END USER INVOLVEMENT AND SUPPLY CHAIN PERFORMANCE IN KENYAN UNIVERSITIES, A CASE OF CHUKA UNIVERSITY, KENYA

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A RESEARCH PROJECT REPORT SUBMITTED IN THE SCHOOL OF BUSINESS AND ECONOMICS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN THE UNIVERSITY OF EMBU

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DECLARATION

This research project is my own original work and has not been presented for award of a degree in any other University.

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DEDICATION

I dedicate this project to my husband and children for their great support during the time of this study.

ACKNOWLEDGEMENT

I thank God for His guidance and providence which enabled me to undertake this study in good health and in enabling me to have the time and resources needed. The undertaking and completion of this research work was made possible by a number of people, to whom I am profoundly grateful. I am particularly indebted to my supervisors Dr. Kirema Nkanata Mburugu and Dr. Lucy Karimi Kirima for their guidance and encouragement in the course of the research. Appreciation goes to all my lecturers for their contribution towards my academic development and all those who played a major role during my studies. Lastly, I wish to thank the respondents who participated in this study for giving their views.

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ABBREVIATIONS AND ACRONYMS

CRS: Catholic Relief Services

CU: Chuka University

CUE: Commission for University Education

GSM: Government Supplies Manual

IA: Inspection and Acceptance

KPPDA: Kenya Public Procurement and Disposal Act

LIA: Letter of Interim Authority

M & E: Monitoring and Evaluation

NACOSTI: National Commission for Science, Technology and Innovation

PDS: Product design specifications

PPOA: Public Procurement Oversight Authority

PPRECP: Public Procurement Reform and Enhanced Capacity Project

PRDR: Public Procurement and Disposal Regulations

SCM: Supply Chain Management

SGS: Societe Generale de Surveillance

TC: Treasury Circulars

DEFINITION OF TERMS

Procurement Planning

This is the process of deciding what to buy, when and from what source. In this study it will be measured in terms of demand, supply, supply demand balance, annual procurement plan and facility planning.

Specification Preparation

This is the statement of essential characteristics that a customer requires (in a good, material, method, process, service, system, or work) and which a vendor must deliver. Specifications are written in a manner that enables both parties (supplier and customer) to measure the degree of conformance. In this study it is measured in terms of the technical specification, functional specification, physical, performance, inspecting and testing, and preparing specifications.

Monitoring and Evaluation

This is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives and progress in the supply chain. In this study it will be measured in terms of contract monitoring, spot checks, supplier audit and supplier evaluation.

Receipt and Inspection of Goods, Works and Services

This is a critical appraisal involving examination, measurement, testing, gauging, and comparison of materials or items. An inspection determines if the material or item is in proper quantity and condition, and if it conforms to the applicable or specified requirements. It will be measured in terms of material inspections, inspections of returns, inspection of dispatches and handling delivery.

Supply Chain Performance

This refers to the extended supply chain's activities in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary

inventory and capacity in the supply chain to deliver that performance in a responsive manner. In this study it is measured in terms of quality, price, consistence and lead time.

Supply Chain

This refers to the integration of processes, functions, activities, relationships and the means in which the goods, information, financial transactions and services are transferred from one point to another.

ABSTRACT

End user involvement in specifications development refers to a process in which an explicit set of requirements to be satisfied by a material, product, or service is given by a buyer to the supplier. The research concerns itself with the critical role played by the end users in the supply chain performance. The study sought to establish the effects of end user involvement in the supply chain performance of higher learning institutions in Kenya. This study therefore, assessed the effect of procurement planning, specification preparation, monitoring and evaluation, and inspection and receipt of goods, on the dependent variable of supply chain performance. The study was guided by Institutional theory and Socio-economic theory. The study was conducted at Chuka University procurement department and user departments comprising of 64 respondents from user departments and procurement. The study employed cross-sectional descriptive research design. Structured questionnaires were used for data collection. In order to determine the validity and reliability of the questionnaire, pretesting of the research instruments was conducted. To establish the validity of the research instrument, content validity was used while internal consistency method was used to determine the reliability. Correlation analysis followed by multivariate regression analysis was conducted between the independent variables and the dependent variable. Results showed strong and statistical significance between procurement planning and supply chain performance. The study also established that there was a strong and statistical significance between specification preparation and supply chain performance. It was also established that there was strong and statistical significance between monitoring and evaluation and supply chain performance. Lastly, there was strong and statistical significance between inspection and receipt of goods and supply chain performance. Among the four variables, procurement planning was ranked highest, followed by specification preparation, monitoring and evaluation while receipt and inspection of goods would be the least. The study concluded that procurement planning, specification preparation, monitoring and evaluation, and inspection and receipt of goods are good measures of the end user involvement in the effective performance of supply chain, but that more studies need to be done to unearth the hidden variables contributing to supply chain performance in order to get a full picture of the impact of the end-users on supply chain performance. The research findings will help the public organization as well as the private sector in improving on their supply chain. Research institutes and scholars will gain vital insights from the study when they want to research further and lastly government together with all its agencies will also gain important information that will inform the policies they come up with in future.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

This chapter presents; the background of the study, problem statement, objectives, research questions, importance of the study, the scope of the study and limitations of the study.
Supply chain management (SCM) refers to the process of integrating the key business operations from the customer through the main suppliers who supply products and provide valuable information to stakeholders (Lambert, Cooper & Pagh, 2009). Supply chain management has been advancing since the 1950s and numerous researches have been conducted on it.

The supply chain management concept can be traced back to ancient war times of Greek and Roman empires when military officers titled as 'Logistikas' were assigned the duties of providing services related to supply and distribution of resources (Kirk, 2015). This was done to enable the soldiers to move from their base position to a new forward position efficiently, which could be a crucial factor in determining the outcome of wars. From this historical background, it is clear that supply chain management is part of the supply chain in an organization since there are elements of supply and distribution of resources. Supply chain is the functions within and outside a company that enable the value chain to make products and provide services to the customer (Cox, 2011).

Fawcett (2007) contends that the nature of competition has changed to the extent that companies no longer compete against other companies on the basis of quality as traditionally practiced in the 1980s. However, the new source of business competition lies outside the walls of an organization, and is determined by how effectively companies link their operations with their supply chain partners, suppliers, distributors, wholesalers, retailers and end costumers (Petrovic-Lazarevic, 2007). The ability to create business relationships with customers, suppliers and other strategic partners anchored on trust and long term commitment has become a crucial competitive parameter (Deme, 2009).

Globally, SCM plays a significant role in procurement in various organizations hence helping them achieve competitive advantage in terms of sourcing for various materials. SCM excellence has become a powerful source of this competitive advantage (Mentzer, 2014). In the 1980s and

1990s, companies began to view SCM as more than simply a source of cost savings and recognized it as a source of enhancing product or service offerings and as part of the broader supply chain process to create a competitive advantage. SCM is, therefore, fundamental to any firm that aims at attaining better results in supply chain performance while operating in a competitive environment (Migiro, 2008).

Stock and Boyer (2010), posit that there is an increase in competition experienced both locally and globally because of rapid increase in number of competitors. Therefore, organizations are working towards improving their business operations, producing high quality products and ensuring that the supply chain is effective and efficient in order to respond to the changing markets dynamics. Most organizations are concerned with improving the procurement process on continuous basis with the aim of satisfying the customers at the end of the delivery process. This strategy among others entails end user involvement.

In Kenya, the public procurement system was governed by amorphous legal framework such as Treasury Circulars (TC) of 1969 and then the Government Supplies Manual (GSM) of 1978. The recommendations from a consultancy firm, Societe Generale de Surveillance (SGS), which conducted two procurement audits in 1997 were implemented by government through the establishment of the Public Procurement Reform and Enhanced Capacity Project (Apopa, 2009).

Therefore, the government focused on making reforms on the existing practices with the aim of enhancing accountability, transparency, and the economy. As a result, the Kenya Public Procurement and Disposal Act (KPPDA) of 2005 was developed, followed by Public Procurement and Disposal Regulations (PPDR) of 2009. In 2009, the Government also formed an oversight body known as Public Procurement Oversight Authority (PPOA) whose mandate was to oversee the procurement activities in public institutions.

The KPPDA-2005 came into operation on 1st January of 2007. The purpose of the Act was to establish and standardize the procedures for procurement and the disposal of unserviceable, obsolete or surplus stores and equipment by public entities to maximize economy and efficiency (Godana & Ngugi, 2014). The Act was also meant to promote competition and ensure that competitors are treated fairly; to promote the integrity and fairness of those procedures; increase transparency and accountability in those procedures; and increase public confidence in those

procedures; and finally it was meant to facilitate the promotion of local industry and economic development (Godana & Ngugi, 2014).

In Kenya's public universities, supply chain management involves various operations including: receiving and processing of goods and services from user departments, coordinating the preparation of annual procurement plans as submitted by the respective departments, advertisement of tenders, preparation and processing of quotations and preparation of tender documents in consultation with the user departments (Allain, 2010). There is little or no involvement of end users in this process, hence the need for this study. It also entails; preparation of the letter of awards, notification and contract agreements, as well as, management of contracts, order follow-up or processing of goods, delivering schedules to user departments, performance of market research and price survey on items and services required by the respective University.

Maintenance of the updated supplier register and files for the purposes of performance rating and preparation of annual reports (Gwako, 2008). Universities purchase various items within different categories of the requirements which include; stationery, printing services, cleaning materials, food stuff, consultancy services, legal services, clearing and forwarding services, security services, computer accessories, vehicles and machinery, insurance services, ticketing and travel services (Mamiro, 2010).

1.1.1 End User Involvement in Supply Chain

According to Mentzer (2014), the broadest visions of integrated supply chain management are usually expressed in terms of meeting the final customer's product needs. Increasingly, many organizations have begun to embrace the concept of integrated supply chain management. The performance of the supply chain is affected by different factors. One of the most important factors influencing the performance of supply chain is strategic supplier alliances Effective partnerships with suppliers can be a critical factor to guide supply chain management. The other factor is having good relationships with customers, which are needed for successful implementation of SCM programs (Moberg, 2012).

The end user within a supply chain system is the retail consumer. In an industrial setting, the end user is a company that buys materials, goods, and services to support its operations (Chen & Paulraj, 2004). Supply chain partners must work together to maximize resource productivity,

develop standardized processes, eliminate duplicate efforts, and minimize inventory levels. Such steps will help the organization reduce waste, minimize costs and achieve efficiency in the supply chain. Mwirigi (2009) reported that involving end users in the supply chain early is very critical.

The involvement of end users gives them an opportunity to get involved in the planning and decision-making processes at an early stage and at a strategic level. This study considered procurement planning, specification preparation, monitoring and evaluation, and inspection and receiving goods, as key parameters of end user involvement. Supply chain performance was measured in terms of quality, price, lead-time and consistency.

Kiage (2013) contends that in Kenya, to manage effectively and more efficiently the supply chain, procuring entities through the existing legal framework are required to firstly consolidate departmental procurement plans to provide the entity's corporate procurement plan which before its implementation must get the accounting officer's approval. Procurement entities should also consider involving end users during specification preparation for goods and services, monitoring and evaluation and during inspection and receiving of goods with a view of enhancing their supply chain performance. According to Lee (2012) end user involvement in specifications development refers to a process in which an explicit set of requirements to be satisfied by a material, product, or service is given by a buyer to the supplier(s). This is also a fair process for suppliers to ensure they are quoting on a like-for-like basis. When developing specifications, it is important to distinguish between product requirements and product preferences and build in tolerances for suppliers to adhere to and not to restrict supply and build cost into a product (Ngugi & Mugo, 2012).

1.1.2 Supply Chain Performance

A supply chain is a system whose constituent parts include material suppliers, production facilities, distribution services and customers linked together via the feed forward flow of materials and the feedback flow of information (Tan, 2011). A supply chain is, therefore, all of the linked individual organizations that, by direct or indirect means, lead to the delivery of a service or a good to a customer (Cox, 2007).

Supply chain performance is the entire chain's ability to meet end-customer needs through product availability and responsive on-time delivery. According to Elram, (2013) it is important to distinguish performance measurement from performance management. Performance

measurement is about the use of right metrics in the right place in order to know supply chain vitality.

Performance management uses metrics to support the overall organization's strategic goals. Supply chain performance measures are based on both qualitative and quantitative measurements. Qualitative measures are the description of situations that cannot be recorded numerically and they include flexibility, quality, visibility and innovativeness. Quantitative measures, on the other hand, use numerical findings and include cost and resource utilization (Basheka, 2006).

Performance crosses company boundaries since it includes raw materials, components, work-in-progress as well as finished products, and distribution through various channels to the end customer. It also crosses traditional functional organization lines such as procurement, manufacturing, distribution, marketing and sales, and research and development (Waweru, 2015).

A performance evaluation system represents a formal, systematic approach to monitor and evaluate the performance of the firm. It should however be noted that it is often difficult to develop measures that direct behavior or activity exactly as intended. Some firms rely on measures that do not support long term performance. Over time, the workplace's view of performance measurement has become more humane and do not view employees as highly reliable, predictable machines and exaggerated types of monitoring (Bagozzi, 2011).

Measurement is important, as it affects behavior that impacts performance. As such, performance measurement provides the means by which a company can assess whether performance has improved or degraded (Ellram, 2013). A performance measurement system plays an important role in managing a firm's business as it provides the information necessary for decision making and actions. Monitoring and improvement of performance of a supply chain has become an increasingly complex task.

A complex performance management system includes many management processes. These would include identifying measures, defining targets, planning, communication, monitoring, reporting and feedback (Erickson, 2015). From a management perspective, performance measurement and metrics have an important role to play in setting objectives, evaluating

performance, and determining future courses of actions by providing the necessary information of management feedback (Tan, 2011).

1.1.3 Chuka University

The establishment of Chuka University was foretold way back in 1951 by a famous philanthropist and seer by the name Jerusha Kanyua , who said that a mountain would come up at Ndagani. The seer was known for her passion for education even though she never went to any formal school. Surprising to the people of the time, Jerusha could follow Bible verses and sing from hymn books though she was illiterate. The advice she had for the young people then was that a pen should be like a spear and a book should be like a shield. With the establishment of Chuka University at Ndagani 58 years later, the vision of Jerusha has been fulfilled.

Chuka University (CU) is a public Chartered university which was established in 2007. It was a constituent College of Egerton University and the successor of the former Egerton University Eastern Campus College, Chuka. The campus college was established on 27th September 2004, by Egerton University Council to enhance access to high quality and affordable university education to the people living in the Eastern region and Kenya at large.

This endeavour was fast-tracked by the donation of 550 acres of land and other facilities essential for current and future expansion of the institution by the local community. His Excellency President Mwai Kibaki appointed the first Council of the University on 12th September 2008. CU was the first institution of higher learning to be established in the former Eastern Province.

The government's objective in establishing the institution was to enhance education access and equality of the people in the region and Kenya at large with the much needed quality workforce. The university was established after the realization by the government that education leads to better economic, social and political governance and is a catalyst for transforming Kenya into an industrialized middle-income nation as envisaged in Vision 2030. CU attained its full status as full fledged university in 2013. In the current scenario Chuka University's end user involvement is not up-to the standards that would significantly improve the performance of supply chains.

1.2 Statement of the Problem

The Public Procurement Regulatory Authority (2016) report identifies public universities in Kenya as key public institutions characterized by poor performance in supply chain, flaws in the acquisition of materials, fraud in procurement contracts and consequently lacked value for money. End users can be involved in various supply chain stages such as planning, specification of goods and services, receipt and inspection of goods, monitoring and evaluation of supplies contract to ensure that their needs are fully met to their expectations.

A number of studies have been conducted on supply chain performance. Gwako (2008) studied supply chain performance measurement in the Kenyan aviation industry specifically focusing on Kenya Airways. The research findings indicate that the company measures several dimensions of performance within their supply chain ranging from quality, effectiveness of the procurement activities, stock turnover, number of supplies rejections, cost, flexibility, among others. These dimensions are measured regularly, and the results obtained communicated to the internal channel members, as well as, the company's suppliers.

Onyango (2011) studied supply chain management practices and performance in cement industry in Kenya. Mogire (2011) conducted research on supply chain practices in five star hotels in Kenya. Onyango and Mogire studies point to a lack of involvement of end users in the supply chain performance. Minimal research on the effect of end user involvement and supply chain performance in public universities in Kenya exist. Therefore, this study sought to address this knowledge gap by establishing the effect of end user involvement on the supply chain performance in Kenyan Universities, case of Chuka University, Kenya..

1.3 General Objective

This study sought to establish the effect of end user involvement on supply chain performance in Kenyan Universities, a case of Chuka University, Kenya.

1.3.1 Specific Objectives

This study sought to address the following specific objectives:

i. To establish the effect of end user involvement in procurement planning on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya.
ii. To determine the effect of end user involvement in specification preparation on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya.
iii. To examine the effect of end user involvement in monitoring and evaluation on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya.
iv. To assess the effect of end user involvement in the inspection and receipt of goods on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya.

1.4 Research Questions

The research questions of the study were as follows:

i. What is the effect of end user involvement in procurement planning on supply chain performance at Chuka University?
ii. How does end user involvement in specification preparation affect supply chain performance at Chuka University?
iii. What is the effect end user involvement in monitoring and evaluation affect supply chain performance at Chuka University?
iv. How does end user involvement in inspection and receipt of goods affect supply chain performance at Chuka University?

1.5 Scope of the Study

The study's scope lies in assessing end user involvement and supply chain performance at Chuka University, Kenya. This study was conducted at CU targeting ten employees in the procurement department and 64 liaison officers in user departments. The study's independent variables were procurement planning, specification preparation, monitoring and evaluation, and inspection and receipt of goods, while the dependent variable was supply chain performance.

1.6 Significance of the Study

The management of CU stands to benefit from this study by obtaining relevant information on how to maximize end user involvement in the supply chain and in identifying loop holes in the

supply chain. Policy makers like the Ministry of Education, the Public Procurement Oversight Authority will get relevant information to enable them develop policies to govern procurement in public universities in Kenya.

Other government agencies and even the private sector are likely to benefit from this study by replicating similar practices in their institutions with a view of improving their supply chain performance. Finally, this study contributes to the existing knowledge and literature on supply chain performance and end user involvement in procurement. Researcher and scholars, therefore, benefit from the findings of this study because it forms the basis of identifying knowledge gaps for future research.

1.7 Limitations of the Study

Conventionally, respondents may not always be truthful and instead may give answers that they feel the study wants to hear, this was one of the main challenges this study faced. To overcome confidentiality limitations, the researcher availed the University's approved introduction letter to assure respondents that the information given was used only for academic purposes. The study used questionnaires for data collection. The study used closed-ended questions which have the disadvantage of limiting responses. This was avoided by including as many questions as possible for each objective.

Questions that were presented by the study were predetermined and prescriptive and may contain errors (Kothari, 2014). To overcome the limitation, the study conducted a pre-test where research instruments were administered to a number of individuals in the target population who were not included in the sample size so as to test the reliability and validity of the instruments (Neuman, 2010) and to detect any weaknesses in the design and instrumentation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter involves literature review where a deeper look in the subject matter is done. It comprises of; theoretical review, conceptual framework, empirical review, critique of literature, summary and research gaps.

2.2 Theoretical Review

This consists of concepts together with their definitions and reference to relevant scholarly literature (Kothari, 2014), existing theory that is used for a particular study. Here a demonstration of understanding of theories and concepts that are relevant to the topic of the study and that relate to the broader areas of knowledge were considered (Ngechu, 2011). Thus, it is a collection of interrelated statements or principles that explains the major theories in relation to end user involvement and supply chain performance at Chuka University, Kenya. This study was anchored on two major theories: Institutional Theory and Socio-economic Theory.

2.2.1 Institutional Theory

Institutional theory proponents were Meyer and Rowan (1935). They opine that that often these "institutional myths" are merely accepted ceremoniously in order for the organization to gain or maintain legitimacy in the institutional environment. According to Scott (2014) institutions are composed of cultural-cognitive and regulative elements that together with the associated activities and resources, give meaning to organizational performance and supply chain performance.

Scott (2014) further explains the three pillars of institutions as regulatory, normative and cultural cognitive. The regulatory pillar emphasizes the use of rules, laws and sanctions as enforcement mechanism, with expedience as basis for compliance. The normative pillar refers to norms that is, how things should be done, and values, that is, preferred or desirable, social obligation being the basis of compliance.

The cultural-cognitive pillar rests on shared understanding, that is, common beliefs, symbols, shared understanding. The theory assumes the net effect of institutional pressures is to increase

the homogeneity of organizational structures in an institutional environment. Firms will adopt similar structures as a result of three types of pressures. Coercive pressures come from legal mandates or influence from organizations they are dependent upon. Mimetic pressures to copy successful forms arise during high uncertainty (Roath, 2012). Finally, normative pressures to homogeneity come from the similar attitudes and approaches of professional groups and associations brought into the firm through hiring practices.

The theory is relevant to this study as it enables sustainable implementation of a procurement policy and practices. It integrates the roles of various stakeholders on the performance of the supply chain where end users are key stakeholders. It is a matter of organizational culture and the degree to which the prevailing climate in an organization is supportive of sustainability of supply chain performance.

2.2.2 Social Economic Theory

Sutinen and Kuperan (1979) propagated the socio-economic theory of compliance by integrating economic theory with theories from psychology and sociology to account for moral obligation and social influence as determinants of individuals' decisions on compliance. According to Lee (2012), psychological perspectives provide a basis for the success or failure of organizational compliance.

Neumann and Robson (2017) also add that the legitimacy theory postulates that the organization is responsible for disclosing its practices to the stakeholders, especially to the public and justify its existence within the boundaries of society. The theory focuses on the relationship and interaction between an organization and the society, providing sufficient and superior lens for understanding government procurement system and supply chain performance.

According Jay and Alec (2010) this theory has assumptions for moral obligation and social influence in addition to the conventional costs and revenues associated with illegal behavior. While cast in a natural resource management context, the theory is applicable to a variety of institutional conditions. The current study was anchored on this theory because it informs policy, planning and sustainable procurement practices that impact the supply chain performance of public institutions with keen focus on improving public service delivery. The theory also considers the role of various stakeholders on the supply chain performance.

2.3 Conceptual Framework

Conceptual framework is a detailed description of the phenomenon under the study accompanied by the graphical or visual depiction of the major variable of the study (Kothari, 2014). According to Neuman (2010) conceptual framework is diagrammatical representation that shows the relationship between dependent variable and independent variables, as shown in figure 2.1.

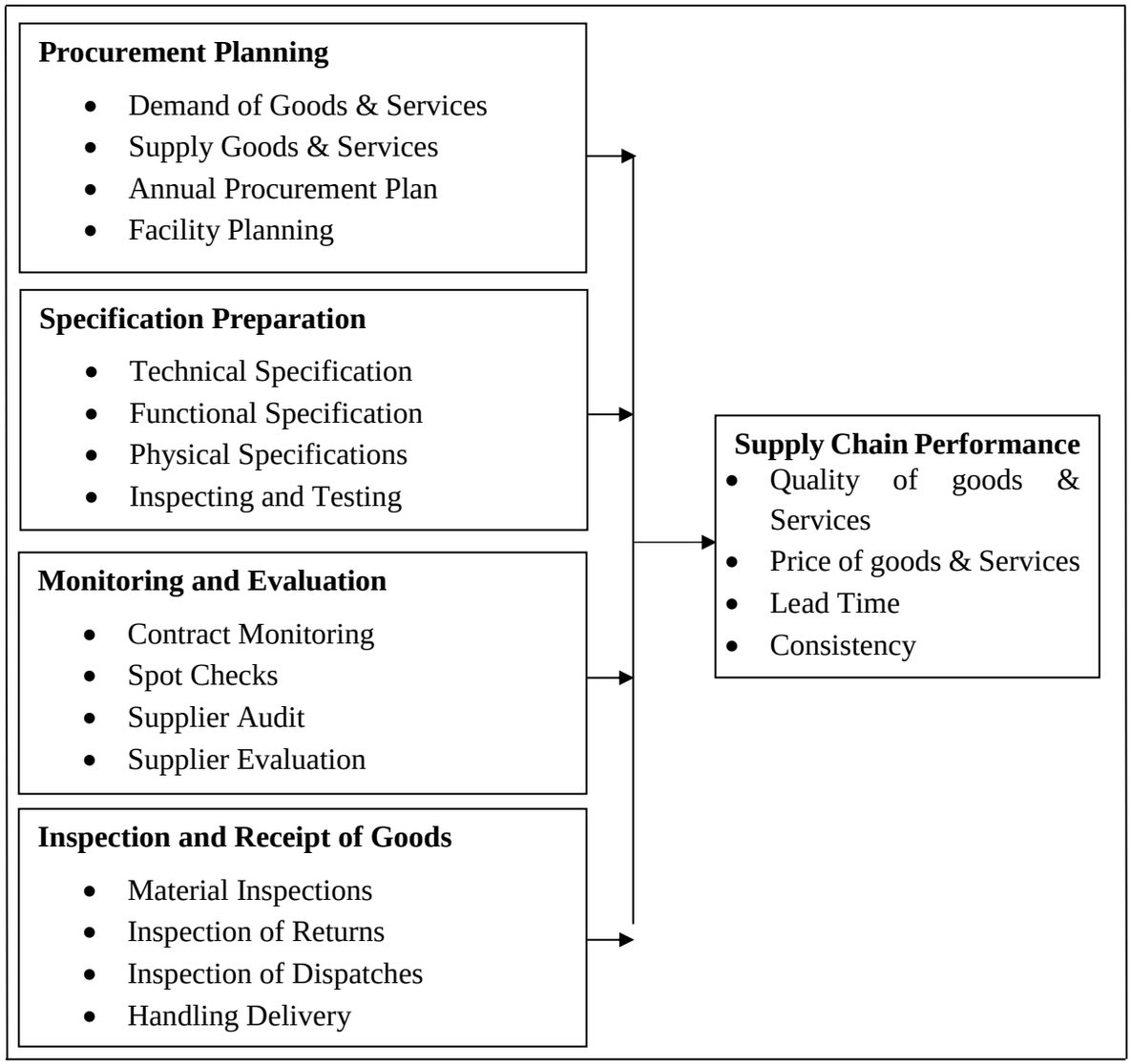

Figure 2.1: Conceptual framework on end user involvement and supply chain performance at Chuka University, Kenya

2.4.1 Procurement Planning

Procurement planning refers to the process of deciding what to purchase, when and from what sources. The role of procurement planning is to assist public service managers in formulating and executing a procurement strategy that will: identify all stakeholders in the acquisition of the required services and goods, who then may be appropriately consulted, and any legal obligations coupled with stakeholders ensuring compliance (Deme, 2009). Annual procurement plan refers to a document that stipulates the intended strategy for how procurement process will be conducted before any crucial procurement actions are implemented, for example the commencement of negotiations. Facility planning determines how an activity's tangible fixed assets best supports achieving the activity's objectives.

Demand and supply planning are important elements in procurement planning (Allain, 2010). Demand planning helps the institution to employ a formal process of forecasting and validating its requirements of goods and services for program implementation. On the other hand, supply planning helps an organization to use formal process through which supply meets the demand for products, ensures maintenance of minimum stock for regularly needed goods and services and balances seasonal and emergency demand fluctuations.

2.4.2 Specification Preparation

According to Owegi and Aligula (2010), specification in procurement refers to characteristics of a commodity or service required or desired. They are the explicit requirements furnished with a solicitation upon which a purchase order or contract is to be based. Specifications set forth the characteristics of the property and services to be purchased so as to enable the vendor to determine and understand that which is to be supplied. The information may be in the form of a description of the physical, functional, or performance characteristics, a reference brand name or both. It may include a description of any requirement for inspecting, testing, or preparing a material, equipment, supplies, or service for delivery. Specifications may be incorporated by reference and/or through attachment to the solicitation.

Technical specifications can be formulated as functional or performance requirements or with reference to several standards. In cases where the technical specifications are not formulated as functional or performance requirements, they should be formulated accurately and precisely. This will make the procurement process easier and provide greater clarity and better

understanding of the technical requirements. Inspecting is the process of examining products that have been delivered to determine conformance to what was ordered via the purchase document (Njeru, 2014).

Functional specifications documents provide details of the operation, functionality and deliverables for a good or service. The functional specifications mainly entail the user, operational and system requirements. Physical specifications outline the physical features of a good. The procurement manager should liaise with the user departments to establish a technical team to conducts inspection and testing of goods before they are received by an institution (Rotich, 2011).

2.4.3 Monitoring and Evaluation

Amaoko and Samuel (2016), identified monitoring in supply chain management as a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing development intervention with indications of the extent of progress and achievement of objectives in supply chain. On the other hand, evaluation in supply chain represents a systematic and objective assessment of an on-going or completed project, program or supply contract. Contract monitoring is a regular process of evaluating procurement performance based on measurable service deliverables and verifying procurement compliance with the terms and conditions in the procurement contract in order to improve transparency and accountability in procurement process.

Spot checks are conducted on the procurement activities to ensure compliance with the laid down policies and procedures and to detect malpractice, such as improper quotations. Supplier audit refers to the process that is conducted to identify non-conformances in the procurement process, quality process, invoicing process, supplier process and shipment process. Supplier audits can be described as analyses done to identify the relationship between different organizations in order to verify compliance of a supplier's goods and processes. Supplier evaluation is the process of assessing existing or new suppliers on the basis of their delivery, production capacity, prices, technical capabilities, quality of management and service (Deme, 2009).

2.4.4 Receipt and Inspection of Goods

According to Castillo *et al.,* (2016) inspections of goods, services and works, handling delivery, dispatches and returns is an integral part of the supply chain. Effectiveness in a supply contract is highly dependent on regular random inspections of the supplied goods and/or services during the contract period to ensure that they meet specification and are of a suitable standard (Mangesho, 2013).

Material inspection is the act of examining, measuring, testing, gauging and comparing materials or items to determine if the materials are in right condition and quantity, and if the items conform to the specified requirements. The basic function of the receiving and inspection process is to take responsibility for the inbound material, validate the material received to the purchase order, check for any damage to the material received and complete any required material inspections. Getting it right when you receive material will reduce headaches in downstream processes (Rotich, 2011).

2.5 Empirical Review

Studies have investigated supply chain performance in several dimensions and perspectives.

2.5.1 Procurement Planning

The review starts off with Madara (2009) by revealing that firms do not wish to make known to its competitors their internal workings for competitive reasons. It might be the reason why procurement entities tend not to make available their tendering data because of the sensitive nature of the data. The study findings revealed that procurement planning and its implementation in parastatal organizations was more affected by the lack of cooperation between procurement management unit and user department.

In order for procurement management unit to prepare comprehensive procurement plans, there is high reliance on the submission of schedule of requirements on time from user departments (Brahim *et al.,* 2014). The study identified the methods and strategies commonly used by institutions and governments to plan purchases more effectively that comprised of consolidation of requirements, term contracting, delegation of purchasing authority and value analysis in USA.

Rotich (2011), in a study on the influence of planning on procurement performance in the Kenya Public Financial Sector, contends that the evaluation or measurement of procurement performance has always been a vexing problem for procurement professionals. He further asserted that traditionally, firms concentrated on analyzing their own internal trends, which did not portray the true picture on how they compared with their competitors. The study dwelled on procurement processes, public reforms and the influence of planning (Rotich, 2011).

According to Njeru and Kibet (2014) their study showed the effects of procurement planning on procurement performance revealed that adherence to procurement plans positively affected procurement performance in institutions. The study concluded that preparation of annual procurement plans, frequency of formulation of procurement plans and the evaluation of the same contributed to the corporations' procurement performance (Njeru & Kibet, 2014). It acknowledged widespread needs that are not well identified and estimated, unrealistic budgets, inadequacy of skilled staff responsible for procurement, and lack of adherence to procurement plans (Njeru & Kibet, 2014).

Mamiro (2010) study findings underscores these facts and concludes that one of the major setbacks in public procurement is poor procurement planning and management of the procurement process, which include needs that are not well identified and estimated, unrealistic budgets and inadequacy of skills of procurement staff responsible for procurement (Mamiro, 2010).

2.5.2 Specification Preparation

Tender specification and preparation plays a key role during the tender process. Rashid *et al.* (2006) in a study in the construction industry in Malaysia established that in procurement of construction works, although the cost is fixed at the tender stage and is subject to design changes, it is often higher than the traditional contracting system. In public procurement in Malaysia, there have been very limited contractors invited to submit tenders and the lack of design and specification detailing during tender, has made the contractors to jack up the price to allow for many uncertainties (Rashid *et al.*, 2006).

In another study, Ericksson (2015) researched specification preparation regarding engineering projects as opposed to an organization. The study argues that despite the increase in supply chain integration (SCI) in various industries, there is still lack of comprehensive practical and

conceptual framework that makes it possible for systemic and detailed understanding of integration within project-based supply chains. Therefore, Eriksson (2015) mission was in creating a theoretical framework from the general literature of SCI and within the context of an engineering project. The study uses multiple case studies case studies of four engineering projects with results showing that the four dimensions of scope, strength, depth of integration, and duration, play a critical role when conceptualizing and implementing partnering within engineering projects. The findings reveal that the existing strong interdependencies among the four dimensions, point to the importance of managing them systematically and simultaneously as opposed to in isolation (Eriksson, 2015).

2.5.3 Monitoring and Evaluation

Monitoring and evaluation of procurement performance has always been a vexing problem for procurement professionals (Amit, 2014). He asserts that traditionally, firms concentrate on analyzing their own internal trends which does not portray the true picture on how they compare well with competitors and that such an approach ignores what the competitors are doing (Amit, 2014).

A study by Masindet and Ogolla (2014) while it entails supply chain employee involvement, it also has other objectives such as establishing the influence of supply chain management commitment, the influence of supply chain customer orientation, and the influence of supply chain continuous improvement, all in the context of monitoring and evaluation on supply chain performance of cement manufacturing firms in Kenya. The study employed descriptive statistics in making summaries of the study variables. The findings noted that employees were highly involved in decision making process on quality improvement matters, among other findings. The study noted that employee involvement, continuous improvement, management commitment and customer orientation were significantly related to supply chain performance within cement manufacturing companies in Kenya (Masindet & Ogolla, 2014).

Closer to this study is Onchiri and Kwasira (2016) research on the influence of monitoring and evaluation in the procurement decision making on the purchase performance at Kenya Police College, Kiganjo. Onchiri and Kwasira (2016) employed a census case survey study of primary data collected from all employees at Kenya Police College, Kiganjo, and the data was collected through a structured questionnaire. Descriptive statistics was used in the analysis of the research variables, while inferential statistics was employed in the study regarding influence of end user

involvement in purchasing performance. The findings noted that there exists a statistically significant relationship between end user involvement and performance of supply chains (Onchiri & Kwasira, 2016).

2.5.4 Inspection and Receipt of Goods

Studies by Awaysheh and Klassen (2010) and Waweru (2015) although concerned with supply chain management, the former looks outwards on supplier practices while the later looks internally at the role of the inspection and receipt of goods. Awaysheh and Klassen (2010) explored the integration between management of supply chains and social issues from the perspectives of an operations management. The objective of the study was aimed at developing a set of scales for measuring multiple dimensions of socially responsible practices of suppliers (Awaysheh & Klassen, 2010). On the other hand, Waweru's (2015) objective was to explore the critical and important role played by inspection and receipt of goods in the coordination of continuous development, supply chains, organizational performance and value addition. The study concluded that top management play a significant role in procurement performance.

Awaysheh and Klassen (2010) also looked at three important supply chain structures dimensions of dependency, transparency and distance in the adoption of socially responsible practices by suppliers. The design of the study entailed a review of literature from different theoretical streams and emerging international standards bringing about the identification of the four dimensions of supplier. In addition, the researchers employed a multi-dimensional conceptualization on the structure of supply chain, including: dependency, transparency and distance analyzed from previous studies.

Awaysheh and Klassen (2010) then used the conceptual development to carry out a large-scale survey on company managers within three industries located in Canada in providing empirical basis for validating these constructs before any assessment of the relationship between practice and structure. Waweru (2015) used a descriptive survey design where data was collected from members of the population with a view of establishing the role played by inspection and receipt of goods in the context of supply chain performance as adopted by different companies.

The findings by Awaysheh and Klassen (2010) reveal that supplier codes of contact, supplier labor practices, and supplier social audits were responsible for the empirical validation of the multi-item scales for each of the four dimensions of socially responsible practices by suppliers.

At the end, the researchers noted that because the companies were well positioned upstream within the supply chain, managers within them were in a better position to report enhanced use of the supplier codes of conduct. One aspect of Wameru (2015) findings is that problems such as delayed deliveries and long lead times were associated with a lack of experience in inspection and receipt of goods on matters supply chain.

2.6 Summary of Literature Review

The study is anchored on two major theories: Institutional Theory and Socio-economic Theory. Each of these theories emphasize the importance of accommodating the interests of various stakeholders in the procurement process. The empirical review is far and wide touching on key end users and supply chain management ranging from policies and regulation, effective frameworks, stakeholders, competition, social practices, total quality management practices, among others.

The empirical literature presented similar research documentation by various scholars. It is clear from the empirical literature that studies have dealt with various key end users in both private and public institutions. The end users range from suppliers, procurement officials, the government, regulators and top managers. The purpose of some of the studies is to find out the role of these key end users and their influence and in some cases their perceptions on supply chain management and well as their role in the tendering process.

2.7 Research Gaps

The role of stakeholders has been determined to be of paramount importance in the supply chain management. While there are many studies that have focused on top management, suppliers, government, regulators and procurement officials, the review reveals minimal focus on the role of the end users in the entire process. There is no denying that there are studies that have focused on end users such as Masindet and Ogolla (2014) and Onchiri and Kwasiri (2016). The shortcomings of Masindet and Ogolla (2014) study is that while it looks at the customers or end users in the supply chain, it does so with a mirage of other wide objectives, losing the need to exhaustively focus on end users as its main theme.

The variables under consideration in Masindet and Ogolla (2014) are employee involvement, continuous improvement, management commitment and customer orientation as independent variables while the dependent variable was supply chain performance, are different from what

this study is all about, despite their common consideration on end users or employees. While the study by Onchiri and Kwasiri (2016) is the closest to this study, it still differs from this study in that it only looks at the influence of end users from a census survey on all employees at Kenya Police College, Kiganjo. The study by Onchiri and Kwasiri (2016) is focused on purchasing planning, specification development and tender evaluation as dependent variable while performance of the purchasing activities is its dependent activities.

While the researcher is aware that the reviewed literature above may not be exhaustive and there might other studies not included here that handle end users in the supply chain management, the fact that only two studies, out the many randomly analyzed in this study handle end users, is a revelation on howl the topic has received limited attention overall. Therefore, to the best knowledge of the researcher, and following the review above, there is no other study that has focused on the procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of good as independent variables to supply chain performance as a dependent variable in the context of end user's involvement and within a setup of a higher learning institution. It is with this realization that the current study seeks to address this knowledge gap by considering how procurement planning, specification preparation, monitoring and evaluation and inspection and receiving goods affect supply chain performance in higher instutions of learning in Kenya with specific reference to Chuka University.

Table 2.1: Summary of Research Gaps

The table below shows a summary of research gaps

Author(s)	Methodology	Context	Focus	Findings	Research Gaps
Masindet, K., & Ogolla, M. (2014)	Case study	Uganda	Influence of end user involvement on performance of SME's	employee involvement, continuous improvement and customer orientation influence supply chain performance	Methodological gap
Onchiri, G., & Kwasiri, N, (2016)	Survey	Kenya	influence of end users from a census survey on all employees at Kenya Police College, Kiganjo	purchasing planning and tender evaluation influence performance of the purchasing function	Action-Knowledge gap
Brahim, M. (2014)	Cross sectional survey	USA	End user involvement and performance of parastatals	procurement planning and its use was more affected by the lack of cooperation between procurement unit and user department	Contextual gap

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines in detail how the research was conducted. It presents the population of interest, measurement and details of the variables to be used in the study. An outline of the method used to ensure validity and reliability of the instrument is also given. Data collection approach adopted is elaborated, as well as, the tools that were used in the data analysis.

3.2 Research Design

The study adopted a cross-sectional descriptive design. Descriptive research design allows the researcher to study the elements in their natural form without making any alterations to them (Kothari, 2014). The design also allows the researcher to come up with descriptive statistics that can assist in explaining the relationship that exists among variables (Oso & Onen, 2010). The research design addressed the what and how questions of the study in terms of end user involvement and supply chain performance of the study. Kombo and Tromp (2013) observe that the goal of cross-sectional descriptive design is to offer the study a profile or describe relevant aspects of the phenomena of interest from the individual, organization, industry or other perspective.

In addition, the design best fit in the ascertainment and description of characteristics of variable in this research study and allows for use of questionnaires and interviews. In addition, a descriptive design was appropriate since it enabled the researcher to collect enough information necessary for generalization. Cross-sectional descriptive design are often inexpensive and are relatively conducted faster (Mugenda & Mugenda, 2014).

3.3 Target Population

According to Kasomo (2011) a population refers to the entire group of persons or elements that have at least one thing in common. The target population is the total number of subjects targeted by the study (Kothari, 2014). Target population refers to the portion of

entire population in which the researcher is interested, has access to or is more likely to get the required data (Oso & Onen, 2010). The target population was 82 employees in the various user departments and procurement department.

Table 3.1: Target Population

The table below shows the target population of the study

Department	Number of Staff	Percentage %
Procurement	18	22
Finance and Administration	14	17
Academic Affairs	25	30
Student Affairs	25	30
Total	**82**	**100**

3.4 Sampling Technique and Sample Size

Kombo and Tromp (2013) define it as a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. The study employed a census approach to collect data from the respondents hence no sampling techniques were used. According to Kothari (2014) a census is a count of all the elements in a population. Therefore the study targeted 82 respondents.

3.5 Data Collection Instruments

The research mainly relied on primary data which was collected using a structured questionnaire. The responses to the questionnaire were designed on a 5-point scale of measurement of strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. The questionnaire was divided into five sections. Section I captured background information, Section II procurement planning, Section III specification preparation, Section IV monitoring and evaluation and Section V inspection and receiving of goods.

3.6 Data Collection Procedures

The questionnaires were self-administered to the respondents and two research assistants were recruited and trained so that they were able to get quality results. A brief introduction was made to the respondents before administering the questionnaire with the aim of explaining the questionnaire. Confidentiality was assured to the respondents through the letter of transmittal that accompanied the questionnaire (Kothari, 2014). This study utilized both primary and secondary data. Questionnaires were used to collect primary data which were distributed to the staff. The researcher made personal follow-ups to ensure that the questionnaires are filled and collected. Each questionnaire was coded and only the researcher got to know which person responded (Neuman, 2010).

3.7 Pre-testing of Research Instruments

A pretesting of instruments was conducted before carrying out the main study to determine if the instrument contained any potential weaknesses regarding clarity of questions. In this study a total of 8 employees were involved in the pretesting of instruments since according to Ngechu (2011), the total number of respondents for the pilot study should be at least 10% of the sample population. Employees who participated in the pretesting of instruments did not participate in the main study.

3.7.1 Validity of the Study Instruments

Validity is defined as the degree to which true differences among respondents being tested is reflected in differences found with a measuring tool reflect (Neuman, 2010). Validity can be measured by the extent the data obtained accurately reflects the theoretical or conceptual concepts; that is if the measurements gotten are consistent with the expectations. There is construct validity and content validity (Ngechu, 2011). Construct validity was ascertained through the data that is collected from the pilot sample to find out whether the data collected is accurate and meaningfully represented in the theoretical concepts (Kothari, 2014). Content validity was analyzed by professionals in the field such as university supervisors. Content validity coefficient index of 0.7 was used to test the validity of the questionnaire (Setia, 2016). To demonstrate the validity of the research instruments the researcher sought opinions of experts in the field of study.

3.7.2 Reliability of the Study Instruments

Oso and Onen (2010) explains reliability of research as determining whether the research truly measures that which it was intended to measure or how truthful the research results are. Reliability analysis was conducted using Cronbach's alpha to determine whether the data collection instrument is reliable for the study. Reliability is the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. Kothari (2014) adhere to the notions that consistency with which questionnaire items are answered or individuals scores remain relatively the same can be determined through the test retest method at two different times. This attribute of the instrument is actually referred to as stability. An alpha coefficient of 0.7 or higher indicates that the gathered data is reliable as it has a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population.

3.8 Data Processing and Analysis

According to Kothari (2014), data analysis is a process of gathering, modeling and transforming data with the goal of highlighting useful information, suggesting conclusions

and supporting decision making. This study is expected to produce both quantitative and qualitative data to explain the effect of end user involvement on supply chain performance exhaustively. When the data was received, it was coded and edited for completeness and consistency (Cooper & Schindler, 2005).

Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS) version 22. It gives simple summaries about the sample data and presents quantitative descriptions in a manageable form. Together with simple graphics analysis, descriptive statistics form the basis of virtually every quantitative analysis to data, (Kothari, 2014). The Pearson correlation coefficient was used to indicate one on one association between each of the independent variable to the dependent variables.

Multiple regression analysis was used to establish the relationship between the independent and dependent variables. It is specifically preferred as it contains a model goodness of fit to show the percent of procurement performance being attributed to the conceptualized study variables. Multiple regression analysis is adopted when the study has one dependent variable which is assumed to be a function of two or more independent variables (Mugenda & Mugenda, 2014). The relationship between end user involvement and supply chain performance was illustrated using the following empirical model.

The research used a multiple regression model depicted by 3.1.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$…….equation 3.1

Where:

Y = Supply Chain Performance

β0 = Constant

β1, β2, β3, β4 = Beta Coefficients of the Independent Variables

X_1 = Procurement Planning

X_2 = Specification Preparation

X_3 = Monitoring and Evaluation

X_4 = Inspection and Receipt of Goods

X_1, X_2, X_3, X_4 = End User Involvement Variables

ε = Error Term

Table 3.2: Operationalization of Study Variables

The table below shows the operationalization of the study variables.

Variable	Nature	Operation and Measurement of Structure	Indicators	Measurement in Questionnaire	Analysis
Procurement planning	Independent variable 1	The extent to which procurement planning influences supply chain performance	Demand, supply, annual procurement plan, facility planning	5-point Likert Scale	Descriptive and Inferential Statistics
Specification preparation	Independent variable 2	The extent to which specification preparation influences supply chain performance	Technical, functional and physical specifications, inspecting and testing	5-point Likert Scale	Descriptive and Inferential Statistics
Monitoring and evaluation	Independent variable 3	The extent to which monitoring and evaluation influences supply chain performance	Contract monitoring, spot checks, supplier audit, Supplier evaluation	5-point Likert Scale	Descriptive and Inferential Statistics
Inspection and Receipt of goods	Independent variable 4	The extent to which inspection and receiving of goods influences supply chain performance	Material inspections, inspection of returns, inspection of dispatches, handling delivery	5-point Likert Scale	Descriptive and Inferential Statistics
Supply chain performance	Dependent variable	Supply chain performance	Quality, price, lead time and consistency	5-point Likert Scale	Descriptive and Inferential Statistics

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents findings of the study inform of response rate, background information of respondents, descriptive statistics and regression analysis.

4.2 Response Rate

A total of 74 questionnaires were distributed to employees from different departments. Out of the distributed questionnaires, 64 were filled and returned representing a response rate of 86%. This was above the 50% which is considered adequate in descriptive statistics according to (Kothari, 2014). The results are presented in table 4.1.

Table 4.1: Response Rate of Respondents

Response	Frequency	Percentage
Actual Response	64	86%
Non-Response	10	14%
Total	**74**	**100%**

4.3 Pilot Study

The cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Neuman, 2010). A value of at least 0.7 is recommended (Ngechu, 2011). Cronbach's alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach's alpha was used to measure realibilty. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test.

Table 4.2 Reliability Results

Variable	No. of Items	α=Alpha	Comment
Procurement Planning	8	0.893	Reliable
Specification Preparation	8	0.987	Reliable
Monitoring and Evaluation	8	0.974	Reliable
Inspection and Receipt of Goods	8	0.976	Reliable

4.4 Background Information of the Respondents

This section presents the personal details of the respondents and it provides data regarding the study and is necessary for the determination of whether the individuals in a particular study are a respresentative sample of the target population and testing appropriateness of repondent in answering the questions for generalisation. The study sought to determine the demographic characteristics of the respondents as they are considered as categorical variables which give some basic insight about the respondents. The characteristics considered in the study were; age, their highest level of education attained and their work experience.

4.4.1 Gender Distribution of the Respondents

The study sought to establish the gender distribution of the respondents. The results are summarized in the table 4.3.

Table 4.3: Gender of Respondents

Category	Frequency	Percentage
Male	33	51%
Female	31	49%
Total	**64**	**100%**

The findings shown in table 4.3 revealed that majority of the respondent (51%) indicated that they were male, while 49% of the respondent indicated that they were female. This shows that the findings represent the views of both genders.

4.4.2 Age of the Respondents

The study sought to find out the distribution of respondents by age brackets. The findings were summarized in table 4.4.

Table 4.4: Distribution of Respondents by Age Brackets

Years	Frequency	Percent
21-30 Years	13	20
31-40 Years	25	39
41-50 Years	19	30
51-60 Years	4	7
61 Years and above	3	4
Total	**64**	**100.00**

The findings in table 4.4 revealed that 39% of the respondent were aged between 31-40 years old, 30% were 41-50 years, 20% were 21-30 years while 11% were above 51 years. The findings show that the respondents belonged to different age categories and therefore represents old and the young.

4.4.3 Level of Education

The respondents were asked to state their highest level of education. The findings are presented in table 4.5.

Table 4.5: Distribution of Respondents by Level of Education

Education Level	Frequency	Percent
A-Level	2	3
Ordinary Diploma	5	8
Higher Diploma	13	20
Undergraduate	24	37
Masters	15	24
PhD	5	8
Total	**64**	**100**

The findings reveal that 3% had attained A levels, 37% of the respondent academic qualification was up to undergraduate's level, 24% had attained masters, 8% had attained PhD, 20% Higher Diploma while 8% had attained ordinary Diplomas.With majority responsdents having degree and above, it is expected that their level of understanding of performance of supply chain is good.

4.4.4 Length of Service

The study sought to establish the length of service of the respondents. The respondents were asked to indicate their work duration. The findings are presented in table 4.6.

Table 4.6: Distribution of Respondents by Length of Service

Length of Service	Frequency	Percent
Less than a Year	10	16
1-3 Years	30	46
3 Years and above	24	38
Total	**64**	**100.0**

The findings revealed that 46% of the respondents had worked for 1-3 years. The result also showed that 38% of the respondents had worked for three years and above while 16% of the respondents had worked for less than a year. This shows that most of the respondents had gained experience of over 3 years old thus they are conversant with the information being sought by the study.

4.5 Supply Chain Performance at Chuka University

Analysis of dependent variable of the study to assess the status of the supply chain performance at Chuka University. The study therefore sought to determine the extent to which the respondents agreed with various statements about the status of supply chain performance at Chuka University. The results are depicted in Table 4.7.

Table 4.7: Status of Supply Chain Performance at Chuka University

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Quality improvement has been achieved due to procurement planning and inspection and receipt of goods	0.0%	24.1%	21.1%	29.3%	25.6%	3.56	1.117
Pricing has improved due to monitoring and evaluation and inspection and receipt of goods	0.0%	18.%	21.1%	32.3%	28.6%	3.71	1.07
Lead time reduction and consistency has been achieved due to specification preparation and planning procurement	24.1%	17.3%	19.5%	16.5%	22.6%	2.96	1.489

The findings in table 4.7 indicates that 29.3% of the respondents agreed while 25.6% of the respondents strongly agreed with the statement that quality improvement had been achieved due to procurement planning and inspection and receipt of goods. It was also

evident that 32.3% of the respondents agreed while 28.6% of the respondents strongly agreed with the statement pricing had improved due monitoring and evaluation and inspection and receipt of goods. The findings also revealed that 16.5% of the respondents agreed while 22.6% strongly agreed with the statement that lead time reduction had improved due to specification preparation and planning procurement.

The findings imply that Chuka University has considerably good supply chain performance because majority of the respondents agreed with the suggested indicators. The finding are in tandem with Otter *et al.,* (2010) who found out that quality, price and lead time can be improved by procurement planning and inspection of goods before receipt. Amit (2014) was also of the school of thought that procurement planning ranks highly among aspects that affect end user involvement. On the other hand Chen and Paulraj (2004) reiterated that it is lead time and its consistency that makes all the difference when looking at end user involvement.

4.6 Procurement Planning Effect on Supply Chain Performance

The study sought to find out the extent to which the respondents agree to the various statements regarding procurement planning on supply chain performance. The findings are presented in table 4.8.

Table 4.8: Procurement Planning Effect on Supply Chain Performance

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Demand planning plays a significant role in quality improvement and pricing	1.5%	1.5%	36.8%	29.3%	30.8%	3.86	0.928
Supply planning plays a significant role in quality improvement and pricing	0.8%	2.3%	36.1%	33.1%	27.8%	3.85	0.883
An annual procurement plan plays a significant role in quality improvement and pricing	1.5%	1.5%	36.8%	32.3%	27.8%	3.83	0.906
Facility planning plays a significant role in quality improvement and pricing	0.8%	2.3%	36.1%	33.1%	27.8%	3.85	0.883
Demand planning plays a significant role in reducing lead time and maintaining consistency	2.3%	0.8%	0.0%	45.1%	51.9%	4.44	0.752
Supply planning plays a significant role in reducing lead time and maintaining consistency	0.0%	0.0%	33.1%	32.3%	34.6%	4.02	0.826
An annual procurement plan plays a significant role in reducing lead time and maintaining consistency	1.5%	1.5%	0.0%	49.6%	47.4%	4.4	0.717
Facility planning plays a significant role in reducing lead time and maintaining consistency	0.0%	0.0%	33.1%	32.3%	34.6%	4.02	0.826
Average						**4.19**	**0.745**

The findings in table 4.8 revealed that 29.3% agreed while 30.8% strongly agreed with the statement that demand planning plays a significant role in quality improvement and pricing. It was also evident that 33.1% of the respondents agreed while 27.8% strongly agreed with the statement that supply planning plays a significant role in quality improvement and pricing. Similarly, 32.3%
of the respondent agreed while 27.8% strongly agreed with the statement an annual procurement plan plays a significant role in quality improvement and pricing. Likewise, 33.10% of the respondents agreed while 27.8% strongly agreed with the statement that facility planning plays a significant role in quality improvement and pricing.

The findings implied that 45.1% of the respondents agreed while 51.9% strongly agreed with the statement that demand planning plays a significant role in reducing lead time and maintaining consistency. The result showed that 32.3% of the respondents agreed while 34.6% strongly agreed with the statement that supply planning plays a significant role in reducing lead time and maintaining consistency. Further, the results indicated that 49.6% of the respondents agreed while 47.4% of the respondents strongly agreed with the statement that an annual procurement plan plays a significant role in reducing lead time and maintaining consistency.

The result showed that 32.3% of the respondents agreed while 34.6% strongly agreed with the statement that facility planning plays a significant role in reducing lead time. The average response for the statements on procurement planning was 4.19. The findings agree with Kasomi (2009) that proactive procurement planning is necessary for better supply chain performance. Castillo *et al.,* (2016) was also of the testament that procurement planning was an important point of contact with vendors in his study on end user involvement. On the other hand Ellram (2013) reiterated that it is quality of goods bought makes supply chain performance way better if procurement planning was embraced early enough.

4.6.1 Correlation Between Procurement Planning and Supply Chain Performance

Correlation analysis was conducted in order to ascertain the relationship and strength of association between procurement planning and supply chain performance. The findings are presented in table 4.9.

Table 4.9: Correlation Between Procurement Planning and Supply Chain Performance

		Supply Chain Performance
Procurement Planning	Pearson Correlation	.714**
	Sig. (2-tailed)	0.00
	N	64

** Correlation is significant at the 0.05 level (2-tailed).

The findings in table 4.9 show the correlation analysis that determine the relationship between procurement planning and supply chain performance, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship at 71.4% between procurement planning and supply chain performance. In addition, the researcher found the coefficient was significant at 5% level of significance. This implies that supply chain performance can only improve if procurement planning is done properly. The study findings are consistent with a study by Apopa (2009) which found that organizations have not been able to plan their procurement because they lack the structures and procedures needed hence leading to poor supply chain performance. Deme (2009) was also of the school of thought that procurement planning was a critical factor in his study on end user involvement and its influence on procurement. On the other hand Gwako (2008) reiterated that it is lead time is highly affected at the end if procurement planning is not embraced.

4.7 Specification Preparation Effect on Supply Chain Performance

The respondents were required to indicate the extent to which they agreed with the various statements regarding specification preparation on supply chain performance. The results are depicted in table 4.10.

Table 4.10: Specification Preparation Effect on Supply Chain Performance

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Technical specification plays a significant role in quality improvement and pricing	0.0%	0.0%	35.3%	31.6%	33.1%	3.98	0.83
Functional specification plays a significant role in quality improvement and pricing	0.0%	0.0%	38.3%	33.1%	28.6%	3.9	0.815
Physical plays a significant role in quality improvement and pricing	0.0%	0.0%	33.1%	28.6%	38.3%	4.05	0.847
Inspecting and testing plays a significant role in quality improvement and pricing	0.0%	0.0%	35.3%	31.6%	33.1%	3.98	0.83
Technical specification plays a significant role in reducing lead time and maintaining consistency	24.1%	17.3%	19.5%	16.5%	22.6%	2.96	1.489
Functional specification plays a significant role in reducing lead time and maintaining consistency	0.0%	24.1%	21.1%	29.3%	25.6%	3.56	1.117
Physical specifications plays a significant role in reducing lead time and maintaining consistency	0.0%	18.0%	21.1%	32.0%	28.6%	3.71	1.07
Inspecting and testing of goods plays a significant role in reducing lead time and maintaining consistency	24.1%	17.3%	19.5%	16.5%	22.6%	2.96	1.489
Average						**3.79**	**0.958**

The result in table 4.10 revealed that 31.6% of the respondents agreed while 33.1% strongly agreed with the statement that technical specification plays a significant role in quality improvement and pricing. It was evident that 33.1% of the respondents agreed while 28.6 strongly agreed with the statement that functional specification plays a significant role in quality improvement and pricing. Similarly, 28.6% of the respondent agreed while 38.3% strongly agreed with the statement physical plays a significant role in quality improvement and pricing. The result implied that 31.6% of the respondents agreed while 33.1% strongly agreed with the statement that inspecting and testing plays a significant role in quality improvement and pricing.

Likewise, 16.5% of the respondents agreed while 22.6% strongly agreed with the statement that technical specification plays a significant role in reducing lead time and maintaining consistency. The result showed that 29.3% of the respondents agreed while 25.6% strongly agreed with the statement that functional specification plays a significant role in reducing lead time and maintaining consistency. Further, the results indicated that 32.3% of the respondents agreed while 28.6% strongly agreed with the statement that physical plays a significant role in reducing lead time and maintaining consistency.

The result showed that 16.5% of the respondents agreed while 22.6% strongly agreed with the statement that inspecting and testing plays a significant role in reducing lead time and maintaining consistency. The average response for the statements on specification preparation was 3.79. The findings agree with Jay *et al.,* (2010) that specification preparation is necessary for better supply chain performance. Hassim (2011) was also of the school of thought that technical and functional specifications were critical in his study on end user involvement. On the other hand Kennedy and Brian (2014) reiterated that consistency of items procured is determined by specifications given in end user involvement.

4.7.1 Correlation Between Specification Preparation and Supply Chain Performance

Correlation analysis was conducted in order to ascertain the relationship and strength of association between specification preparation and supply chain performance. The findings are presented in table 4.11.

Table 4.11: Correlation Between Specification Preparation and Supply Chain Performance

		Supply Chain Performance
Specification Preparation	Pearson Correlation	.728**
	Sig. (2-tailed)	0.00
	N	64

** Correlation is significant at the 0.05 level (2-tailed).

The findings in table 4.11 show the correlation analysis to determine the relationship between specification preparation and supply chain performance, Pearson correlation coefficient computed and tested at 5% significance level. The results indicated that there was a positive relationship at 72.8% between specification preparation and supply chain performance. In addition, the researcher found the coefficient was significant at 5% level. This implies that supply chain performance can only improve if specification preparation is done properly.

The study findings are consistent with a study by Erickson (2015) which found that user departments have not been able to prepare their specification because they lack the skills needed hence leading to poor supply chain performance. Kiage (2013) was also of the school of thought that consistency in both price and quality is determined by specification preparation in his study on end user involvement. On the other hand Kirk (2015) reiterated that physical, inspecting and testing of specifications makes all the difference when looking at end user involvement

4.8 Monitoring and Evaluation Effect on Supply Chain Performance

The respondents were required to indicate the extent to which they agree with the various statements about the effect of monitoring and evaluation on supply chain performance. The findings are depicted in table 4.12.

Table 4.12: Monitoring and Evaluation Effect on Supply Chain Performance

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Contract monitoring plays a significant role in quality improvement and pricing	0.0%	0.0%	27.1%	31.6%	41.4%	4.14	0.818
Spot checks plays a significant role in quality improvement and pricing	0.0%	0.0%	37.6%	37.6%	24.8%	3.87	0.783
Supplier audit plays a significant role in quality improvement and pricing	0.0%	6.8%	33.1%	27.8%	32.3%	3.86	0.955
Supplier evaluation plays a significant role in quality improvement and pricing	0.0%	0.0%	27.1%	31.6%	41.4%	4.14	0.818
Contract monitoring plays a significant role in reducing lead time and maintaining consistency	26.3%	18.8%	15.0%	21.8%	18.0%	2.86	1.476
Spot checks plays a significant role in reducing lead time and maintaining consistency	0.0%	0.0%	0.0%	56.4%	43.6%	4.44	0.498
Supplier audit plays a significant role in reducing lead time and maintaining consistency	0.0%	0.0%	0.0%	46.6%	53.4%	4.53	0.501
Supplier evaluation plays a significant role in reducing lead time and maintaining consistency	26.3%	18.8%	15.0%	21.8%	18.0%	2.86	1.476
Average						**3.94**	**0.853**

The results in table 4.12 revealed that 31.6% of the respondents agreed while 41.4% strongly agreed with the statement that contract monitoring plays a significant role in quality improvement and pricing. It was evident that 37.6% of the respondents agreed while 24.8% strongly agreed with the statement that spot checks plays a significant role in quality improvement and pricing. Further the results showed that 27.8% of the respondent agreed while 32.3% strongly agreed with the statement that supplier audit plays a significant role in quality improvement and pricing.

It was also apparent that 31.6% of the respondents agreed while 41.4% strongly agreed with the statement that supplier evaluation plays a significant role in quality improvement and pricing. The result revealed that 21.8% of the respondents agreed while 18% strongly agreed with the statement that contract monitoring plays a significant role in reducing lead time and maintaining consistency. The findings also implied 56.4% of the respondents agreed while 43.6% strongly agreed with the statement that spot checks plays a significant role in reducing lead time and maintaining consistency.

Further, the results indicated that 46.6% of the respondents agreed while 53.4% strongly agreed with the statement that supplier audit plays a significant role in reducing lead time and maintaining consistency. The result showed that 21.8% of the respondents agreed while 18% strongly agreed with the statement that supplier evaluation plays a significant role in reducing lead time and maintaining consistency. The average response for the statements on specification preparation was 3.94. The findings agree with Hui (2010) that monitoring and evaluation is necessary for better supply chain performance.

4.8.1 Correlation Between Monitoring and Evaluation and Supply Chain Performance

Correlation analysis was conducted in order to ascertain the relationship and strength of association between monitoring and evaluation and supply chain performance. The findings are presented in table 4.13.

Table 4.13: Correlation Between Monitoring and Evaluation and Supply Chain Performance

		Supply Chain Performance
Monitoring and Evaluation	Pearson Correlation	.714**
	Sig. (2-tailed)	0.00
	N	64

** Correlation is significant at the 0.05 level (2-tailed).

The findings in table 4.13 show the correlation analysis to determine the relationship between monitoring and evaluation and supply chain performance, Pearson correlation coefficient was computed and tested at 5% significance level. The results indicate that there was a positive relationship at 71.4% between monitoring and evaluation and supply chain performance. In addition, the researcher found the coefficient was significant at 5% level. This implies that supply chain performance can only improve if monitoring and evaluation is done properly.

The study findings are consistent with a study by Deme (2009) which found that universities have not been able to monitor and evaluate their procurement operations because they lack the required infrastructure hence leading to poor supply chain performance. Njeru (2011) opined that pricing of items and the lead time attained can all be attributed to monitoring and evaluation. On the other hand Novack (2015) reiterated that it is quality and its consistency that makes all the difference when looking at end user involvement.

4.9 Inspection and Receipt of Goods Effect on Supply Chain Performance

The study required respondents to indicate the extent to which they agree with the various statements on how Inspection and receipt of goods effect on supply chain performance. The results are depicted in Table 4.14.

Table 4.14: Inspection and Receipt of Goods Effect on Supply Chain Performance

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Material inspections plays a significant role in quality improvement and pricing	0.0%	0.0%	0.0%	44.4%	55.6%	4.56	0.499
Inspection of returns plays a significant role in quality improvement and pricing	0.0%	0.0%	0.0%	51.9%	48.1%	4.48	0.502
Inspection of dispatches plays a significant role in quality improvement and pricing	0.0%	2.3%	3.8%	46.6%	47.4%	4.39	0.672
Handling delivery plays a significant role in quality improvement and pricing	0.0%	0.0%	0.0%	44.4%	55.6%	4.56	0.499
Material inspections plays a significant role in reducing lead time and maintaining consistency	0.8%	1.5%	3.0%	49.6%	45.1%	4.37	0.691
Inspection of returns plays a significant role in reducing lead time and maintaining consistency	0.0%	0.0%	0.0%	49.6%	50.4%	4.5	0.502
Inspection of dispatches plays a significant role in reducing lead time and maintaining consistency	0.00 %	0.0%	0.0%	48.9%	51.1%	4.51	0.502
Handling delivery plays a significant role in reducing lead time and maintaining consistency	0.8%	1.5%	3.0%	49.6%	45.1%	4.37	0.691
Average						**4.47**	**0.568**

The findings in table 4.14 revealed that 44.4% of the respondents agreed while 55.6% strongly agreed with the statement that material inspections play a significant role in quality improvement and pricing. Similarly, 51.9% of the respondents agreed while

48.10% strongly agreed with the statement that inspection of returns play a significant role in quality improvement and pricing. The result implies that 46.6% of the respondents agreed while 47.4% strongly agreed with the statement inspections of dispatches play a significant role in quality improvement and pricing. It was evident that 44.4% of the respondents agreed while 55.6% strongly agreed with the statement that handling delivery plays a significant role in quality improvement and pricing.

Further 49.6% of the respondents agreed while 45.1% strongly agreed with the statement that material inspections play a significant role in reducing lead time and maintaining consistency. The results showed that 49.6% of the respondents agreed while 50.4% strongly agreed with the statement that inspection of returns play a significant role in reducing lead time and maintaining consistency. Further, the results indicated that 48.9% of the respondents agreed while 51.1% strongly agreed with the statement that inspections of dispatches play a significant role in reducing lead time and maintaining consistency.

Likewise, the result showed that 49.6% of the respondents agreed while 45.1% strongly agreed with the statement that handling delivery plays a significant role in reducing lead time and maintaining consistency. The average response for the statements on specification preparation was 4.47. The findings agree with Hassim (2010) that inspection and receipt of goods is necessary for better supply chain performance. A study by Onyango (2011) revealed that handling of delivery and inspections of returns were crucial. On the other hand, Geddes and Owegi (2010) opined that materials inspections and inspections of dispatches were paramount when looking at end user involvement.

4.9.1 Correlation Between Inspection and Receipt of Goods and Supply Chain Performance

Correlation analysis was conducted in order to ascertain the relationship and strength of association between inspection and receipt of goods and supply chain performance. The findings are presented in table 4.15.

Table 4.15: Correlation Between Inspection and Receipt of Goods and Supply Chain Performance

		Supply Chain Performance
Inspection and Receipt of Goods	Pearson Correlation	.737**
	Sig. (2-tailed)	0.00
	N	64

** Correlation is significant at the 0.05 level (2-tailed).

The findings in table 4.15 show the correlation analysis to determine the relationship between inspection and receipt of goods and supply chain performance, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there was a positive relationship at 73.7% between inspection and receipt of goods and supply chain performance. In addition, the researcher found the coefficient was significant at 5% level. this implies that supply chain performance can only improve if inspection and receipt of goods is done properly.

The study findings are consistent with a study by Kiage (2013) which found that universities have not been able to inspect goods because they lack the required frameworks hence leading to poor supply chain performance. Onchiri *et al.,* (2014) was also of the school of thought that quality of items and consistency are determined by inspection and receipt of goods. In addition, Rashid *et al.,* (2016) reiterated that inspection vital regarding end user satisfaction.

4.10 Multiple Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (supply chain performance) which can be predicted from the independent

variables (procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods).

The linear regression model;

$$\mathbf{Y= \beta_0+ \beta_1X_1+\beta_2X_2+\beta_3X_3 +\beta_4X_4 +\varepsilon}$$

Where:

Y is Supply Chain Performance, $\boldsymbol{\beta o}$ is Constant Coefficient, $\mathbf{X_1}$ is Procurement Planning, $\mathbf{X_2}$ is Specification Preparation, $\mathbf{X_3}$ is Monitoring and Evaluation, $\mathbf{X_4}$ is Inspection and Receipt of Goods, $\boldsymbol{\varepsilon}$ is Random Error Term

The results of coefficient of determination (R^2) are presented in table 4.16

Table 4.16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.796[a]	0.634	0.622	0.203452

a) Predictors: (Constant), Procurement Planning, Specification Preparation, Monitoring and Evaluation, Inspection and Receipt of Goods

b) Dependent Variable: Supply Chain Performance

The results in Table 4.16 presented the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there was a significant positive relationship between dependent variable and the independent variable. R-Square is a commonly used statistic to evaluate model fit. R^2 is 1 minus the ratio of residual variability. The coefficient of determination also called the R^2 was 0.634. R^2 value of 0.634 means that 63.4% of the corresponding variation in supply chain performance can be explained or predicted by (procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods) which indicated that the model fitted the study data. The remaining 36.6% of the variation was explained by other variables outside the model.

Table 4.17: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.167	4	2.292	25.752	.000[b]
	Residual	5.298	59	0.089		
	Total	14.465	63			

a) Predictors: (Constant), Procurement Planning, Specification Preparation, Monitoring and Evaluation, Inspection and Receipt of Goods

b) Dependent Variable: Supply Chain Performance

The results in Table 4.17 show that the significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting how procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods influence supply chain performance. The study therefore establishes that; procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods are statistically acceptable as useful in predicting the supply chain performance. These results agree with Blowfield and Dolan (2010) results which indicated a significant influence of end user involvement on supply chain performance.

4.10.1 Regression Coefficients

The coefficients of the variables used in the study are presented in table 4.18

Table 4.18: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.967	0.218		9.022	0.000
	Procurement Planning	0.358	0.049	0.568	7.327	0.000
	Specification Preparation	0.132	0.056	0.152	2.364	0.000
	Monitoring and Evaluation	0.121	0.032	0.27	3.835	0.000
	Inspection and Receipt of Goods	0.05	0.05	0.074	0.998	0.030

a) Predictors: (Constant), Procurement Planning, Specification Preparation, Monitoring and Evaluation, Inspection and Receipt of Goods
b) Dependent Variable: Supply Chain Performance

The data in the table 4.18 indicates that the established regression equation model was as shown in this equation.

$Y=1.967+0.358X_1+0.132X_2+0.121X_3+0.05X_4$

The regression equation above has established that taking all factors into account (procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods) constant at zero, supply chain performance will be an index of 1.967. The study found that a unit increase in procurement planning will lead to a 0.358 increase in supply chain performance. The P-value was 0.000 and hence the relationship was significant since the p-value was lower than 0.05. The results are consistent with a study by Njeru and Kibet (2014) which revealed that procurement planning positively affected procurement performance in institutions.

The findings presented also shows that taking all other independent variables at constant, a unit increase in specification preparation will lead to a 0.132 increase in supply chain performance. The P-value was 0.00 which is less 0.05 and thus the relationship was significant. In addition, the study found that a unit increase in monitoring and evaluation will lead to a 0.121 increase in supply chain performance. The P-value was 0.000 and thus the relationship was significant. The results are consistent with a study by Gwako (2012) which found that there was a positive relationship between specification preparation and supply chain performance and a study by Kirungu (2014) which revealed that monitoring and evaluation affects supply chain performance. In support of the above sentiments Madara (2009) reiterated that procurement performance is highly dependent on end user involvement.

The study also found that a unit increase in inspection and receipt of goods will lead to a 0.05 increase in supply chain performance. The P-value was 0.03 and thus the relationship was significant. The results are consistent with a study by Shalle (2016) which found that there was a positive relationship between end user involvement and supply chain performance and a study by Scott (2014) which revealed that end user involvement affects supply chain performance. In support of the above sentiments Tan (2011) reiterated that procurement performance is highly dependent on end user involvement.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter covers the summary of the findings, conclusion, recommendations, limitations and suggestion for further research.

5.2 Summary of the Findings

The first objective of the study was to establish the effect of end user involvement in procurement planning on supply chain performance in Kenyan Universities, a Case of Chuka University. The findings revealed that involvement of end user in procurement planning has a significant influence on supply chain performance in public universities. Correlation at 71.4% and regression coefficient of 0.358, with a p-value of 0.000, revealed that Procurement Planning was an important factor affecting supply chain performance.

The second objective of the study was to determine the effect of end user involvement in specification preparation on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya. The findings revealed that involvement of the end user in specification preparation and inspection and testing was very important in boosting supply chain performance. Correlation at 72.8% and regression coefficient of 0.132, with a p-value of 0.000, revealed that this was an important variable that could perhaps be explained by the observation from the findings that specification preparation was an important factor affecting supply chain performance.

The third objective was to examine the effect of end user involvement in monitoring and evaluation on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya. Involving the end user in monitoring and evaluation would lead to increase in supply chain performance as evidenced from the findings. Correlation at 71.4% and regression coefficient of 0.121, with a p-value of 0.000, revealed that this was an important variable that could perhaps be explained by the observation from the findings

that involvement of end user in monitoring and evaluation was an important factor in affecting supply chain performance.

The fourth objective was to assess the effect of end user involvement in the inspection and receipt of goods on supply chain performance in Kenyan Universities, a Case of Chuka University, Kenya. effect of inspection and receipt of goods on supply chain performance was the last objective of the study. Correlation at 73.7% and regression coefficient of 0.05, with a p-value of 0.000, revealed that this was an important variable that could perhaps be explained by the observation from the findings that inspection and receipt of goods was an important factor in affecting supply chain performance.

The findings to determine end user involvement and supply chain performance at Chuka University, Kenya was the general objective. The regression results revealed that end user involvement practices identified in the study, that is, procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods combined could explain approximately 64.7% of the variations in the supply chain performance. The other 35.3% may be attributed to other strategies not explained by the model or the variables.

Quality of goods purchased recorded positive growth, timely purchases and stock out reduction further recorded positive growth, cost reductions due to minimal or no reworks also recorded positive growth. From inferential statistics, a positive correlation is seen between each predictor variable and supply chain performance. The strongest correlation was established between procurement planning and supply chain performance. All the independent variables were found to have a statistically significant association with the dependent variable at ninety-five percent level of confidence. Among the four variables, Procurement planning was ranked highest, followed by specification preparation, monitoring and evaluation while receipt and inspection of goods was the least.

5.3 Conclusions

Based on the study findings, the study concludes that supply chain performance can be improved by procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods. First, in regard to procurement planning, the regression coefficients of the study show that it has a significant effect on supply chain performance. This implies that increasing levels of end –user involvement in procurement planning would increase the levels of supply chain performance significantly. This shows that procurement planning has a positive effect on supply performance. Second in regard to specification preparation, the regression coefficients of the study show that it has a significant effect on supply chain performance. It is evident that involving the end-user in specification preparation would increase the levels of supply chain performance. This shows that specification preparation has a positive effect on supply chain performance.

With regard to monitoring and evaluation, the regression coefficients of the study show that it has a significant effect of on supply chain performance. This implies that increasing levels of monitoring and evaluation by a unit would increase the levels of supply chain performance. This shows that monitoring and evaluation has a positive effect on supply chain performance.

Lastly, in regard to the fourth objective, the regression coefficients of the study show that it has a significant effect on supply chain performance. This implies that increasing levels of inspection and receipt of goods by a unit would increase the levels of supply chain performance. This shows that inspection and receipt of goods has a positive effect on supply chain performance.

Drawing on this study, lack of procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods in university procurement departments is leading to poor supply chain performance. Though the universities are striving hard to improve their procurement performance there are still issues of poor quality products, long lead time and high cost of projects/products. It was articulated that the current phenomenon of poor supply chain performance in the university can be

reversed if the university ensure procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods are embraced in the procurement function.

5.4 Recommendations

The study recommends that for Kenyan universities and specifically their procurement departments, to ensure that they have better supply chain performance they should focus more on using procurement planning so as to ascertain demand and supply capabilities of their supply chain to ensure that there is consistency of lead time. In the same regard, they should involve suppliers early enough to enable them to have a proper procurement plan.

With regard to the second objective, it would be constructive for Kenyan universities and specifically their procurement departments to invest more in specification preparation to reduce the amount of time spent on returns and reworks and ensure professionals spend time on core activities that give them competitive advantage.

In relation to monitoring and evaluation, the Kenyan universities and specifically their procurement departments should embrace continuous supplier audits and spot checks with their supply chain partners; they should also embrace systems integration as part of monitoring so as to gain first insights on demand fluctuations. If universities embrace monitoring and evaluation among its suppliers, then there will be cost reduction and timing of delivery will improve.

Concerning inspection and receipt of goods, there is need for Kenyan universities and specifically their procurement departments to always set aside a substantial part of their resources for activities that spend a huge amount of total resources, and this involves among many other issues inspection and receipt of goods. This is because decisions made here have major effects on the rest of the organizational processes. In the same regard, they should embrace setting standards for quality during inspection to enable them to come up with cost efficient strategies that enable them source sustainably.

The study recommends that procurement staff in the universities should ensure that they strictly follow procurement procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source. This will aim at satisfaction of customers in terms of cost, quality, and timeliness of the delivered product or service, minimizing administrative operating costs.

5.5 Suggestion for Further Study

The study is a milestone for further research in the field of supply chain performance among universities in Africa and particularly in Kenya. The findings demonstrated the important end user involvement practices to supply chain performance to include; procurement planning, specification preparation, monitoring and evaluation, inspection and receipt of goods. The study can be extended to include other end user involvement practices that may as well have a positive significance to supply chain performance of universities. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other universities and public sector organizations in Kenya and other countries in order to establish whether the explored end user involvement practices herein can be generalized to affect supply chain performance in other institutions.

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APPENDICES
Appendix I

Introduction Letter

Dear Respondent,

I am a student at the University of Embu pursuing an MBA. I am conducting a research on the end user involvement and supply chain performance at Chuka University, Kenya. The results of this survey will be used for academic purposes only and shall be treated with utmost confidence and anonymity.

Your assistance in filling this questionnaire is highly appreciated.
Thank you.

Yours Faithfully,
Rhoda Nzovila

Appendix II

Questionnaire

This questionnaire has been set in relation to the objectives of the study. All the questions relate to end user involvement and supply chain performance at Chuka University, Kenya. Kindly read the questions carefully and answer them as honestly as possible by ticking (✓), rating, specifying or writing the correct answers precisely on the spaces provided.

SECTION 1: RESPONDENT'S INFORMATION

1. Department of the person filling the questionnaire **……**

2. Gender (Please tick in the appropriate box)

Male [ ] Female [ ]

3. What is your age? (Please tick in the appropriate box)

21-30 [ ] 31-40 [ ] 41-50 [ ] 51-60 [ ] 61 and above [ ]

4. What is your level of education? (Please tick in the appropriate box)

PhD [ ] Masters [ ] Bachelors [ ] Higher Diploma [ ] Ordinary Diploma [ ] A-Level [ ]

5. Number of years served in your current office

Less than 1 [ ] 1-3 [ ] 3 and above [ ]

SECTION 2: Procurement Planning

6. Explain how your department implements the established procurement planning system

a)

_____

b)

_____

c) _____

7. **Please indicate the extent to which you agree or disagree with the following statements. (Please Tick 1 for "Strongly Disagree", 2 for "Disagree", 3 for neutral", 4 for "Agree" and 5 for "Strongly Agree").**

		1	**2**	**3**	**4**	**5**
a)	Demand planning plays a significant role in quality improvement and pricing					
b)	Supply planning plays a significant role in quality improvement and pricing					
c)	An annual procurement plan plays a significant role in quality improvement and pricing					
d)	Facility planning plays a significant role in quality improvement and pricing					
e)	Demand planning plays a significant role in reducing lead time and maintaining consistency					
f)	Supply planning plays a significant role in reducing lead time and maintaining consistency					

g)	An annual procurement plan plays a significant role in reducing lead time and maintaining consistency					
h)	Facility planning plays a significant role in reducing lead time and maintaining consistency					

SECTION 3: Specification Preparation

8. Explain how your department implements the established specification preparation system?

a)

_____

b)

_____

c)

_____

9**. Please indicate the extent to which you agree or disagree with the following statements. (Please Tick 1 for "Strongly Disagree", 2 for "Disagree", 3 for neutral", 4 for "Agree" and 5 for "Strongly Agree").**

		1	**2**	**3**	**4**	**5**
a)	Technical specification plays a significant role in quality improvement and pricing					
b)	Functional specification plays a significant role in quality improvement and pricing					
c)	Physical plays a significant role in quality improvement and pricing					
d)	Inspecting and testing plays a significant role in quality improvement and pricing					

e)	Technical specification plays a significant role in reducing lead time and maintaining consistency					
f)	Functional specification plays a significant role in reducing lead time and maintaining consistency					
g)	Physical plays a significant role in reducing lead time and maintaining consistency					
h)	Inspecting and testing plays a significant role in reducing lead time and maintaining consistency					

SECTION 4: Monitoring and Evaluation

10. Explain how your department implements the established monitoring and evaluation system?

a)

_____

b)

_____

c)

_____

11. **Please indicate the extent to which you agree or disagree with the following statements. (Please Tick 1 for "Strongly Disagree", 2 for "Disagree", 3 for neutral", 4 for "Agree" and 5 for "Strongly Agree").**

		1	**2**	**3**	**4**	**5**
a)	Contract monitoring plays a significant role in quality improvement and pricing					
b)	Spot checks plays a significant role in quality improvement and pricing					
c)	Supplier audit plays a significant role in quality improvement and pricing					
d)	Supplier evaluation plays a significant role in quality improvement and pricing					
e)	Contract monitoring plays a significant role in reducing lead time and maintaining consistency					

f)	Spot checks plays a significant role in reducing lead time and maintaining consistency					
g)	Supplier audit plays a significant role in reducing lead time and maintaining consistency					
h)	Supplier evaluation plays a significant role in reducing lead time and maintaining consistency					

SECTION 5: Inspection and Receipt of Goods

12. Explain how your department implements the existing inspection and receipt of goods system?

a)

_____

b)

_____

c)

_____

13. **Please indicate the extent to which you agree or disagree with the following statements. (Please Tick 1 for "Strongly Disagree", 2 for "Disagree", 3 for neutral", 4 for "Agree" and 5 for "Strongly Agree").**

		1	**2**	**3**	**4**	**5**
a)	Material inspections plays a significant role in quality improvement and pricing					
b)	Inspection of returns plays a significant role in quality improvement and pricing					
c)	Inspection of dispatches plays a significant role in quality improvement and pricing					
d)	Handling delivery plays a significant role in quality improvement and pricing					
e)	Material inspections plays a significant role in reducing lead time and maintaining consistency					
f)	Inspection of returns plays a significant role in reducing lead time and maintaining consistency					

g)	Inspection of dispatches plays a significant role in reducing lead time and maintaining consistency					
h)	Handling delivery plays a significant role in reducing lead time and maintaining consistency					

SECTION 6: Supply Chain Performance

(Please indicate by ticking the margin of quality improvement as indicated by both internal and external surveys done over the last five years)

14. Quality Improvement

Category	2013	2014	2015	2016	2017
Quality Improvement					
Percentage (%)					
00-20					
20-30					
30-40					
40-50					
Over 50					

(Please indicate by ticking the margin of price reduction over the last five years)

15. Price Reduction

Category	2013	2014	2015	2016	2017
Price Reduction '000'					
0000-1000					
1000-2000					
2000-3000					
3000-4000					
More than 4000					

(Please indicate by ticking the margin of lead time reduction attained over the last five years)

16. Lead Time

Category	2013	2014	2015	2016	2017
Lead Time (In Weeks)					
0-1					
1-2					
2-3					
3-4					
More than 4					

(Please indicate by ticking the margin of consistency as indicated by both internal and external surveys done over the last five years)

17. Consistency

Category	2013	2014	2015	2016	2017
Consistency					
Percentage (%)					
00-20					
20-30					
30-40					
40-50					
Over 50					

THANK YOU FOR YOUR TIME