



FACTORS AFFECTING COMPUTERIZATION OF PROCUREMENT FUNCTIONS IN THE SERVICE INDUSTRY IN KENYA. A CASE STUDY OF CIC INSURANCE GROUP LTD

PAUL GITAU MUGURO

FACTORS AFFECTING COMPUTERIZATION OF PROCUREMENT FUNCTIONS IN THE SERVICE INDUSTRY IN KENYA. A CASE STUDY OF CIC INSURANCE GROUP LTD

Muguro, P. Gitau, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Nairobi Kenya

Dr. Iravo A. Mike, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Nairobi Kenya

Accepted Oct 23, 2014

ABSTRACT

The purpose of this study was to find out the factors affecting computerization of procurement functions in the service industry in Kenya. The study was guided by the following specific objectives; to find out the effects of employee competence and legal framework on adoption of computer based procurement. The researcher adopted descriptive survey research design using both qualitative and quantitative research. The study targeted 60 employees of CIC Insurance Group Ltd and a sample size of 39 respondents was selected using stratified sampling method. The Data Collection Instrument used was a questionnaire that was self-administered to the respondents. The collected data was analyzed using descriptive statistics and presented by use of tables.

The results of the study revealed that computer based procurement adoption has an effect on the service industry in Kenya. It showed that the industry is committed to the adoption of the computer based procurement in-order to make the procurement procedures and cycle easy to the suppliers and departments. The research concluded that for computer based procurement to be adopted and to be more effective and efficient they should ensure that employee competence is maintained by ensuring that their employees are trained on related issues so that they can understand more about computer based procurement and by also letting them understand their legal framework that is understanding their networks with their suppliers that they are transacting business with them. The study recommended that there is need for further research on challenges facing the adoption of computer based procurement in the other industries in Kenya.

Key Words: Computerization, Procurement Functions

INTRODUCTION

Many agree that the intensely competitive nature of today's business environment makes the effective use of computer based procurement an operational necessity for firms; it is an important issue that must be confronted by purchasing/supply management decision-makers now and into the future (Dooley and Purchase 2006; Davilia, Gupta & Palmer 2003). Some of the noted benefits of the use of computer based technology in procurement include increased collaboration between buyers and suppliers, reduced personnel requirements, improved coordination, reduced transaction costs, shorter procurement cycles, lower inventory levels, and greater transparency (Dooley and Purchase 2006; Min and Galle 2003; Osmonbekov, Bello & Gilliland 2002).

The use of computer based technology requires however, Internal and external integration which are fundamental to superior procurement performance. Firms achieve internal integration by effectively coordinating processes on an enterprise-wide basis. The ability of distinct functions working together to create seamless interfaces across processes is fundamental to firm and supply chain success (Narasimhan and Kim 2002). This requires decision-makers to reject the traditional school of thought in which the various functional-level managers primary concern focuses on their own departments (Rajagopal 2002). External integration entails recognizing suppliers as an integral

part of the procurement role by engaging in collaborative efforts with these firms (Narasimhan and Kim 2002). Integration at this level is imperative because it increases the overall performance of the procurement function (Speckman, JW & Myhr 1998; Gattorna 1998).

Giunipero and Sawchuck (2002) noted that this technology can be used as a research tool, allowing the purchasing professional to shop around and compare suppliers capabilities and to peruse online catalogs. Secondly, it can be used to generate savings. Purchasing via Internet connected computer is an effective way to reduce otherwise high transaction costs for low-value items such as maintenance, repair, and operating items. Third, computer-based procurement tools can be used not only to reduce transaction costs, but as a means of reducing prices paid for purchased goods/services. The buying firm can use the Internet to solicit bids from a wider range of potential bidders than is possible using traditional methods. This could increase the firm's chances of getting a better price. Fourth, the buying firm can use an e-marketplace and participate in online auctions, both reverse (where a buying firm makes its purchase needs known online) and forward (where a selling firm puts goods/services up for sale on-line). Finally, computer based technology can be used as part of an effort undertaken by the entire supply chain (including procurement), from the final customer back to firm's suppliers.

While a number of studies suggest that firm sector plays a role in technology adoption, researchers have taken somewhat different approaches to explaining this relationship. Ortega et al. (2006) noted that some industries are characterized by greater experience in technology use, which facilitates the adoption of additional technological applications (including e-commerce). Additional research suggests that industries that are more technologically advanced promote greater and more effective use of the appropriate technologies (Chewlos, Benbasat & Dexter 2001; Dyer, Cho & Chu 1998; Goodacre and Tonks 1995). Thatcher and Foster (2002) support this notion in their analysis of how information technology has evolved in firms operating in various industries. The authors noted, for example that industries such as textiles tend to be less technologically advanced than other sectors such as electricity companies, which tend to be in the forefront of technology adoption.

Problem statement

The procurement process has traditionally involved slow manual procedures and even slower systematic processes for handling procurement transactions (Hawking et al.2004). Additionally, the business environment was characterized by poor recording keeping and the high use of hefty paper work by for the business to conduct their daily activities and also high cost of doing business owing to the old methods of business to business communications. It had become a

challenge for the businesses to operate effectively with all these challenges as the business aimed to contain these rising operating expenses.

Internet and the upcoming related computer technologies have changed the role of the purchasing department, from being a transaction-oriented function to a more managerial role that focuses on establishing and maintaining relationships with suppliers, third parties, and internal customers, and leveraging corporate buying power.

Over the last decade computer based procurement has emerged as a major component in the Supply Chain Management field. At its most basic level, computer based procurement has changed the ways businesses purchase goods. At a strategic level it is anticipated that computer based procurement will free purchasing resources from transaction processes to strategic sourcing activities (Rajkumar 2001).

Computer technology is a critical part of new developments that each business should embrace to cut short all these previous problems.

From the previous researches, it is clear that there has not been enough research on the role of computerization of procurement on procurement efficiency in service industry in Kenya and hence this research.

Objective of the study

The general objective of the study was to find out the factors affecting computerization of procurement functions in the service industry in Kenya. The specific

objectives were to find out the effect of employee competence and legal framework on adoption of computer based procurement in the service industry in Kenya.

1.5 Research Questions

- i. How does employee competence affects the adoption of computer based procurement in the service industry in Kenya.
- ii. How does the legal framework affects the adoption of computer based procurement in the service industry in Kenya

Scope of Study

The study was carried out at CIC Insurance Group Ltd. Specifically the procurement department so as to find out the effects and changes that have been brought by the implementation of computer based technologies in the procurement processes.

Theoretical Literature

According to Egan, (1998) the procurement process in UK construction has come under close scrutiny since the (Egan report) which had pointed out that “The UK construction industry can gain substantial improvements by delivering better service to clients, reducing construction cost, time and defects”. According to Latham report (Latham, 1994) suggested as one of its proposals that savings in capital costs of 10% a year could be achieved. Computer based procurement will bring improvements to all aspects of the procurement process (National Institute of Governmental Purchasing, 2001, Minahan and Degan, 2001, McIntosh and Sloan, 2001, Ribeiro, 2001).The procurement process is not solely

the buying of goods and services but also incorporates buying strategy as well (Egbu et al, 2003).

Key achievement towards implementing a new legal and regulatory framework in Service industry procurement is evident in the many guidelines PPOA has developed to guide procurement practices and pricing of common user items. The guidelines include General and Disposal Manual, Procurement Manual for Works, Procurement Manual for Information and Communication Technology, Procurement Manual for Insurance Services, Procurement Manual for Non- Intellectual Services, among others

As computer based procurement includes new technologies and changes in traditional procurement approaches, the need to train staff in procurement practices and the use of computer based procurement tools are critical to the success of a computer based procurement initiative (WB, 2003). End-users can realize the immediate benefits of the computer based procurement system once they understand the operational functionalities (CGEC, 2002). This means that training should be given a high priority, alongside the need for Service industry agencies to identify the skills required by all those engaged in procurement

The public Sector has produced a plethora of initiatives to investigate ways to improve the strategy and processes of procurement over the last 11 years. Despite these suggested advantages, Martin (2004) shows that in construction agencies, still less than 30% of tender documentation are sent out in electronic form. This is because Construction procurement is more complex than general procurement. This situation is

even worse in developing countries such as Kenya. There are many different parties involved who feed information into the process clients, consultants, contractors and suppliers. Construction work specifications can be less well defined with unknowns such as ground conditions could large impact on the overall cost (Edie et al, 2007).

In contrast items in goods and services procurement can be tightly specified with little movement from the original specification. Factoring in risk is a major aspect and can determine the form of contract, how it is assessed and its overall outcome. For these reasons electronic solutions for general procurement need to be altered to meet the needs of construction procurement. This therefore make tendering process complex.

Knudsen (2003) suggests that procurement can be condensed into the following six processes e-sourcing, e-tendering, e-informing, e-mro (Maintenance, Repair and operating materials), ERP (Enterprise resource planning) and e-collaboration". The principle of electronic tendering is simply to provide a faultless system of transmitting input from the contractor"s tender through to contract management removing the inefficiencies, delays and cost involved in annually processing tender information and retranscribing for contract management activity.

Bell (2001) suggests changes must take place if electronic solutions are to become predominant and companies are to remain competitive in the new era. Therefore ICT is critical in tendering process. Rankin et al (2006) published a study into drivers and barriers for computer based procurement in

Canada. This was the first piece of research to investigate drivers and barriers in construction computer based procurement. This confirmed that the drivers and barriers identified from the goods and Services industries could be applied to the construction industry. His study focused more on e-sourcing within construction computer based procurement rather than e-tendering.

With a stationary product and a production line that changes locations, greater complexity and economic value the construction industry is essentially different to other industries. The consequence is that the drivers and barriers to construction computer based procurement could be performing differently to those in the general goods and services industry (Ahmed, Irfan, and Parasuraman, 1994). This study narrows down to evaluate level of usage of ICT in tendering process and its influence in effectiveness in tendering process.

a) Employee Competency

Procurement staff must be competent enough to use the applications of software that offers the organization management skills to manage their activities for example, distribution chain and value addition in a company (Beth et al. 2003). This technology is based on databases, which are easily reached on real time foundations. ERP systems perfectly provide the procurement management and the management itself with the opportunity to produce steadfast, consistent, and timely information necessary for attainment of organizational goals.

In 2003, a note in Harvard Business Review indicated that despite years of process

breakthroughs and elegant technology solutions, an agile, adaptive supply chain remains an elusive goal. Maybe it's the people who are getting in the way.` (Beth et al. 2003).

Andraski and Novack (1996) indicated that people are "... the most important element of the logistics marketing concept." Daugherty et al. (2000) noted: "To take supply chain performance to the next level, companies will have to tap into this human element more intensively.

As computer based procurement includes new technologies and changes in traditional procurement approaches, the need to train staff in procurement practices and the use of computer based procurement tools are critical to the success of a computer based procurement initiative (WB, 2003). End-users can realize the immediate benefits of the computer based procurement system once they understand the operational functionalities (CGEC, 2002). This means that training should be given a high priority, alongside the need for Service industry sector agencies to identify the skills required by all those engaged in procurement (ECOM, 2002).

b) Legal Framework

Legal framework is a basis of any business transaction whether in Service industry sector or private businesses. It defines the obligations and responsibilities of the partners transacting business with the objectives of fulfilling each other's desired goals. Kheng and Al-Hawandeh (2002) found that the laws governing B2B commerce, crossing over to computer based procurement, are still undeveloped. For instance, questions concerning the legality

and force of e-mail contracts, role of electronic signatures, and application of copyright laws to electronically copied documents are still unresolved.

The Service industry Procurement and Disposal Authority recognize that the existing PPDA (2005) and PPDR (2006) legal framework in Kenya may not have adequately covered aspects of computer based procurement transaction. (PPOA). The long term policy framework for Service industry Procurement (2009). The weakness in this frame work therefore may inhibit the adoption and growth of computer based procurement natives.

Key achievement towards implementing a new legal and regulatory framework in Service industry procurement is evident in the many guidelines PPOA has developed to guide procurement practices and pricing of common user items. The guidelines include Service industry Procurement Market Price Index, General and Disposal Manual, Procurement Manual for Works, Procurement Manual for Information and Communication Technology, Procurement Manual for Insurance Services, Procurement Manual for Non- Intellectual Services, among others

Since coming into being, PPOA has conducted procurement assessments and reviews in about 100 major procuring entities. The principal goal of the reviews has been to help entities develop capacity building programs which enable them better apply the provisions of the Act and the Regulations. Procurement Assessments, on the other hand, have been carried out to check the level of performance of the procurement function in the selected

entities to establish their strengths, weaknesses and areas that require assistance and improvement. The assessments focus on key indicators such as procurement process, mandatory reporting requirements, stores, inventory control and management (R.O.K, 2014).

Furthermore, an important accomplishment by the PPOA can be seen as the authority's action to develop and implement an computer based procurement strategy. The strategy has made it possible to post tenders online thus ensuring transparency and accountability in Service industry procurement. Moreover, computer based procurement has also enhanced access to Service industry procurement by vulnerable groups (R.O.K, 2014).

The authority has also enhanced access to Service industry procurement information by developing a modern and interactive website which provides important information to the Service industry and stakeholders on Service industry procurement. In addition, stakeholder's consultative forums are held annually to share information on how to improve the Service industry procurement system. Further, contract awards worth Ksh 5million and above reported by the procuring entities get posted on the authority's website as are reports on finalized procurement reviews (R.O.K, 2014).

Review of Critical Literature

Research into the uptake and application of computer based procurement has focused on a number of themes, as identified by Schoenherr & Tummala (2007) who noted that early research into computer based

procurement focused on EDI (Ramasehan, (2007), the automation of formerly manual to automated processes and the impact on the business environment (Orr, 2000).Articles appearing in (2001) dealt primarily with market transformation issues inherent in the electronic revolution, advantages of computer based procurement, and recommendations and advice on successful adoptions (Rajkumar, 2001).

From a sector perspective, Schoenherr & Tummala & Tummala (2007) noted that a diverse range of sectors have been researched, however, it is interesting to note that only 13% of articles relate to the government sector. Alongside these general inhibitors a number of specific inhibitors have been identified which relate to a specific sector. For example Panayiotou et al (2004) has noted that the inhibiting factors affecting the adoption of computer based procurement in the Greek Service industry sector includes the complexity of goods/services procured, the need for transparency in procurement, the challenges posed by Service industry policy and the regulatory and legal constraints faced by Service industry sector organizations.

The literature (Henriksen & Mahnke, 2005) reveals that these barriers and requirements tend to increase within the Service industry sector, mainly due the impact of different economic and social factors, which influence the Service industry domain with respect to the private sector (Gichoya, 2005). These differences have resulted in a number of specific regulations and standards that have been developed for Service industry computer based procurement: which requires that a bureaucratic procedure be

followed due to the nature of the Service industry involved (Leukel & Maniatopoulos, 2005) and embraces audit, accountability and compliance standards with national and international rules to ensure supply competition and transparency in the awarding of contracts (OGC, 2005).

Croom & Johnston (2003), in their research of computer based procurement in the UK Service industry sector estimate that savings of the order of 5 – 20% are achievable in the cost of materials, with savings of the order of 50 – 70% can be achieved in relation to administration. More recent research by Puschmann & Alt (2005), in the private sector, noted that the introduction of computer based procurement resulted in administrative savings of the order of 50 – 80%, however, they conclude that this range of potential savings may not be applicable to other sectors (e.g. the Service industry sector) given the difficulties in reducing staff numbers.

Another example of the diversity of opinions regarding the scale of potential computer based procurement cost savings relates to inventory. For example, Min & Galle (2002) estimated that inventory could be reduced by 20 – 25% and that order cycle times could be reduced to 5 days. Presutti (2003) concurs with this level of potential savings by noting that sourcing cycle times could be reduced by 25 – 30%. However, Croom & Johnston (2003) suggest even greater savings in this area with processing times reduced from 5 days to 2 hours through the use of computer based procurement.

2.4 Summary and Gaps to be Filled by the Study

The literature reviewed and discussed above, which is primarily focused on the private sector, identifies a number of potential factors that might affect the adoption of computer based procurement within the Service industry. However, it has become apparent from this review, that there are a number of significant gaps in the current literature in relation to the uptake and adoption of computer based procurement.

More specifically, the following important gaps have been identified: Current studies of computer based procurement have tended to adopt rather narrow definitions and conceptualizations of computer based procurement; There have been few, if any studies which explicitly focus on the Service industry sector, in general, nor the adoption of computer based procurement by Kenyan Service industry sector organizations, in particular.

There are a number of studies that identify factors that might affect the adoption of computer based procurement, but they tend not to be empirically tested. In particular, it is important that more case studies are conducted, so that the issue of causality can be more explicitly addressed. The existing empirical literature tends not to explicitly draw upon theory, to help interpret their results. Consequently, the extent to which an organization’s adoption practices might be explained through the use of an appropriate theoretical lens.

2.5 Conceptual Framework

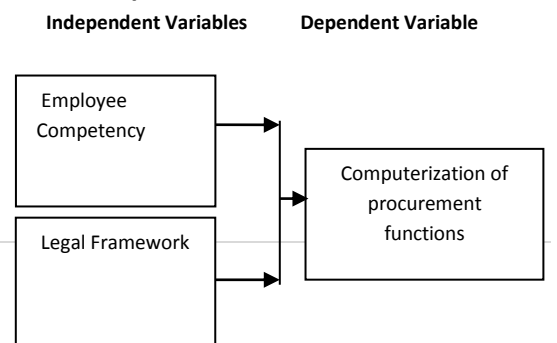


Figure 1 Conceptual Framework

Employee Competency

Procurement staff must be competent enough to use the applications of software that offers the organization management skills for better Computer based procurement adoption.

It is evident that employees has a great role in adoption of computer based procurement and their skills ,competencies and training may influence to a large extent how computer based procurement is adopted and implement in an organization. The human element in a business environment cannot be for overemphasized because without which, any organizational objectives such as computer based procurement may not succeed.

Legal Framework

Legal framework is a basis of any business transaction whether in Service industry sector or private businesses. It is therefore believed that better legal framework will lead to Computer based procurement adoption

Understanding the challenges and limitation of computer based procurement adoption in the Service industry sector is important due to complexities of government policies and bureaucracy. Without such understanding, government may not be able to achieve the benefits of computer based procurement. This could assist in future planning and adoption of computer based procurement.

In an effort to create order in Service industry procurement, PPOA through the support of the Kenya Government has since

its establishment in (2007) endeavored to implement a new legal and regulatory regime to guide Service industry procurement.

RESEARCH DESIGN AND METHODOLOGY

Research Design

Research design is a plan outlining how information is collected for evaluation. The research adopted descriptive design to collect the quantitative data. This research study was considered to gather consistent and accurate data. According to Merriam (2008) descriptive research is used to obtain information concerning the current status of the phenomena to describe what exists with respect to variables. Further, Kothari, (2006) also highlights that case study is a way of organizing data and looking at the object to be studied as a whole.

Target Population

Target population represents all cases of people or organizations which possess certain characteristics; it is the larger group from which a sample is taken (Mugenda and Mugenda 2012). The target population for this study was 60 employees of CIC Insurance Ltd.

Sample size and Procedures

The researcher divided the respondents into stratus from which, he used random sampling giving a sample size of 39 respondents. This tended to give accurate information. The sampling frame for this study formed the list containing the names of the respondents that was sourced from the respective Human Resource departments in CIC Insurance Ltd. Mugenda and Mugenda (2003) recommend 10

percent of the population as an adequate sample in a social study. However as the sample size increases, the characteristic of the sample approaches that of the population, hence the study went for 65 per cent of the population

Data Collection Instruments and Procedures

The research study used a questionnaire as a key instrument for primary data collection. The use of questionnaires is preferred as it ensured confidentiality which upheld, saved on time, and was easy to administer (Beth 2003).

The questionnaire was ideal because the researcher was able to collect information from a larger sample. It also gave a greater feeling of anonymity hence encouraged open responses to sensitive questions and was free from bias and so accurate and valid data was gathered.

The questionnaire was organized into five sections. The first section of the questionnaire dealt with demographic statistics such as name, age, years of service of the employees, the other sections included questions from the four objectives.

To make high response rate, the research delivered questionnaires individually by making an appointment. As a strategy aimed at minimising the time it took to carry out this exercise, the researcher proposed to adopt both self-administered and drop and pick strategies in questionnaire administration.

Data Analysis

The data was analyzed through the use of frequency distribution tables. This analysis was used to address specific objectives.

With the help of a SPSS computer software as well as computer package called Microsoft excel and the findings were presented in form of frequency distribution tables, bar and pie charts.

FINDINGS AND DISCUSSION

Response Rate

The field responses were that out of the respondents surveyed, 39 questionnaires administered were filled and returned giving a response rate of 100%. This good response rate can be attributed to the data collection procedure, where the researcher personally administered questionnaires and waited for the respondents to fill, and picked the filled questionnaires.

The response rate demonstrated willingness to respond to the study. This response rate was good and representative and conforms to Mugenda and Mugenda (2012) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. This survey can therefore be said to be successful.

General information

Gender

Respondents were asked about their gender. From the results, majority (58%) were male while 42% were female.

Highest Academic Qualification

The rationale behind the question was to know the respondents highest level of education. Most (47%) of respondents had undergraduate degrees while 30% had

masters degree and 23% had diplomas as their highest level of education.

The interpretation of this is that the workforce is well qualified and knowledgeable in their various functions and was therefore in a position to offer credible information necessary for this study. This could also mean that respondents were competent enough to implement computer based procurement.

This is in line with Stafford, (2006) who says that respondents' knowledge is critical to the subject content. In this case, little of this can be accomplished if the respondents are not knowledgeable of the subject.

Work experience

This question intended to determine from the respondents how long they had worked in their respective departments within CIC Insurance Ltd. Majority (67%) of the respondents had worked for between 6 and 10 years in CIC Insurance Ltd while 33% had worked for between 11 and 20 years. The respondents have been in the organization long enough and therefore would be in position to provide actual information for this study. In addition the experience provided a rich history about the individual CIC Insurance Ltd. This is in line with Holbrough, (2008) who noted that work experience is related to positive view of the learning experience.

Position in the Organization

The question sought respondents' current job role. Majority (63%) of the respondents were in non-management functions, while 37% were in managerial functions. The interpretation here is that all the

respondents were from the right target group thus understood the questions in the questionnaire well thus providing credible responses.

Adoption of Computer based procurement

This question sought to determine whether CIC Insurance Ltd represented had already adopted computer based procurement. From the results, 89% of these organizations had adopted computer based procurement while 11% had not adopted.

According to e-government strategy paper 2004, computer based procurement was one of the medium term objectives which were to be implemented by June 2007; however implementation of computer based procurement has not significantly been visible over the period.

A number of processes in CIC Insurance Ltd Procurement and disposal still use manual processes and faces lack of system integration and standardization issues; end-user behavior and resistance; and difficulty in integrating e-commerce with other systems, and computer based procurement business processes.

Study variables

Employee Competency in Computer based procurement

Attendance of any Training Related to Computer based procurement

This question sought to establish whether respondents had attended any form of training related to computer based procurement. From the results, majority (57%) of the respondents had attended computer based procurement related

training while 43% had not attended any training. For those who had attended training, all said that the training helped in improving their skills on computer based procurement.

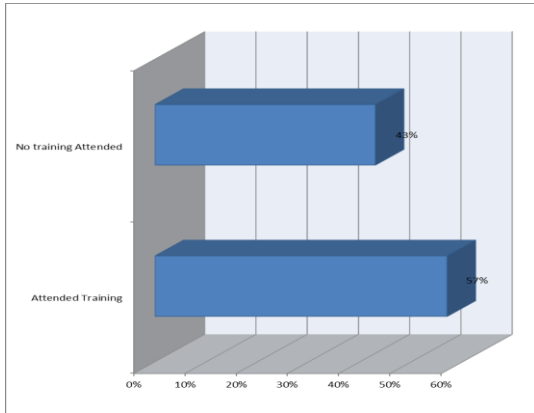


Figure 2 Attendance of any Training Related to Computer based procurement

These findings are in line with World Bank survey which argued that since computer based procurement includes new technologies and changes in traditional procurement approaches, the need to train staff in procurement practices and the use of computer based procurement tools are critical to the success of an computer based procurement initiative (WB, 2003).

Commitment by the organization to provide computer based procurement competencies

The intent of this question was to determine whether these organizations were committed to providing their staff with the necessary competencies and skills to ensure the success of computer based procurement.

The results showed that 88% of respondents saying that their organization was

committed while 12% saying there was no commitment to computer based procurement skills development.

According to CGEC, (2002), end-users can realize the immediate benefits of the computer based procurement system once they understand the operational functionalities. This means that training should be given a high priority, alongside the need for CIC Insurance Ltd sector agencies to identify the skills required by all those engaged in procurement.

Extent to which staff competencies are a challenge to computer based procurement adoption

This question was intended to determine from the respondents their opinion on the extent to which they think staff competencies have been a hindrance to computer based procurement adoption in their organizations. From the results, most (41%) respondents said that staff competencies hindered computer based procurement adoption to a small extent, 36% said it was to a moderate extent while 23% said it was to a great extent.

Extent to which inadequacy of legal framework is a challenge to computer based procurement adoption

This question intended to establish the extent to which inadequacy of legal framework has challenged computer based procurement adoption. From the results, majority (63%) of respondents said that inadequacy of a legal framework was to a great extent a challenge to computer based

procurement adoption in their organizations, with 20% saying it was to a very great extent. The Public Procurement and Disposal Authority recognize that the existing PPDA 2005 and PPDR 2006 legal framework in Kenya may not have adequately covered aspects of computer based procurement transaction.

Summary of Data Analysis

From the study, it was revealed that employee competency and legal framework were a great challenge to computer based procurement adoption in the organization under review. From the results, majority of the respondents had attended computer based procurement related training. For those who had attended training, all said that the training helped in improving their skills on computer based procurement.

Finally, majority disagreed that PPOA had adequately addressed the legality of e procurement in the service industry sector. From the results, majority of respondents said that legal framework was to a great extent a challenge to computer based procurement adoption in their organizations.

Summary of Findings

From the study, it was revealed that employee competency, and legal framework was the greatest challenge to computer based procurement adoption in the organizations under review.

To find out how Employee Competency has challenged Computer based procurement Adoption in the Service industry

From the results, majority of the respondents had attended computer based

procurement related training. For those who had attended training, all said that the training helped in improving their skills on computer based procurement. The results showed that majority of respondents saying that their organizations were committed to computer based procurement skills development. From the results, most respondents said that staff competencies hindered computer based procurement adoption to a small extent, while others thought it was to a moderate extent.

5.2.1.2 To find out how Legal Framework has challenged Computer based procurement Adoption in the Service industry

Results indicated that majority respondents disagreed that email contracts were legal in their organizations. In addition, majority respondents also disagreed that electronic signatures were enforceable in their organization. Majority of respondents also disagreed that electronic signatures were enforceable in the organizations. Finally, majority disagreed that PPOA had adequately addressed the legality of e procurement in the Service industry sector. From the results, majority of respondents said that inadequacy of a legal framework was to a great extent a challenge to computer based procurement adoption in their organizations.

Conclusion

From the findings of this study, it was concluded that lack of employee competency hinders smooth adoption of computer based procurement in the Service industry sector. Although the organization was committed to computer based

procurement skills development, training is still not at 100% and. It is evident that employees has a great role in adoption of computer based procurement and their skills, competencies and training may influence to a large extent how computer based procurement is adopted and implement in an organization.

In addition, inadequate legal framework is also a big challenge in the implementation of computer based procurement in the Service industry sector. In general, PPOA has not so far adequately addressed the legality of e procurement in the Service industry sector.

Recommendations

Employee competency was a challenge in Computer based procurement adoption; this study recommends that due to continuous turnover of the employees', continuous training for the incoming staff is required. In addition, the organizations should have a training policy making training compulsory

and should be implemented to the letter. This should cover computer based procurement and therefore mitigate the effects of this challenge.

On the legal framework and its challenge to computer based procurement adoption, formal recognition backed by legislation of the electronic procurement transactions should be encouraged to accelerate the' rate of Implementation of the System within the Service industry sector.

Suggestions for Further Studies

This study was carried out in the Service industry. There is need to carry out further studies in other industries to compare the results with those found in this study. In addition there is need to determine other factors that pose a challenge in computer based procurement adoption other than those covered in this study.

REFERENCES

- Aberdeen Group (2001), *Best Practices in Computer based procurement: The Abridged Report*, Aberdeen Group, Boston, MA.
- Andraski, J.C. and Novack, R.A., 1996, *Marketing logistics value: managing the 5P's*, *Journal of Business Logistics*, 17 (1), 23-34.
- Angeles, R., Nath, R. (2007), "Business-to-business E - procurement: success factors and challenges to adoption", *Supply Chain Management: An International Journal*, Vol. 12 pp.104-115.
- Arrow smith, S., Lineralli, J., & Wallace, D. (2000). *Regulating Procurement: National and International Perspectives*. Kluwer Law International: Netherlands
- Auriol, E., Picard, P.M. (2009), "Government outsourcing: NGOs contracting with private monopoly", *The Economic Journal*, Vol. 119 pp.1464-93
- Barua, A., Konana, P., Whinston, A. and Yin, F. (2001), "Driving e-business excellence", *Sloan Management Review*, Fall, pp. 48-44.
- Beth, S., Burt, D.N., Copacino, W., Gopal, Ch., Lee, H.L., Lynch, R.P., Morris S., 2003, Supply Chain Challenges: Building Relationships, *The Harvard Business Review*, July.
- Brun, A., Corti, D. and Cozzini, S. (2004), "Value assessment of computer based procurement Projects: a modular methodology", *Production Planning & Control*, Vol. 15 No. 7, pp. 742-60.
- Bushell, S. (2004), "Getting a grip on spending", *CIO Magazine*, June 2, available at: www.cio.com
- Consortium for Global Electronic Commerce (CGEC) (2002, October). *Measuring and Improving Value of Computer based procurement Initiatives*. Madison, WI: University of Wisconsin-Madison, Consortium for Global Electronic Commerce.
- Cooper, D. and Schindler, A. (2003), *Business Research Methods*, Irwin, Boston, MA.
- Corini, J. (2000), "Integrating computer based procurement and strategic sourcing", *Supply Chain Management Review*, March/April, pp. 70-5.

- Croom, S. (2000), "The impact of web-based procurement on the management of operating resources supply", *The Journal of Supply Chain Management*, Winter, pp. 4-13.
- Croom, S.R. (2001), "The dyadic capabilities concept: examining the processes of key supplier involvement in collaborative product development", *European Journal of Purchasing and Supply Management*, Vol. 7 No. 1.
- Croom, S. (2001b). *Supply Chain Management in the E-Business Era*. Coventry, UK: University of Warwick.
- Croom, S., Brandon-Jones, A. (2007), "Impact of computer based procurement: experiences from adoption in the UK NGOs sector", *Journal of Purchasing & Supply Management*, Vol. 13 pp.294-303.
- Croom, S., & Johnston, R. (2003). "E-Service: Enhancing internal customer service through computer based procurement." *International Journal of Service Industries Management*, 14 (5): 539-555
- Daugherty, P.J., Lusch, R.F., Myers, M.B. and Griffith, D.A,(2000). Linking compensation and retention, *Supply Chain Management Review*, 4 (4), 64-72.
- Davila, A., Gupta, M., Palmer, R. (2003), "Moving procurement systems to the internet: the adoption and use of computer based procurement technology models", *European Management Journal*, Vol. 21 No.1, pp.11-23.
- Day, G.S., Fein, A.J. and Ruppertsberger, G. (2003), "Shakeouts in digital markets lessons from B2B exchanges", *California Management Review*, Vol. 45 No. 2,pp. 131-50.
- De Boer, L., Harink, J., Heijboer, G. (2002), "A conceptual model for assessing the impact of electronic procurement", *European Journal of Purchasing & Supply Management*, Vol. 8 No.1, pp.25-33.
- ECOM Group (2002, February). *computer based procurement in the UK NGOs Sector: A Guide to Developments and Best Practices* (A CIPFA e-Government Forum Report). London, UK:
- Efkous (2003). Baggrundsmateriale - DOIP, <http://www.efokus.dk/>.
- Garcia-Dastugue, S. and Lambert, D.(2003), "Internet-enabled coordination in the supply chain", *Industrial Marketing Management*, No. 32, pp. 251-63.

- Gattorna, J., 2006, *Living Supply Chains*, Prentice Hall, London
- Gichoya D (2005) "Factors Affecting the Successful Adoption of ICT Projects in Government" *The Electronic Journal of e-Government* Volume 3 Issue 4, pp 175-184, available online at www.ejeg.com
- Goerdeler, A. (2003), *Electronic Procurement in Germany. Business Briefing: Global Purchasing & Supply Chain Strategies*
- Government of Kenya (2004), *E-government Strategy Paper (2004)*, Nairobi
- Government of Kenya (2004), *Report on the Development and Performance of the Procurement System (1960-2004)*, Nairobi.
- Gunasekeran, A. and Ngai, E. (2008), "Adoption of computer based procurement in Hong Kong: an empirical research", *International Journal of Production Economics*, Vol. 113, pp.159-175
- Henriksen, H.Z., Mahnke, V. and Hansen, J.M., (2004). *NGOs eProcurement adoption: Economic and political rationality*, Proceedings of the 37 Hawaii International Conference on System Sciences.
- Huber, B., Sweeney, E. and Smyth, A. (2004), "Purchasing consortia and electronic markets – a procurement direction in integrated supply chain management", *Electronic Markets*, Vol. 14 No. 4, pp. 284-94.
- IDC (2003). *Easing into the Tub: Results of the 2002 Procurement Manager Survey*. (www.idc.com)
- Ikiara, G., (2000) "Corruption in procurement", in Mullei, A., (ed). *The link between corruption and poverty: Lessons from Kenya case studies*. Nairobi: African Center for Economic Growth.
- Juan, F. M. M. (2002). Expert Meeting on the Context of the Study on Trans Border Procurement. Presentation
- Kaliannan, M., Awang, H. (2008), "Implementing electronic procurement in government: a case study on e-Perolehan in Malaysia" *ICT Management Review*, Vol. 2 No.1, pp.25-33.
- Kassim, E.S., Hussin, H. (2010), "NGOs computer based procurement: a research synthesis", *Proceeding of the International Conference on e-Education, e-Business, e-Management and e-Learning, IC4E, Hong Kong*, pp.150-4

- Kheng, C.B. and Al-Hawandeh, S. (2002), "The adoption of electronic procurement in Singapore", *Electronic Commerce Research*, Vol. 2 Nos 1/2, pp. 61-73.
- Kothari, T., Hu, C. and Roehl, W. (2005), "Computer based procurement: an emerging tool for the hotel supply chain management", *Hospitality Management*, Vol. 24, pp. 489-89.
- Lin, B., Hsieh, C.-T. (2000), "Online procurement: adoption and managerial implications", *Human Systems Management*, Vol. 19 pp.105-10.
- Min, H. & Galle, W. (2002). E-purchasing: profiles of adopters and nonadopters. *Industrial Marketing Management*, 32, 227 – 233.
- Mugenda and Mugenda A. (2012), *Research Methods, Quantitative and Qualitative Approaches*, 1st Edition, Acts Press, Nairobi
- Mugwe, M.K (2010). *Factors Affecting the Adoption of Computer based procurement in NGOs Organizations in Kenya: A Survey of NGOs in the of Education*.
- Neef, D. (2001). *Computer based procurement: From Strategy to Adoption*. Add Upper Saddle River, NJ: Prentice-Hall/Financial Times.
- Odhiambo, W., and Kamau, P. (2003), "NGOs procurement: Lessons from Kenya, Tanzania and Uganda", OECD Development Centre Working Paper No. 208, March 2003.
- Orodho(2003), *Essentials of Educational and Social Research Methods*. Nairobi: Masola Publishers.
- Orr, B. (2002), "The case for web-based procurement", *ABA Banking Journal*, Vol. 94 No. 4, p.59ff.
- Panayiotou, N.A., Gayialis, S.P. And Tatsiopolous, I.P., (2004). An e- procurement system for government purchasing. *International Journal of Production Economics*, 90, pp 79-102.
- Pressutti, W. (2003), "Supply management and computer based procurement: creating value added in the supply chain", *Industrial marketing Management*, Vol. 32, pp. 219-26.

- Puschmann, T., Alt, R. (2005), "Successful use of computer based procurement in supply chains", *Supply Chain Management: an International Journal*, Vol. 10 No.2, pp.122-33
- Quayle, M. (2005), "The (real) management implications of computer based procurement", *Journal of General Management*, Vol. 31 No. 1, pp. 25-39.
- Rajkumar, T.M. (2001), "Computer based procurement business and technical issues", *Information Systems Management*, Vol. 18No. 4, pp. 52-61.
- Ramasehan, B. (2007), "Attitudes towards use of electronic data interchange in industrial buying: some Australian evidence", *Supply Chain Management*, Vol. 2 No.4, pp.149-57.
- Saeed, K.A. and Leith, R.A. (2003), "Controlling sourcing risk in electronic marketplaces", *Electronic Markets*, Vol. 13 No. 2, pp. 163-72.
- Schoenherr, T. And Tummala, V.M.R., (2007). Electronic Procurement: a structured literature review and directions for future research. *International Journal of Procurement Management*, Volume 1, Number 1/2.
- Scholl, H.J., Klischewski, R. (2007), "E-government integration and interoperability: framing the research agenda", *International Journal of NGOs Administration*, Vol. 30 pp.1-32.
- Sekaran, U. (2003). *Research methods for business a skill building approach* (4th ed.). New York, NY: John Wiley & Sons, Inc.
- Sinha, I. (2000), "Cost transparency: the net's real threat to prices and brands", *Harvard Business Review*, March-April, pp. 43-50.
- Subramaniam, C., Shaw, M.J. (2002), "A study on the value and impact of B2B e-commerce: the case of web-based procurement", *Procurement International Journal of Electronic Commerce*, Vol. 6 No.4, pp.19-40.
- Tanner, C., Woelfle, R., Schubert, P., Quade, M. (2008), "Current trends and challenges in electronic procurement: an empirical study", *Electronic Markets*, Vol. 18 No.1, pp.6-18.

- Wanyika, J.W (2010). *Factors Influencing the Effective Adoption of Computer based procurement in the Kenya Government Ministries*. An Unpublished MBA Thesis, University of Nairobi.
- World Bank (WB) (2003). *Electronic Government Procurement (e-GP): World Bank Draft Strategy*. Washington, DC Reseacher.
- Yen, B.P.C. and Ng, E.O.S. (2002), "Migrating procurement onto the internet", *Electronic Commerce Research*, Vol. 2,pp. 113-34.
- Zinbarg, R.E., Revelle, W., Yovel, I., & Li. W. (2005). Cronbach's Alpha, Revelle's Beta, McDonald's Omega: Their relations with each other and two alternative conceptualizations of reliability. *Psychometrika*. 70, 123- 133. doi: 10.1007/s11348003- 0974-7