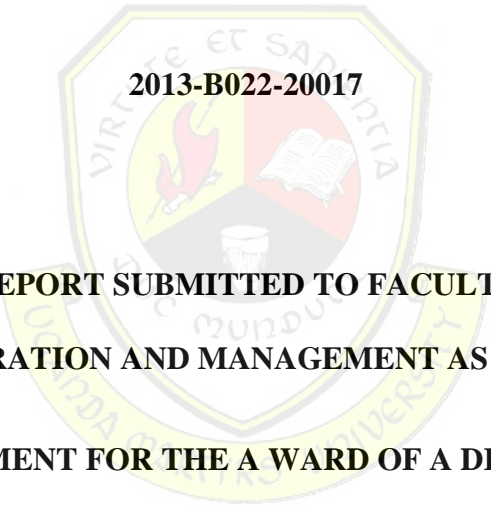THE INFLUENCE OF SUPPLY CHAIN MANAGEMENT ON THE QUALITY

SERVICE DELIVERY IN THE UGANDA PUBLIC SECTOR.

A CASE STUDY: NATIONAL WATER AND SEWAGE COOPERATION

BY

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DEDICATION

This research report is dedicated to Ms Sarah Kikomeko for her unconditional caring during my school time and to my supervisor Mr Kibrai Moses for his time and effort he has offered to me during the journey of this research

ACKNOWLEDGEMENT

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ABSTRACT

This research studied the influence of supply chain management on the quality service delivery in the Uganda public sector using a case of National Water Sewage Cooperation. The study was guided by the following objectives; to examine the effect of inventory management on the quality service delivery in public sectors, to determine the influence of supplier relationship management on the quality service delivery in public sectors and to indentify the role of transportation management in the quality service delivery in public sector.

The study used qualitative and quantitative research design. The main source of data in the study was questionnaire, which was issued to National Water Sewage Cooperationa employees; this study depended on a sample of 100 respondents. Questionnaires were used to collect data which was then coded and analyzed.

The findings of the study intend to identify and validate key constructs underlying supply chain management research. This study discovered that various supply chain relationships has been growing, there has not been a comprehensive approach to construct development and measurement. This could be largely attributed to the fact that astronomical efforts are required to undertake the development and validation of constructs and measures of SCM.

The study recommended that to manage supplier relationship management, the NWSC should intensify centralization of common user items. The organization should create a data base on supplier activities such as delivery schedules, complaints, quality management processes.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study will about on the influence of supply chain management on the quality service delivery. The independent variable is supply chain management which is examined by the main factors that affect effectiveness of SCM and can be broadly classified into supplier relationship, inventory management and distribution. The dependent variable is quality service delivery which is measured by the features of the quality service delivery and that is effectiveness, durability and efficiency.

1.1 Background of the study

Supply chain management (SCM) practices involve a set of activities undertaken in an organization to promote effective management of its supply chain (Koh et al., 2007). The short-term objectives of SCM are to enhance productivity, reduce inventory and lead time. The long-term objectives of SCM are to increase market share and integration of supply chain (Koh et al., 2007). SCM practices can be defined in various ways. Donlon (1996) coined SCM practices as practices that include supplier partnership, outsourcing, cycle-time compression, continuous process flow and information technology sharing.

Li et al. (2005) defined SCM practices as the set of activities that organizations undertake to promote effective management of the supply chain. Otto and Kotzab (2003) termed SCM practice as a special form of strategic partnership between retailers and suppliers. Alvarodo and Kotzab (2001) viewed SCM practices in terms of reducing duplication effects by focusing on core competencies and using inter-organizational standards such as activity-based costing or electronic data interchange, and eliminating unnecessary inventory level by postponing

customizations towards the end of the supply chain. Koh et al. (2007) categorized SCM practices from the following aspects: close partnership with suppliers, close partnership with customers, just-in time supply, strategic planning supply chain benchmarking, few suppliers, holding safety stock and subcontracting, e-procurement, outsourcing and many suppliers. Ellram, Tate and Billington (2007) identified seven theoretical processes of service supply chains which include information flow, capacity and skills management, demand management, customer relationship management, supplier relationship management, service delivery management and cash flow.

In general, SCM practices are categorized into demand management, customer relationship management, supplier relationship management, capacity and resource management, service performance, information and technology management, service supply chain finance, and order process management (Chong, et al., 2010).

The automotive industry is often described as one of the most global of all industries. Its products are spread around the world and it is dominated by a small number of large companies with global recognition (Humphrey & Memedovic, 2003:2).

Supply chain management (SCM) as a concept has been applied to some extent in the automotive industry for a number of decades. Candler (1998:6) noted as far back as 1998 a trend in the automotive industry. He noted that original equipment manufacturers (OEMs) do not want to deal with a large number of suppliers because this results in increased expenditure in administration, increased design costs and increased quality problems.

Therefore, suppliers are rather organized into tiers of suppliers, where first-tier suppliers are left to design many of the assemblies themselves and second-tier suppliers assist in designing and producing the components.

The Uganda automotive industry has experienced significant changes in the last 20 years. Globalisation, the implementation of lean production and the development of modularization have had major influences on the relationships between OEMs and their suppliers, particularly those in the first tier, known as automotive component manufacturers (ACMs) (Morris, Donnelly & Donnelly, 2004:129).

Organizational performance refers to how well an organization meets its financial goals and market criteria (Bayraktar, Tatoglu & Zaim, 2007). In general, organizational performance can be measured from both financial and non-financial criteria (Tatoglu & Zaim, 2006). The measures of financial goals include profit, return on investment, sales growth, business performance, and organization effectiveness (Venkatraman & Ramanujam, 1986).

On the other hand, the measures of non-financial criteria are innovation performance and market share (Demirbag et al. 2006), quality improvement, innovativeness and resource planning (York and Miree, 2004). Organizational performance is also being studied from the perspective of SCM organizational performance which includes increased sales, organization-wide coordination and supply chain integration (Koh et al., 2007; Petrovic-Lazarevic, Sohal & Baihaiqi, 2007). Operational and organizational performance dimensions may also include innovation and R&D performance (Prajogo & Sohal, 2003; Singh & Smith, 2004).

1.2 Statement of the Problem

In Uganda, over seventy percent (70%) of public sector organizations experience supply chain management challenges and this negatively affects effective delivery of services (Edward, 2014).The ministry of finance was ranked 7th in performance, according to the performance contracting secretariat report.

Due to the fact that supply chains function as a system or network, problems experienced in one part of the supply chain permeate through to the whole supply chain. This can lead to greater inefficiencies in the supply chain as a whole. More consideration should be given to the impact of actions and decisions in one part of the supply chain on the rest of the supply chain to ensure best decisions for the supply chain as a whole(Koh et al., 2007).

Due to the poor competitiveness of the Uganda automotive industry in comparison with global competitors, the question could be asked if the SCM approach is implemented to the fullest extent with a focus on supply chain wide solutions and efficiencies instead of those of individual parties in the supply chain (Chong, et al., 2010). However this study will seek find out the influence of supply chain management on the quality service in the Uganda public sector.

1.3 Broad objective of the study

The purpose of the study was to establish the influence of supply chain management on the quality service in the public sector.

1.4 Objectives of the study

(i)   To examine the effect of inventory management on the quality service delivery in public sectors.

(ii)   To determine the influence of supplier relationship management on the quality service delivery in public sectors.

(iii)   To indentify the role of transportation management in the quality service delivery in public sector.

1.5 Research questions

(i) What is the effect of inventory management on the quality service delivery in public sectors?

(ii) What is the influence of supplier relationship management on the quality service delivery in public sectors?

(iii)What is the role of transportation management in the quality service delivery in public sector?

1.6   Scope of study

This describes the subject scope and time scope on which study is going to cover.

1.6.1   Subject scope

The study provides an orderly framework for analyzing influence of influence of supply chain management on the quality service delivery in the Uganda public sector.

1.6.2   Time period

The study covered a period between 2007 to date .This enabled the researcher to interpret influence of supply chain management on the quality service delivery so as to be able to make reliable conclusions.

1.6.3   Geographical scope

This study will cover national water and sewage cooperation

1.7 Significance of the study.

The study will provide information to other researchers who may wish to carry out further research in the same field, the research will help government to keep its tax base intact, and the study will help other organizations to implement supply chain management.

The study will be able to justify the use of supply chain management which is properly laid down to the general public. and Since the research submitted in partial fulfillment for the award of bachelors of that will help the researcher attain her degree award.

1.8 Conceptual frame work

Li et al. (2005) defined SCM practices as the set of activities that organizations undertake to promote effective management of the supply chain. Otto and Kotzab (2003) termed SCM practice as a special form of strategic partnership between retailers and suppliers. Alvarodo and Kotzab (2001) viewed SCM practices in terms of reducing duplication effects by focusing on core competencies and using inter-organizational standards such as activity-based costing or electronic data interchange, and eliminating unnecessary inventory level by postponing customizations towards the end of the supply chain. Koh et al. (2007) categorized SCM practices from the following aspects: close partnership with suppliers, close partnership with customers, just-in time supply, strategic planning supply chain benchmarking, few suppliers, holding safety stock and subcontracting, e-procurement, outsourcing and many suppliers. Ellram, Tate and Billington (2007) identified seven theoretical processes of service supply chains which include information flow, capacity and skills management, demand management, customer relationship management, supplier relationship management, service delivery management and cash flow.

Helmsing (2010) in his study defines service delivery as a deliberate obligatory decision by the elected or appointed officials to serve or deliver goods and services to the recipients. Heskett

(2010) defines service delivery as an attitudinal or dispositional sense, reffering to the internationalization of even service values and norms. Customer care involves putting systems in place to maximize your customers' satisfaction with your business. It should be a prime consideration for every business-your sales and profitability depends on your customer's happiness. It is more directly important in some roles than others. For receptionists, sales staff and other employees in customer-facing roles, customer care should be a core element of their job description and training, and core criterion when you are recruiting (Athanassopoulos, 2012)

Before taking a close look at the inventory and transportation management and the key factors relate to them, the overall logistics costs are introduced first. Consequently, in this sub-section a brief introduction to logistics costs is given, and then in connection to the following sub-sections about inventory and transportation management, the costs related directly for them are illustrated. Johnson (2008) defines logistics costs as cost as that can be attributed to logistics activities. He further states that they include both indirect and direct costs.
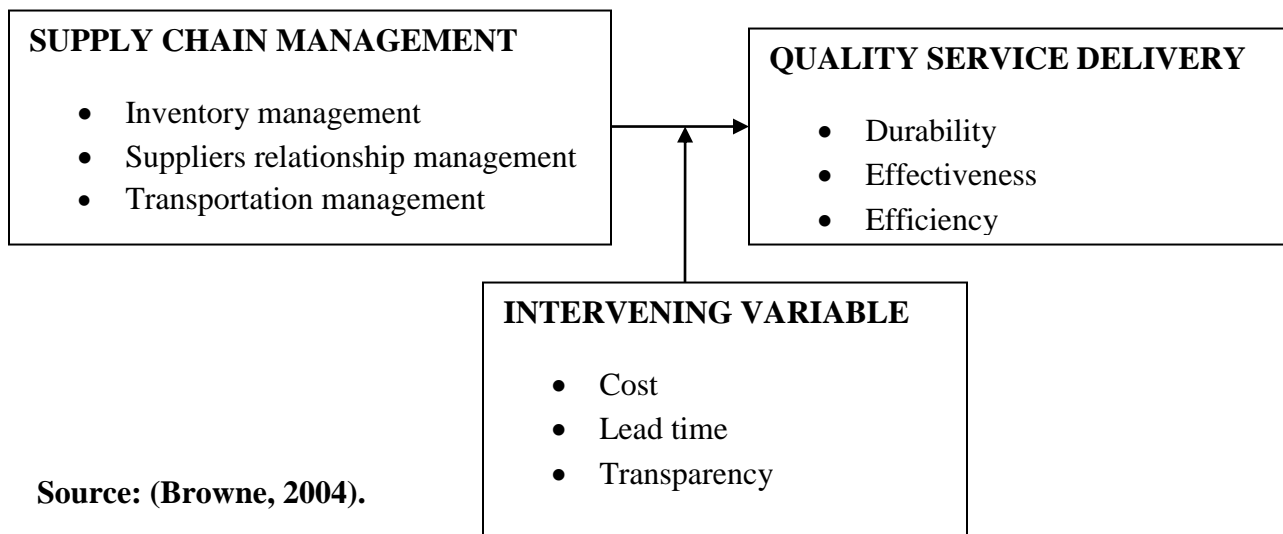
SUPPLY CHAIN MANAGEMENT

- Inventory management
- Suppliers relationship management
- Transportation management

QUALITY SERVICE DELIVERY

- Durability
- Effectiveness
- Efficiency

INTERVENING VARIABLE

- Cost
- Lead time
- Transparency

Source: (Browne, 2004).

The independent variable is supply chain management which is examined by the main factors that affect effectiveness of SCM and can be broadly classified into supplier relationship,

7

inventory management and distribution. The dependent variable is quality service delivery which is measured by the features of the quality service delivery and that is effectiveness, durability and efficiency. Intervening variable is factors that control the independent and dependent variables and this cost, lead time and transparency.

CHAPTER TWO

LITERATURE REVIEW

2.0   Introduction

This chapter includes all the several studies carried out in relations to the variables of the research that's to say the effect of supply chain management and quality service delivery variables of the study.

2.1 Supply chain management

Fierce competition in today's global markets, the introduction of products with short life cycles and the increased expectations of customers have forced businesses to invest in and focus their attention on their supply chains (Simchi-Levi, Kaminsky & Simchi-Levi, 2009:1).

The nature of competition has changed. Companies no longer compete against companies. Supply chains compete against other supply chains for supremacy. 'Toyota and its suppliers will clash with Ford and its suppliers for global competitive advantage' (Fawcett, Ellram & Ogden, 2007).

The SCM concept or approach has developed as business organisations realize that both customers and suppliers can exert considerable influence on supply processes. Organisations need their suppliers to assist in decreasing costs, improving customer service and efficiency. Also, their customers need their co-operation as suppliers to further decrease costs, improve customer service and efficiency. ' the relationship between the company and its suppliers as well as its customers is included in the concept [of SCM]' (Van Weele, 2010).

Bennet and O'Kane (2006), Humphreys, Haung, Cadden and McIvor (2007) and Lockström, Schadel, Harrison and Moser (2009) view SCM as a collaborative approach, spanning across

firm boundaries, including various parties in the supply chain, which significantly contribute to improved product quality, shorter lead times and a higher responsiveness of the supply chain, at lower cost and increased customer-satisfaction levels.

The crux of the SCM approach perhaps lies in the summary of Van Weele (2010:255): 'SCM represents a systems approach to viewing the supply chain as an integrated entity rather than a set of fragmented parts.' A problem experienced in one element of the supply chain may relate to a weakness in another element or part of the supply chain. For example, if the suppliers or ACMs experience a build-up of inventory it might be caused by a lack of information sharing by OEMs (ACMs' customers). 'When customers are willing to share important planning information with their suppliers, this will enable them to anticipate much more effectively future customer orders' (Van Weele, 2010:255).

Key factors in the SCM approach became evident in the discussion of the concept of SCM above. It is clear that SCM consists of a series of businesses, integration of activities, a network of facilities, one unit as opposed to fragmented units and a system. The supply chain can therefore be seen as an integrated system. This means that good, efficient practices at suppliers, focal firms and customers in supply chains can improve the efficiency of the other parts (parties) and the supply chain as a whole. The opposite is also true. If inefficiencies or problems are experienced in one part, this negatively affects the other parts and the supply chain as a whole. One part should not be regarded as more important than the other. It is thus to the advantage of all the supply chain members if inefficiencies can be resolved together. 'Cost and inefficiencies go up when members of the supply chain fail to communicate and co-operate' (Fawcett et al., 2007).

SCM in the manufacturing of automotive components includes the integration of activities taking place among a network of facilities that procure the inputs needed at each level or tier of the supply chain, to be ultimately transformed into finished automotive components and delivered to customers through a distribution centre. Inputs include information from customers, raw materials, inventory, equipment, machinery, labour and finances. The transformation or conversion process transforms inputs such as raw material and labour into outputs in the form of finished goods and services delivered to the customer at the next lower level of the supply chain. This process is continued at all levels of the supply chain until the final product (a motor car) reaches the final customer. The facilities involved in an assembly-type supply chain such as ACMs include warehouses, factories, processing centres, distribution centres, retail outlets and offices. Activities include forecasting, planning, purchasing, inventory management, information management, quality assurance, scheduling production, distribution, delivery, disposal and customer service (Heizer & Render, 2008; Stevenson, 2009).

2.2 Service Quality

Service quality is a comparison of expectations with performance. A business with high service quality will meet customer needs whilst remaining economically competitive. Improved service quality may increase economic competitiveness. From the viewpoint of business administration, service quality is an achievement in customer service. (Peter, Kundenbindung, 2008) It reflects at each service encounter. Customers form service expectations from past experiences, word of mouth and advertisement. In general, Customers compare perceived service with expected service in which if the former falls short of the latter the customers are disappointed.

The accurate measurement of an objective aspect of customer service requires the use of carefully predefined criteria.

The measurement of subjective aspects of customer service depends on the conformity of the expected benefit with the perceived result. This in turns depends upon the customer's expectation in terms of service, they might receive and the service provider's ability and talent to present this expected service. Successful Companies add benefits to their offering that not only satisfy the customers but also surprise and delight them. Delighting customers is a matter of exceeding their expectations.

Pre-defined objective criteria may be unattainable in practice, in which case, the best possible achievable result becomes the ideal. The objective ideal may still be poor, in subjective terms.

Service quality can be related to service potential (for example, worker's qualifications); service process (for example, the quickness of service) and service result (customer satisfaction).

A customer's expectation of a particular service is determined by factors such as recommendations, personal needs and past experiences. The expected service and the perceived service sometimes may not be equal, thus leaving a gap. The service quality model or the 'GAP model' developed by a group of authors-Parasuraman, Zeithaml and Berry at Texas and North Carolina in 1985, highlights the main requirements for delivering high service quality. It identifies five 'gaps' that cause unsuccessful delivery. Customers generally have a tendency to compare the service they 'experience' with the service they 'expect'. If the experience does not match the expectation, there arises a gap. Ten determinants that may influence the appearance of a gap were described by Parasuraman, Zeithaml and Berry. In the SERVQUAL model: Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Understanding the customer and Tangibles are the determinants of customer satisfaction.

One of the most useful measurements of service quality is the dimensions from the SERVQUAL model. In the creation of this model for the very first time, "Parasuraman et al. (1985) identified 97 attributes which were condensed into ten dimensions; they were found to have an impact on service quality and were regarded as the criteria that were important to access customer's expectations and perceptions on delivered service (Kumar et al., 2009, p. 214). The SERVQUAL scale which is also known as the gap model by Parasuraman, et al. (1988) has been proven to be one of the best ways to measure the quality of services provided to customers. This service evaluation method has been proven consistent and reliable by some authors (Brown et al., 1993). They held that, when perceived or experienced service is less than the expected service; it implies less than satisfactory service quality; and when perceived service is more than expected service, the obvious inference is that service quality is more than satisfactory (Jain et al., 2004, p. 27). From the way this theory is presented, it seems the idea of SERVQUAL best fits the evaluation of service quality form the customer perspective. This is because when it is stated "perceived" and "expected" service, it is very clear that this goes to the person, who is going to or is consuming the service; who definitely is the consumer/customer.

2.1 The effect of inventory management on the quality service delivery in public sectors.

The inventory management is regarded as a key element for the reduction and control of total costs and improvement of the level of service provided by the companies (Wanke 2004). For Roy (2012), the area plays very important role in the overall cost of operations and supply chain of any business big or small.

For Han (2007), inventory is used as a cushion against the supply and demand uncertainties. In the same vein, for Khunagornniyomrattana et al. (2007), inventory is a double-edged weapon, since the lack of inventory leads to loss of productivity, while excess inventory leads to loss of

profitability. Thus, Oliveira and Rodrigues (2008) argue that inventory management has direct and significant effects on operational efficiency (performance) and company finances and Roy (2012) points out that an effective inventory management will always give a competitive advantage to the business over its competitors.

The inventory management aims to optimize the investment by maintaining adequate and satisfactory levels of materials capable of meeting the needs of customers (Quirino et. al 2011). To meet this goal, according to Chaharsooghi and Heydari (2010), managers need to find the best answer to two questions: "How much to order?" and "When?". To answer these questions, we must deal with the trade-off between the pursuits of cost minimization, while we are seeking the satisfaction of service levels (Aloi et al. 2012).

In addition to this trade-off, with the increasing number of items with different demand patterns and characteristics, complexity increases in material management. Thus, researchers and managers must also deal with the challenges of considering the particularities of each material and each organization, and manage the different sources of uncertainty, as shown by Santos and Rodrigues (2006), Altug and Muharremoglu (2011), Alem and Morabito (2012). Moreover, according to Santos (2006), the government sector needs more efficient inventory controls.

According to Mascarenhas et. al (2005), Bravo and Mariano (2006), since the early of 90s, the Brazilian public organizations has been undergoing transformations that seek to modernize and restructure their management models, aiming efficiency and quality in service delivery, with optimization of public spending. Public institutions began to incorporate management methods from private sector (Bresser-Pereira 2008). However, according to Kovacic and Pecek (2008),

process innovation in the public sector still focuses largely on improvements related to the elimination of bureaucracy and simplifying processes.

As stocks are a substantial portion of the assets of organizations, they can (and should) be seen as a potential factor in the optimization of public resources used, and in cost reduction (Martins and Alt 2011). However, knowing how and when to replenish each material, considering possible variability to which the organization is subject, becomes an extremely complex task, since the lack of an essential material may do more harm to the organization than the maintenance of a minimum stock of the same (Gutiérrez and Vidal 2008, Santos and Rodrigues 2006).

In this scenario, inventory management, one of the oldest questions of production management, still arouses much interest both in organizations and academia (Gomes and Wanke 2008, Garcia and Ferreira Filho 2009). However, Kovacic and Pecek (2008) emphasize that public sector organizations face different challenges from those faced by private companies, since they need to fulfill multiple, often conflicting goals, and are subject to financial, legal, contractual, staff and institutional nature restrictions. Thus, an analysis of inventory management applied in this context becomes relevant.

In addition, Lourenço and Castilho (2006) mentioned that most organizations work with a wide range of products and give the same degree of attention to all items is not a recommended practice, given the peculiarities of each material. Thus a suitable type of control for a product may be inappropriate to another and, therefore, the materials classification becomes important for proper inventory management.

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may be inappropriate to another and, therefore, the materials classification becomes important for proper inventory management.

Thereby, the questions that guide the development of this research emerge: (i) "How is currently made the materials management and more specifically, the inventory management in the Brazilian public sector?" (ii) "Which theory can be used to classify the materials based on multiple criteria?" (iii) "Which criteria should be applied in the materials classification, in order to treat them differently?".

To answer these questions, this paper seeks to diagnose the materials management in an object of study of the public sector and to propose, based on multiple criteria, classification of materials, given the particularities of the sector and each material.

As an object of study, it was adopted the warehouse of a University. This choice is justified, since the warehouse of the institution has recently undergone a process of restructuring, changing the unit manager and implementing a new integrated management system. Moreover, after some visits to the warehouse, examples of materials without moving, overdue and / or obsolete were observed and there were reports about situations of lack of material in past periods. These conditions show problems in the inventory management of the institution

2.2 The influence of supplier relationship management on the quality service delivery in public sectors.

Supply Chain Management Ethics is the management of suppliers and supply relationships with strategies, programs, and metrics that better align supplier business conduct with purchaser standards, with the goal of reducing the purchaser's overall risk of corporate integrity failure in the supply chain. Corporate integrity failure embraces any enterprise-level scandal involving a

violation of compliance, ethics, or corporate responsibility standards. Most companies today do a pretty good job of managing these three risk categories within their own four walls. However, these very same companies often fall far short when it comes to managing and mitigating corporate integrity risk in their supply networks (Carasco and Callaghan, 2008).

SRM aims to overcome the traditional adversarial relationship between buyers and suppliers. It is through communication and the sharing of information and ideas that better outcomes are provided for both parties.

According to Bailey, Farmer, Jessop and Jones (2005:12), mutual supplier-buyer relationships provide benefits in terms of sharing and exchanging information, with the emphasis on building a 'satisfactory outcome together' in a range of areas. According to Saunders (1997:255), the outcome of an adversarial relationship is perceived in terms of a 'win-lose' result, whereas the outcome of a partnership relationship is perceived to result in a 'win-win' situation – where both sides win at the same time through the implementation of a problem-solving approach. Burt et al. (2010:68) and Mangan, Lalwani, Butcher and Javadpour (2012:36) agreed that the main distinction between these two relationships is the existence of institutional trust.

According to Monczka et al. (2010:109), most buyers and sellers recognise the need for teamwork between buyers and suppliers as the best way to reduce costs and ensure quality, delivery, time and other measures of performance. The relationship is two-sided, as both parties have the power to shape their nature and future direction. Mutual commitment and balanced power are key features: commitment enables both parties to keep the relationship working overtime and balance ensures mutual benefits. This teamwork is often described as SRM.

2.3 The role of transportation management in the quality service delivery in public sector

Transportation is a necessary end right from early history. The mobility of people and materials especially in the present days become one of the greatest needs that have to be adequately satisfied on our society and economy at large.

Transportation is referred to as the engine of the economy (Kunri 2005:79). This means that without transportation management system, the entire economy will suffer stagnation. Transportation helps to bridge the gap between producers, suppliers and industrials users as well as individual commuters. Research has shown that transportation alone account for about 46% of the total physical distribution costs for manufacturing companies and 28 % for reseller companies. It is important to note that not much success can be accomplish in manufacturing, distribution of goods and services including the movement of people without transportation. Transportation occupies one-third of the amount in the Logistics costs and transportation systems influence the performance of logistics system hugely. It is as a result of the great importance attached to transportation that man has over the years developed various transportation modes in other to facilitate the movement of people and materials.

The mode of transportation selected will greatly depend on price, time, delivery, condition and destination, customer's patronage, and past purchase satisfaction. This poor transportation management can therefore jeopardize the source of procurement of materials; goods and services, movement or people and even course increase in prices and loss of lives. Whereas customer satisfaction is extremely important in an economy where the vendors have to work hard to win new business and keep their existing customers. If a company fails to satisfy their existing clients there are many other vendors who would like the opportunity to win the business.

Baily (1987) Transportation can therefore be define as the process of making goods and services available to a named destination. Wales (2010) defined transportation "as the movement of people and goods from one location to another.

The Collin's Dictionary explains that, to transport means to convey from one place to another. Chopra (1998) defined transportation "as the process of conveying goods, services or materials from the manufacturing industries to customers both within and outside country." Others also defined transportation as a physical movement of goods from the point of manufacture to the point of consumption or from the place where they are made and to where they are needed.

Chopra and Meinal (2007) defined transportation "as the movement of inventory from one point to another point in the supply chain. Coyle, Bradi and Langley (1976) define transportation systems "as the physical link connection a company's customers, raw material suppliers, plant, warehouses and channel member.

From the above definitions it can be seen that, all authors seems to concentrate on moving goods or services from one point to another location, so therefore we can derive our definition of transportation as the activities that assist the movement of goods and services from one place to another place or the activity that facilitates physical movement of goods as well as individuals from one place to another.

According to Branch (2006), transport distribution analysis is the technique by which alternative methods of distribution are analyzed and optimum pattern of transportation selected. It is often called physical distribution management. In home markets, it is possible to retain overall control of sales outlets and related distribution arrangement. However, where transportation are involve problem of greater complexity arise.

The modal choice consideration so far has been concerned with the various operational factors that might need to be taken into account. The other main set of considerations involves the various attributes of different modes themselves. It is not possible to describe here the detailed operations of the different modes, but it is important to indicate their major attributes specifically in relation to the factor described in the previous section. This consideration is with respect to both cost and service and with respect to the other distribution-related functions where trade-off may need to be identified.

Encompassing the many operational factors that may need to be considered are those that can be categorize as external to distribution related factors. These are particularly relevant when contemplating the international and local context of modal choice because from country to these factors can vary significantly. They include: Basic infrastructure in terms of information and equipments, Trade barriers (customs duty, import quote), Export and import controls and licenses, Laws and taxation within the geographical location.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This describes the research design study population, sampling size, Data collection methods, Data processing, Analysis and presentation that were used by the researchers. To ensure representation of various respondents in the population, a simple random sampling technique was employed.

3.1 Research design

This study adopted a cross-sectional research design. It was used both descriptive and analytical research designs which involved qualitative and quantitative research so as to describe observations and examine the findings to come up with conclusions and recommendations for the study.

3.2 Study population

In order to determine the influence of supply chain management on the quality service delivery, a total of 110 respondents were asked to participate.

3.3   Sampling size

The ever increasing need for a representative statistical sample in empirical research has created the demand for an effective method of determining sample size. To address the existing gap, Krejcie & Morgan (1970) came up with a table for determining sample size for a given population for easy reference.

Many researchers (and research texts) suggest that the first column within the table should suffice (Confidence Level = 95%, Margin of Error = 5%). To use these values, simply determine

the size of the population down the left most column (use the next highest value if your exact population size is not listed). The value in the next column is the sample size that is required to generate a Margin of Error of ± 5% for any population proportion.

Table 3.1 showing sampling size

Category of respondents departments	Total study population	Sample size
PDU	25	24
HR	5	5
Record achieves	15	14
Account	5	5
Customers	60	52
Total	110	100

Source: **Krejcie & Morgan, 1970**

3.4   Methods of sampling

Stratified sampling was used to divide the population into the groups as PDU, HR, record achieves, account and customers .Simple random sampling was done for the sample selection in each group. This sampling method was conducted where each member of a population have equal opportunity to become part of the sample. As all members of the population have equal chance of becoming respondents. In order to conduct this sampling strategy, we shall define the population first, list down all the members of the population and then select members to make the sample. For this procedure, the simple random sampling technique was employed.

3.5   Sources of data

3.5.1 Primary sources

The primary data sources were got the opinions of selected members of the population. Primary data was obtained through personal interviews and administered questionnaires.

3.5.2 Secondary sources

Secondary data was obtained from 2 areas; the first is the internal source which within the organization where several documents were used to reveal needed information, these included; marketing research reports and revenue reports. The second source is the external sources which include information acquired from books, newspapers and the internet.

3.6   Data collection instruments

3.6.1 Questionnaire Method

The researcher was use closed ended questions. They were administered to 100 respondents. These help to obtain the required data. The questionnaires were answered by respondents and later collected by the researcher.

3.6.2 Measurement of Variables

The study was used a 5-point linkert scale to measure the variables which are supply chain management and quality service delivery to come up, with findings. This was range from strongly agree to strongly disagree (strongly agree, agree, not sure, disagree, and strongly disagree).

3.7   Data processing

For computer processing, a statistical computer package, statistical package for social scientists (SPSS) was used. Manual processing was involved in collating and tabulating the information from the questionnaires. Responses were enumerated according to pre – coded categories, intervals or commonality of responses in the case of open – ended questions.

3.8   Data presentation

Research findings were presented using both descriptive and quantitative methods. These figures were expressed as ratios or percentage of the total number of respondent for ease of comparison.

3.9   Data analysis

Quantitative methods were used to analyze, summarize and present numerical data in percentages, frequencies and others. Data was cross – tabulated to show the different variables. The generated frequency tables were used to determine the effect of financial management on services delivery. The qualitative data was collected, transcribed and grouped. Double data entry and checking was used to minimize errors.

3.10   Limitations of the study

The following limitations are expected to be encountered while carrying out the study:

- **Confidentiality**; Confidentiality refers to the researcher's agreement to handle, store, and share research data to ensure that information obtained from and about research participants is not improperly divulged. Individuals may only be willing to share information for research purposes with an understanding that the information will remain protected from disclosure outside of the research setting or to unauthorized persons.

- **Priorities time for respondents**; Data collection is any process whose purpose is to acquire or assist in the acquisition of data. Collection is achieved by requesting and obtaining pertinent data from individuals or organizations via an appropriate vehicle. The data is either provided directly by the respondent (self-enumeration) or via an interviewer. Collection also includes the extraction of information from administrative sources which may require asking the respondent permission to link to administrative records.

- **Attrition;** Sample attrition is a feature of longitudinal or panel data in which individual observations drop out from the study over time. Attrition may occur for a number of reasons, including insufficient compensation for survey response, induction into military services, transfer of residence with no follow-up information, or death of the respondent.

- **Importance integration**; Data integration involves combining data residing in different sources and providing users with a unified view of these data. This process becomes significant in a variety of situations, which include both commercial (when two similar companies need to merge their databases) and scientific (combining research results from different bioinformatics repositories, for example) domains. Data integration appears with increasing frequency as the volume and the need to share existing data explodes. It has become the focus of extensive theoretical work, and numerous open problems remain unsolved.

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND DISCUSSION OF THEFINDINGS

4.0 Introduction

This chapter shows presentations and interpretations of findings in relation to the objectives of the study and the research questions.

The objectives of the study are as follows

- To examine the effect of inventory management on the quality service delivery in public sectors.

- To determine the influence of supplier relationship management on the quality service delivery in public sectors.

- To indentify the role of transportation management in the quality service delivery in public sector.

4.1 Personal data

Personal data shows the gender, level of education, and respondent's department and working experience years.

4.1.1 Gender of the respondent

The researcher was interested in finding out whether the gender of the respondents would influence procurement planning and results into proper service delivery. The finding can be seen in table 4.1 below.

Table 4.1 Gender of the respondents

Responses	Frequency	Percent
Male	55	55.0%
Female	45	45.0%
Total	100	100.0

Source: Primary Data

Table 4.1 above indicates that more Male were involved in answering the questionnaire with a percentage of 55.0% compared to Female with a percentage of 45.0%. This concludes that more male are involved in procurement planning activities at National Water and Sewage Cooperation as compared to the females with a percentage of 45% females and thus there was no gender bias. The gender of respondents has an effect on procurement planning and service delivery at National Water and Sewage Cooperation.

This information is approved on the figure
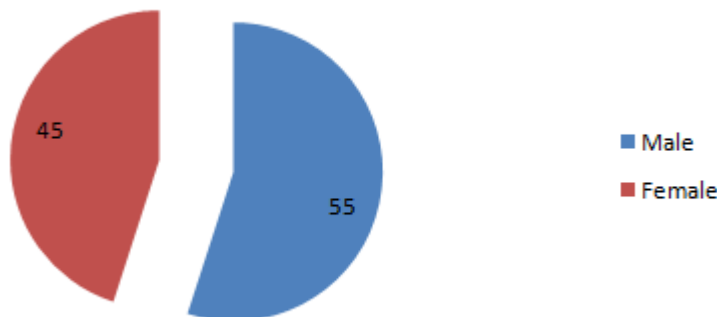
4.1.2 Respondents level of education

Findings on the levels of education were considered to kwon the level of education of the respondent. The outcome is shown on the table below.

Table 4.2 The respondents' level of education

Response	Frequency	Percent
Certificates	10	10.0
Diploma	30	30.0
Under Degree	50	50.0
Masters Degree	10	10.0
Total	100	100.0

Source: Primary data

From table 4.2 shows that more respondents had degree transcript with a percentage of 50.0% diplomas 30.0%, certificates 10.0%, Masters with 10.0%, this helps the researcher to give a conclusion that more educated people were able to answer the questionnaires thus obtain the information concerning supply chain management and service delivery.

This also presented on the figure below
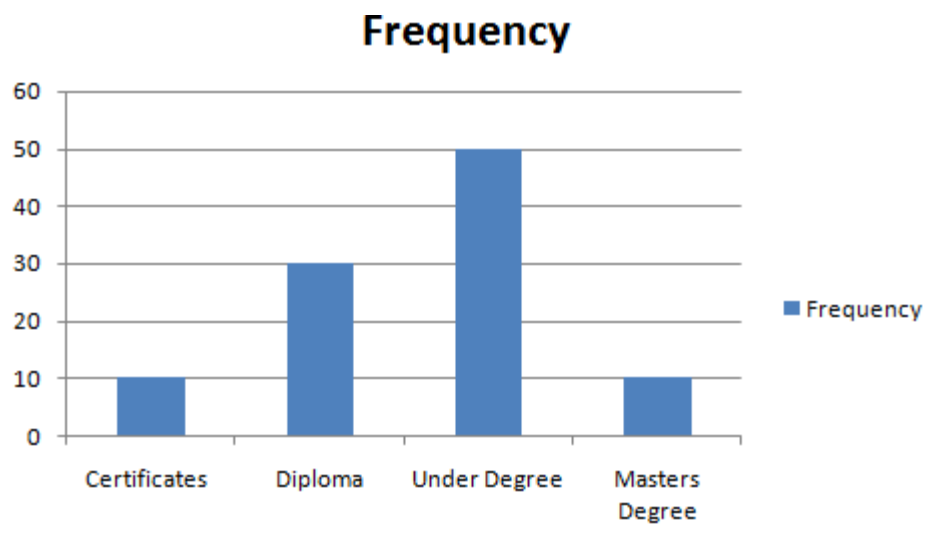
4.1.3 Working experiences

This finds how long does respondent worked in National Water and Sewage Cooperation and the outcome is shown as below.

Table 4.3: Period of service by respondents in National Water and Sewage Cooperation.

Response	Frequency	Percent
1-3	10	10.0
4-6	30	30.0
7-9	50	50.0
10 and above	10	10.0
Total	100	100.0

Source: Primary Data

The table shows that most of the workers have spent more years in service that is to say between 7-9 years with 50.0 %, 4-6 years with 30.0%, 1-3 years with 10.0%, 10 and above years is just 10.0%. This implies that labour turn over is low in local government and must of the worker at National Water and Sewage Cooperation has experience. This helped the researcher to obtain the information required about supply chain management and service delivery.

4.1.4 Respondents department

The finding on the respondents department is to find out which department is you working in order to kwon weather the respondents have the right information.

Table 4.4 Respondent's department

Department	Frequency	Percent
User Department	12	12.0
Procurement and Disposal Unit (PDU)	28	28.0
Technical Planning Unit	30	30.0
Archives director	16	16.0
Finance	14	14.0
Total	100	100.0

Source: Primary data

Table 4.4 shows respondents departments with their respective percentages as; user department from the table shows User Department = 12.0%, Procurement and Disposal Unit (PDU) = 28.0%, Technical Planning Unit = 30%, Archives director =16% and Finance = 12.0% since Technical planning unit (30%) and PDU (28%) have the biggest percentages, this means that supply chain management is done basing on right information given by professionals in the respective departments.

4.2 The effect of inventory management on the quality service delivery in public sectors

The findings on the effect of inventory management on the quality service delivery in public sectors help the researcher to understand the objective one of the study.

The findings on tables show that most of the respondents are in line with statement that shows the highest percentages of agree and strongly agree, thus affirming to the fact that inventory

management play a bigger role in achieving good customer service at National Water and Sewage Cooperation.

For the tables a blow, it can be noted that following is the 5-point Likert scale, where scale are Strongly Disagree (1) disagree (2), not sure (3), agree (4) strongly agree (5). Where by all the items that had a mean above 3.5 it implies that most of the respondents agreed with the statements.

Table 4.5: Organizations must manage inventory

N	Valid	100
	Missing	0
Mean		3.52
Std. Deviation		1.164

Source: Primary data

From table 4.5 above on the statement which was stated as "Organizations must manage inventory as part of the ongoing operations of business" the responses were reflected by mean of 3.52 and standard deviation of 1.164 implying that respondents agreed statement. This means that NWSC must manage inventory as part of the ongoing operations of business in order to improve service delivery because majority of the respondents strongly agreed with the statement.

Table 4.6: Quality in inventory management systems is important

N	Valid	100
	Missing	0
Mean		40.2
Std. Deviation		.948

Source: Primary data

From the table 4.6 on the statement of "Quality in inventory management systems is important to the prosperity and long-term stability of a company", was responded with mean of 4.02 and standard deviation of 0.948. This means that Quality in inventory management systems is important to the prosperity and long-term stability of NWSC and thus enhances the batter service delivery.

Table 4.7: Too much inventory on hand results in unnecessary and extraneous expenses

N	Valid	100
	Missing	0
Mean		3.48
Std. Deviation		1.185

Source: Primary data

From table 4.7 above on the statement which stated as "Too much inventory on hand results in unnecessary and extraneous expenses" was presented by mean of 3.48 and standard deviation of 1.185. This means that too much inventory on hand results in unnecessary and extraneous expenses because majority of the respondents strongly agreed with the statement.

Table 4.8: Too little inventory on hand results in not having the product

N	Valid	100
	Missing	0
Mean		3.76
Std. Deviation		1.156

Source: Primary data

From the table 4.8 above on the statement which was stated as "Too little inventory on hand results in not having the product available to meet current demand" was presented by mean of 3.76 and standard deviation of 1.156. This means that too little inventory on hand results in not having the product available to meet current demand because majority of the respondents agreed with statement.

Table 4.9: Inventory control protects a company from fluctuations in demand

N	Valid	100
	Missing	0
Mean		3.64
Std. Deviation		1.175

Source: Primary data

From the table 4.9 above it show the statement "Inventory control protects a company from fluctuations in demand of its products" was responded to as was indicted by mean of 3.64. This means that Inventory control protects a company from fluctuations in demand of its products.

Table 4.10: It keeps a smooth flow of raw-materials

N	Valid	100
	Missing	0
Mean		3.56
Std. Deviation		1.282

Source: Primary data

From the table 4.10 which shows statement "It keeps a smooth flow of raw-materials and aids in continuing production operations" this was responded mean of 3.56 and standard deviation of 1.262 implying that it keeps a smooth flow of raw-materials and aids in continuing production operations.

Table 4.11: It helps to minimise administrative workload

N	Valid	100
	Missing	0
Mean		3.58
Std. Deviation		1.164

Source: Primary data

From the table 4.11 above on the statement which was stated as "It helps to minimise administrative workload, manpower requirement and even labour cost" is shown by the mean of 3.56 and standard deviation of 1.164. This means that it helps to minimise administrative workload, manpower requirement and even labour cost.

All in all the supply chain management have great effect on quality service delivery in public sector in NWSC whereby that all fact on the stake holder is reflected by percentage which is more the 50% of the respondents' agreed and strongly are with statement.
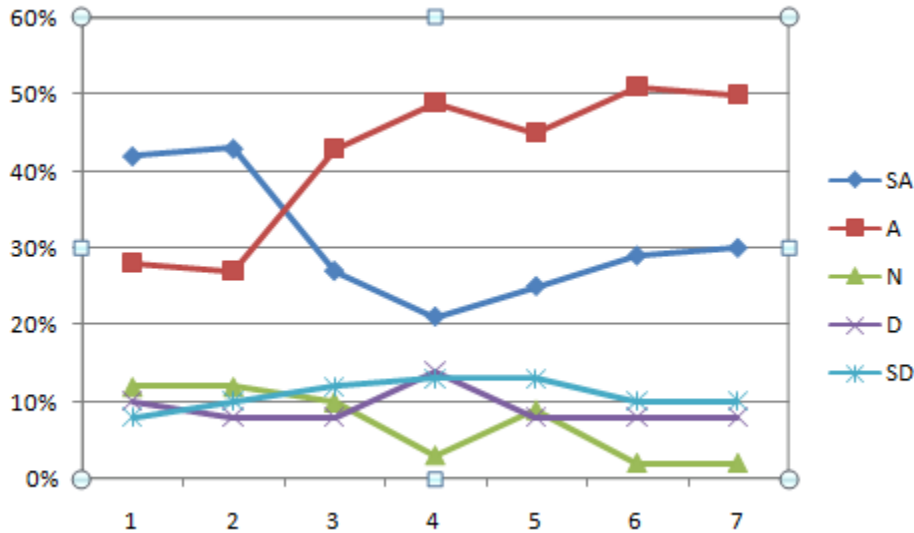
4.3 The influence of supplier relationship on the quality service delivery in public sectors.

The findings on the supplier relationship and its effect on the service delivery was to help the researcher to understand how two objective. The outcome is shown on the tables where most of the respondents agreed with statements.

From the table above, it can be noted that following is the 5-point Likert scale, where scale are Strongly Disagree (1) disagree (2), not sure (3), agree (4) strongly agree(5). And all the items that had a mean of 3.5 implied that most of the respondents agreed with the statements.

Table 4.12: Shares information with suppliers.

N	Valid	100
	Missing	0
Mean		3.52
Std. Deviation		1.275

Source: Primary data

From table 4.12 above on the statement of "My organization always shares information with suppliers" this was reflected by mean of 3.52 which means that most of the respondents agreed with statement that NWSC always shares information with suppliers in improve quality service devilry in Uganda public sector.

Table 4.13: Put in place measures for effective information sharing

N	Valid	100
	Missing	0
Mean		3.76
Std. Deviation		1.081

Source: Primary data

From table 4.13 on the statement "My organization has put in place measures for effective information sharing with suppliers" is reflected by mean of 3.76 meaning that most of the respondents agreed that NWSC has put in place measures for effective information sharing with suppliers.

Table 4.14: Our suppliers always inform us in advance

N	Valid	100
	Missing	0
Mean		3.72
Std. Deviation		1.155

Source: Primary data

From table 4.14 the statement that "Our suppliers always inform us in advance when they expect disruptions in supplies" as is shown by mean of 3.72 meaning that Our suppliers always inform us in advance when they expect disruptions in supplies.

Table 4.15: NWSC rewards suppliers who shares information.

N	Valid	100
	Missing	0
Mean		3.58
Std. Deviation		1.111

Source: Primary data

From table 4.15 on the statement "My organization rewards suppliers who shares information" this was responded by the mean of 3.58 this means that my organization rewards suppliers who shares information.

Table 4.16: Procurement employees freely interact with suppliers

N	Valid	100
	Missing	0
Mean		3.62
Std. Deviation		1.272

Source: Primary data

From table 4.16 on the statement "Procurement employees freely interact with suppliers" was shown by mean of 3.62. This means that electronic procurement to improve procurement planning as resource allocation due Procurement employees freely interact with suppliers as enhance quality service delivery
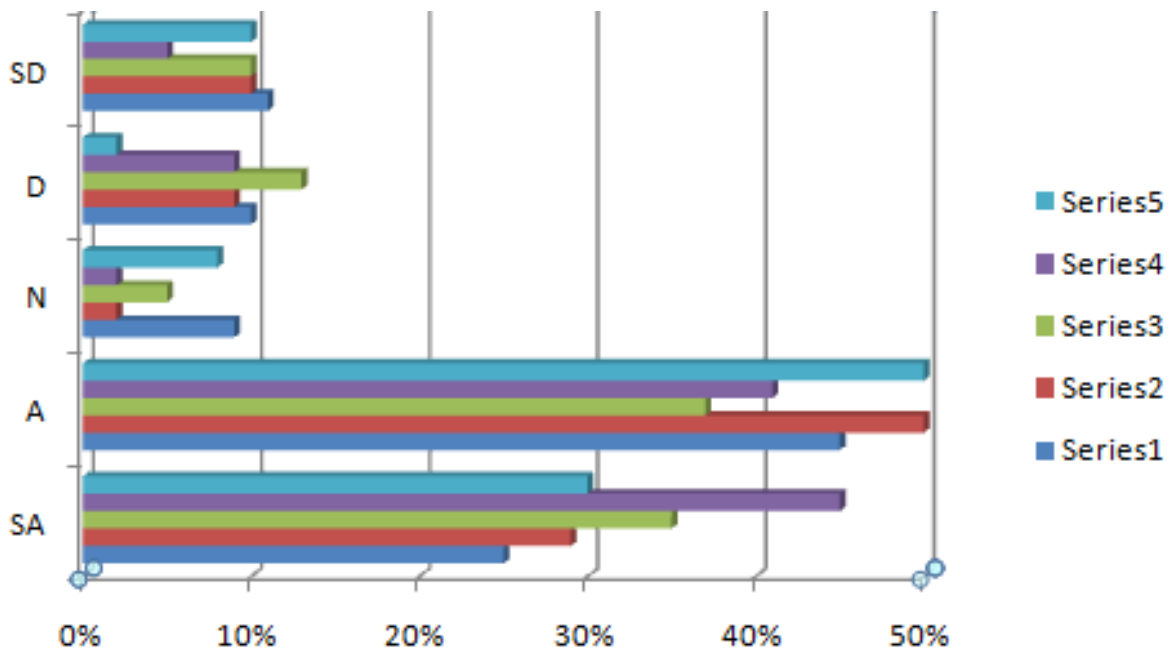
4.4 The role of transportation management on the quality service delivery in public sector.

The findings on the transportation management on the quality service delivery and how it role

service delivery and this help the researcher to understand the object three of the study.

From the table above, it can be noted that following is the 5-point Likert scale, where scale are

Strongly Disagree (1) disagree (2), not sure (3), agree (4) strongly agree(5). And all the items

that had a mean of 3.5 implied that most of the respondents agreed with the statements.

Table 4.17: Transportation provides the essential service of linking a company to suppliers

N	Valid	100
	Missing	0
Mean		3.59
Std. Deviation		1.164

Source: Primary data

From the table 4.17 on the statement that state's "Transportation provides the essential service of

linking a company to its suppliers and customers", this is reflected by the mean of 3.59 this

implies that Transportation provides the essential service of linking a company to its suppliers

and customers.

Table 4.18: Transportation carries necessary raw materials to factory for production

N	Valid	100
	Missing	0
Mean		4.03
Std. Deviation		.948

Source: Primary data

From the table 4.18 above it can be seen that Transportation carries necessary raw materials to factory for production of goods and supplies finished goods to consumers since it was shown by mean of 4.03 implying that transportation carries necessary raw materials to factory for production of goods and supplies finished goods to consumers.

Table 4.19: Transportation helps to bring stability in price of different products

N	Valid	100
	Missing	0
Mean		3.48
Std. Deviation		1.185

Source: Primary data

From the table 4.19 on the statement of it is true that Transportation helps to bring stability in price of different products and id reflected by the mean of 3.48. This implies that Transportation helps to bring stability in price of different products.

Table 4.20: It creates place and time utility of goods by transporting them.

N	Valid	100
	Missing	0
Mean		3.76
Std. Deviation		1.175

Source: Primary data

The table 4.20 above It creates place and time utility of goods by transporting from one place to another is reflecting by the mean of 3.76 this means that It creates place and time utility of goods by transporting from one place to another.

Table 4.21: Transportation facility provides mobility to labor and capital.

N	Valid	100
	Missing	0
Mean		3.65
Std. Deviation		1.175

Source: Primary data

The table 4.21 above clearly shows a support of the statement that Transportation facility provides mobility to labor and capital was shown by the mean of 3.65. This implying that transportation facility provides mobility to labor and capital.

Table 4.22: Transportation facility encourages division of labor and specialization

N	Valid	100
	Missing	0
Mean		3.56
Std. Deviation		1.282

Source: Primary data

The statement on table 4.22 that stated as Transportation facility encourages division of labor and specialization on geographical or regional basis reflected by the mean of 3.56 implying that transportation facility encourages division of labor and specialization on geographical or regional basis and service delivery.

4.5 The findings and discussion

This study intends to identify and validate key constructs underlying supply chain management research. The constructs were identified based on a thorough review of literature across diverse disciplines. The result of the iterative instrument development and purification process is a set of reliable, valid, and unidimensional constructs. During the purification process, 20 items were deleted in order to improve the reliability and validity of their underlying theoretical constructs (Fliedner and Vokurka, 1997; Billington and Amaral, 1999).

Though one or two indicators were removed from the original constructs of supply uncertainty, demand uncertainty, customer focus, competitive priorities, supply network structure, long-term relationships, communication, cross-functional teams, and supplier involvement, the underlying theoretical domain of these constructs was not significantly affected. The construct of top management support was characterized in terms of time and resources contributed by the top management to support strategic purchasing, supplier relationship development and the adoption of advanced information technology. The indicator related to the adoption of advanced information technology was deleted from the final construct. Therefore, this construct at its present state cannot be used to study the impact of top management support on the adoption of advanced information systems (Carr and Ittner, 1992; Ellram and Siferd, 1998).

Nevertheless, this construct still represents the key theoretical domain in top management's support for strategic purchasing and supplier relationship development practices. Strategic purchasing includes indicators that denote the purchasing function's proactive and long-term focus, its contributions to the firm's success, and strategically managed supplier relationship.

Two indicators relating to the long-term focus of the purchasing function were deleted from the final instrument. Therefore, the final construct did not include the aspect of long-term focus. Future studies should extend this construct by including appropriate measures on this aspect. The construct of supply base reduction was operationalized to include the domain of reduced numbers of suppliers as well as the contractual agreements and supplier retention policies utilized by the buying firm. The final construct, however, included only the indicators representing a reduced number of suppliers. We encourage future research to focus on developing a more concrete measure for supply base reduction spanning the various intriguing facets of this theoretical construct. In summary, all the constructs are made up of three or more items except for supply uncertainty and supply base reduction, which include only two indicators. Though these two constructs have decent psychometric properties, future research should be directed to refine them by adding new indicators to ensure that all the dimensions of these two constructs are better represented.

The most crucial problem in defining supply chain phenomenon is in identifying what can be included within the orbit of supply chain management (New, 1996). As defined by The Supply Chain Council (2002), the supply chain encompasses every effort involved in producing and delivering a final product, from the supplier's supplier to the customer's customer. It is clear that the entire domain of this concept is very extensive and cannot be covered in just one study. Though very extensive in nature, the conceptual framework developed herein does not cover every facet of supply chain management. Moreover, measurement instrument development is an ongoing process and the instrument can be strengthened only through a series of further refinement and tests across different populations and settings (Hensley, 1999). Thus, this study could be considered as a first comprehensive step towards the identification of the theoretical

domain of SCM. Future research should be directed not only to refining and strengthening the constructs identified in this study, but also to expanding the domain by considering additional factors. A few suggestions are provided on the inclusion of additional factors for future research efforts.

As a result of an extensive literature review in the initial phase of this study, relevant factors such as manufacturing uncertainty (Davis, 1993), competitive environment (Hahn et al., 1990; Sutcliffe and Zaheer, 1998), trust and commitment (Kanter, 1994; Spekman and Sawhney, 1995), supplier selection (Choi and Hartley, 1996; Croom, 2001), supplier certification, internal logistics integration (Kahn and Mentzer, 1996; Ballou et al., 2000; Ellinger, 2000), leaness (Naylor et al., 1999; Christopher and Towill, 2000), and agility were also identified. Though these factors are of great interest, they were removed from this study due to the length of the survey instrument and concerns regarding response rate.

As noted earlier, around 20 indicators were deleted from the initial measurement instrument. Though these indicators exhibited acceptable convergent validity, some of them suffered from low levels of discriminant validity. This suggests a possibility of conceptual overlap between the theoretical domains represented by such constructs as supply base reduction, long-term relationships, communication, and cross-functional teams.

Future research should refine and strengthen these constructs by adding indicators that will further bolster the discriminant validity between these essential constructs. We would also like to point out the potential drawback of the methodology used for the measurement instrument development. The approach of partial factor analysis (Atuahene-Gima and Evangelista, 2000; Moorman, 1995) was employed due to the extensive coverage of a large number of SCM

constructs and a concern for the sample size requirements (Hair et al., 1995). Realizing this limitation, we encourage future studies to collect data from a larger population to further validate or extend the theoretical constructs identified in this study. Having drawn from a list of ISM members, the results of this research can be generalized to the population of the firms represented by the ISM database.

The initial goal of our study was to simultaneously consider a population from the Dun and Bradstreet Million Dollar Database, but it did not happen due to financial and time limitations. Though the final sample in this study spanned a wider range of firms based on demographics such as the number of employees and annual sales, we suggest that future research endeavors attempt to include a mixed population of respondents from multiple sources to extend the generalizability of the results, since the sample firms were limited to manufacturing firms only. Based on our strong inclination that some key constructs were more manufacturing oriented, this segregation of the population increased the validity of the measurement instrument. Nevertheless, it would be interesting to see future research that adds service-oriented constructs to study a sample of service firms.

There are many supplier selection methods based on different criteria that were employed for solving the supplier selection problems. This paper presented a review of decision criteria reported in the literature for supporting the supplier selection process. The review was based on an extensive search in the academic literature. Therefore, all different criteria related to supplier selection were reviewed. Quality is the most important criteria for supplier selection (Dickson, 2006). The methods for assessing the quality can be divided to two main categories: qualitative methods and quantitative methods. In this paper it was shown that all qualitative methods and quantitative methods can evaluate just one aspect of an organization, but cannot evaluate the

whole production process; they are not suitable methods for assessing the quality of a process. Therefore, these methods have some weak points and are not appropriate tools to assess the quality. In fact, the objective functions of these methods are not realistic objects.

The suggestion of this paper for quality evaluation is the use of loss functions. Among the numerous methods that have been proposed for assessing the supplier, loss functions such as Taguchi loss function without any range are considered one of the most effective techniques for identifying quality parts. Quality loss functions are more reliable and precise functions in order to assess the quality. There are few studies such as Teeravaraprug [2009] and Pi and Low [2007] that used loss functions in order to evaluate the quality, but actually they have used some definitions such as weighting or ranges. This study proposes the use of loss functions without any range and weight in order to evaluate the quality of the suppliers.

Supply chain management represents one of the most significant paradigm shifts of modern business management by recognizing that individual businesses no longer compete as solely autonomous entities, but rather as supply chains (Lambert and Cooper, 2000). SCM, along with a number of other emerging areas in operations management, is, however, still in its embryonic stage (Handfield and Melnyk, 1998). The scientific development of a coherent supply chain management discipline requires that advances be made in the development of measurement instruments as well as in theoretical models to improve our understanding of supply chain phenomena (Croom et al., 2000), so the research agenda in supply chain management must not be driven by industrial interest alone (New, 1997). Research about supply chain management as a conceptual artifact of the modern world is also essential. Indeed, it is necessary to understand the broader context before robust prescription is possible.

Any scientific research discipline can be viewed in terms of two interrelated streams: substantive and construct validation. While the former reflects the relationships among theoretical constructs inferred through empirically observed relationships, the latter involves the relationships between the results obtained from empirical measures and the theoretical constructs that the measures purport to assess (Schwab, 1980). Since "all theories in science concern statements mainly about constructs rather than about specific, observable variables," (Nunnally, 1978) the process of construct conceptualization and measurement development is at least as important as the examination of substantive relationships (Venkatraman, 1989). While research on various supply chain relationships has been growing, there has not been a comprehensive approach to construct development and measurement. This could be largely attributed to the fact that astronomical efforts are required to undertake the development and validation of constructs and measures of SCM.

Recognizing the interdisciplinary nature of SCM, this study, through successive stages of analysis and refinement, has arrived at an initial set of constructs and operational measures with a strong support of their measurement properties (i.e., reliable, valid, and unidimensional). We hope that researchers will utilize the measurement either directly in their research contexts or as a basis for refinement and extension in the best tradition of cumulative theory building and testing, and to ultimately create a coherent theory of supply chain management.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter shows summary of the finding and discussion, conclusions, recommendations and areas for further study.

5.2 Summary of the findings and discussion

The study findings indicate that supplier relationship management greatly determines the effectiveness of supply chain management practices in the ministry of finance. Supplier collaboration and development enhances effectiveness in SCM in acquiring goods and services.

The study noted that lack of a comprehensive approach for managing interactions with suppliers affected realization of increased effectiveness on supply chain processes between an organization and the suppliers.

5.3 Conclusions

The effectiveness of supply chain management practices in the NWSC depended on application of modern supplier relationship management strategies. Supplier relationship activities play important role where players willingly share risks and rewards and maintain relationship on long term basis.

5.4 Recommendations

To manage supplier relationship management, the NWSC should intensify centralization of common user items. The organization should create a data base on supplier activities such as delivery schedules, complaints, quality management processes. The procurement managers in organization should increase the level of interaction with suppliers. The interaction should

involve efficiently providing suppliers with expectations of how the communications and flow of products/ services are to be provided.

5.5 New knowledge identified

The researcher has identified that supply chain management play the big role on quality service delivery.

5.6 Areas for further research

This research focused on the influences of supply chain management on the quality service delivery in public sector; however the researcher recommends the following areas for further researcher

Further studies is encouraged to explore the effect of procurement regulations, quality standards and sourcing strategies on SCM effectiveness and also help in establishing supply chain management best practices in the public sector organisations.

➢ Resource allocation and resource misuse in public sector.

➢ The role of the stakeholder and resource allocation

➢ How to implement procurement planning in public sector.

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QUESTIONNAIRE

Dear respondent,

I am student of Uganda Martyrs University on ducting Research on the topic "***THE INFLUENCE OF SUPPLY CHAIN MANAGEMENT ON THE QUALITY SERVICE DELIVERY IN THE UGANDA PUBLIC SECTOR***". The questions below are intended to facilitate this study and I humbly request you to answer the questions here in as honestly as possible. The information provided will be used for academic purposes only and utmost confidentiality will be exercised in the completion of the research study.

THANK YOU

SECTION A: PERSONAL DATA

Please tick in the boxes provided

1. Gender of the respondents

a) Male ☐   b) F e m a l e ☐

2. Age of the respondents

(a) 18-30 ☐   (b) 31-40 ☐   (c) 41-50 ☐   (d) Above 50 ☐

3 Respondents level of education

a) Certificate ☐   b) Diploma ☐   c) Degree ☐ d) Masters ☐

e) Other specify………………………………….

4. Respondents positions

a) HRM ☐   b) Archives director ☐   c) Client ☐   d) Cashier ☐

e) Other specify…………………………………….

5. Respondents working experience years

(a) 1-3 ☐ (b) 4-6 ☐ (c) 7-9 ☐ (d) 10 and above ☐

SECTION B: THE EFFECT OF INVENTORY LEVEL ON THE QUALITY SERVICE DELIVERY IN PUBLIC SECTORS.

Inventory management is regarded as a key element for the reduction and control of total costs and improvement of the level of service provided by the companies.

a) Yes ☐ b) No ☐

Tick the appropriate answer. The following abbreviations used:

Strongly agree (5), Agree (4), Not Sure (3), Disagree (2), and Strongly Disagree (1)

STATEMENT	1	2	3	4	5
1. Organizations must manage inventory as part of the ongoing operations of business.					
2. Quality in inventory management systems is important to the prosperity and long-term stability of a company.					
3. Too much inventory on hand results in unnecessary and extraneous expenses.					
4. Too little inventory on hand results in not having the product available to meet current demand.					

STATEMENT					
5. Inventory control protects a company from fluctuations in demand of its products.					
6. It keeps a smooth flow of raw-materials and aids in continuing production operations					
7. It helps to minimise administrative workload, manpower requirement and even labour cost.					

SECTION C: THE INFLUENCE OF SUPPLIER RELATIONSHIP ON THE QUALITY SERVICE DELIVERY IN PUBLIC SECTORS.

Supply Chain Management Ethics is the management of suppliers and supply relationships with strategies, programs, and metrics that better align supplier business conduct

a) Yes ☐   b) No ☐

Tick the appropriate answer. The following abbreviations used:

Strongly agree (5), Agree (4), Not Sure (3), Disagree (2), and Strongly Disagree (1)

STATEMENT	1	2	3	4	5
1. My organization always shares information with suppliers					
2. My organization has put in place measures for effective information sharing with suppliers					
3. Our suppliers always inform us in advance when they expect disruptions in supplies					
4. My organization rewards suppliers who shares information					
5. Procurement employees freely interact with suppliers					

SECTION D: THE ROLE OF TRANSPORTATION MANAGEMENT IN THE QUALITY SERVICE DELIVERY IN PUBLIC SECTOR.

11. Tick the appropriate answer. The following abbreviations used:

Strongly agree (5), Agree (4), Not Sure (3), Disagree (2), and Strongly Disagree (1)

STATEMENT	1	2	3	4	5
1. Transportation provides the essential service of linking a company to its suppliers and customers					
2. Transportation carries necessary raw materials to factory for production of goods and supplies finished goods to consumers.					
3. Transportation helps to bring stability in price of different products.					
4. It creates place and time utility of goods by transporting from one place to another.					
5. Transportation facility provides mobility to labor and capital.					
6. Transportation facility encourages division of labor and specialization on geographical or regional basis.					

THANK YOU FOR YOUR COOPERATION AND TIME.