

**ELECTRONIC PROCUREMENT AND SUPPLY CHAIN MANAGEMENT: A case of  
Aquantuo Company**

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**S20B12/030**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR AWARD OF A BACHELORS  
DEGREE IN PROCUREMENT AND LOGISTICS MANAGEMENT OF UGANDA  
CHRISTIAN UNIVERSITY**

**September, 2023**



**UGANDA CHRISTIAN  
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## DECLARATION

By signing this document, I, ANAPA PAUL, certify that this report is entirely original and was not created by any of my fellow bachelor's students. It is specifically written to satisfy the requirements for a bachelor's degree in procurement and logistics management.

A handwritten signature in black ink, appearing to read 'Anapa Paul', is written over a horizontal dotted line.

ANAPA PAUL


DATE

19<sup>th</sup> / 09 / 2023

**APPROVAL**

This is to clarify that this research report done by ANAPA PAUL, entitled "ELECTRONIC PROCUREMENT AND SUPPLY CHAIN MANAGEMENT." Has been done under my supervision and is ready for submission with my approval as the University supervisor.

SIGNED

  
.....

MR. KABANDA MARTIN

(ACADEMIC SUPERVISOR)

DATE

  
.....

## **DEDICATION**

I dedicate this work to my beloved parents Mr. (RIP) Areminya Michael and Mrs. Florence Areminya of Ngariam, Katakwi district who gave me academic foundation upon which I continue to build.

I extend the same appreciation to Mr. Ocailap Patrick and family, my siblings who supported and inspired me in different ways.

A special dedication goes to my academic supervisor at Uganda Christian University, Mr. KABANDA MARTIN for the tireless effort they have shown. May you have the same spirit for others.

My gratitude goes to my course mates for being together with me for academic excellence.

May the Almighty God bless you all.

## **ACKNOWLEDGEMENT**

I would like to extend my sincere gratitude to the Almighty God who gave me life, knowledge, wisdom, understanding and has always been with me in all ways

I greatly extend my thanks to my supervisor Mr. KABANDA MARTIN for his guidance throughout the research process. His effort has contributed a lot to this work.

I also thank the staff of AQUANTUO Company in Ntinda, Kampala for providing me with the necessary information when carrying out research, I salute you all for your commitment.

I also extend my special thanks to Mr. Ocailap Patrick, my Mother for extending their great efforts especially through tuition payment and all the other aspects you provided, God bless you.

Last but not least, I thank all my siblings for support and advice. Not forgetting all my dear friends who assisted me throughout my academic journey. I appreciate you all for being a blessing to me.

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## **LIST OF ABBREVIATIONS**

EDI	-	Electronic Data Interchange
RFID	-	Radio Frequency Identification
EP	-	Electronic procurement
SP	-	Supply chain
ICT	-	Information and Communication Technology

## **ABSTRACT**

The study looked into the electronic procurement and supply chain management of AQUANTUO Company, with the different electronic procurement technologies it uses. It especially examined the connection between the different types of electronic procurement technologies the supply chain that improve the performance of the company, and the effects of these technologies on AQUANTUO Company supply chain management. A case study methodology and a quantitative approach were used in the investigation. 15 respondents made up the study's target group, while 15 respondents were chosen at random for the sample size. The sample was chosen using both intentional and accidental sampling methods. As the main sources for data, primary and secondary sources were investigated. The study's instruments for collecting data included the questionnaire and the interviews. The researcher then used SPSS to evaluate the data and create frequency tables on which the data was displayed. According to the results of objective 1, adequate competency of the external service provider improves financial performance. The results of goal two revealed that the use of electronic procurement can boost the supply chain management of the companies since it guarantees that the candidate hired for a position genuinely understands what to do, which boosts supply chain management. According to the findings of goal three, AQUANTUO COMPANY' supply chain as been severely unstable in fulfilling the faster needs of their customers, It was found that better electronic procurement technologies should be adopted in the company to enhance quick movement of the goods and customer service. The study came to the conclusion that the proper adoption of these new electronic procurement technologies can possibly boost the management of the company supply chain. This was ultimately determined that AQUANTUO supply chain had been negatively impacted due to the old forms of technology that were being used in the company's supply chain. It was underlined that the university administration should host forums and businessperson conversations before teaching businesspeople the best electronic procurement technologies that can be used in the management of the supply chain.

## CHAPTER ONE

### 1.0 Introduction

In this chapter, I intend to introduce the Background of the study, Statement of the problem, research objective, research question, scope of the study, significance of the study, Anticipated problems and operationalization of the variables.

### 1.1 Background

Electronic procurement refers to the purchasing of goods and services for the day today operation of the business online and automating the whole procedure with the underlying aim of saving money. Aberdeen. (2009). Electronic procurement has therefore been around for much longer than the term itself which first came into usage after the establishment of the internet in the 1990s. From the 1960s until the mid-1990s, e-procurement primarily took the form of Electronic Data Interchange. Nicoletti. (2020). On the other hand, supply chain management refers to controlling, managing of all the supply chain assets and flows (financial, information, and product or material) and should have as a main goal the maximization of the supply chain surplus, the overall value generated. Chopra and Meindl. (2010) However, implementing e-procurement in the private companies has various benefits; Economy, transactional benefits, value for money, Accountability and transparency throughout the supply chain. Joyce and Chan. (2002). Take the case of AQUANTUO Company limited which is involved in importing the goods, with all this benefits it has boosted its growth as well. The other benefits of e-procurement are that it would increase compliance with the law for instance Uganda Public Procurement and Disposal of Public Assets Act.

Che'cille. (2008) pointed out that for the success of the online transaction, it has to be coupled with user's expertise defined as profession of all the knowledge and the experience about using the computer systems and software products by the user. The E-procurement user must have concepts, knows functionality and the technical process of the particular system. Before the e-procurement system was implemented in the country, there were so many difficulties that the users faced in adopting and acquiring this system hence more time was given for those eligible to

learn and put it into practice, however it has not been adopted by certain small percentage most especially in rural areas.

E-procurement was launched in 2015 as one of the procurement reforms undertaken by the government in order to enhance service delivery. However, it became essential to some private companies like AQUANTUO Company limited to also do adopt e-procurement to facilitate it's supply chain since it mainly imports goods from China, UK, Nigeria and many other countries.

The Organization for Economic Co-operation and Development (OECD) estimates savings from implementation of e-procurement in government entities to range from 5-8% of the procurement value and more in the private sector. The government through PPDA rollout electronic government procurement system beginning with 10 government entities in July 2015. (Daily Monitor, 10<sup>th</sup> March 2015). It seeks to reduce the levels of corruption in the country as reported.

However, implementation of e-procurement system in organization is still difficult as it's costly in terms of implementation and maintenance, training employees on how to operate an electronic procurement is challenging and also there is loss of direct relationship between the buyer and seller. (Kenneth, 2006). There are different technologies that are used in e-procurement take for example Radio Frequency Identification (RFID), and many more. This focus of organizations e-procurement is on making its operations more efficient through paperless processing of orders and receipts and invoices therefore reducing costs and saving time in operations. (Carabello,2001).

Emergence of information systems for example E-sourcing catalogues, electronic resources planning, many organizations are now involved in the use of electronic procurement to carry out their purchasing activities. (Kenneth, 2000). For the case of AQUANTUO Company limited allows its customers to order goods and services online which are required by customers in Uganda. The goods are ordered from different countries like China, UK, India, South Africa and many more, where by the e-procurement technologies are integrated within the supply chains of AQUANTUO Company, this has greatly impacted the final customers.

The supply chain objective is to provide value to the end customer in terms of products and services and each channel participant to garner a profit in doing so. Funda and Robinson. (2002). Furthermore, with rapid development in technology makes e-procurement to fit into all the

process of procuring the items from the point of ordering to the point at which the customer receives the goods,” last mile delivery.”

In consideration, e-procurement is very important in the supply chain management, Carr and Smeltzer. (2015) noted that e-procurement, both upstream and the downstream participants are in closer interaction in value chain means reduced “bull whip.”

## **1.2 Statement of the problem**

It is noted that in some private organizations, E-procurement has not yet been implemented and thus has not taken route in such organizations yet it is very important in cutting the administrative costs and the logistics costs. According to Barber. (2005), the broad aim of E-procurement is to reduce on the transaction costs, improve international procurement process is able to integrate successful with other information systems, particularly production, planning, control and finance systems.

Meaning that AQUANTUO being an importing company can be able to grow and further expand if it's able to maintain and adopt the new and modern e-procurement technologies to easily facilitate it's day today activities in Uganda and across the globe, therefore the company has to quickly adjust and acquire these new technologies.

To serve the customers easily and in time, Aquantuo Company has set up a strong e-procurement system to enable the customers to order across the globe. Li et Al. (2015) and Fan et Al, 2017 point out that e-procurement can extend relationship in supply chain to customers through sharing of information to boost functionality of supply chain management. With this clear positive impact of e-procurement, it shows that AQUANTUO Company has the further more extend it's service closer to customers to ensure agility in their Supply chains as they fulfill the requirements of their customers.

It's basically very essential to have e-procurement in AQUANTUO Company. However, if it had failed to adopt this system, then it would probably incur high administrative costs, low competitive advantage in relation to it's competitors, failure to gather customers' orders and poor inventory management. In other words, their Supply chain would have faced serious challenges which would cause the down fall of the organization. Namusonge. (2017) clearly tells us that there is need to move from traditional mode of procurement to e-procurement services,

effective supply chains are crucial for a firm to remain competitive in today's market place. Therefore, e-procurement can be a problem solver in most cases in the supply chain.

### **1.3 Research Objectives**

#### **1.3.1 Specific Objectives.**

i) To find out the different e-procurement technologies that are used in supply chain management of AQUANTUO company.

ii) To find out the possible challenges faced when E-procurement was being implemented in supply chain management of AQUANTUO Company.

iii) To find out the possible solutions to the challenges faced when implementing E-procurement in supply chain of AQUANTUO Company.

#### **1.3.2 General Objectives.**

The general objective was to find out the relationship between e-procurement and supply chain management, case of AQUANTUO Company in Ntinda in Kampala.

### **1.4 Research questions.**

The study was guided by the following research questions;

i)What are the different e-procurement technologies used in the supply chain management, in AQUANTUO company?

ii)What are the challenges that are faced in the implementation of e-procurement in the supply chain management of AQUANTUO?

iii)What are the solutions to the challenges in the implementation of e-procurement in Supply chain management of AQUANTUO company?

### **1.5 Scope of the study**

#### **1.5.1 Content scope**

The study is mainly based on the e-procurement and supply chain management. It will specifically focus on the different e-procurement technologies used for supply chain

management, challenges that arise in the implementation and solutions to these challenges in the supply chain management in AQUANTUO Company.

### **1.5.2 Time Scope.**

The study was conducted for a period of four (4) months, that is to say from May 2023 to August 2023 based on the e-procurement and supply chain management of AQUANTUO company. This is because this period is adequate enough to enable me find out the information concerning my area of study and finish the work successfully.

### **1.5.3 Geographical scope**

It involves knowing the location of the area I am intending to do my research from.

The study was conducted in AQUANTUO Company located in plot 2495, block 214 Kulambiro Ring road in Ntinda, Kampala Uganda.

### **1.6 Significance of the study.**

The research enabled the company gain broader knowledge on the ways in which it can solve the challenges to the problems faced in e-procurement.

The research also enabled the employees to make sound decisions especially on the new and get rid of off the outdated technologies in the company.

The research enabled me to gain familiarity to the different e-procurement technologies used in the supply chain management of AQUANTUO Company.

The study was also carried out in order to obtain the data and information for use by the future researchers as they aim to review literature and compare to the other scholarly work.

### **1.7 Anticipated problems.**

As a researcher, I am likely to face different challenges in my research for instance;

High Costs on purchasing the materials for carrying out the research take for example the books, pens, and other necessary equipment which is likely to cost more than shs.50,000. In order to ensure that the activity is properly and systematically conducted.

The issue of language barrier is also likely to a rise, this is because some of the workers like the security guards, cleaners and other different non staff members may not be knowing how to speak English.

Denial for confidential information. Some of these organizations tend not to expose all the relevant information yet it can be important for my research and as a result, some of the information may become missing not adequate enough.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

The literature review provides the different literature assessed from different authors, journals, textbooks and articles in relation to the objective of the study. This chapter presents the literature that was relevant to the study giving references to the objectives and it has got three sections, first it aims to assess the impact of Electronic Data Interchange on supply chain management, secondly it will examine the impact of satellite communication on supply chain and lastly it aims at assessing the impacts of electronic receipts on supply chain management. Having put on a clear interest on the impact of these different technologies on the supply chain management, it creates more and solid confidence for an organization to basically have these new Electronic the procurement technologies to be in place to enhance their Supply chain management case of AQUANTUO company.

#### 2.2 The impact of electronic data Interchange (EDI) on supply chain management.

Electronic Data Interchange has greatly impacted the supply chains of different companies that use this electronic system. According to Ilayas. M and Mohamed. K. (2017), Electronic Data Interchange has promoted collaboration in the supply chain through improved customer service which is very important aspect within the supply chains. Through collaboration, the goal of each party within the supply chain is to add value to the product, in order to accelerate good customer service which leads to customer satisfaction.

However, Rika. Y and Santos. P. B ( 2018) argue out that Electronic Data Interchange provides the form of communication which has basically resulted into collaboration among the firms in the supply chain and has become very popular through vehicle for electronic communication collaboration in the supply chain which is very crucial in ensuring time management as well as customer service and because of this, it can enable the firms to meet the needs of their customers. But according to Putra. A and Zeplin. T (2020), they add on that electronic Data Interchange improves on collaboration through customer satisfaction, a firm involved in as a distract or as well, always try to provide the customer needs especially for the case of whole sellers. The

distributor can improve on retailer satisfaction adequate information that suits retailer requirements in pursuit that the supply flow can more quickly, particularly on the flow of the products from the manufacturing that were ordered by the retailer. In other words, customer service is key and it's the one that leads to collaboration which is major impact that Electronic Data Interchange has brought in the supply chain.

Electronic Data Interchange has also impacted the supply chain in a way that it has increased on the competitive advantage especially in logistics in terms of physical distribution, which is mostly related to transportation management, EDI may involve planning and management of the products on words from end t end. Kumar and Shirisha.(2014). However supply chains management with the use of EDI leads to the competitive advantage and may not necessarily be in logistics alone but also in the managing materials and supplies which is also the inventory in companies held for sale or held as inputs to facilitate the manufacturing activities which in turn lead to quick response to lead times of their customers. Mahidin, Asaad and Zien. (2013).

However, Masudin (2015) explained that Electronic Data Interchange also reduces on the transaction linked expenses of coordination in different companies by way of standardization of tasks and better communication among the supply chain players. The standardization activity ensures flow of items and services to meet the customer requirements in terms of being cost saving and reduced lead time to meet the needs of the customers. Therefore, with the use of electronic data Interchange there is assured quick transaction and transmission of information compared to any manual transaction equipment like a fax machine. It thus improves on the accuracy in the flow of communication between the different trading partners. Kampf and Stopka.(2014), therefore the use of electronic data Interchange in the supply chain has greatly positively impacted the supply chain participants in various ways.

Electronic Data Interchange promotes customer satisfaction through ensuring closer relationships with the customers within the supply chain in order to ensure that each party involved in the value chain archives their goal. A good customer service can result into customer satisfaction and most significantly creates customer loyalty, this is one of the aims of e very firm involved in the supply chain starting from the point of production up to the point of consumption which may also involve distribution, retailing storing of the items in the warehouse. However, Jenssens. G. (2011) clearly points out that customer satisfaction may be as a result of reduced costs in

ordering for the products from the suppliers and customer, this in turn results into continuous participation by the consumers in the business of consuming the particular products of the consumers hence resulting into seller buyer relationships which are a sign of consumer satisfaction.

The electronic data Interchange also enables suppliers' further consumers who may be unknown to them, hence the sellers can detect the consumption patterns of their customers and detect the taste and preferences. Ana. I. C and Clerk. M. (2013). However, they still argue that organizations need to know how they can understand their customers, how to respond to them at the right time, EDI is responsible for ensuring that are close to the suppliers and this enables them to express their needs at right time.

Electronic Data Interchange promotes sustainable practices in the supply chain through reducing demand risks, this is through faster information sharing in soft-order electronic data Interchange systems in Electronic procurement in the supply chain and it aims to ensure the sustainable regulation mechanisms throughout the supply chain. Han. G and Dong. M (2017). The new Electronic Data Interchange systems allow sharing of information online without using paper hence quick transfer of the information from the customers to the sellers of the particular products in the value chain. Tarafdar. M. (2012). However, sustainable practices through the use of EDI can be achieved through information sharing which leads to collaboration hence reduces on wastage in the supply chain. Therefore, the risks that may arise in the supply chain can be shared by the supply chain partners instead of only one party suffering the loss caused by the risk for example the demand risk and also the win scenario may occur through the use of EDI since there is relationship between the partners this can result into the growth firms without wastage occurring in the process.

The Electronic Data Interchange can also enhance sustainability in a way that the continuous sharing of information and important receipts in the supply chain for example the retailer buyer communication ensures that the orders are brought quickly without any delay in the system. Kee-Hang. L. (2009), having electronic data Interchange in the Supply chain ensures that there is exchange of information electronically among the supply chain partners.

### **2.3 The impact of Radio Frequency Identification on supply chain management.**

The Radio Frequency Identification has greatly impacted the supply chains, in a way that the customers can easily identify their goods and know who their suppliers are, therefore the impact that Radio Frequency Identification has put in the supply chain according to Sarack. A. (2010). Is that it has reduced on inventory loses and increase on efficiency and speed hence improving on inventory accuracy. This can be through combining different tags, readers, frequency and levels tagging and so many other things to ensure smooth flow of goods and services throughout the supply chain. However, Ying. T. L. (2009) complements that Radio Frequency Identification enable to track accurately in real time, resulting in reduced processing time and labor. More significantly complete visibility and traceability of information regarding the suppliers can be achieved through the use of Radio Frequency Identification from the manufacturing point to the final consumer as well. Furthermore, Dai. H and Mitchell. M. T. (2012) also add on that Radio Frequency Identification technologies also reduce holding costs for the inventory held in the store especially if the inventory can easily be scanned using the QR code and the customers can easily order promptly and this can reduce on the costs of holding the inventory in the warehouse. Therefore, the emergence of Radio Frequency Identification in the supply chain provides possible solutions to alleviate the growing costs of inventory accuracy in the warehouse and as well to the customers.

Radio Frequency Identification improves on the product handling efficiency, according to Sara. W, Fredrik. L, Peterson. (2018), Radio Frequency Identification improves on the product handling efficiencies by minimizing wastes and monitoring moisture level in the material effectively, creating effective competitiveness throughout the supply chain especially for those companies that are using Radio Frequency Identification technologies. Therefore, the use of Radio Frequency Identification potential to improve this process further more identifies the possibilities to minimize the damages and control the moisture. However, Lu. W, George. Q. and Li. H. (2011) also support that Radio Frequency Identification use in the supply chain has led to the wide spread improvement in the inventory management throughout the supply chain however, Liu. C. And Chen L. S. (2009) argue that Radio Frequency Identification brings about product handling through improved process control and handling applications that lead to flexibility and interactivity between the customers themselves and the producers of the product. Through the use of Radio Frequency Identification as the procurement technology, it has greatly

impacted the value chains as well as the customers in the process which has greatly led to reduced operations both in the process of manufacturing as well as the time used in the process of the product. Williams. Q , Mathew. A and Nomusa (2011) furthermore point out that Using Radio Frequency Identification is cost effective which leads to proper inventory management which further leads to profit maximization in the value chain hence reducing on the time spent on handling the products especially in the warehouse this has greatly impacted the customers to benefit since the cost are low in this case.

The radio frequency Identification improves on customer service and also improves on the performance of the value chain. Ali. A and Haseeb. M (2019) however, they add on that the electronic technologies furthermore have addressed the issues of wastage in the supply chain this is through ensuring effective supply chain activities contributing continuous operations throughout the value chain especially in customer service. However, Rundha.B.(2008) also complements that Radio Frequency Identification improves on efficiency through the use of sophisticated inventory management, low costs on delivery and improved results. It also offers opportunity to reduce theft and counterfeiting. More accurate demand analysis can be achieved through the use of Radio Frequency Identification however, its disadvantage is that high setup and improvement costs especially for the small business that have just been established. Martin. P and Kevin. C (2007) also agree that the radio frequency identification has been receiving a lot of commercial attention in the recent times, especially in the supply chain management. The purpose of the Radio Frequency Identification is basically to enhance speed and ensure proper customer service through quick identification of the store trying to look for the item. Paul. O and Palesa. K. (2021) further more explain that Radio Frequency Identification does not only ensure faster customer service but also streamline information storage which result into product visibility, reduction in inventory and labor costs especially in the upstream supply chain involving suppliers. Radio Frequency Identification is an effective tool for management of the organization supply chain activities and increasing on global competitiveness this can lead to attraction of more customers and as well increase profit flow for the organizations in that particular supply chain.

The Radio Frequency Identification is an important tool for guiding and organizing for the market research especially if the information about the particular products has been kept in the

system of Radio Frequency Identification. Syed. A. R. (2022). In other words, using the radio frequency identification in the supply chain will enable to transform the system from the traditional manner to suit into the current world of fast-growing technology. However, Sarack. A, Nabil.A, Stephanie. D.(2010) argue out that even if the radio frequency identification Is important in understanding market research, but it also improves on the inventory management, information such that this Information can act as a guide for future reference take for example among many companies that use the radio frequency identification in the management of their supply chain. Ilias. P. V. (2014) complements that Radio Frequency Identification is also able to improve on the performance of the supply chain through the wide spread use of different performance models which can be attached to the radio frequency identification system. This has greatly improved on the management of the supply chain. However, it further more reduces on the costs incurred in the supply chain take for example labor costs. Ustundag. A and Tanya's. M. (2009). Therefore, using the radio frequency identification in the supply chain is very important because the larger it's used in value chain, the more it enables one to obtain value for using that uses the radio frequency identification for the management of Supply chain.

#### **2.4 The impact of satellite communication on the supply chain management.**

The satellite communication has put a great impact in the management of the supply chain in a way that it has enhanced collaboration among the supply chain participants, according to Roya. D and Na. J. N.(2019), collaboration using the satellite communication is effective since it leads to agility in the supply chain management which is noticeable in business world nowadays, decreased product life cycle is achieved which allows the customers to communicate to their suppliers through the use of the sophisticated technologies across the globe. However, Haitham. M.A. (2019) adds on that satellite communication has increased coordination and collaboration through easing the employee task execution in the warehouse as well as in the manufacturing process this is through the use of intelligence agent based system communication along supply chain parties, retailers and distributors with an a of enhancing the supply chain performance as well. According to Rajiv. B. (2014), satellite communication is very essential in logistic as well since modern face of procurement is pending to be more electronic rather than manual way as it used to be, however Francois-Xavier. D and Marie-Eve. R. (2017) basically tell us that the use of the satellite communication in the global positioning system (GPS) tracking enable the customers

to be aware of where their products that they have ordered could have reached. The goods can be tracked online using the global positioning system in the supply chain.

Satellite communication improves on the visibility and traceability throughout the supply chain, according to Musa.A, Angappa. G, Yusuf. Y. (2014), clearly tell us that satellite communication fosters visibility in the value chain through planning, controlling and agile operations associated with the improved customer experience of the product. The upstream activities can as well be analyzed by the downstream players in the supply chain like the customers and the retailers. Although Michael. R and Glenn. C.P. (2020) also add on that the use of the satellite communication in the block supply chain has reduced on the damages since suppliers can easily identify the risks in the supply chain and find the possible ways of mitigating the risk. However, Saberi et Al. (2019) also complement that the use of satellite communication in the Supply chain has greatly promoted visibility in the supply chain which is very important especially in enhancing the collaboration as well as communication among the supply chain players.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

In this chapter, it includes the strategy for the research, format or the blue print for research. It will also point out the study population, sample design and the sample size as well. It also aims at giving the sampling techniques which will be inform of probability, the data sources, the data collection methods, research instruments and research procedures and ethics that I shall follow while conducting or carrying out research.

#### **3.2 Research design**

In this case, the researcher plan to clearly set strategies for collecting data for example using interviewing the various people in the field on the topic Electronic procurement and supply chain management specifically aim to understand how positively electronic procurement is impacting the supply chains. The study considers the Qualitative approaches. Design is a valuable method for studying specific subjects quantitatively despite statistical validity concerns, acknowledging it a valuable scientific tool. The study will use a cross sectional design, collecting data from diverse respondents and times.

#### **3.3 Study population**

The study population is the elements of interest from which the researcher expects to collect data from. For this case, the information will be obtained from the population of about fifteen people who are involved in working with the organization. This is because the researcher can easily interview these people about the particular topic of interest.

#### **3.4 Sample size**

The researcher aims to use the Purposive non-random sampling to interview about fifteen people in the organization. This sample size can be ideal enough since it helps me to cover a number of people within the shortest time possible.

### **3.5 Sample techniques**

The Purposive non-random sampling technique shall be used to identify those that will be interviewed for example the procurement officers in the organization and the other employees in the organization.

### **3.6 Data collection methods**

The data was collected through census by interviewing the people more specifically the telephone interviews since it allows the correspondents to easily respond quickly in relation to the research topic. The reason why the census is ideal for this study is that it's easy to research people easily, quickly which saves time because most of the employees in the case study are always busy in their duties.

It provides accurate information especially after ascertaining the sample size hence making it easy to provide solutions to the research problem.

The interviews can easily save time and enable the researcher to directly be able to directly interact with the people he is obtaining the information from.

### **3.7 Interview.**

The interviews involved face to face interviews of the on-phone interview, For this case, the researcher aims to use the on phone interview since to provides quick access to information and enables the researcher to obtain the information within the short period. This is called the key informant interview since it involves the phone calls.

#### **3.7.1 Interview and focus group**

Interviews and focus groups consist of talking to respondents face to face about specific topic or issue. Interviews were one on one whereas focus groups involve taking me o several people.

### **3.8 Document Analysis**

This study also reviewed the existing information materials related to the study problem and variable information of reports, journals, websites and database to gain information on the study.

### **3.9 Data analysis**

The analysis of the data were both quantitative and the Qualitative analysis of the data since these provide well and clear understanding of the research.

## CHAPTER FOUR

### 4.1 Introduction

This chapter provided the researcher's interpretation of the data that had been gathered and examined, the data obtained is based on electronic procurement and supply chain management of AQUANTUO company.

### 4.2 Response rate.

**Table 1: Response rare.**

Response	Frequency	Percentage (%)
Responded phone interview	8	53
Non- responded	7	47
Total	15	100

Source: primary source.

The researcher conducted 15(100%) phone interviews with some of the employees in the organization. However, 53% responded and the 47% were not able to respond due to the other circumstances.

### 4.3 The gender of the respondents.

**Table 2: The gender of the respondents.**

Gender	Frequency	Percentage (%)
Male	10	67
Female	5	33
Total	15	100

Source: primary source.

The table above shows the gender of the respondents in AQUANTUO company, therefore there are ab 10 men employed in the organization which contribute to 67% of the employee in the organization and the women are about 5 which contribute to about 33% of the employees in organization. Therefore, there are more men than women in AQUANTUO company.

#### 4.4 Position and departments of respondents.

**Table 3: The positions and departments of the respondents.**

Position and the department in the organization	Frequency	Percentage	Cumulative percentage
Procurement department	4	27	27
Audit	1	7	34
Stores department	6	40	74
ICT department	4	26	100
Total	15	100	

Source: primary source.

When the survey was conducted, the different there we different respondents from different departments in the organization showed up. There were about 4 respondents from the procurement department that contributed to about 27% of those that responded to the survey, in the audit unit of the organization there was 1 respondent in that unit contributing to about 7% since most of them were taken up with the other duties. The 6 respondents were from the stores department that contributed to about 40% and this was the department that contributed to the largest number of respondents. In the ICT department, there were about 4 respondents that contributed to about 26% of the total respondents.

**Table 4: Age group of the respondents.**

Age	Frequency	Percentage	Cumulative percentage
20-29	3	20	20
30-39	7	47	67
40-49	4	27	94
50-	1	6	100
<b>Total</b>	15	100	

Source: Primary data.

That table above shows the distribution of the ages of the respondents, there were about 3 respondents in the survey with age of about 20-29, and they contribute to the percentage of 20%. The 7 respondents were of age 30-39 which contribute to the largest percentage of 47% and the age 40-49, there were 4 respondents which contribute to 27% in the survey and 1 was above 50years and contributes to 6% of the respondents.

**Table 5: Level of education of the respondents.**

Level of education	Frequency	Percentage	Cumulative Percentage
Diploma	8	53	53
Bachelors degree	6	40	93
Masters	1	7	100
<b>Total</b>	1t	10	

Source: primary data

According to the table above, 53% of the respondents attained the diploma level in their education, 40% f the respondents had attained the bachelor’s degree and 1 of the them attained the masters level in education, therefore most of the employees in the organization have high levels of education which possibly enhances easy adoption of the electronic procurement in the organization.

**Table 6: Level of use of the various electronic procurement technologies in the organization.**

Technology used	Percentage	Cumulative Percentage
Electronic Data Interchange (EDI)	40	40
Satellite communication	45	85
Radio Frequency Identification (RFID)	15	100
Total	100	

Source: primary data.

The table above shows the technologies that organization uses for the management of its Supply chain, there for the satellite communication is the most important in the organization and it contributes 45% , the election data Interchange contributes to about 40% and lastly the Radio Frequency Identification contributes to about 15% use in the supply chain management of the organization.

**Table 7: Findings about the effects of electronic procurement on finances of an organization.**

Effect of electronic procurement on finances of the organization.	Agree ( F , P [%])	Disagree ( F , P [%])	Not sure ( F , P [%])	Total
The use of the electronic procurement reduces on costs on an organization.	6(40)	7(47)	2(13)	15(100)
The electronic data Interchange technology increases on the competitive advantage of the organization	8(53)	3(20)	4(27)	15(100)
All the supply chain management tools are cost effective.	5(33)	5(33)	5(33)	15(100)
The use of satellite communication in the supply chain promotes the visibility in the supply chain	3(20)	6(40)	6(40)	15(100)
The most important thing in the use of electronic data Interchange is that it's cost effective.	7(47)	7(47)	1(6)	15(100)
Compliance with the organization regulation by the employees will ensure less costs at some point in the supply chain	4(20)	8(53)	3(13)	15(100)
The customers are mainly attracted by the	4(27)	10(57)	1(6)	15(100)

low prices of the product.				
The use most important technologies in electronic procurement is the satellite communication because it reduces on supply chain costs.	6(40)	7(47)	2(13)	15(100)

Source: primary source.

According to the findings on the table above about the effects of electronic procurement on the finances of the organization, 40% of the respondents agreed that the use of the electronic procurement can reduce of costs of the organization, 47% of the respondents disagree and the 13% of the respondents were not sure whether these technologies reduce of the costs of the organization. 33% of the respondents agree that the use of the supply chain tools are cost effective, 33% disagree and then the other 33% were not sure.27% of the respondents agree that the low costs mainly attract the customers, 67% of the respondents disagree and the 7% of the respondents are not sure. The 33% of the respondents agree that compliance with the organizational policies lead to the low costs on an organization, 40% disagree and the 27% of the respondents are not sure. The 20% of the respondents agree that the satellite communication promotes visibility in the supply chain, then the 40% of the respondents disagree and the 40% of the respondents are not sure. 40% of the respondents agree that the satellite communication in the supply chain management is the most important technology in cost reduction, however the 47% of the respondents disagree with this and the 13 % of the respondents are not sure.

**Table 8: Findings about the different electronic procurement technologies used in the organization.**

<b>Statements.</b>	<b>Agree ( F, P[%])</b>	<b>Disagree (F, P[%])</b>	<b>Not sure (F, P[%])</b>	<b>Total</b>
The most common technology used is satellite communication.	8(53)	4(27)	3(20)	15(100)
The most reliable and the cheapest form of customer-seller communication is EDI	4(27)	6(40)	5(33)	15(100)
The use of Radio Frequency Identification improves on the customer service.	1(7)	10(67)	4(27)	15(100)
The use of electronic data interchange allows the exchange of information across different departments	6(40)	6(40)	3(20)	15(100)
The most significant and cheapest E-procurement technology is the electronic data interchange	7(47)	4(27)	4(27)	15(100)
The use of the electronic procurement technologies enhances collaboration for example the satellite communication.	10(67)	2(13)	3(20)	15(100)
The use of RFID In the supply chain management has increased the costs especially on acquisition of the machines.	6(40)	6(40)	3(20)	15(100)

Source: Primary source.

The table above shows the different level in which the different electronic procurement technologies are used in the organization, 40% of the respondents agree that the use of the Radio Frequency Identification in the supply chain has increased the costs especially in acquisition, the 40% disagree and the 20% of the respondents are not sure. The 67% of the respondents agree that the use of the electronic procurement technologies enhances collaboration in the supply chain, 13% disagree that that is not true however the 20% of the respondents are not sure.

The 47% of the respondents agree that the electronic data Interchange is the cheapest form of electronic procurement and the 27% disagree that the electronic data Interchange is not the cheapest form of electronic procurement however, 27% of the other respondents are not sure. The 40% of the respondents agree that the Electronic Data Interchange allows the flow of the information across the departments of an organization, however the 40% of the respondents disagree that it's not only electronic Data Interchange that shares the information across the entire organization, however the 20% of the respondents are not sure of this. The 7% of the respondents in the organization agree that the use of Radio Frequency Identification improves on the customer service, 67% of the respondents disagree about this and the other 27% of the respondents are not sure of that.

## **CHAPTER FIVE**

### **DISCUSSION, SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION.**

#### **5.1 Introduction**

The study was conducted based on three specific objectives, such as to analyze the impact of electronic data Interchange on Supply chain management, assess the impact of the satellite communication on the supply chain management and to an analyze the impact of Radio Frequency Identification on supply chain management for the case of AQUANTUO company. The findings were presented in this chapter along with recommendations based on the conclusion.

#### **5.2 Discussion of the findings**

##### **5.2.1 Social demographic factors**

Since men made up the larger number of the population in the organization, with the about 67% were male and the 33% of the employees in the organization being women. Where by the way 6% of the men in the top management at age of above 50years and the women were mainly at the age of 20-30 years implying that most of the women working in this organization are mainly the youth. However, the 27% of the men are within the age of 40-49 and most of them take up the positions of Procurement and stores.

##### **5.2.2 Findings on the level of the use of the different electronic procurement technologies in the Aquantuo Company.**

According to the survey carried out in AQUANTUO company, there were about 45% of the respondents who agreed that the majorly used form of electronic procurement is the satellite communication since it covers the management of the entire supply chain of the organization, 40% of the respondents also agree that the use of electronic Data Interchange is moderately used in the organization and the least used form of the Electronic procurement is the radio frequency identification since it's only used during the issuing of the products to the customers.

### **5.2.3 Findings about the relationship of the level of education and the use of electronic procurement technologies in the organization.**

According to the statistics obtained, most of the employees are highly educated with at least diploma level. Therefore 53% of the employees attained the diploma level which is significant enough to operate the different electronic procurement technologies that are in the organization, 40% of the employees attained the bachelor's degree in their level of education which enables them to take up the positions of stores manager, procurement and auditing and the 7% of the employees have the masters level in their education which is very important for management function in the organization.

### **5.2.4 Findings on the challenges facing electronic procurement in AQUANTUO Company.**

Because companies believe that the experts, they have been less considerate to account for the processes and procedures on which work is done in the organization, it was discovered that lack of transparency in supply chain had a significant negative impact on Aquantuo Company. This resulted in an acceptance rate of (60%) of the respondents who agreed with the argument made by David. C. (2015). In Conclusion a total acceptance rate of 88% was used to draw the conclusion that the use of electronic procurement technologies at the company from this analysis of the many different impacts of the electronic procurement technologies on the supply chain management.

Additionally, the study concluded that the different electronic procurement technologies improve on the supply chain management which was consistent with the claim made by Greave. (2009) and supported by 53% of the respondents. This conclusion was drawn from the findings on the effect of electronic procurement on the supply chain. Finally, it was determined that because companies believe that the experts they outsource are not sufficiently transparent to account for the processes and procedures upon which work is done in the organization, it has significantly harmed the financial performance of Aquantuo company This generated an acceptance rate of (60%) of the respondents who agreed with the argument made by Ilias. M. (2017)

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### **5.3 Recommendations**

#### **To AQUANTUO company.**

The researcher further advises AQUANTUO company that the company should further more train more staff as well as obtain for improved electronic procurement technologies such that the activities in management of the supply chain are easily responded to in time depending on the requirements of the customers.

#### **To the Government.**

It was underlined that as this will help educational institutions improve their ability to use the electronic procurement technologies and manage the supply chain effectively, the government should push them to develop better supplier chain leadership through training on electronic procurement.

#### **To the University.**

According to the report, in order to increase the use of electronic procurement, university administration should have forums and conversations with businesspeople and then train them on the best electronic procurement practices currently used.

### **5.4 Area of further research.**

1. The challenges facing the implementation of electronic procurement in the supply chain
2. New trends in electronic procurement that are driving sustainability today.
3. Solutions to the problems facing the implementation of electronic procurement in Uganda today.
4. Ways of building sustainable practices through electronic procurement.
5. The future benefits of adopting electronic procurement in the supply chain management.

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## APPENDICIES

### APENDIX 1: QUESTIONNAIRE.

Dear respondent,

I am ANAPA PAUL, a student at Uganda Christian University carrying out a study on the “ Electronic Procurement and Supply Chain Management of AQUANTUO Company” in partial fulfillment of award of a Bachelor’s Degree in Procurement and Logistics Management of Uganda Christian University. You have been selected to participate in this questionnaire. Your response shall be kept anonymous and will never be linked to you and everything is strictly for academic purposes.

Thank you for your cooperation.

Part 2: Bio Data.

Please answer question by ticking and explaining where necessary.

1. Gender of respondent.

a).Male             b) Female

2. Age group

a) 20-29years.     b) 30-39 years

c) 40-49 years.     d) 50 years and above

3. Education level

a) Certificate.             b) Diploma

c) Bachelor’s degree.     d) Master’s degree

e) Other specify .....

4. Which department do you belong in this company?

- a) Auditing.                       b) Procurement and Logistics.   
 c) Stores                               d) sales and marketing.

5. Working experience

- a) Less than 1 year.                       b) 1-5 years   
 c) 6-10 years.                               d) Above 10years

**PART 3.**

NOTE: In the following sections, rate your degree of agreement on each statement under each objective using a scale of 5(strongly agree). 4(Agree). 3(Not sure). 2(Disagree) and 1(strongly disagree)

**Section A: (To analyze the effect of electronic procurement on supply chain management)**

NO	QUESTIONS	RESPONSES				
		5	4	3	2	1
1	Sustainability often drive the decision to carry out electronic procurement.					
2	Electronic procurement can be due to the need to ensure efficiency in the supply chain.					
3	Purchasing the goods internationally has resulted into electronic procurement.					
4	The use of electronic procurement in the organizations has resulted into cost					

	savings.					
5	Organization conducts electronic procurement to ensure more savings and growth.					
6	Electronic procurement can result into competitive advantage in an organization					
7	The use of electronic procurement in the supply chain has resulted into reduced expenditure on paper work					

**Section B: (Various electronic procurement systems that enhance supply chain management).**

No	Question.	Response.				
		5	4	3	2	1
1.	Electronic Data Interchange involves the system that allows two or more organizations to exchange the information					
2	Electronic procurement is the quickest way of purchasing goods and services.					
3	The satellite communication ensures proper visibility in the supply chain about goods on transit.					
4	The electronic receipts ensure easy issuing of the goods out of the store.					
5	The use of Radio Frequency Identification enhances faster customer service.					
6	The electronic receipts ensure that there is approval for receiving and issuing of the goods in the warehouse .					

7	The use of the satellite communication and the GPS ensures that the goods are tracked and located from a point of origin up to the final customers.					
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**Section C: (The challenges facing electronic procurement in the supply chain management)**

No	Question	Response				
		5	4	3	2	1
1	The traditional way of purchasing goods and services using cash poses challenge in using the electronic procurement technologies to buy the goods and services.					
2	The cost of purchasing the electronic procurement equipment is so high that some organizations have decided to maintain their own way of purchasing the goods and services.					
3	Stiff competition among the different organizations has led some companies to be out competed which results into such out competed companies not to adopt the electronic procurement systems.					
4	Lack of strong relationship and collaboration in the supply chain among some key partners has limited					

	them from having enough capital to acquire the electronic procurement technologies.					
5	The lack of experts in the organization has discouraged some of the companies from adopting these procurement systems.					
6	Lack of awareness about the different electronic procurement technologies available in the market today has limited some companies from obtaining the new technologies available.					
7	Lack of trust among some of the supply chain players has discouraged some of the organizations from adopting the new Electronic procurement systems like the electronic data Interchange					

Thank you very much for your participation.

## APPENDIX 2

### INTERVIEW GUIDE QUESTIONS TO THE STAFF OF AQUANTUO COMPANY HEADQUARTERS, NTINDA.

**Objective 1:** The contribution of electronic procurement on the supply chain management of AQUANTUO Company.

1. Do you perceive the impact of electronic procurement has improved the management of the supply chain of AQUANTUO Company?
2. How has the adoption of the new Electronic procurement technologies enabled the organization to gain the competitive advantage among the other competitors?
3. The adoption of Electronic procurement systems in an organization increases visibility across the supply chain. What advantage does visibility of the supply chain add to the organization?
4. Does adoption of the electronic procurement technologies in the supply chain of the organization enable to ensure waste reduction in the organization?
5. Why should any other organization adopt the electronic procurement system in their supply chain?

**Objective2:** The role of electronic procurement in ensuring fulfilment of the customer needs of AQUANTUO Company.

1. How best does electronic procurement systems enable the customers to obtain the goods in relation to just in time deliver and ordering?
2. What are the main things that the customers of AQUANTUO Company have to do in order to ensure that they are able to easily access the online market when they are trying to purchase the goods?
3. How does electronic procurement system ensure sustainability while meeting the needs of the customers in short period of time?
4. How do the electronic procurement ensure collaborations between it's customers and the organization itself?

5. What are the different electronic procurement systems that AQUANTUO Company mainly use to ensure direct interaction with their customers about the goods that they have ordered for?

**Objective 3: The role of electronic procurement ensuring sustainability in the supply chain.**

1. How does electronic procurement system ensure that there is agility in the supply chains of AQUANTUO Company?

2. How does electronic procurement eliminate waste in the supply chain of AQUANTUO Company?

3. Does electronic procurement systems be more costly to maintain compared to paper work in AQUANTUO Company?

4. What are some of the benefits that AQUANTUO Company enjoys through the use of electronic procurement systems in their supply chains?

5. How does electronic procurement technologies ensure efficiency and effectiveness throughout the supply chain of AQUANTUO company?



# UGANDA CHRISTIAN UNIVERSITY

A Centre of Excellence in the Heart of Africa

SCHOOL OF BUSINESS

1<sup>st</sup> Aug 2023

TO WHOM IT MAY CONCERN

Name:

Reg. No.

A bachelor's student who is seeking permission from your office to collect data for his/her dissertation titled

" ENVIRONMENTAL PROCUREMENT AND SUPPLY CHAIN " <sup>MANAGEMENT</sup>

We shall be grateful if you could render assistance to him/her in collecting the necessary data for his/her dissertation

The Uganda Christian University School of Business thanks you in advance

Mukisa Simon Peter  
Research coordinator