

Factors Affecting E- Procurement Adoption on Procurement Performance in Government Ministries in Rwanda: A Case of Ministry of Justice

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Abstract: *E-Procurement in the public sector is developing internationally; hence, initiatives have been implemented in Singapore, UK, USA, Malaysia, Australia and European Union. E-Procurement projects are often part of a country's larger e-Government efforts to better serve its citizen and businesses in the digital economy. UMUCYO is a single channel, portal and point of access for Rwanda procuring entities allowing negotiating better contract terms and to realize savings and achieve value for money. It provides suppliers with increased access to markets without additional marketing efforts and a faster and more efficient method for quoting and increased order accuracy through receipt of electronic orders. The purpose of this study was to establish e-Procurement adoption on procurement performance in Rwanda government ministries; case of Ministry of Justice. The variables to study were the top management support on e-procurement, stakeholder interest on e-procurement, organization policy on e-procurement, lead time how they contribute to procurement performance. The study adopted Descriptive Research Design. The target population was 550 employees of the Ministry of Justice while the sample selected was 55 which represented 10% of the target population. Data was analyzed using descriptive statistics where SPSS was used to establish the effect of independent variables on the dependent variable. The findings of the study revealed that majority (83%) of the respondents agreed that Organizational policy affects the adoption of e-procurement in the firm through the advertisements and meetings of the stake holders while 17% of the respondents were not of the opinion that organizational policy affects the adoption of e-procurement in the firm.*

Keyword: *E-Procurement, E-Tendering, Country Procurement System, E-MRO., Ministry of Justice, Technology*

I. INTRODUCTION

This chapter presents the background of the study; statement of the problem; purpose of the study, specific objectives, research questions, scope of the study, and significance of the study.

Background of the Study

In the past, procurement at one time was traditionally carried out by visiting a store and then following the procedures for placing an order. The process of procurement traditionally involved manual procedures and the transactions were often slow processes. The traditional procurement processes formed the basis for the introduction of e-procurement to the global arena. The emerging of internet made companies turning their procurement activities towards internet since it would benefit them if all procurement processes are carried out correctly, efficiently and properly (Hossein & Jawid, 2014).

The rise of the internet and the rapid spread of electronic procurement across world markets have left few industries unchanged. Since its inception in early 1990s, e-commerce has been feted by world markets seeking new solution to business models and dramatic reductions in transaction costs (Timmers, 1998).

Businesses face many challenges in today's fast-changing uncertain global climate (Lee and Gebauer, 2006). Many organizations have turned their attention to Electronic Commerce (e-Commerce/EC) technologies to improve the efficiency of their business processes. The most prominent form of e-commerce system concerning interactions between businesses (Business-to-Business /B2B e-Commerce) that have recently received attention in the literature is called electronic procurement (e-procurement) system (Hawking and Stein, 2004). It automates an organization's purchasing process, reduces transaction costs, improves inter-organizational coordination within the supply chain, improves relationships with business partners and offers competitive sourcing opportunities for the buyer organizations (Subramaniam and Shaw, 2002).

The widespread adoption of e-procurement systems by organizations in public sectors may lead to national performance improvement and productivity growth and it has the potential to increase the gross domestic products (GDP) significantly (Hawking and Stein 2004).

Global perspective on E-procurement adoption

Most procurement executives remain unsure about how to implement e-procurement effectively. Based on a field study of 26 firms with business operations in Asia, they suggested a three-stage model for implementing e-procurement. This include: firstly assess e-procurement's match with your firm's purchasing practices; secondly, determine your operational and strategic objectives; and finally, overcome the key barriers most likely to discourage buyers and suppliers (Hsao & Teo, 2005). Although e-procurement has many operational and financial attractions, these can only be realized, if the ground has already been well prepared through the cultivation of facilitators and the elimination of all impediments such as: security breaches; cultural mismatch; non participation by key suppliers; regulatory difficulties (Trkman and McCormack, 2010).

Acceptance of e-procurement systems by employees working in the state corporations is important to ensure improved organizational effectiveness (Subramaniam & Shaw, 2004). Although a rich body of literature exists regarding the organizational adoption decisions of e-procurement systems and their impact on organizational performance, little is however known about the factors that affect the acceptance of these systems by employees working in organisations. As such, the following factors have been identified: perceived usefulness, perceived ease of use, employee involvement, reliability, customized training, vendor support and management support (Rahim, 2008).

Among the state corporations globally that have already adopted e-procurement, the initiative has been heralded for the achievement of value for money because of its ability to actualize e-procurement promises identified by Hsiao & Teo (2005). These promises include: procurement cost reduction, enhanced customer service level, improved policy compliance and reduced procurement lead-time. As a result, procurement performance of such state corporations were greatly enhanced (Amayi & Ngugi, 2013). A major breakthrough in e-procurement amongst public entities was the emergence of standard e-procurement procedures that replaced the manual procurement processes in the government open tendering; making them more efficient. A summary of these e-procurement procedures include: e-tendering, e-award, e-ordering and e-invoicing (McConnell, 2009).

Rwanda perspective on E-Procurement adoption

Rwanda is land locked with low industrial production; its economy is almost based on agricultural productivity since almost 90% of the population occupies the agriculture sectors. From the use of 1959 law in public procurement in Rwanda to the Public Procurement Law enacted in April 2007, Rwanda moved towards a national public procurement system which respects international standards.

As in many other countries, the use of the Country Procurement System in Rwanda was adopted following the Paris Declaration on Aid effectiveness endorsed on 2 March 2005 and Accra Agenda for Action drawn down in 2008 that is embedded in a set of five inter-related principles whose aim was to make aid more effective and accountable to the benefiting communities.

The declaration's commitments and targets reflect the lessons donors and partner countries have learnt about how to make aid more effective in reducing poverty (RPPA annual report, 2011). The Rwanda Public Procurement Authority is a Public body established on February 20, 2008 by the law N° 63/2007 of 30/12/2007. It was created to replace the National Tender Board during a reform process in Public financial management launched by the Government of Rwanda (GoR), in which Public procurement reform was one of the most important components. RPPA is committed to: Fighting corruption, promoting capacity building and enhancing best practices in public procurement; achieving the best value for money for the Government of Rwanda under efficient, transparent and fair conditions, Transparency; Competition; Economy; Efficiency; Fairness and Accountability (RPPA annual report, 2011).

E-procurement has been a common theme of many organizations for the promotion of transparency and good governance in procurement in Rwanda. E-procurement systems have proven themselves within various government Organizations as an effective tool for instituting procurement reforms and establishing a fully transparent and open procurement environment. E-procurement systems have also allowed governments to apply standard procurement processes across institutions, using appropriate monitoring and management controls to delegate more responsibility to the individual procuring entities (Expert Group Meeting, 2011).

History of Ministry of Justice in Rwanda

The Ministry of Justice came to existence in 1961 under the interim Government. Since then, it was referred to by various names in different times according to the relative importance successive Governments attached to its role.

Under the first Government (28/01/1961) it was denominated "Ministry of Justice". From 09/11/1965, justice was jointed to internal affairs and denominated "Ministry of Internal affairs and Justice" on 01/08/1973 it became the "Ministry of Justice and Legal Affairs". When the Arusha Peace Agreements were signed in 1993, Justice was understood as broadly encompassing the notions of Rule of Law, Social Justice, the respect of Human Rights, Good Governance, the promotion of Democracy principles and National Unity and Reconciliation.

In 2000 the institution was known as the “Ministry of Justice and Institutional Relations” until 2003 when the present denomination was adopted as the “Ministry of Justice” (Ministry of Justice report 2009-2012).

Statement of the Problem

In today’s world, e-Business has become part and parcel of everyday life in many business circles as a large number of organizations are involved in one form of e-Business or another such as e-procurement. The emphasis is on the use of technology to substitute or enhance transactional activities in order to gain operating efficiencies (Arnold. U & Essig, 2002).

RWANDA’s procurement function has been characterized by massive scandals and indignity which have been attributed to poor handling of procurement information thus leading to excessive corruption, high cost, time consuming and thus a need to have a robust automated procurement system which is interlinked and lead to enhanced competitiveness transparency, decrease of crime and lowered costs. Weak ICT infrastructure and its adoption in support of e-procurement is a challenge to procurement in Justice Ministry. The Ministry of Justice is faced with a challenge when it comes to the issue of tendering. The significant number of complaints that the government is blamed for in the procurement process varies.

The lack of transparency in the procurement process has made it impossible for the country to conduct proper procedure in procurement. The lack of an E-procurement system in the country level has made it impossible for the country to achieve the best procurement and thus little is done in terms of giving the right information. It is due to these backgrounds that this study was undertaken to assess the role of e-procurement on procurement performance in Ministry of Justice.

In the midst of competition, speed & accuracy of service delivery is the need of time. Traditional procurement involves huge paper work as well as it was time consuming and many times error prone operations. e- Procurement improves speed as well integration of suppliers’ relationships through transparency in procurement process (Carayannis and Popescu, 2005). To improve the procurement efficiencies, there are six different forms of e-procurement as e-sourcing, e-tendering, e- informing, e-reverse auctions, e-MRO and web-based enterprise resource planning (Knudsen, 2003). Various heads under which organizations can get advantages of cost reduction even up to 65% using e-Procurement like labor costs, increased in purchase volume resulting in better price from supplier and through better negotiation with suppliers (Davila et al. 2003).

If all these activities or any one of them are used for placing orders with suppliers, it consumes a huge time. In 2015, they recognize cases due to procurement processes and transparency issues from Ministry of Justice, here are mentioned the cases: Decision No 07/2010/IRP on tender No 005/MINUJUST/DECEMBER regarding the supply of 2150 bicycles; decision No 06/2015/NIRP on tender No 09/s/2014-2015/NO/RN/0B regarding cleaning; decision No 08/2015/RNIP on tender No 02/T/2014-2015/IO/NP regarding constructions. (Detailed information of above cases cannot be mentioned due to security purposes) (MOJ Report, 2015). E-procurement can have a major impact in making the procurement process simpler and more efficient; the limitation adoption of newer technologies by the employees makes the usefulness of the process neglected and still believes in procuring the required materials through traditional methods. The objective of this research is to find out why employees are not adopting the e-Procurement process to a full extent in Ministry of Justice and how the e-Procurement has improved their performance through process of procurement in the extent they implemented in Ministry of Justice in Rwanda.

Objectives of the study

General Objective

The general objective of this study was to find out the effect of e-procurement adoption on procurement performance in Rwandan government ministries; a case study of Ministry of Justice.

Specific Objectives

- i. To determine the effect of top management support on procurement performance in the Ministry of Justice.
- ii. To assess the effect of Stakeholder interest on procurement performance in the Ministry of Justice.
- iii. To examine the effect of lead time on procurement performance in the Ministry of Justice.
- iv. To find out the organizational policy on procurement performance in the Ministry of Justice.

Research Questions

- i. How does top management support affect the procurement performance in Ministry of Justice?
- ii. Does stakeholder interest affect the procurement performance in Ministry of Justice?
- iii. To what extent does lead time affect the procurement performance in Ministry of Justice?
- iv. Does organizational policy affect the procurement performance in Ministry of Justice?

Significance of the study

Procurement has become an integral part in the performance of many organizations and with the integration of e-procurement many organizations are striving to enhance their performance. Therefore, the findings of the study will be of importance to the following stakeholders:

Government: The findings of the study will be of importance to policy makers and stakeholders in state corporations by establishing the relationship between e-procurement and efficiency, the findings

of the study will be a key ingredient in the; planning, designing and implementation of a sound public procurement system that will align itself to the overall economic strategy.

Future Researchers: The findings of the study will fill a major literature gap thus providing backstopping for future researchers. The findings of the study will be of importance to both theory and practice. To practice, it will enhance policy making and stakeholders in the public sector. By establishing the relationship between e-Procurement adoption and procurement efficiency, the findings of the study will be a key ingredient in the; planning, designing and implementation of a sound e-procurement policy in the public procurement system in Rwanda.

Donor agencies: The findings will be beneficial to the donor community who are keen on tracking donor funds particularly in public procurement system of the recipient nations.

Personally, this study will help me to be awarded with master's degree in procurement and logistics. Also the findings of this study will add up to existing literature in regard to e-procurement. Finally, this study may form the basis for further research on e-procurement public sector or other autonomous sectors of the government.

Scope of the study

The study was carried out at Ministry of Justice in Rwanda with its head office is located in Kimihurura, Kigali town and it targets the procurement, finance, human resource and top management staff as they play a big role in procurement performance of the institution. The study targeted to find out e-procurement adoption on procurement performance in Rwandan government ministries; a case of Ministry of Justice.

The target population of the study was 550 personnel within the Ministry of Justice, out of the above 10% were sampled and a sample size of 55 was studied from each department. The departments include human resource, procurement, information communication technology and finance department. The Ministry of Justice was selected because it has direct impact on the society from security perspective, justice and human rights and automation and integration of the systems within the ministry is paramount. This study was conducted from 20th Feb -20th Mar 2017.

II. METHODOLOGY

Introduction

This chapter discusses the research design that was used, the target population, sampling methodology data collection and data analysis method employed. Validity and reliability of the research instruments are also discussed.

Research design

The research design constitutes the blue print for the collection, measurement and analysis of data, (Kothari, 2004). The study adopted descriptive research design. This design enabled the researcher to obtain large amounts of data from a sizeable population in a highly effective, easy and in an economical way (Mugenda & Mugenda, 2003). The choice of this design was appropriate for this study since it utilized the questionnaire as a tool of data collection and helped establish the behavior of employees towards adopting e-procurement in government institutions. Further, this research design provided facts and suggestions on major connections between the variables. This enabled the researcher to gain understanding on the effects of e-procurement adoption on procurement performance in Government Ministries in Rwanda.

Target population

Target population refers to a specific group of individuals to which the researcher is interested in generalizing conclusions (Catillo, 2009). The study focused on 550 employees as the target population working in the following levels: departmental heads, immediate supervisors and lower cadre employees. The choice of this group of respondents was appropriate in this study since they are directly involved in the implementation of e-procurement policy in the institution. As such, a list that contains the number of all staff at various levels (job title categories) was sourced from the Human Resource Department and was employed as a sampling frame to identify every single element in the target population.

Sample design and sample techniques

A sample is a set of observations drawn from a population by a defined procedure. The sample represents a subset of manageable size. Samples are collected and statistics are calculated from the samples so that one can make implications or extrapolations from the sample to the population. The sample was drawn from the population that represented the employees of the Ministry of Justice in Rwanda.

This study adopted a random sampling technique in selecting the sample. The technique produces estimates of overall population parameters with greater precision and without bias because the numbers are random (Mark Saunders, et al, 2009). The use of this sample enables the researcher to save time and costs associated with studying the entire population (Mark Saunders, et al, 2009). This also involved random selection of respondents from each stratum. According to Mugenda and Mugenda (2003) 10% of the target population represents an adequate sample for the study. The selected respondents were issued with questionnaires.

Table 3.1: Sample Frame

Department	Target Population	Sample size 10%
Procurement department	88	9
ICT department	196	19
Human resource department	46	5
Finance department	110	11
Top management	60	6
TOTAL	550	55

Data Collection Procedures

Data collection procedure is the process of gathering information from all the available sources using data collection instruments with the aim of using such data in research (Cooper, 2008). The questionnaires for the study were designed and distributed personally by the researcher to various respondents at their places of work. In order to offer guidance towards issues and topics under discussion in the questionnaire, the respondents were provided with an interview guide through hand delivery by the researcher. At the end of the data collection process, the filled questionnaires were collected by the researcher for further processing and analysis of data.

Data Analysis and Presentation

Data analysis is the process of resolving data into its components to disclose its characteristic elements and structure for accuracy (Mugenda, 2003). This study produced both quantitative and qualitative data to explain the effect of e-procurement adoption on procurement performance in detail. Once the questionnaires were received, they were coded and edited for completeness and consistency. Data collected was analyzed using both quantitative and qualitative data analysis approaches. Data from closed and open-ended questions in the questionnaire was coded and entered into the computer using statistical package for social science (SPSS) version 23. This technique gives simple summaries about the sample data and present quantitative descriptions in a manageable form, (Orodho, 2003).

III. RESEARCH FINDINGS AND DISCUSSION

Introduction

This chapter presents the findings of the study as per questionnaires distributed for data collection. It shows the response rate and further presents the analyzed data using the SPSS 20 software. Regression Analysis was used to investigate the factors affecting adoption of e-procurement in public sector in Rwanda using Ministry of Justice as a case study in Rwanda. Adoption of e-procurement (dependent variable) is explained by the organizational policy, Stakeholder interest, Top management support and Lead time (independent variables). The data was gathered exclusively from the questionnaire as the research instrument. The questionnaire was designed in line with the objectives of the study. It also presents the response rate, respondents’ characteristics and preliminary findings.

Reliability Test

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda & Mugenda, 2003). During the pilot study, two repeat mailings of the instrument were carried out to improve the overall response rate before sending the actual instrument to allow for pre-testing of the research instrument.

Cronbach’s alpha for each value was established by the SPSS application and gauged against each other at a cut off value of 0.7 which is acceptable according to Cooper and Schindler (2008). According to table 4.1 all the values were above 0.7 which concludes that the data collection instrument was reliable.

Table4.1: Reliability test

Variable	Cronbach’s Alpha	No of Items
Top management support	.8045	3
Stakeholder interest	.768	4
Lead time	.694	3
Organizational policy	.703	2

Response Rate

Twenty four (24) questionnaires were distributed to procurement staff of the organization. Out of the 24 questionnaires sent, 20 were fully filled contributing to a response rate of 83.3 %. A response rate of above 60% is acceptable (Kothari, 2004).

General Information

As part of the general information, the research requested the respondents to indicate the department, position held, and gender of the respondent, age, Years of experience in Ministry of Justice and the Level of education.

Gender of the Respondent

The study sought to find out the gender of the respondents. From the findings as shown in figure 4.1, 60% of the respondents were male while only 40% of the respondents were female. This response indicates that there is a slightly equal distribution of gender. In addition it shows that both genders were well involved in this study and thus the finding of the study did not suffer from gender bias.

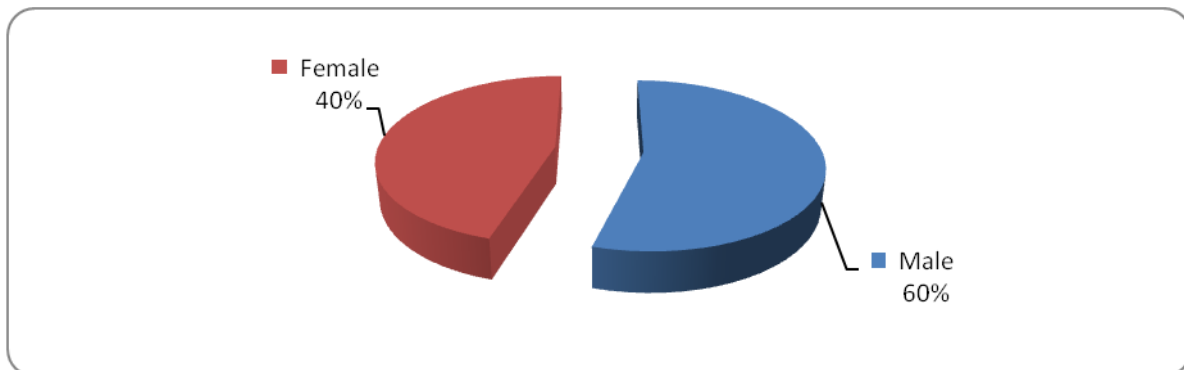


Figure4.1: Gender of respondents

Years of experience in Ministry of Justice

The research was also interested in the years of experience of the respondents in Ministry of Justice was analyzed as shown in the figure 4.5. Most (46.7%) of the respondent had worked in the organization for a period of 1-5years, 33.3% had worked for 6-10 years, 13.3% for a period of 10 and above years while 6.7% had worked for less than 1 year.

According to Holman (2008) pointed that working duration is associated with greater output, in a given industry. The productivity outcome of hours is rarely observable directly. However, Shepard and Clifton (2000) established that public productivity does not necessarily improve when one has worked for a longer hours.

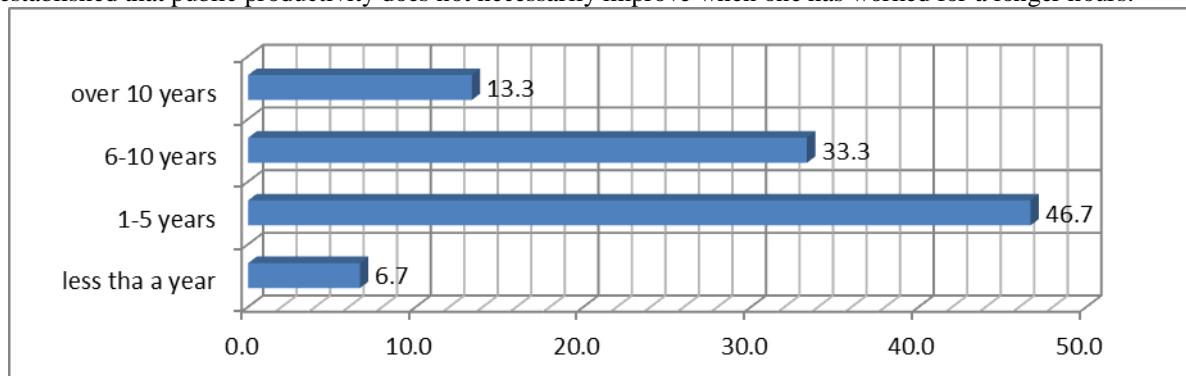


Figure4.2: Years of experience in Ministry of Justice

Level of education

Education is paramount in enabling the respondents to conceptualize issues related to growth of corporate entrepreneurship. It was established from the study that 40.9% of the respondents had bachelors, 31.8 % had certificate/diplomas, 18.2% had post graduate, and 4.5% of the respondents had O/A level while 4.5% had other specifications in the level of education. This is shown in Figure 4.3 below.

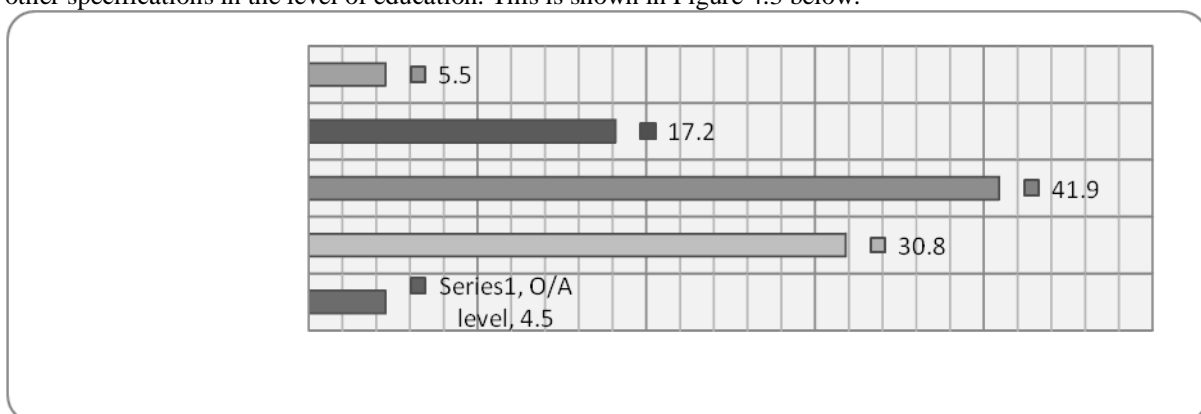


Figure4.3: Level of education

Apparently from the above findings it shows that majority of respondents working in Ministry of Justice have bachelor degree qualifications. This implies that they are capable to conceptualize and respond authoritatively on issues of adoption of e-procurement. This finding was contrary to Katz (1992) finding that those with higher education are more successful as they have more knowledge and have modern managerial skills making them more conscious of the reality of the business work.

Findings from Study Variables

Organizational policy

Does Organizational policy affects the adoption of e-procurement in the firm?

The study sought to find whether Organizational policy affects the adoption of e-procurement in the firm. From the findings the study revealed that majority (83%) of the respondents agreed that Organizational policy affects the adoption of e-procurement in the firm through the advertisements and meetings of the stake holders while 17% of the respondents were not for the opinion that organizational policy affects the adoption of e-procurement in the firm.

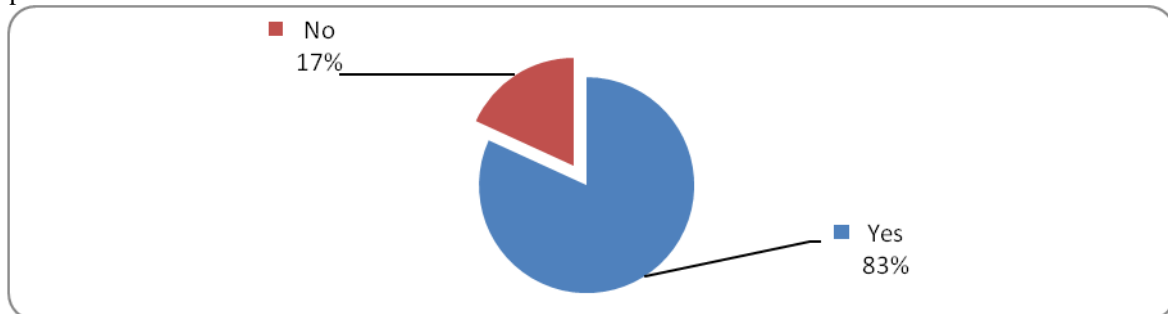


Figure4.4: How Organizational policy affected adoption of e-procurement in the firm
Extent to which Organizational policy affects the adoption of e-procurement in the firm

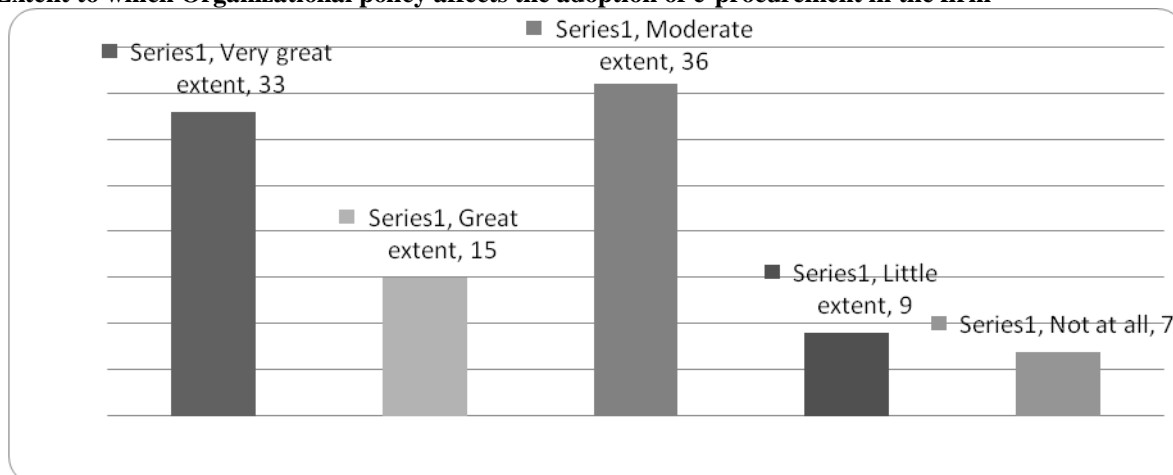


Figure4.5: Extent to which Organizational policy affects the adoption of e-procurement in the firm

The study sought to find out the extent to which Organizational policy affected adoption of e-procurement in the firm. According to the findings, 36% of the respondents indicated that Organizational policy affects adoption of e-procurement process to a moderate extent, 33% of the respondents indicated that organizational policy affects affected adoption of e-procurement in the firm to a very great extent, 15% of the respondents indicated that organizational policy affects affected adoption of e-procurement to a great extent, 9% of the respondents indicated that organizational policy affects affected adoption of e-procurement to a little extent, while 7% of the respondents indicated that organizational policy did not affected adoption of e-procurement at all. The general feeling by most respondents is that the level of organizational policy in procurement profession may affect the ultimate adoption of e-procurement. This is supported by Lawson and Squire (2006) who found that in the supply chain context, procurement professionals must take CSR into account, along with other corporate considerations, such as ‘value for money’ and low cost sourcing, as well as consumer expectations of low prices. However, this means that business leaders face tough decisions, including how to balance the interests of shareholders, and their expectations of high returns, with procurement policies.

Respondent Rating of Statements on the Effect of Organizational policy to Adoption of E-procurement in the Firm

Table 4.2 lead times the results of respondent rating of statements on the effect of Organizational policy to adoption of e-procurement in the firm. A scale of 1-5 was used. The scores “Strongly agree” and “Agree” were represented by mean score, equivalent to 1 to 2.5 on the continuous Likert scale (1 ≤ Agree ≤ 2.5).

The scores of 'Neutral' were represented by a score equivalent to 2.6 to 3.5 on the Likert scale ($2.6 \leq \text{Neutral} \leq 3.5$). The score of "Disagree" and "Strongly disagree" were represented by a mean score equivalent to 3.6 to 5.0 on the Likert Scale ($3.6 \leq \text{Disagree} \leq 5.0$). The results were presented in mean and standard deviation.

The study sought to find the respondents opinion and rating on the effect of Organizational policy to adoption of e-procurement in the firm. According to the findings, respondents agreed that Organizational policy affects adoption of e-procurement as shown by a mean of 2.23 and standard deviation of 1.31; that the Environmental and social issues are becoming more important in managing any business as shown by a mean of 2.23 and standard deviation of 1.11; that Reliable Procurement policies include developing an environmental policy statement; oversight committee; and company's Sustainability Initiative concerning both environmental and explores opportunities to work with key stakeholders as shown by a mean of 1.95 and a standard deviation of 0.10 and that Continuous improvements in Organizational policy have enabled the firm to provide their services in a more direct manner as indicated by a mean of 2.14 and a standard deviation of 1.36.

Table4.1: Respondent rating of statements on the affect of Organizational policy to adoption of e-procurement in the firm

Statements	Mean	σ
We are developing an environmental policy statement	2.23	1.31
Our environmental policy statement consists of a commitment to promote environmental stewardship	2.23	1.11
Our environmental policy statement describes our company's Sustainability Initiative	1.95	0.10
Our environmental policy statement describes how our company explores opportunities to work with key stakeholders	2.14	1.36

Stakeholder interest

Does Stakeholder interest affects the adoption of e-procurement in the organization?

The study sought to find out whether Stakeholder interest affected adoption of e-procurement in the organization. According to the findings, 80% of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization while 20% of them indicated that Stakeholder interest does not affects the adoption of e-procurement in the organization. Product developers often describe usability as fuzzy and ungraspable Shang et al. (2010). In order to reach a goal, you have to know what the goal is. In order to improve usability, you need a shared understanding of it Walton et al. (2008). Product can be used by specified users to achieve specified goals, with effectiveness, efficiency and satisfaction, in a specified context of use." Admittedly, due to its somewhat generic formulation this definition does need to be made more specific to be useful (Mudgal et al., 2009). Defining usability is one approach, but creating shared understanding might not require establishing a formal, explicit definition Wang (2005).

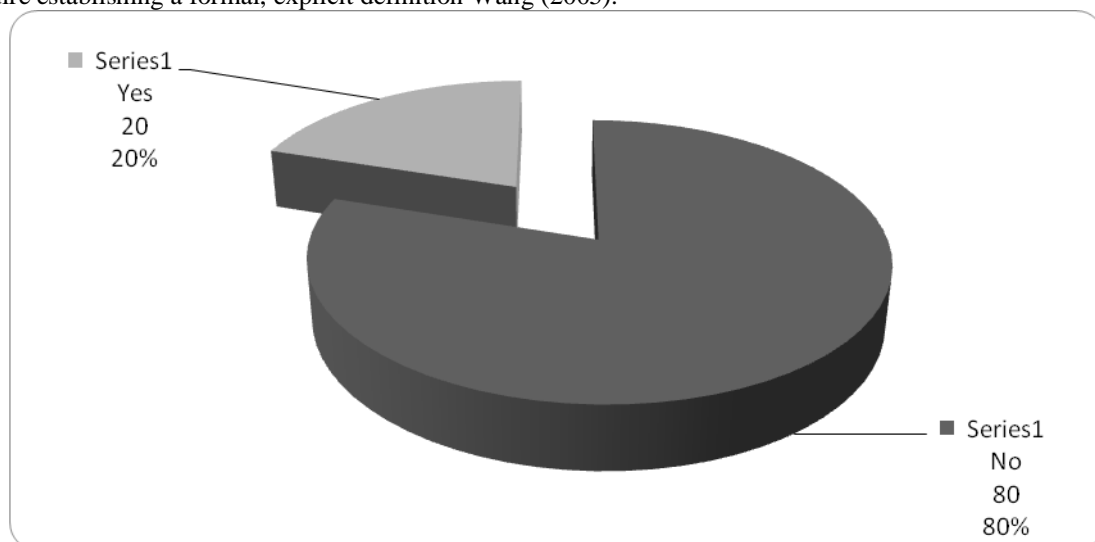


Figure4.5: Whether Stakeholder interest affected adoption of e-procurement in the organization
Extent to which Stakeholder interest affected adoption of e-procurement in the organization

The study sought to find out the extent to which Stakeholder interest affected adoption of e-procurement in the organization. According to the findings, 40% of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization, 28% of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization, 21% of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization to a moderate extent, 4% of

the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization to a great extent while only 2% of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization at a great extent. This implies that Stakeholder interest may be compromised because suppliers may have more knowledge of the complex goods compared to the procuring entity, thus they need to be involved during the requirement and specification development stage if possible for high quality results from Stakeholder interest. This is in line with the research done by Edler and Uyarra (2012) that further highlighted that sufficient planning, defining and communicating needs and user engagement early in the adoption of e-procurement process are crucial to spur Stakeholder interest in the market.

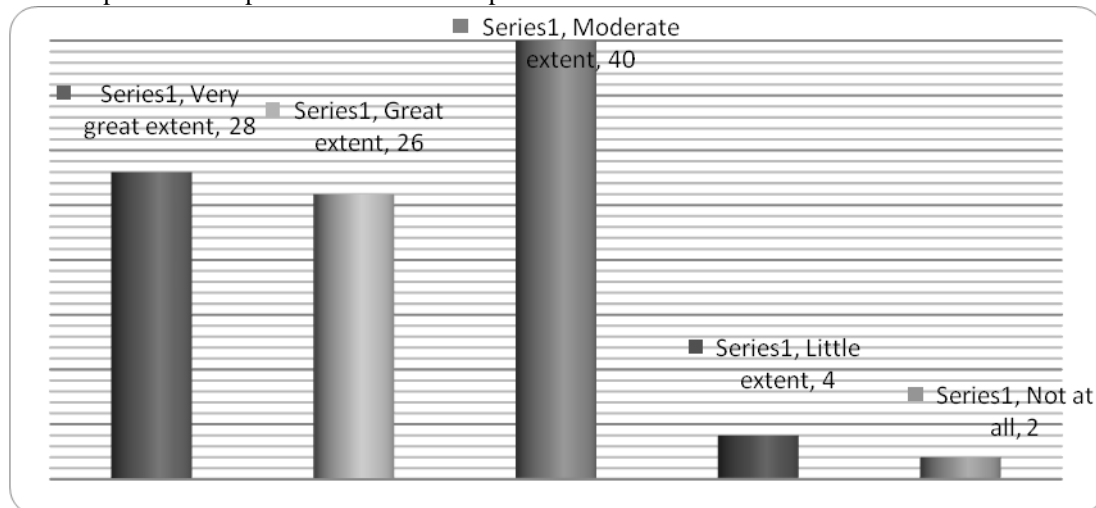


Figure 4.6: Extent to which Stakeholder interest affected adoption of e-procurement in the organization

4.5.2.3 Stakeholder interest Statements

Table 4. 2: Respondents level of agreement with statements about the Stakeholder interest

	Mean	Stdev
Stakeholder interest is necessary to achieving adoption of e-procurement	4.4	0.3
Acknowledging Stakeholder interest is necessary to achieving adoption of e-procurement	4.0	0.2
Assurance in product quality is very closely linked with e-procurement needs.	4.3	0.3
In product mix, customer service teams provide expertise, technical support and coordinate the customer interface to select the best product which is in line with adoption of e-organizational policy	3.7	0.3
Adoption of e-procurement means focusing on problem solving and not on blame to enhance its adoption	4.6	0.1

It was observed that adoption of e-procurement means focusing on problem solving and not on blame to enhance its adoption as shown by a mean of 4.6; that Stakeholder interest is necessary to achieving adoption of e-procurement at Ministry of Justice in Rwanda as shown by a mean of 4.4; that Assurance in product quality is very closely linked with adoption of e-procurement needs at Ministry of Justice in Rwanda as shown by a mean of 4.3; that acknowledging Stakeholder interest is necessary to achieving adoption of e-procurement at Ministry of Justice in Rwanda as shown by a mean of 4.0; and that In product mix, customer service teams provide expertise, technical support and coordinate the customer interface to select the best product which is in line with adoption of e-organizational policy at Ministry of Justice in Rwanda thus reducing operation costs as shown by a mean of 3.7. Moreover, some researchers state that more extensive management skills are needed at the buyer's side to understand suppliers' potential to respond to demand signals for adoption of e-procurement (Schapper et al 2006). This study is therefore a support to studies done by other scholars.

Top management support

Another factor according to this research that can affect adoption of e-procurement is Top management support. Sixty four percent (64%) of the respondents felt that Top management support affects the e-procurement in the organization while 36% of them were of the opinion that Top management support does not affect affects the adoption of e-procurement in the organization as shown in figure. This infers that the decisions made by the company regarding such complex adoption of e-procurement process and internal policies as a whole affect the ultimate result of unique goods and services. Elder and Uyarra (2012) supported this and indicate that it is important that those who hold the budget within the organization are actively engaged with relevant stakeholders, including those who deliver the goods and service, end users. They further stated that

good internal coordination and suitable interfaces between the organization and the market affects the successful e-procurement adoption.

Effect of Top management support on adoption of e-procurement

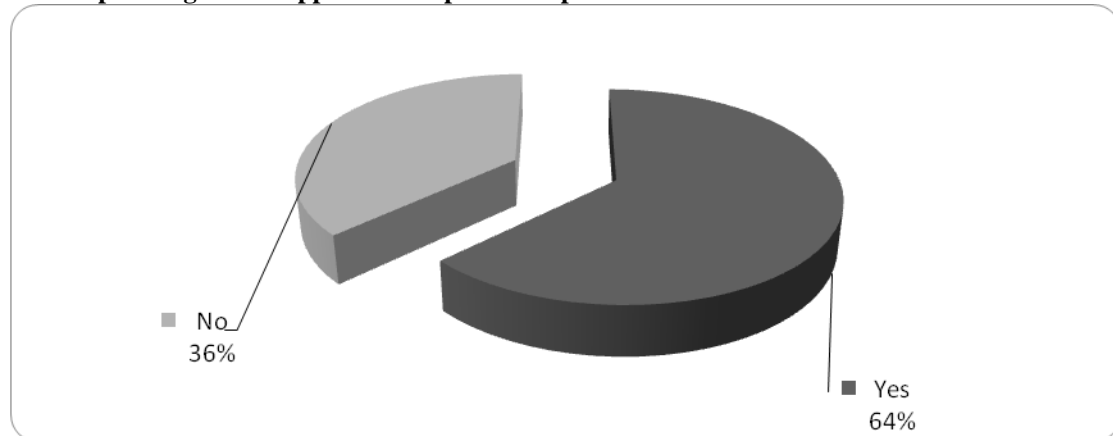


Figure4.7: Whether top management support affects Adoption of e-procurement

Extent Top management support affects Adoption of e-procurement in the Organization

As seen in figure 4.17 below where the study sought to investigate the extent in which Top management support affects to adoption of e-procurement in the organization, 36% of the respondents indicated that Top management support affects to adoption of e-procurement in the organization to a great extent, 27% to a very great extent, 24% to a moderate extent, 7% that it did not at all affect adoption of e-procurement, while only 6% indicated that Top management support affects to adoption of e-procurement in the organization to a little extent. This implies that Top management support and decision making in both adoption of e-procurement and user department is important to attain the desirable adoption of e-procurement in the organization.

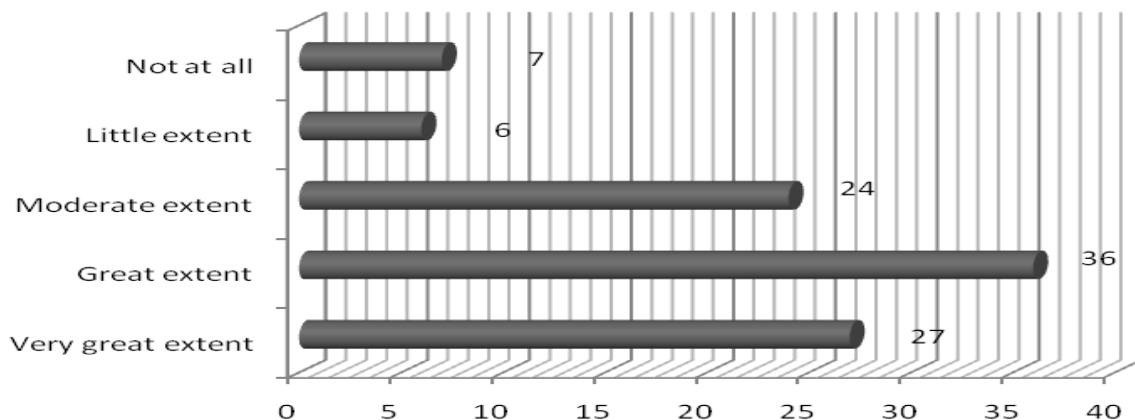


Figure4.8: Extent to which Top management support affects adoption of e-procurement in the organization

Respondents rating on the Top management support Statements

Table4.3: Respondents rating on the Top management support

	Mean	Stdev
Supplier brand involves treating customers as unique individuals	4.7	0.1
Supplier involves approachability and ease of contact with the service provider and their efforts to understand customers' needs	4.1	0.1
Companies can easily understand customer requirements through their supplier environment	4.0	0.3
Procurement staff can be able to visualize supplier environment as they should deliver it by asking themselves how they would want to be treated if they were the customer.	4.0	0.2
Listening to customers' concerns and proving them with a positive solution is how companies show their supplier relationships	3.6	0.3

Based on the responses in table 4.3 above, the Top management support involves treating customers as unique individuals as shown by a mean of 4.7; the Top management support involves approachability and ease of contact with the service provider and their efforts to understand customers' needs as shown by a mean of 4.1; that Companies can easily understand customer requirements through their Top management support, and that Procurement staff can be able to visualize company policy as they should deliver it by asking themselves how

they would want to be treated if they were the customer as shown by a mean of 4.0, respectively. The study also found out Listening to customers' concerns and proving them with a positive solution is how companies show their supplier relationships as shown by a mean of 3.6. This is not surprising since several studies have showed the same occurrence. For instance, studies conducted by Hemsworth, et al, (2012) in Spain who did research with an objective of determining if the adoption of sustainable purchasing had a positive impact on adoption of e-procurement performance. Additionally, empirical research in adoption of e-procurement has evidenced that cross-functional coordination and management commitment are positively correlated with e-procurement performance and service quality (Curkovic *et al.*, 2000), and that company performance is positively correlated with personnel management (Carter *et al.*, 2000) and benchmarking (Carr & Smeltzer, 1999).

How often do the following Top management support factors affect adoption of e-procurement in the organization?

The research conducted in different levels of Top management support regarding their contributions towards the adoption of adoption of e-procurement in the organization shows that 35% of the respondents indicated that Top management support factors affect adoption of e-procurement in the organization, 30% of the respondents indicated that Top management support factors affect adoption of e-procurement in the organization, 14% of the respondents indicated that Top management support factors affect adoption of e-procurement in the organization, 11% of the respondents indicated that Top management support factors affect adoption of e-procurement in the organization, while only 9% of the respondents indicated that Top management support factors affect e-procurement adoption in the organization.

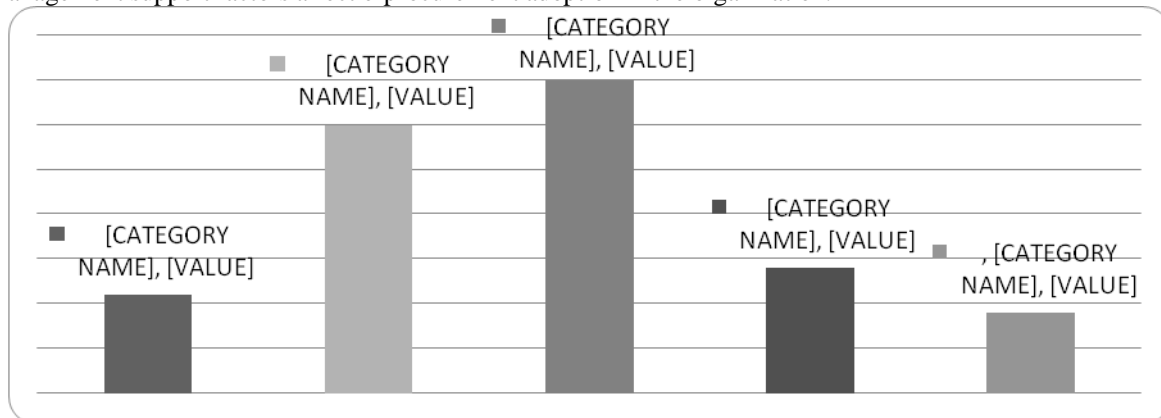


Figure4.9: How often do the following Top management support factors affect adoption of e-procurement in the organization?

Lead time

This section sought to establish the effect of Lead time on adoption of e-procurement.

Whether the organizational Lead time affects the adoption of e-procurement in the organization

Regarding the question on whether the organizational Lead time affected adoption of e-procurement in the organization, 67% of the respondents indicated that the organizational Lead time affected adoption of e-procurement in the organization while only 33% of the respondents indicated that the organizational Lead time do not affects the adoption of e-procurement in the organization. Lead time helps to develop adoption of e-procurement process based reviews for process improvements that reduce process variability and aim for "zero defect". Advanced Lead time facilitates resource integration and decision making through cross functional teams that improve efficiency and effectiveness of e-procurement adoption (Ma &Tang, 2001). Businesses are increasingly doing business in a 'borderless' world, which makes it even more essential to develop core principles of conduct, which can then be applied to employees and suppliers worldwide morally if not legally Min, (2001). Biodiversity relates to protecting diversity concerning habitat, genetics and species and, as such, has an obvious impact on CSR particularly offshore suppliers in developing nations Zsidisin and Sifered, 2001). Companies that engage and assist their communities become valuable members of those communities and more respected by their stakeholder Min, (2001).

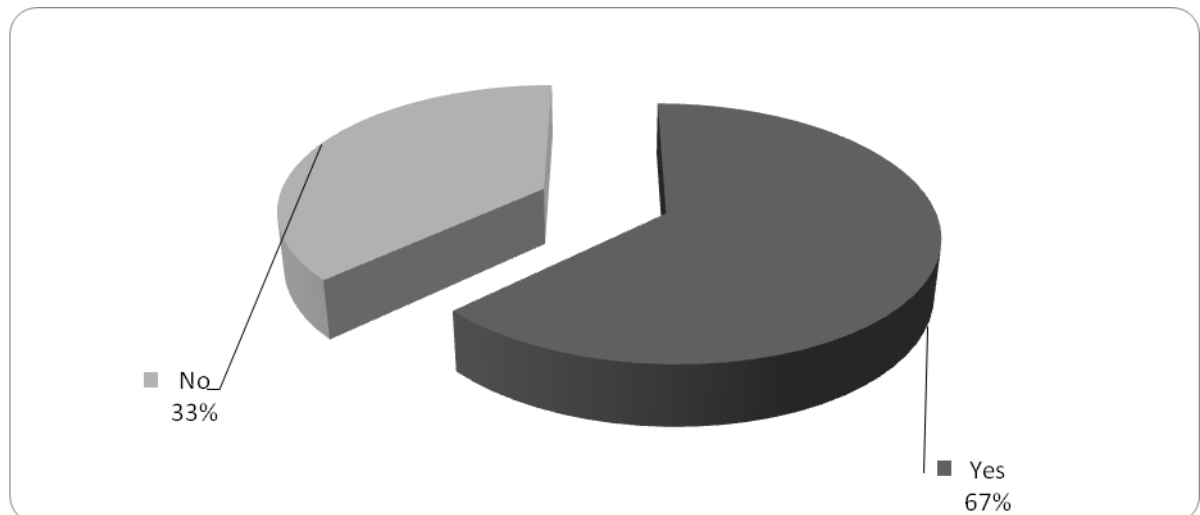


Figure 4.10: Whether the organizational Lead time affects the adoption of e-procurement in the organization

Extent to which Lead time affects the adoption of e-procurement in the organization

The study sought to find out the respondents’ opinion on statements about how Lead time contributed adoption of e-procurement in the organization. From the findings, 31% of the respondents indicated that Lead time affects the adoption of e-procurement in the organization to a very great extent, 29% of the respondents indicated Lead time affects the adoption of e-procurement in the organization to a great extent, 26% of the respondents indicated that Lead time affects the adoption of e-procurement in the organization to a moderate extent, 12% of the respondents indicated that Lead time affects the adoption of e-procurement in the organization to a little extent while only 4% of the respondents indicated that Lead time did not affect the adoption of e-procurement in the organization at all. This implies that Unilever Rwanda needs to embrace Lead time in adoption of e-procurement activities to improve efficiency and quality.

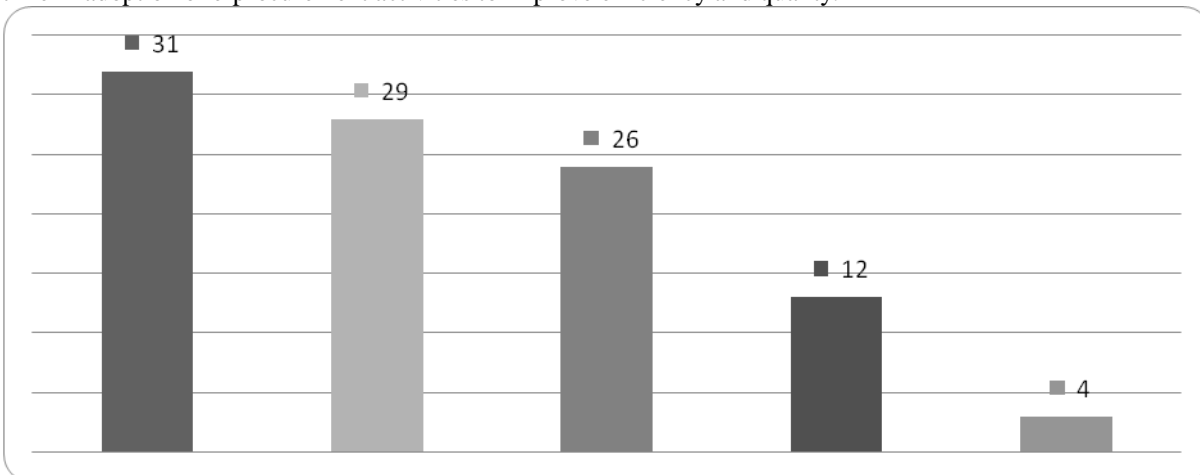


Figure 4.11: Extent to Lead time affects the adoption of e-procurement in the organization
Respondents rating of various statements about Lead time

Table 4.4: Respondents rating of various statements about Lead time

	Mean	Stdev
Uptake of sustainable purchasing.	3.9	0.3
Adoption of Adoption of e-procurement Policies.	2.5	0.2
Procurement managers are more relevantly positioned here as they can impact (positively or negatively) the environmental and social performance.	2.2	0.3
Sustainable purchasing.	3.3	0.2

The study sought to find out the respondents’ opinion on statements about Lead time. From the findings, respondents agreed that Lead time led to Uptake of sustainable purchasing by business and industry as shown by a mean of 3.9; that Lead time led to Sustainable purchasing as shown by a mean of 3.3; supply chain partners are more seriously involved in designing and implementing Adoption of e-procurement Policies focusing on how environmental issues and issues relating to other aspects of the sustainable development pillars as shown by a mean of 2.5. They disagreed that Procurement managers are more relevantly positioned here as

they can impact (positively or negatively) the environmental and social performance, through for example product or service specification, evaluation and supplier selection, and evaluating performance of the provider either by developing the performance evaluation criteria or using that criteria to evaluate the providers fulfillment of the contract for which the provider was contracted as shown by a mean of 2.2. This can be supported by studies previously done which state that lack of ethics and readiness by public authorities to understand adoption of e-procurement can be regarded as an additional barrier (Lember et al., 2011). The adoption of Lead time on adoption of e-procurement activities can be considered as strategic in so far as these activities can impact value chains and industries structures and can in particular create value from intangibles in business activities. (Kauffman, 2006).

Regression Analysis

In addition, the researcher conducted a linear multiple regression analysis so as to test the relationship among variables (independent) on the adoption of e-procurement. The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.814 ^a	.663	.148	.3141

The adjusted R² is the coefficient of determination. This value explains how adoption of e-procurement varied with organizational policy, Stakeholder interest, Top management support and Lead time. The four independent variables that were studied, explain 89% of the adoption of e-procurement and organizational performance as represented by the R². This therefore means that other factors not studied in this research contribute 33.7% of the adoption of e-procurement giving room for further research to investigate the other factors (11%) that affect adoption of e-procurement adoption.

Table4.6: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.534	4	2.868	58.354	.006
	Residual	186.555	27	2.139		
	Total	198.089	32			

According to Mugenda & Mugenda, 2003, ANOVA is a data analysis procedure that is used to determine whether there are significant differences between two or more groups or samples at a selected probability level. An independent variable is said to be a significant predictor of the dependent variable if the absolute t-value of the regression coefficient associated with that independent variable is greater than the absolute critical t-value. The regression analysis also yields an F-statistic where if the calculated F-value is greater than the critical or tabled F-value, the predictor was be rejected. In this study, the significance value is .006 which is less that 0.05 thus the model is statistically significant in predictor being organizational policy, Stakeholder interest, Top management support and Lead time. The F critical at 5% level of significance was 3.23. Since F calculated is greater than the F critical (value = 58.354), this shows that the overall model was significant.

Table4.7: Coefficient of determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.61	1.033		0.787	0.015
	organizational policy	0.454	0.107	0.159	1.091	0.002
	Stakeholder interest	0.879	0.139	0.085	0.687	0.005
	Top management support	0.568	0.097	0.145	0.97	0.013
	Lead time	0.685	0.069	0.210	0.349	0.032

The researcher conducted a multiple regression analysis so as to determine the relationship between adoption of e-procurement adoption and the four variables. As per the SPSS generated table above, the equation (Y = β₀ + β₁X₁ + β₂X₂ + β₃X₃ + β₄X₄ + ε) becomes:

As per the SPSS generated the established regression equation was:

Y = 3.61+ 0.454 X₁ + 0.879X₂ +0.568 X₃ + 0.685X₄+ ε where:

Y = adoption of e-procurement

X₁ = organizational policy

X₂ = Stakeholder interest

X₃= Top management support

X4= Lead time
 ε = the error

According to the regression equation established, taking all factors into account (organizational policy, Stakeholder interest, Top management support and Lead time) constant at zero, adoption of e-procurement was 3.61. The data findings analyzed also show that taking all other independent variables at zero, a unit increase in organizational policy led to a 0.754 increase in adoption of e-procurement; a unit increase in Stakeholder interest led to a 0.879 increase in E-procurement, a unit increase in Top management support led to a 0.568 increase in E-procurement and a unit increase in Lead time led to a 0.685 increase in adoption of e-procurement. This infers that Stakeholder interest contribute more to the adoption of e-procurement followed by the organizational policy.

At 5% level of significance and 95% level of confidence, organizational policy had a 0.002 level of significance; Stakeholder interest showed a 0.005 level of significant, Top management support showed a 0.013 level of significant, Lead time had a 0.032 level of significant, and hence the most significant factor is Stakeholder interest.

IV. SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The chapter provides the summary of the findings from chapter four. The chapter also gives the conclusions and recommendations of the study based on the objectives of the study. The objective of this study was to investigate the effects of adoption of e-procurement in public sector in Rwanda using Ministry of Justice as a case study.

Summary of the Findings

The study aimed at investigating the effects of adoption of e-procurement in public sector in Rwanda using Ministry of Justice as a case study.

Organizational policy

The study found out that majority of the respondents agreed that Organizational policy affects the adoption of e-procurement in the firm through the advertisements and meetings of the stake holders while some of the respondents were not for the opinion that organizational policy affects the adoption of e-procurement in the firm. The found out the Organizational policy affected adoption of e-procurement in the firm.

Stakeholder interest

The study found out that Stakeholder interest affected adoption of e-procurement in the organization. According to the findings, majority of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization while very few of them indicated that Stakeholder interest does not affects the adoption of e-procurement in the organization. According to the findings, majority of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization, some of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization, other respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization to a moderate extent, a small percentage of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization to a great extent hardly none of the respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization at a great extent.

Top management support

The study found out that Sixty four percent of the respondents felt that Top management support affects the adoption of e-procurement in the organization while others were of the opinion that Top management support does not affect affects the adoption of e-procurement in the organization. The study also found out that Top management support affects to adoption of e-procurement in the organization, some of the respondents indicated that Top management support affects to adoption of e-procurement in the organization to a great extent, a large number agreed to a very great extent, some respondents to a moderate extent, a small percentage agreed that it did not at all affect adoption of e-procurement, while only a few indicated that Top management support affects to adoption of e-procurement in the organization to a little extent.

Lead time

The study found out that organizational Lead time affected adoption of e-procurement in the organization, majority of the respondents indicated that the organizational Lead time affected adoption of e-procurement in the organization while only a few of the respondents indicated that the organizational Lead time do not affects the adoption of e-procurement in the organization. From the study findings, majority of the respondents indicated that Lead time affects the adoption of e-procurement in the organization to a very great extent, some of the respondents indicated Lead time affects the adoption of e-procurement in the organization to a great extent, other respondents indicated that Lead time affects the adoption of e-procurement in the organization to a moderate extent, a few of the respondents indicated that Lead time affects the adoption of e-procurement in the organization to a little extent while only a small percentage of the respondents indicated that Lead time did not affects the adoption of e-procurement in the organization at all.

V. CONCLUSION

The study concludes that majority of the respondents agreed that Organizational policy affects the adoption of e-procurement in the firm through the quality products and meeting of the recommended standards while some of the respondents were for the opinion that organizational policy doesn't affect the adoption of e-procurement in the firm.

The study concludes that the firm Stakeholder interest affected adoption of e-procurement in the organization. According to the findings, majority respondents indicated that Stakeholder interest affects the adoption of e-procurement in the organization to a great extent.

The study concludes that majority of the respondents felt that Top management support affects the adoption of e-procurement in the organization. The study also concludes that Top management support affects to adoption of e-procurement in the organization, since majority of the respondents indicated that Top management support affects to adoption of e-procurement in the organization to a great extent. The study also concludes that majority of the respondents argued that Top management support factors affect adoption of e-procurement in the organization.

Finally the study concludes that organizational Lead time affected adoption of e-procurement in the organization, majority of the respondents indicated that the organizational Lead time affected adoption of e-procurement in the organization. From the study findings, majority of the respondents indicated that Lead time affects the adoption of e-procurement in the organization to a very great extent and only a few respondents thought Lead time did not affect the adoption of e-procurement in the organization at all.

Recommendations for policy and practice

Policy and adoption of e-procurement should be carefully evaluated and the results of that evaluation fed back into improved approaches. It is important that the evaluation considers the full range of costs and benefits. The organisation should have sufficient special techno-economic knowledge and openness to new, effective methods when assessing tenders for e-procurement adoption. Staffs should be equipped with the specific skills and competencies needed to design and manage contracts (including the associated training, after-sales service and Employ human resources with specific training and equipment for performing functional and environmental tests in order to be able to accept the end product and verify contract performance.

E-procurement initiatives appear to be instrumental for improving supply chain performance, by harmonizing purchases, launching co-ordination initiatives, setting standards and building skills. As such, the management of the Ministry of Justice in Rwanda should adopt e-procurement initiatives. However, the main focus of e-procurement is to produce cost savings. It targets "commodity" goods and services, and therefore does not stimulate the e-procurement adoption.

The firm should create supporting structures of expertise with the help of public authorities that have R&D-review as core business and Introduce clear incentives to procuring private authorities (the procuring entity) by stating that one percent of the total volume of procurements should be allocated to e-procurement adoption. In this manner, e-procurement can become a strategic issue for the Ministry of Justice in Rwanda.

On financing investment, the Ministry of Justice in Rwanda should adopt new financing methods to save costs, to improve customer and supplier relationships, business processes and performance, and to open new business opportunities. It might also help the organisation to respond better to existing challenges and improve the anticipation of future developments in e-procurement.

Recommendations for further studies

The study on effects of adoption of e-procurement in public sector in Rwanda: a case of Ministry of Justice concentrated only on four variables namely; organizational policy, Stakeholder interest, Top management support and Lead time. It was not possible to study all factors that determine success of e-procurement adoption. Indeed other factors come into the interplay and provide perceptive results to the issue of e-procurement adoption in Rwanda. The study was only carried out at Ministry of Justice in Rwanda thus the same study should be carried out in the other sectors to find out if the same results will be obtained.

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