THE IMPACT OF ELECTRONIC PROCUREMENT ON THE ORGANISATION'S EFFICIENT SERVICE DELIVERY

CASE STUDY: UGANDA BREWERIES LIMITED

BY

NABWONSO JANET
BSP/36535/113/DU

A RESEARCH REPORT SUBMITTED TO KAMPALA INTERNATIONAL UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR AWARD OF THE DEGREE OF BACHELOR OF SUPPLIES AND PROCUREMENT AND MANAGEMENT

MAY 2013

DECLARATION

I declare that this research report is my original work and has never been presented to any University or Educational Institution for any award.

SIGNED: .....

NABWONSO JANET
BSP/36535/113/DU

DATE: ..12TH/AUGUST/2013

APPROVAL

I declare that this research report entitled, **impact of electronic Procurement on the organisation's efficient service delivery** was carried out by the student under my supervision and is now ready to be submitted to the board of Kampala International University for examination.

Dr. G.S. KINYATA
(Supervisor)

Signed: .....

Date: 12/8/2013

DEDICATION

I dedicate this book to my family members and friends for the support they have rendered to me, especially, my Husband Tim Batuwa, my sons Dan Ryan and David Ethan Batuwa for they have worked tirelessly both financially and emotionally towards the completion of this research.

May God reward you accordingly.

ACKNOWLEDGEMENT

I am greatly indebted to my family who sacrificed all they had to take me to school up to university level. With their guidance, love and wise counsel, they have always been there for me through out this research.

Special thanks also go to my supervisor Dr.G.S.Kinyata for the guidance and time he has accorded to me throughout this research work.

I would also like to acknowledge the support, encouragement and good counsel of my friends especially Brenda and Teddy.

I am highly indebted to my lecturers and the entire staff of Kampala International University for their hard work and encouragement.

May God bless you.

TABLE OF CONTENTS

LIST OF TABLES

TABLE OF FIGURES

ABSTRACT

This research was conducted to establish **the impact of electronic procurement on the organizations' efficient service delivery** taking *Uganda Breweries* Ltd as a Case Study.

The research data was collected from both the primary and secondary source. The primary source involved gathering data from the field (Uganda Breweries Ltd) and the secondary source included text books, magazines, newspapers and internet.

The study was made on 16 respondents comprising of both top management staff and subordinates. These were selected at random from the Procurement Department and other departments that work hand in hand with the Procurement Department; the researcher used questionnaires and interviews to collect data.

The data collected was analysed, interpreted, and presented using both quantitative and qualitative methods. The study showed that most of the procurement activities are performed electronically and use systems such as telephones, internet, computers, electronic data interchange etc.

The study also showed that the most used mediums for communication of needs are telephones and internet. The traditional methods are used on a small scale. Most of the procurement information and records is done by use of computers and payments are done both electronically and manually.

It further indicated that electronic procurement improves on the flow of information, proper information and storage, increased access to a wider market, faster and reliable services and

reduction of overall costs. On the other hand, it indicated that electronic procurement is complex to operate, expensive to install, insecurity of information and reduced physical contact.

The researcher also identified some suggestions that could be implemented in order to solve the identified problems that could hinder the proper execution of procurement activities such as proper planning, putting up an Information Technology department and increased funding of the project.

CHAPTER ONE

INTRODUCTION

The study was about **the impact of electronic procurement on the efficient service delivery of Uganda Breweries Ltd.** It was aimed at finding out whether electronic procurement has an impact on the efficiency of service delivery of *Uganda Breweries Ltd.* This chapter deals with the background of the study, statement of the problem, objectives, significance, scope, research questions and definition of terms.

1.1 BACKGROUND OF THE STUDY

The term procurement and purchasing are used interchangeably in many organizations i.e. they are synonymous. However, procurement is strictly wider than purchasing

Kenneth Lysons (2000) defines procurement as "the function responsible for obtaining by purchase, lease or other legal means, equipment, materials, components, supplies and services required by an undertaking for use in production or resale".

As many organizations today recognize the front line role played by the procurement function, they have put more emphasis on improving their procurement activities. The function has developed from being a supporting function to a strategic level, which offers a competitive edge and efficiency in service delivery. Technological developments have taken place in various organizational sectors especially procurement, in that organizations are changing from manual procurement to electronic procurement.

Electronic procurement refers to the application of technology towards the automation of procurement transactions and activities. It involves the use of one or more technologies each of which provides for the instantaneous acquisition, storage and transmission of data

from one trade partner to another, for instance inquiries, quotations, purchase orders, dispatch information, specifications, drawings, payments etc.

Technologies used include computers, electronic data interchange (EDI), electronic fund transfer (EFT), e-mail, smart cards, bar code devices etc. The increasing pace of innovation and application of technology in procurement is intended to achieve improved and efficient operations for the organization.

However, many organizations still use manual procurement and others that have adopted electronic procurement practices have not managed it well to achieve efficiency.

Uganda Breweries Ltd is one of such companies that are automating their procurement activities. It is located in Luzira, Kampala Capital City Authority and under the management of East African Breweries Ltd based in Nairobi Kenya.

Manual procurement is associated with inefficiencies such as poor information exchange and storage, loss of information, high procurement costs, long lead times, delayed payment procedures, poor supplier handling, limited choice of suppliers etc.

These inefficiencies and related problems could be over come by installing an effective electronic procurement system. Hence the need for the researcher to carry out an investigation whether electronic procurement can lead to proper procurement, practice and impact on the efficiency of an organization's service delivery.

1.2 STATEMENT OF THE PROBLEM

An ineffective and manual procurement system has related costs and problems making it difficult for organizations to deliver their services efficiently. These include errors and frauds, long lead times, delayed payments, poor information exchange and storage. Organisations are missing out on the opportunities that they would enjoy if they used electronic procurement systems in their procurement undertakings.

It is upon this background therefore that ***electronic procurement*** has been identified as a remedy to the above problems and should be incorporated into the organizational activities but no research has been carried out to verify its efficiency and effectiveness.

3 PURPOSE OF THE STUDY

The purpose of the study was to find out the impact of electronic procurement on the organization's efficient service delivery.

4 OBJECTIVES OF THE STUDY

The objectives of the study were:

- To determine whether electronic procurement improves on the efficiency of an organization.
- To find out whether electronic procurement leads to proper service delivery of the procurement function.
- To establish whether timely purchases are a result of using electronic procurement.
- To investigate whether or not electronic procurement increases the costs of the organization.

5 RESEARCH QUESTIONS

The following questions guided the researcher: -

i. What is the impact of electronic procurement on the efficiency of the procurement function and overall organizational efficiency?

ii. What are the main electronic systems used in the procurement activities or process?

iii. Does electronic procurement increase the costs of the organization?

.6 SCOPE OF THE STUDY

The study was carried out in Uganda breweries limited located in Luzira suburb, Nakawa Division, Kampala Capital City Authority. The study involved a cross section of top management staff and subordinates of Uganda Breweries ltd. This study mainly covered employees from the procurement department, production, accounting and finance and other departments that work hand in hand with procurement department. This study took place in aperiod of 4months from January to may.

.7 SIGNIFICANCE OF THE STUDY

The study will provide information to:

- Other researchers on the impact of electronic procurement on the efficiency of organizations' service delivery.
- Students of procurement on the applicability and importance of electronic procurement in achieving organizational efficiency in service delivery.
- Organizations regarding the importance of the electronic procurement on the procurement function and the organization.

.8 DEFINITION OF TERMS

E- Procurement - This is the management and conducting of business with in a digital information environment.

Efficiency –Refers to doing things "right" i.e. it's the ability to do things right in an "input –output" concept. Efficiency takes the form of time, cost, productivity (quality and quantity) among others.

Service - The new oxford learner's dictionary defines service as a system or business that meets public needs or organization that provides something for the public or work that somebody does for an organization.

Impact - This is strong effect that something has on somebody or something.

Delivery - An act of delivering or rendering services to people

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

This chapter aims at highlighting data available for various organizations that use and those that intend to apply electronic systems in their procurement activities. The chapter shows how electronic systems can be applied and indicates areas of application. It also shows the advantages and disadvantages of applying electronic procurement (purchasing) in an organization, according to information made available by various writers and researchers.

Electronic procurement is the management and conducting of business with-in a digital information environment (Kamuntu, "PROCUREMENT NEWS" 2004).

Organizations and companies all over the country and other countries, which have not yet applied electronic procurement in their procurement activities, are still facing a big challenge in their trading and purchasing activities. However, studies by AMR RESEARCH show that 17% of the companies that do not have electronic procurement applications plan to implement them in the coming years (Kamuntu, 2004).

2.2 AREAS OF APPLICATION OF ELECTRONIC SYSTEMS/INFORMATION TECHNOLOGY:

Leenders (1997) states that there are many potential areas of application of electronic systems in the procurement cycle. A 1995 survey by the National Association of Purchasing Management found that 91.2% of respondents cited the facsimile machine as the most important technology tool in their everyday purchasing operations, followed by

the computer (87.8%), Voice mail (56.1%), electronic mail (35.6%), modem (34.1%) and electronic data interchange (22.8%).

Manczka and Trent (1999), in their study on sourcing, found out that 55% of the respondents plan to emphasise the development of purchasing systems. This can be best done through the availability of additional purchasing computer systems as the key critical success factor for the successful execution of current and future purchasing strategies.

2.3 ESTIMATED SYSTEM GROWTH:

In relation to the Manczka and Trent study, systems growth is expected in two areas.

The first is in systems that increase purchasing process efficiency, primarily electronic data interchange with suppliers, bar coding and automated input.

The second area involves systems that improve productivity and effectiveness of buying personnel and units, primarily net-working between purchasing sites, developing over- all buyer work stations and decision- support expert system.

2.4. EFFICIENY IMPROVEMENTS THROUGH TECHNOLOGY:

Leenders (1997) identified some improvements through technology, these include the following;

.4.1. Facsimile Transmissions.

This form of technology was taken over in many work places as the first choice in the communication equipment. Use of fax machines reduces the purchasing cycle time and

provides an easy, relatively cheap means of communication. This helps Organizations achieve the speed, which is so essential to being competitive in today's world.

.4.2. Computer modem cards:

Computer modem cards allow the user rapid transfer of data (graphic and image) using the computer and a convectional receipt and transmission of data files which can be downloaded and manipulated in spreadsheets, word processors with re-keying the data as required by convectional fax machines.

Lysons Kenneth (2000) also identified some electronic procurement systems namely;

.4.3. Electronic fund transfer

This involves the electronic Transmission of receipts and payments between banks and their customers or suppliers and purchasers. When linked with electronic data interchange (EDI), electronic fund transfer enables paperless payment to be made. Money travels but not papers this reduces costs due to elimination of cheque-writing, receiving, canceling and payment into bank. Increased speed of transmission due to fast, accurate and secure transmission of funds, same day information on records, payments and balances, suppliers can be certain of receiving payments on a specific date.

.4.4. Electronic mail

This is a general term for the process by which letters, orders or other documents are sent by a computer along telephone lines to appear on a visual display unit (VDU) at their destination. By this system the process of sending documents and receiving replies can take minutes rather than days.

.4.5. Electronic Data Interchange (EDI)

The technique based on agreed standards, which enables computers in different organizations to successfully send business or information transactions from one to the other.

(a) Business transactions include orders, invoices, delivery advices and payment instructions.

(b) Information transactions convey details about a person or organization for administrative purposes e.g. price lists, production facilities etc .Reduced costs due to reduced postage, stationary and associated clerical operations, reduction in lead time through buyers and suppliers working together in a real time environment.

.4.6. Smart cards

These also known as stored value or memory cards, use either magnetic stripe technology or integrated circuit to store customer-specific information including electronic money and they are "transaction cards". They can be used to purchase goods or services, store information and since they are transactional rather than credit cards. They can be made available to all potential users with in an organization rather than a limited number of credit worthy named individuals.

.4.7. Electronic catalogues

These catalogues are viewed on a computer as opposed to reading paper copy. They can be supplier provided in a CD-ROM, approprietory network on the Internet. The 'user' not necessarily a member of the purchasing function 'reads' the catalogues either to obtain information or actually 'shop'. CD-ROM catalogues work well for organisations that

purchase a great deal from single supplier and where product prices and sharable issues are stable.

Gary J Zenz (1997) states that integrated materials management systems and effective computerized purchasing applications assist in selecting vendors more wisely through using automated database. The buying process begins with the buyer receiving a requisition for specific goods or services, something previously purchased, or a new item the buyer may assist in writing the specifications.

"Buying screens". On the desktop computers and in making the initial buyer and subsequent repeat buyers.

"The delivery screens" assist the buyer in reviewing the anticipated stock levels or a possible stock out situation.

"Vendor performance screens" provides the buyer with recent history concerning the company's vendors.

"Open purchase order screen" serves as a sales representative performance review, showing delays or promises kept.

Information flows into and out of the typical purchasing system as figure 3-1 below depicts. Then the purchasing system uses a computer, computerized purchasing manages those information flows among various functions (e.g. transportation), database (e.g. price histories), records (e.g. vendor information) and reports (e.g. buyers work load). The computer operates the electronic data interchange with suppliers.

Desktop or personal computers and i pads with hard-disk drives help businesses access large a mount of information in such applications such as desktop publication, database

management and networking. A hard disk contains non-removable disks that allow repeated recording, editing and erasing of data.

Computerized purchasing and materials management system

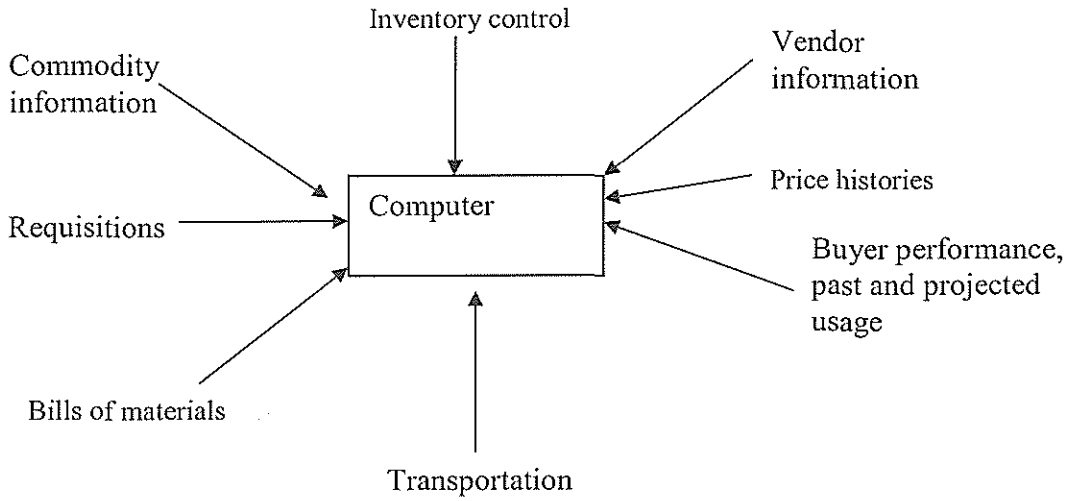

FIG 3.1

2.5 e-PROCUREMENT READINESS ASSESSMENT

Torach Julius (2005) in the East African Procurement News Vol. 2 Issue 1, gives the following assessment for the implementation of electronic procurement. He states that

> *"...before creating an e-procurement system for the company, there is need to assess your readiness to electronically integrate into the supply chains. Look into all operations and activities of the enterprise as e-procurement processes have implications for the entire company".*

He further reports that the United Nations Industrial Development Organization (UNIDO) developed a ready for e-procurement tool as given below:

1. Assessment of the e-procurement strategy: The organization must have a well-written strategy in which goals are defined, resources are allocated, systems and processes are planned and the following questions must be considered.

- Do you have a well-written e-procurement strategy?
- Is your e-procurement strategy integrated into your business strategy?
- Do you know the four strategic options for e-procurement? These depend on human as well as industrial sector.
- Are you aware of the benefits and risks of a prepared customer/supplier relationship?
- Do you know the success factors for a preferred customer/supplier relationship?
- Are you aware of the benefits and risks of a dominated e-procurement system?
- Do you know the success factors for the participation in an e-market place?

2. Assessment of the planning and preparation of your e-procurement activities:

   It looks at specifying and analyzing the required activities and tasks to be performed in the e-procurement process.

3. Assessment of the implementation of e-procurement activities i.e. when to implement and execute e-procurement.

- Do you know the essential elements of a good website cultural, religious, legal and ethical guidelines?
- Do you know how to program your company website? It must be based on your own needs, technical and human resources.
- Have you provided rules for Internet use in your company?
- Do you know the internet training requirements for e-procurement?

- Are you aware of security risks?
- Do you know how to protect against data exchange and virus risks?
- Are you using e-banking?
- Are you aware or familiar with the different types of e-banking or e-payment for Business-to-Business transactions?
- Have you thought about the legal requirements and issues for e-business?

4. Assessment of your evaluation systems and monitoring of your e-procurement activities, for effective and efficient use of the systems for the attainment of established procurement and organizational objectives. (E-Business, Julius Torach, East African procurement New Vol. 2. issue 4).

2.6 RUNNING AN EFFECTIVE e-PROCUREMENT OPERATION.

Torach Julius (2005) stated that according to the International Trade Center (ITC) technical publication for developing countries, doing business electrically has in some cases cut procurement staff by 60%, reduced materials cost up to 20% and reduced time taken to select a supplier by half. The reasons for this include: -

- Appearance of sector specific market exchange and auction sites where it is possible to identify new suppliers, purchase at attractive prices and obtain information on supply markets.
- Development of electronic purchasing platforms i.e. operating resources management. Some multinational companies have created supply chain soft-ware to be used by all their suppliers.

- The Internet is currently governed by multiple standards for purchasing e.g. open buying on the Internet (OBI) is an industry initiative that aims at facilitating message transport and business -to-business. Purchasing on the Internet by setting accepted standards for the industry.
- Standard Internet applications can replace supplier meetings and facilitate the exchange of information.

2.7 EFFICIENCY

Stoner (*year*) defines efficiency as "doing things right. It is the ability to do things right in an "input –output" concept. An efficient organization is one, which achieves outputs or results that measure up to the inputs used to achieve them. Managers or organizations that are able to minimize the cost of resources to achieve goals are acting efficiently.

Efficiency takes the form of time, costs, productivity (quality and quantity) among others. Efficiency also refers to the amount of resources used to achieve an organizational goal (Richard L. Daft, 1997). Based on how much raw materials, money and people are necessary for producing a given volume of output.

With the advancement of information technology, electronic systems have been integrated in the operations of organizations especially procurement, altering how products and services are delivered and through the speed at which they can be delivered e.g. how Northrop saved 400,000 pieces of paper on each fuselage it built.

2.8 HOW e-PROCUREMENT LEADS TO ORGANISATIONAL EFFICIENCY

Leenders (1997) states that the electronic handling of procedures reduces clerical manual efforts to a minimum, usually resulting into fewer errors and decreased processing time. Information from records is often more accurate and available almost instantly, resulting in better negotiation preparation, prices and quality and decision -making.

Control over operations is improved not only by the timely availability of information for sound decision making but also by the flexibility afforded by the ease of handling vast quantity of details, Thus providing new tools for the buyer and manager. Buyers are freed from repetitive tasks and have more time for more value adding tasks.

Operating performance is improved by the availability of information and improved control of operation. Purchasing is able to integrate its activities more closely with other functional areas of the firm.

Suppliers' relationship may be improved because of faster, more accurate information flows and the availability of the buyer to spend more time in face to face discussion with suppliers about important issues.

There is a critical mass of suppliers to buy internal systems, who are better equipped to deal with electronic systems. Today it is possible to buy almost anything electronically. Many organizations have strongly benefited from electronic procurement. It becomes more time consuming to procurement where there is use of pens, paper, and chips.

e-Procurement gives or delivers better productivity, faster processing and greater visibility. The elimination of maverick buying can have proportionately higher returns

when applied to direct material procurement. Today, both the technology and buyers' expectations have matured to the point where electronic procurement can be genuinely used to source things other than catalogue based indirect goods (Kamuntu, 2004).

Turban, MacLean and Wetheber (1994) as well as Boone, Kurtz and Block (1994) say that "*electronic buying is quick enough as there is no waiting on busy telephone lines and chance of making mistakes, errors are reduced since there is no oral communication in a frequently noisy environment. Orders can be placed any time day or night and there are no biased brokers to push the buyer. A considerate amount of information can be found regarding a specific company on a mutual fund agreement.*"

Leenders (1997), Wilson (1997), Lysons (2000) explain that buyers are linking their computers with those of there suppliers so that they can exchange information to speed up the whole trading cycle, resulting into more productive use of assets and faster response to customers. This information is easily accessible for other secondary purposes as is evidenced that information is expensive to collect but once held in original form, it costs nothing to store.

Inventory ordering, scheduling payments, manufacturing and distribution have become the norm and highly predictable unforeseen situation for many firms to develop a new model of a network.

Smith (1988), Norton and O'Brien (1990) state that electronic procurement includes the entire online process of developing, securing, delivering, servicing a payment for products and services. The economic model encourages innovations and entrepreneurship

hence generating many business opportunities to serve a local audience of both business and complex challenges to business to develop efficient flexible and secure payment system for online buying.

According to O'Brien (1990) and Chadwick, Rajagopal (1995) electronic procurement when complimented by Intranet and extranet applications guarantee accessibility to inventory database, especially of large customers. More over a corporate employed by sales representative help to access customer better decisions to network corporate for independent private firms and entrepreneurs, lean, flexible, adaptive and responsive to both customer needs and market requirements for key features.

Leenders (1997) went ahead and gave the contributions of electronic data interchange (EDI) to procurement strategy as seen below.

- Reducing the paper work (paper less purchasing), which will provide additional time for organizations and purchasers to conduct professional activities with organizations and departments.
- Reducing the need for people to work, which could be done via EDI. This paper work administration can vary from 15% to 20% of the time spent by purchasing organizations.
- By using 3rd party network that have international transmission capability and standards, buying from different suppliers through the world can be quickened.
- EDI enhances the firm's capacity to reduce costs of doing business. EDI makes an important contribution to furthering just on time system with associated lead time and inventory reductions, bar cording system applications, integrated manufacturing between buyers and sellers and electronic fund transfer. EDI provides for needed transparency

between organisations to further integrated processes in the supply and manufacturing systems.

Rowley Jennifer (1998) in her arguments stated that the use of electronic systems in procurement has altered the competitive position of an organization within the industry e.g. business traditionally pay bills by cheques on receipts of invoices. Using electronic systems, it is possible for the purchasing or buying organisation to send an electronic payment instruction to their bank when the goods are received. The payer's account is debited and the payee's account is credited. In this context, the use of electronic systems has eliminated paper work and will lead to earlier payments, with other associated implications.

Lysons Kenneth (2000) also gives the following benefits of computerized purchasing that would in turn lead to organizational efficiency.

- Reduction of routine clerical activity by the automatic preparation of documents e.g. purchase requisitions, orders, acknowledgement forms, progress letters etc.
- Provision of up-to-date and accurate information essential for routine purchasing and decision making e.g. forward material requirements, supplier data, outstanding and over due orders.
- Reduction of staff, and over due costs.
- A computer can easily cope with fluctuations in workload.

- Rapid calculations of order quantities, consolidation of orders, economic order quantities and variations on price from standards and budget on price increases related to materials and labour indices.
- Ultimately, savings due to improved stores, recording and inventory control e.g. stock/ order information and analysis, ABC classifications, stock reports and minimizing of inventory.
- The time saved can be devoted to preparing for negotiations, which will be based on more and better information, sourcing suppliers, studying market trends, measuring the performance of the department and functions.

Lysons (2000) further states that electronic procurement promotes international trade where by organizations or buyers have a wider market scope and variety of suppliers to choose from. The buyer will be able to select or have access to competent and capable suppliers who some times offer least prices.

Torach (2004) states that electronic procurement activities help an organisation to manage its suppliers, to reduce costs, improve information flow, and stream line the organization's purchasing process.

Turban et al (1999) indicates that there is a wide use of electronic fund transfer. It is widely used with funds, debits and credits and changes and payments electronically routed organisation, banks and customers. This is fast and reduces delays associated with sending hard copy documents and eliminates returned cheques hence speeding up organisational transactions.

Daft D.L. Richard (1997) says that through investment in operations and electronic systems especially procurement, a company increases its operational efficiency and potentially lowers costs. This increased efficiency better enables a company to lock in customers and broader market reach. He further says that it leads to coordination and flexibility as a result of reduction in time and geographical barriers. With global networks there is improvement on communication, which could be brought about by distance.

Bialy (1997) asserts that electronic data interchange between organisations as used by Mark and Spencer, Sainsbury's Tesco and many others to order goods is set to increase in popularity. Agreements are negotiated person to person in a traditional way, but the purchaser's computer to the supplier's computer sends call-off orders against this agreement. Invoices are set in the same way. Big savings in the costs of paper work are exploited especially in import/exports transactions where the costs of paper can be as much as 7% of total contract cost.

Tompkins (2002) says that on line buying with business processes to reduce transaction costs both for materials used directly and indirectly for supply chain operations by using the Internet to automate routine purchasing procedures. Managers have more time to spend on strategic and sourcing projects since modem buying replaces paper work, faxes and manual data entry with Internet technology.

CHAPTER THREE

METHODOLOGY

3.2 INTRODUCTION

This chapter aims at highlighting the methods the researcher used to collect information, analysis and interpretation of data, research design, sampling design, procedures of data collection among others.

3.3 RESEARCH DESIGN

The researcher used non-experimental design, which was based on the survey. The questionnaires were designed with questions appropriate enough to allow the findings to be valid and reliable. Due to the purpose of the study both qualitative and quantitative methods were used in analyzing of findings to unveil the relationship between the variables.

3.4 SAMPLING DESIGN

The researcher used probability-sampling design, especially simple random sampling whereby the subjects from the target population had equal chances of representation. This technique was used in order to give all employees in the procurement department and other related functions equal chances of participation. The sample size was **16** respondents from the various departments.

3.4.1 Content of the study

The study was intended to establish the relationship between the variables that is to establish the relationship between **electronic procurement and efficiency on service delivery of Uganda Breweries Limited.** It sought to determine whether or not electronic procurement has any thing to do with organizational efficiency of Uganda Breweries Limited.

3.4.2 The target population

The population of the study involved a cross section of top management staff and subordinates. It covered employees mainly from the procurement department and other departments that work closely with the procurement department e.g. stores, production, finance and accounting etc. total population is 25 people and the 80% was the sample size which filled the questionnaires ie 20 people.

3.5 PROCEDURES OF DATA COLLECTION

3.5.1 Tools of data collection

Well-designed questionnaires were used to collect data. This allowed the respondents to give their views in their own ways, which offered objectivity and avoided biased knowledge or information. The researcher also used observations and interviews to collect information from the survey.

3.5.2 Administration of tools

The questionnaires were pre-tested to ensure their validity and reliability in order to reduce on the ambiguity of the questions. The members were selected at random to answer questions asked to confirm their validity and reliability.

3.6 METHODS OF DATA ANALYSIS AND INTERPRETATION

The researcher used both qualitative and quantitative methods to analyse and interpret the findings.

3.7 LIMITATIONS OF THE STUDY

- The research was affected by the time constraints since the researcher carried out the study at the same time attending lectures.
- The researcher also faced funding problems. It required more financial resources for it to be complete; hence lack of enough funding affected the normal carrying out of the research.
- Low-response. This was because many organizational members were not cooperative. They didn't want to give out their important information, as they feared it could be leaked to its competitors.

3.8 MEASUREMENT OF VARIABLES.

The study involved two research variables. The independent variable being **electronic procurement,** and the dependent variable being **efficiency**. Organizational efficiency depends on electronic procurement.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.1 INTRODUCTION

This chapter presents analyses and interprets data based on the questionnaires and other methods used to obtain data from the various respondents. Data is presented, interpreted and analyzed in its raw form both qualitatively and quantitatively. The findings are based on the objectives of the study and the main purpose of the study, which was ***to assess the impact of electronic procurement on the organization's efficient service delivery*** using a case study of ***Uganda Breweries Company Limited.***

4.2 PRESENTATION OF FINDINGS

The targeted population respondents were twenty-five (25) but sixteen (16) filled the questionnaires, which constitutes an 80% response rate. It included respondents from the top management, procurement department, production and other related departments.

The detailed findings are presented below:-

4.2.1. Use of electronic systems by the procurement department.

The researcher asked whether the procurement department uses electronic systems and the responses are shown in the table below.

Table I: Use of electronic systems by the procurement department

Response	Number	Percentage (%)
Yes	20	100
No	0	-
Total	**20**	**100**

Source: Primary data.

4.2.2 e-mail address and website.

The researcher asked whether the company has an e-mail address and website. The findings are shown below.

Table II: Showing whether the company has an e-mail address and website.

Response	Number	Percentage (%)
Yes	20	100
No	-	-
Total	**20**	**100**

Sources: Primary data.

4.2.3 Medium of communication used by costumers (user departments)

The researcher asked the medium of communication used by costumers (user departments) about their need for materials. The responses are shown in Table III.

Table III: How customers communicate their need for materials

Medium	Number	Percentage (%)
Telephone	10	50
Internet	5	25
Paper order	3	17
Walk in request	2	8
Total	**12**	**100**

Source: Primary data

4.2.4 Time of notification of suppliers about the need for materials or items required.

The researcher asked when the suppliers are notified about the need to acquire items. The responses are shown in Table IV.

Table IV: Time when the suppliers are notified about the need to acquire items

Time	Number	Percentage (%)
When customers come for materials	-	-
A week before stock is finished	8	14
Just in time for use	6	29
After requisition is placed	6	57
Total	**20**	**100**

Source: Primary data.

4.2.5 Medium used to order for materials or items.

Table V: Medium used to order for materials

Machine	Number	Percentage
Telephone	4	29
Internet	6	43
Paper order	5	14
All	5	14
Total	**20**	**100**

Source: Primary data

4.2.6 Time taken to receive the procured or ordered materials

Table VI: Time taken for organization to get the ordered items

Time	Number	Percentage (%)
Immediately	5	40
1-3 days	6	30
4-7 days	4	10
1-2 weeks	5	20
Total	**20**	**100**

Source: Primary data

4.2.7 Reliability/ speed of electronic procurement

The researcher asked whether it is faster to procure electronically than manually and below are the responses

Table VII: Reliability/ speed of electronic procurement

Response	Number	Percentage (%)
Yes	15	75
No	5	25
Total	**20**	**100**

Source: Primary data

4.2.8 Electronic procurement improves the company's access to a wider market

Table VIII: Improvement of the company's access to a wider market.

Response	Number	Percentage (%)
Yes	11	63
No	9	37
Total	**20**	**100**

Source: Primary data

4.2.9 Processing and storage of procurement information and records

Table IX: Media of processing and storing procurement information and records

Medium	Number	Percentage
Computers	14	75
Manual	. 6	25
Both	-	-
Total	**20**	**100**

Source: Primary data.

4.2.10 Form of payment used by the company to pay for materials

Table X: Form of payment used by the company to pay for materials.

Form of payment	Numbers	Percentage
Electronic fund transfer	10	63
Cash	8	13
Both	2	24
Total	**20**	**100**

Source: Primary data.

4.2.11 Form of Procurement.

Table XI: Form of procurement in the company

Form of procurement	Number	Percentage
Purely electronic	6	-
Partly electronic & manual	14	100
Total	**20**	**100**

Source: Primary data.

4.2.12 Costs of electronic procurement

The respondents were asked whether it is cheaper to procure electronically than manually. The responses are shown in Table XII

Table XII: Showing whether it is cheaper to procure electronically

Response	Number	Percentage
Yes	8	50
No	12	50
Total	**20**	**100**

Source: Primary data.

4.3 IMPACT OF ELECTRONIC PROCUREMENT ON ORGANISATION'S EFFICIENT SERVICE DELIVERY

4.3.1. Improved flow of information in the organization;

Tables II and **IV** show the medium through which the customers (user departments) communicate their need for materials. The findings show that 50% use telephone, 25% use internet, 17% use paper order and 8% use walk-in-request. The medium through which the organization orders for materials are telephone 29%, internet 43%, paper order 14% and all 14%.

It shows that both parties prefer using electronic mediums as shown by the percentages above i.e. user departments order 75% of materials through electronic medium and the organization order 62 % of materials through electronic medium. This improves information flow as it creates consistency in the system and in the process as there are no misinterpretations caused by errors and delays that would result from using manual systems.

Electronic systems also improve information flow in a way that time is reduced as people or managers and employees communicate using the internet and telephone, for instance to inform the procurement department, suppliers and other customers as communication is straight forward and direct

4.3.2. Accuracy and proper information processing and storage;

The investigation carried out by the researcher revealed that most of the procurement Information of Uganda breweries LTD is processed and stored electronically. The study showed that, the organization uses computers 75% and manual 25% respectively (**table IX**).

This indicates that reliable, accurate and timely procurement information is processed and provided to those who need it whenever it is needed.

Proper storage of this information is also ensured, since information is a very important asset to the organization and should be protected from damage, leakage, manipulation and being lost. This leads to efficiency and proper decision making.

4.3.3. Increased access to a wider market or market scope;

Basing on the investigation carried out by the researcher, it revealed that Uganda Breweries as an organization use electronic systems in its procurement activities. Considering that the organization has a website, e-mail address and other electronic systems.

As **table II** shows, 100% of the interviewed respondents maintained that the organization has an e-mail address and a website. The researcher is of the view that it increases market scope as maintained by 63% of the respondents in **table VIII.** This promotes international trade in such a way that the organization is able to connect through the internet to many suppliers, customer and business opportunities word wide. This makes the organization have a variety to choose from and tap better and cheap sources of supply because of the competition hence leading to efficient service delivery.

4.3.4 Faster and reliable services;

According to **table VI**, 40%say that materials are received immediately after placing the order, 30% 1-3 days, 10% 4-7 days and 20% 1-2 weeks. How ever the researcher also found out that the delivering of orders depend on the criticality and urgency of the materials, and in line with **table I** where 100% of the respondents maintain that the procurement department uses electronic systems. **Table VII** further shows that 75% it is faster to procure electrically.

This makes it easier and faster to place orders and reaching the suppliers in time to make on time deliveries which enables continuity of operations and meeting customer requirements in time. The fact that 57% of the orders are made after a requisition is placed, 29%just in time, 14% a week before stock is finished shows that the time is so short for a big organization like Uganda breweries but the reason for this is that the organization has trust and faith in electronic procurement as it fastens their requisitions and deliveries.

4.3.5 Procurement process made convenient;

According to **tables III** and **V** the customers (user departments) and the organization communicate their need for materials mainly electronically, i.e. 50% telephone, 25% internet, paper order 17%, walk- in- request 8%, then for the organization the results indicated telephone 29%, internet 43%, paper order 14% and all 14% respectively. Further investigation through interviews revealed that electronic procurement is preferred because there is no need to wait for a lot of documents to be signed while others said that it is time saving. The faster and reliable aspect of the electronic procurement is further maintained in **table VII** where 75% agree that it is faster to use electronic procurement.

Table X shows that 63% of the payments are made electronically, 13% in cash. This improves on the speed of transactions.

However, respondents put it that where payments are done by cash, a lot of time is taken in counting the money, writing and a lot of documentation and errors are common.

4.3.6 Reduced costs in procurement activities;

According to results on the costs of using electronic systems in procurement from the study as shown in **table XII,** 50% of the respondents maintained that electronic procurement is expensive and 50% maintained that it's cheap.

However, on the contradiction the question was answered by some respondents who claimed that the initial costs are high. An organization spends a lot of money in the process of acquiring all the needed systems and equipments such as computers, telephones, website, and connections to the internet, backup systems etc. making it expensive to the organization at the beginning.

On the other hand when the required equipments and systems are put in place, the whole procurement process becomes cheaper as expenses on paper, postages on a daily basis and time are reduced. The use of machines also lowers the cost of human labour as the machines do most of the work and there are fewer mistakes and errors. In the long run it becomes cheaper to use electronic procurement.

4.4 PROBLEMS ASSOCAITED WITH USING ELECTRONIC PROCUREMENT.

4.4.0 Introduction;

In the investigation, the researcher interviewed both the management and subordinates on the problems or difficulties that they encounter when carrying out their procurement

activities using electronic systems (electronic procurement). Below are the difficulties as gathered from the findings.

4.4.1 Complexity in the operation of electronic systems

This has been a major problem with the operation of electronic systems as shown by the majority of the respondents in the organization. This has been so because it requires highly skilled labour and constant training to equip employees with modern technological and computer skills which involves more training.

Although the organization tries to train, it has not been effective since it is done once in a while, hence making it difficult to exploit and use the systems effectively and efficiently.

4.4.2 High expenditure on electronic systems and associated accessories;

As Maintained by the respondents in **table XII** i.e. where 50% said that it is costly to use electronic systems while 50% maintained that it is cheap. The aspect of reducing costs or being cheap is achieved in the long run. In the short run it has proved to be a challenge to the organization as more funds are spent on acquiring the systems such as computers, network systems, telephones, connecting to the internet, servers and expenses on maintenance.

However respondents went ahead to say that much money is spent on airtime and yet in some instances they are given little money to spend on phone calls which limits on efficient operation of electronic procurement.

4.4.3 Insecurity of information

Since most operations are_carried out on the electronic systems, much organizational information is also stored there. However there is insecurity of information, many respondents maintained that there is easy manipulation of this information in instances where there is no security controls such as pass words. Leakage of information to the competitors is easy and information is also lost in case of systems failure.

Respondents further maintained that there is a problem of viruses which has made the company to lose valuable information and the need for back up systems of information storage.

4.4.4 Reduced physical contact between the organization (Uganda Breweries) and its customers;

Since the emergency of electronic systems, there has been reduction of physical contact between Uganda breweries and its customers, many deals are negotiated online and also many orders are placed electronically as maintained by the respondents in **table V** where 29%order through phones, internet 43%, and paper order 14% and 14% all. This in one way or another has hindered the development of relationships and not getting the best out of negotiations as it would have been the case when negotiations made physically.

CHAPTER FIVE

DISCUSSION OF RESULTS, SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This study set out to investigate ***the impact of electronic procurement on the organization's efficient service delivery***, considering Uganda Breweries Ltd. as a case study. The chapter gives a summary of the major findings, conclusions and possible recommendations to be taken and for further research.

5.2 DISCUSSION OF FINDINGS

This section gives a discussion of the finding as presented in chapter four in relation to the objectives of the study and related literature (Chapter two).

Electronic procurement enables timely procurement. This is mainly due to the easiness of communication processes as the time and other blockages are reduced as a result of using electronic systems. The use of internet and telephones to communicate between organizations and departments as shown in chapter four i.e. **table III** where 50% telephone, 25% internet and **table V** i.e. telephone 29% and internet 43%. It enables proper flow of information as barriers to communication are reduced. 75% respondents agreed that it is faster to procure electronically. Since many of the manual procurement barriers are removed. It has enabled to reduce lead times as most of the materials ordered are received immediately and being able to meet customer requirements in time, hence

improving on operations and competitiveness and using the time saved for other important activities.

This is in line with Leenders (1997) who says that electronic data interchange reduces paper work and leads to paper less buying by 15% -20% of time spent in ordering and preparation of payments.

Electronic procurement leads to efficient service delivery of the procurement department. This is due to the positive impact of electronic systems in the execution of procurement cycle activities and its co-ordination with other organizational departments leading to over all organizational efficiency. From the research the respondents asserted that computers help in information processing and storage where by, timely, accurate and reliable information used in the procurement process and decision making is made available. This also fosters easy communication as shown in chapter four in **tables III, V and IX**. This is in line with Daft D.L. Richard (1997) who says that through investment in operations and electronic systems especially procurement, a company increases its operational efficiency and potentially lowers costs. This increased efficiency better enables a company to lock in customers and broader market reach. He further says that it leads to coordination and flexibility as a result of reduction in time and geographical barriers. With global networks there is improvement on communication, which could be brought about by distance.

Improved payment procedures since payments are done electronically as shown in **table IX** where 63% say that payments are done electronically which minimizes mistakes, errors and time associated with cheques writing, postage, counseling, counting of money and also minimizing on the risks of transporting cash.

Ordering is mainly done electronically as maintained by respondents i.e. telephone 29%, internet 43% reduces on the ordering time and order placement costs, delays in documentation process, monetary cots etc. This eliminates postage enabling reliability of deliveries and reduced lead times. This enables efficient and continuous flow of production process.

Electronic Procurement also ensures efficiency in supplier sourcing and evaluation as suppliers' information and records are obtained from their databases. It also improves market scope as the organization can access many suppliers because of using the internet and getting cheaper sources. For this, it was maintained that in the long run it becomes cheaper since costs related to administration, paper writing and postage are eliminated. Time is also reduced and the level of accuracy is increased hence reducing on the time spent on evaluation and selection. This is supported by Leenders (1997) and Lysons (2000) as they maintain that, buyers are linking their computers with those of the suppliers to improve on the exchange of information, speed up whole trade cycle resulting into more productive use of assets and faster response to customers and improved serviced delivery of other departments.

In its bid to automate the procurement department activities, the investigation (chapter 4) showed that Uganda breweries Ltd has acquired systems such as computers to help in

speedy processing of the data and communication as shown in **table IX**. The use of the electronic data interchange also makes it time saving. It has also led to the use of internet and telephones in purchasing, reducing on the time and the costs of placing orders and negotiating contracts.

The use of electronic fund transfer enables the transfer of receipts and payment between banks and their customers, buyers and suppliers. This enables paperless payments to be made, reduced costs due to elimination of cheque writing, receiving, canceling etc. The use of the mentioned systems therefore leads to accurate, timely and efficient services and other related benefits. This is indicated by Lysons (2000) where he asserts that when linked with electronic data interchange (EDI), electronic fund transfer enables paperless payment to be made. Money travels but not papers this reduces costs due to elimination of cheque-writing, receiving, canceling and payment into bank. Increased speed of transmission due to fast, accurate and secure transmission of funds, same day information on records, payments and balances, suppliers can be certain of receiving payments on a specific date.

5.3 SUMMARY OF FINDINGS

According to the research 100% respondents maintained that the procurement department uses electronic systems. 100% of the respondents also said that the company has a website and e-mail address. On communication, it was maintained that the user departments (customers) and the organization communicate using electronic mediums i.e. for the customers, 50% telephone, 25% internet, 17% paper orders, work-in-request,8% and for the organization, 29% telephones, 43% internet, 14% paper order and 14% all mediums respectively.

The research further shows that 14% of the suppliers are notified a week before stock is finished, 29% just in time for use, 57% after requisition is placed and none of the respondents said that the notification is after customers come for materials. Forty percent (40%) of the respondents asserted that materials are received immediately, 30% 1-3 days, 10% 4-5 days and 20% 1-2 weeks.

However, the time of notification and receiving of materials depend on the urgency and criticality of the materials.

The investigation also indicated that 75% of the work and data is processed by computers and 25% is done manually. It also revealed that 63%, of the payments are made electronically, 75% of the respondents revealed that it is faster to order electronically and 25% maintained that it is not. 63% maintained that it has improved on the company's 13% cash and 24% use both modes.

In regard to costs, electronic procurement reduces the overall procurement cycle costs in the long run although in the short run the respondents maintained that it is expensive and

costly i.e. in table 12 where 50% affirmed that it is costly to purchase these systems and maintaining them. However, the other 50% said that it is cost effective. All (100%) respondents revealed that procurement is partly electronic and manual although most tasks are done electronically.

The positive impact of electronic procurement includes, improving communication and information flow, increasing access to a wider market, creating fast and reliable services, making the procurement process convenient and reducing costs in the long run. However it is also associated with some problems such as complexity of operations, high initial costs, and reduced security of information and reduced physical contact between the organization and its customers and suppliers.

5.4 CONCLUSIOIN

Basing on related literature review and investigation in chapter 4, the researcher has established that electronic procurement increases efficient service delivery in Uganda Breweries Ltd

As seen from the research electronic procurement system enables the organization to attain efficiency through improving communication and information flow, processing and storing of information, making the procurement process convenient, reducing time and other barriers, increasing access to a wider market, making timely and accurate payments, improving decision making and ensuring best use of resources.

On the other hand the costs associated with electronic procurement cannot be ignored such as high acquisition and maintenance costs, complexity of operations, risk of losing valuable information, reduced physical contact with customers, etc.

However, the huge costs of electronic procurement can be "forgiven". The researcher used the word "forgiven" because at the end of the day, the result is worth the cost i.e. once the purchase of such equipments has been effected, the long-term benefits are enormous to the organization.

In conclusion therefore, the researcher urges that electronic procurement should be a priority factor in any organization and urgency should be put on its introduction and putting into consideration what has to be done in order for the organization to improve on its effectiveness and efficiency.

5.5 SUGGESTIONS.

Considering the problems discussed in the findings, the researcher has suggested the following solutions to the problems.

- Management should carry out proper planning before implementing any organization strategy.
- A controlling and monitoring department can be set up to ensure proper operation of electronic procurement systems and how to bring it back online incase of any deviation.
- Periodic training of employees to make them well equipped with modern technological skills.
- Further funding of the system should be encouraged to provide the necessary equipment in order to make it more effective and efficient.

- Information storage back up systems should be put in place and limiting of access to valuable organizational information.

5.6 RECOMMENDATIONS

From the research, the researcher came to realize that information technology is related to many aspects of an organization that also contribute to the success, that the use of electronic systems should be incorporated in other organizational departments other than only procurement. The researcher also came to realize that there are many related areas that impact on the organization efficient service delivery. Accordingly the researcher made the following recommendations.

- An investigative research should be carried out to find solutions to the problems encountered in the process of using electronic procurement.
- An investigation should also be carried out to find out other possible aspects that impact on the organizations efficient service delivery.

APPENDICES

BIBLIOGRAPHY

Bailey P.J.H. (1994), **Purchasing and Supplies Management**. 5th Edition Business Press, Boston USA.

Bob Norton, Cathy Smith (1988), **The Internet in business licensing agency limited**. USA.

Chadwick Tom, Sham Rajagopal (1995), **Supply Chain Management**. Britain

Daft L. Richard (1997), **Management** 4th Edition; USA

Kamuntu Geoffrey, **Procurement Made Simple** (2003), East African Procurement News.

Leenders Michiel (1997), **Purchasing and Supply Management** 11th Edition Chicago, USA.

Lysons Kenneth (2005), **Purchasing and Supply Chain Management** 5th Edition

Rowley Jennifer (1998), **The Electronic Library** 4th Edition. London

Stoner A. F. James et al (1995), **Management** 6th Edition; Prentice Hall, India.

Tompkins James (2002), **Supply Chain Management** www.supplymanagement.com

Torach Julius (2004), **"E-business" East African Procurement News**; Vol. 11, Issue 11.

Torach Julius (2005) **"E-business" East African Procurement News** Vol. 2, issue 1 and 4.

Turban et al (1999), **Information Technology for Management**. 2nd Edition; New York, USA.

Zenz J. Garry (1994), **Purchasing and Management of materials.** 7th Edition; Canada

QUESTIONNAIRE

m **Nabwonso Janet** a student of Kampala International University pursuing a Bachelor's Degree Supplies and Procurement Management. The questions are intended to assist the researcher to get ormation on the **Impact of Electronic Procurement on the Organisation's efficient service ivery**. Any information provided will be kept confidential; you are kindly requested to tick where olicable and fill in where necessary.

1. Does the Procurement department use electronic systems?

   Yes ☐ No ☐

2. (I) Does the company have an e-mail address?

   Yes ☐ No ☐

   (ii) Does the company have a website?

   Yes ☐ No ☐

3. How do customers (user departments) communicate their need for materials?

   (i) Telephoning ☐

   (ii) Internet ☐

   (iii) Through paper order ☐

   (iv) Walk-in- request ☐

4. When do you notify your suppliers about the need to acquire items?

   (i) When customers come for materials ☐

   (ii) A week before stock is finished ☐

   (iii) Just-in-time for use ☐

   (iv) After a requisition is placed by the user department ☐

5. What medium do you use to order for materials?

   (i) Telephone ☐

   (ii) Internet ☐

   (iii) Traditional documentation ☐

   (iv) All ☐

6. How long does it take to get the procured items?
   (i) Immediately ☐
   (ii) 1-3 Days ☐
   (iii) 4-7 Days ☐
   (iv) 1-2 Weeks ☐
   (v) Any other specify----------

7. Is it cheaper to order electronically than through manual processes?
   Yes ☐ No ☐

Why----------

8. Has Electronic Procurement improved on the company's access to a wider market?
   Yes ☐ No ☐
9. How do you process and store Procurement information and records?
   (i) Computers ☐
   (ii) Manually ☐
   (iii) Both ☐
10. What is the form of Procurement in the company?
   (i) Purely electronic ☐
   (ii) Partly electronic and manual ☐
11. What form of payment do you use to pay for materials?
   (i) Electronic Fund Transfer ☐
   (ii) Cash ☐
   (iii) Both ☐

12. Are there any complaints about the payment medium selected in (11) above?

Yes ☐ No ☐

If yes why? ----------

13. Is it faster to procure electronically or not?

Yes ☐ No ☐

14. What are the benefits of Electronic Procurement?

---

15. What are the disadvantages of Electronic Procurement?

Appendix A: Time frame

ACTIVITY	PERIOD	OUTPUT
Proposal writing	01/12/2012	Proposal submission for approval
Developing instruments	January2013	To assist in data collection
Field work	February 2013	To be able to gather data
Data collection	March 2013	Recording of data
Data analysis	April 2013	Analyzing and interpretation of data
Preparation of report	May 2013	Submission of dissertation

Appendix B: Budget

NO	ACTIVITY	COSTS(UGX)
1	STATIONARY	20000
2	TYPING AND PRINTING	70000
3	TRANSPORT	100000
4	MEALS	40000
5	PHOTOCOPY	10000
6	INTERNET AND AIRTIME	10000
7	MISCELLANEOUS	10000
TOTAL		260000