in the world, with leading users coming from United Kingdom, U.S, China, Germany, and Spain. However, not all countries have yet implemented the technology able to keep the e-procurement rolling. The reason may be due to lack of technicians or low technological advancement. Similarly, some other countries have departed from the common way of diffusing this technology and embarked to another more advance method of e-procurement. If international Nongovernmental organizations are to improve their performance, then they need to improve and upscale their e-procurement processes to address the current challenges and technological needs in the society. This article seeks to demonstrate the contribution of e-procurement and its influence on INGO performance particularly in the current technological world. The next section presents literature review.

2. LITERATURE REVIEW

The e-procurement provides a raft of benefits to an organization including reduced purchasing costs, easy compliance with agreements, excellent communication, easy planning, low transaction costs, reduced time of buying process, and improved personal efficiency during procurement. This leads to the overall overall organizational performance (Trkman and McCormack, 2010).

According to (Lippert and Govindarajulu, 2015), electronic procurement system aim to enhance the whole process of buying cycle while improving the flow of jobs in the workplace, support tendering and bidding, and maintain the optimal spending. Through the use of internet products, one is able to identify and place orders of goods and services online. The technological advancement in the business market will enable players to achieve integration and collaboration within the supply chain such that every player has prior knowledge of what happens in the market. (Lippert and Govindarajulu (2015) adds that the adoption of new technology to drive e-procurement program and the impact that it creates to the organizational players in the buying entities are relevant issues to be taken care of in order to enhance effective service delivery of the organization.

Performance of any INGO is determined by financing and implementation of its projects. Of its day-to-day functions, majority of them are procured. Brunt & McCourt (2016) assert that the main objective of all INGOs is to implement projects and programs that are community in nature, and much of the activities involves procurement which should be efficient. According to Alan, Smith and Flanegin (2014) procurement involves transitioning from clerical unit to an effective economic unit and these steps normally influence organizational decisions since they add or reduce value internally. The e-procurement adoption remains a challenge and is slowly embraced in most of the organizations in developing economies as compared to developed economies. This is as a result of the elements behind the spread of new technology. Such elements include communication channels, innovation level, social system and time of the technology (Makau, 2004). These elements impact on the e-procurement process of the organizations. The process involves activities such as public e-advertisement of tender, processing of tendering applications electronically, and returning of bids to the employer through the same process (Makau, 2004).

Adoption of e-procurement takes into account the entire change of the whole existing system in an organization in an effort to affect how tasks will henceforth be conducted (Soong, Ahmed, & Tan, 2020). The simple usefulness of e-procurement is the main benefit that the user it places on the system over its efforts to use it. Ordering process is one major procurement activity carried out by any organization that need to be changed in the process of planting e-procurement system. Ordering process involves preparation and sending of orders to various suppliers. To fully implement e-ordering within organization and realizing its tangible benefits, the perception of suppliers and ordering employee of the efficiency and ease of e-procurement system is of great importance (Soong, Ahmed, & Tan, 2020). According to (Gunawadhana *et al.*, 2012), there exists significant impact between organizational performance and electronic tendering. He argues that electronic tendering improves communication and coordination of activities between parties engaged in the tendering process. E-tendering has an alerting system that can remind its users on what is completed and what follows for everyone to on alert and reduce the possibility of human errors in the process (Croom *et al.*, 2006).

The E-procurement process, E-awarding together with noticing modules enables generation dissemination of notices and contracts, improving effectiveness and efficiency in the process of tender awarding. Research conducted in procurement management in U.S government by (Moon, 2005) shows that, results on organizational performance and e-awarding are positive. Moon explained that electronically submitted tenders are downloaded and printed with no need for manual entering of data. The process saves time and ensures clear and consistent tendering process within the government entity through a well-established and standardized criteria. E-awarding thus has overall benefit to environment as its predominance on paperless work. With the use of e-awarding, bids are standardized electronically and comparisons of bids are made in a transparent manner. The transparency of bids, enabled by use of e-awarding, allows the process to be generally accepted by public members while facilitating the bid tasks among members who separate apart on evaluation process. E-awarding also makes auditing process easy since data integration is assured with instant tender access to information and centralized repository. The study conducted by (Chepkwony and Lagat, 2016) on ordering together with informing electronically on supply management that targeted 244 procurement officers from various retail shops in Kenya. Findings showed that there exists a positive result of ordering and informing on performance of an organization particularly supply chain management. Additionally, the research findings on determinates of e-ordering in Kenya using descriptive design approach, Amayi and Ngugi (2013) revealed that determinants such as procurement ethics, management support, legal framework, and government policies are some of which affect organizational performance in Kenya.

The E-procurement process, E-invoicing is a method of receiving invoices electronically from a supplier, process it, and through a Bank Automated Clearing System, make a payment (BACs). E-invoicing greatly improves working relationship between a buyer and a seller since both process and monitor invoices in an electronic form that is easier, efficient, and

reliable and which approval is completed by a touch of a button by both parties (Moon, 2005). Giunipero, Handfield and Eltantawy (2012) points out major challenges to e-procurement including poor e-procurement market services in many countries, shortage of system standardization and integration of procurement with other organizational buying and selling systems.

Research Approach and Design

The study aimed at getting insights into the influence of E-procurement on organizational performance of INGO in Nairobi, Kenya. The study therefore employed descriptive design technique to gather qualitative and quantitative data. The semi-structured questionnaires were used to collect data for the study. The questionnaires were administered between 2018 and 2019 and lasted between 15 to 20 minutes to be filled in by the research participants.

Participants and Context of the Study

Stratified sampling data technique was used in grouping the population into different sectors of INGOs operations. This sampling technique gave each members of the population opportunity of being selected into the sample. The simple random was used in order to get proportionate sample from every stratum. Each organization gave one person-preferably the head of procurement department. A sample of 42 INGOs which represent 30% of the study population was selected owing financial and time constraint. The researcher utilized semi-structured questionnaire method to collect data since it saved time and ensured confidentiality of the respondents. Open responses were encouraged as some questions were sensitive and respondents gave free answers.

Data Collection

Both primary and secondary data is used in this project. Questionnaire method of data collection was used as the main instrument for primary data collection. Journals, internet, and other book publications were the relevant literature sources of secondary data. Semi-structured questionnaire was ideal to gather responses for qualitative and quantitative analysis. Closed ended questions gave five responses that enabled the researcher to know what extent a factor was influential to organizational performance.

Data Analysis

The questionnaires were coded to facilitate data analysis. Content analysis was used while thematic formula was used to analyze qualitative data. Statistical descriptive such as mean, frequency, percentage, standard deviation was used to analyze the gathered data. To examine correlation between organizational performance and e-procurement, we used multiple regression model. While qualitative findings were presented by prose, quantitative method used tables, charts, and graphs to analyze and presented data.

3. FINDINGS AND DISCUSSIONS

E-tendering

The study established that e-tendering was related to INGOs performance in Nairobi. Further, it was indicated by this study that the largest percentage of the participants extensively used e-tendering processes that influence INGOs performance. It was established by this study that e-tendering was related to INGOs performance in Nairobi. Further, the study indicated that the largest percentage of the participants extensively used e-tendering processes that influence INGOs performance. Majority of the respondents indicated that online market survey and price information of goods and services were extensively used. The study also found that advertisements for tenders (calls for tenders) were done online in their online portal for tenders. Bidders used to check the tender progress in the online portal. In addition, the study noted that queries on bids were sent and received online for all bidders. Additionally, the study found out that bid, responses to RFPs, EOIs and RFQs were sent and received online. The preparation and submission of bids by bidders were done on an e-tendering portal. Findings also showed that when e-tendering activities were increased, an increase of 0.376 would be expected with regards to the performance of international NGOs.

E-awarding

The study found out that majority of the respondents agreed that application of e-awarding process influenced the performance of INGOs in Nairobi County. The study indicated a positive correlation between e-awarding and INGOs performance in Nairobi County in Kenya. Regression model indicated that e-awarding unit-improvement produced a

0.183 rise in INGOs performances. The report also indicated that notification of awards were done and published online; successful bidders used to send their acceptance of award online while the unsuccessful ones were informed online as well. According to the findings, the organizations' contract documents were prepared and sent online. The respondents indicated that bidders extensively used the online portal to view bid prices and scores of successful bidder.

E-ordering

It was also established in this study that e-ordering and INGO performance had a close relationship. Additionally, the research established that the highest percentage of the participants extensively used online to place orders, prepare, and approve internal order requisition. Additionally, the study found out that majority of the INGOs extensively used online portal to provide vendor information, which are key for internal selection. On the other hand, transmission, acceptance, and signing of orders were also done online. Majority of respondents indicated that e-ordering had an impact on the performance of INGOs given that it had a strong relationship. Findings of the regression analysis showed that an increase of 0.464 in the performance of international NGOs was expected when there was an increase in e-ordering.

E-invoicing

Further, a close association between performance of INGOs and e-invoicing was established in this research study. It was established that a higher percentage of the participants extensively used online portal in their organizations in receiving, processing and payment of invoices. Additionally, the study found out that invoices were approved online as well as monitoring or tracing of invoices. The study showed that compliance reports to specification of goods and services were done and/or monitored online too. As such, the relationship between e-invoicing and international NGOs was established by the study. According to the findings of the regression analysis, an increase of 0.343 in the performance of international NGOs in Nairobi County would be realized with an improvement in e-invoicing.

4. CONCLUSION

The aim of this paper was to demonstrate that e-procurement has influence in the organizational performance of INGO in Nairobi, Kenya. This research provided a basis for the conclusion that the success of the NGOs heavily relies on procurement technology used. This issue provides a rationale for the explanation as to why some projects take shorter or longer periods of time to complete, in comparison to others. It can also be deduced from the study that the enhancement of the success of NGOs heavily depends on personal competence. The NGOs success of project increases with improvement in human resource competence. Further, it has also been established that team training on e-Procurement has positive impacts on Nairobi's INGOs. Nevertheless, it does not go without highlighting the significance of stakeholder involvement towards the motivation and support that influence the development and success of NGOs. The study recommended that the NGOs adopt e-procurement technology to create efficacy and effectiveness in the delivery of service

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