SUPPLY CHAIN MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE: A CASE OF RURAL ELECTRIFICATION AUTHORITY

By

Mutwiri Faith Kiende D61/84141/2015

Research Project Submitted in Partial Fulfillment of the Requirements for the Award of Degree of Master of Business Administration, School of Business University of Nairobi

November 2017

DECLARATION

I decrare that this is my original	work and it has not been presented for approval in any
other university.	
Signature	Date
Mutwiri Faith Kiende	
D61/84141/2015	
This research project has been	n submitted for examination with my approval as the
university supervisor.	
Signature	Date
Prof. Gituro Wainaina	
Department of Management	Science

DEDICATION

This project is dedicated to my dear father David Mutwiri. Thank you for continuous support, encouragement believing in me and love for all these years.

ACKNOWLEDGEMENTS

May the Almighty God receive glory and honor for his sufficient grace. Thank you for provision of good health and strength to get me through this process. I would like to appreciate my siblings Pauline and Doreen for continuous support and encouragement. Thank you for seeing the potential in me.

My deepest appreciation goes to my supervisor Prof. Gituro Wainaina for his support throughout this project. Thank you for your time and your availability.

TABLE OF CONTENTS

DEDICATION. iii ACKNOWLEDGEMENTS. iv LIST OF TABLES. vii LIST OF FIGURES. viii ABBREVIATIONS AND ACRONYMS. ix ABSTRACT. x CHAPTER ONE: INTRODUCTION. 1.1.1 Supply Chain Management Practices 2.2 1.1.1 Supply Chain Management Practices 2.2 1.1.2 Operational Performance 3.3 1.1.3 Rural Electrification Authority 4.4 1.2 Research Problem 5.5 1.3 Research Objectives 7.7 1.4 Value of the Study 8 CHAPTER TWO: LITERATURE REVIEW 9.2 2.1 Introduction 9.9 2.2 Theoretical Foundation 9.9 2.2.1 Theories on Supply Chain Management Practices 9.9 2.3 Supply Chain Management Practices 10 2.4 Operational Performance 13 2.5 Supply Chain Management Practices Implementation Challenges 13 2.6 Empirical Review 14 2.7 Conceptual Framework 18 CHAPTER THREE: RESEARCH METHODOLOGY 19 3.1 Introduction	DECLARATION	ii
LIST OF TABLES	DEDICATION	iii
LIST OF TABLES	ACKNOWLEDGEMENTS	iv
ABBREVIATIONS AND ACRONYMS ix ABSTRACT x CHAPTER ONE: INTRODUCTION 1 1.1 Background of the Study 1 1.1.1 Supply Chain Management Practices 2 1.1.2 Operational Performance 3 1.3 Rural Electrification Authority 4 4.2 Research Problem 5 1.3 Research Objectives 7 1.4 Value of the Study 8 CHAPTER TWO: LITERATURE REVIEW 9 2.1 Introduction 9 2.2 Theoretical Foundation 9 2.2.1 Theories on Supply Chain Management Practices 9 2.3 Supply Chain Management Practices 10 2.4 Operational Performance 13 2.5 Supply Chain Management Practices Implementation Challenges 13 2.6 Empirical Review 14 2.7 Conceptual Framework 18 CHAPTER THREE: RESEARCH METHODLOGY 19 3.1 Introduction 19 3.2 Research Design 19 3.5 Data Analysis 20 CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION		
ABSTRACT		
CHAPTER ONE: INTRODUCTION 1 1.1 Background of the Study 1 1.1.1 Supply Chain Management Practices 2 1.1.2 Operational Performance 3 1.1.3 Rural Electrification Authority 4 1.2 Research Problem 5 1.3 Research Objectives 7 1.4 Value of the Study 8 CHAPTER TWO: LITERATURE REVIEW 9 2.1 Introduction 9 2.2 Theoretical Foundation 9 2.2 Theoretical Foundation 9 2.3 Supply Chain Management Practices 9 2.3 Supply Chain Management Practices 10 2.4 Operational Performance 13 2.5 Supply Chain Management Practices Implementation Challenges 13 2.6 Empirical Review 14 2.7 Conceptual Framework 18 CHAPTER THREE: RESEARCH METHODOLOGY 19 3.1 Introduction 19 3.2 Research Design 19 3.3 Study Population 19 3.4 Data Collection 19 3.5 Data Analysis 20 CHAPTER FOUR:	ABBREVIATIONS AND ACRONYMS	ix
1.1.1 Supply Chain Management Practices	ABSTRACT	X
1.1.1 Supply Chain Management Practices		
1.1.1 Supply Chain Management Practices		
1.1.2 Operational Performance		
1.1.3 Rural Electrification Authority		
1.2 Research Problem		
1.3 Research Objectives	· · · · · · · · · · · · · · · · · · ·	
1.4 Value of the Study		
CHAPTER TWO: LITERATURE REVIEW		
2.1 Introduction	1.4 Value of the Study	8
2.1 Introduction	CHAPPED TWO. I ITED ATHRE DEVIEW	0
2.2 Theoretical Foundation		
2.2.1 Theories on Supply Chain Management Practices		
2.3 Supply Chain Management Practices		
2.4 Operational Performance		
2.5 Supply Chain Management Practices Implementation Challenges	11.	
2.6 Empirical Review	1	
2.7 Conceptual Framework 18 CHAPTER THREE: RESEARCH METHODOLOGY 19 3.1 Introduction 19 3.2 Research Design 19 3.3 Study Population 19 3.4 Data Collection 19 3.5 Data Analysis 20 CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION 22 4.1 Introduction 22 4.2 Demographics of the Respondents 22 4.2 Demographics of the Respondents 22 4.3 Level of Supply Chain Management Practices Implementation in Rural Electrification Authority 23 4.4 Challenges of Implementing the Supply Chain Management Practices in Rural Electrification Authority 24 4.5 Relationship Between Supply Chain Management Practices and Operational Performance 26 CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION29 5.1 Introduction 29 5.2 Summary 29		
CHAPTER THREE: RESEARCH METHODOLOGY		
3.1 Introduction	2.7 Conceptual France work	
3.2 Research Design	CHAPTER THREE: RESEARCH METHODOLOGY	19
3.3 Study Population	3.1 Introduction	19
3.4 Data Collection	3.2 Research Design	19
2.5 Data Analysis	3.3 Study Population	19
CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION	3.4 Data Collection	19
4.1 Introduction	3.5 Data Analysis	20
4.1 Introduction		
4.2 Demographics of the Respondents		
4.3 Level of Supply Chain Management Practices Implementation in Rural Electrification Authority		
Electrification Authority		
4.4 Challenges of Implementing the Supply Chain Management Practices in Rural Electrification Authority		
Electrification Authority		
4.5 Relationship Between Supply Chain Management Practices and Operational Performance		
Performance		
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION29 5.1 Introduction		
5.1 Introduction 29 5.2 Summary 29	Pertormance	26
5.1 Introduction 29 5.2 Summary 29	CHAPTER FIVE. SHMMADV CONCLUSION AND DECOMMENDA	TIANO
5.2 Summary		
·		
	•	

5.4 Recommendations	30
5.5 Limitation of the Study	31
5.6 Further Research	
REFERENCES	32
APPENDICES	
Appendix I: Interview Guide	38

LIST OF TABLES

Table 2.1: Summary of Literature Review	17
Table 3.1: Summary of Research Methodology	21
Table 4.1 Demographics of the Respondents	23

LIST OF FIGURES

Figure 2.1: Conceptual Framework	18
----------------------------------	----

ABBREVIATIONS AND ACRONYMS

AT Agency Theory

CDF Constituency Development Fund

CRM Customer Relationship Management

ISO International Organization for Standardization

RBVT Resource Based View Theory

RDT Resource Dependence Theory

REA Rural Electrification Authority

RVT Resource View Theory

R & D Research and Development

SAP Systems, Applications and Products

SC Supply Chain

SCM Supply Chain Management

SCMP Supply Chain Management Practices

SDGs Sustainable Development Goals

SRM Supplier Relationship Management

UNDP United Nations Development Programme

WHO World Health Organization

ABSTRACT

The Rural Electrification Authority (REA) has been in operation for the last 10 years and it has been operating on a target bases. Operational performance has been key to REA management so as to meet its goals. The achievement of its key goal can only be realized when management, Supply Chain (SC) parties are working together for the common goal. Supply Chain Management Practices (SCMP) being an old concept it is key in achievement and improvement of the operational performance. The basic objectives of this study were: to explore on the level of SCMP in REA, to study the relationship between SCMP and operational performance in REA and challenges of implementing SCMP in REA. The key practices were considered, supplier relationship management, customer relationship management, outsourcing and information sharing. These practices were used as independent variables while operational performance was used as a dependent variable. The research was a descriptive case study for REA. The population was from the procurement and stores department. A sample size of 15 employees was taken and an interview guide was used as a research tool for the collection of data and secondary data was collected. Data was analyzed using content analysis and presented into textual content. The result indicated that SCMP listed above were all implemented and also in additional of other practices such as supplier contract management, manufacturer factory inspection and supplier appraisal. All these practices had positive impact on the operational performance of REA in terms of quality, cost and timely delivery. The study noted the following challenges lack of sufficient fund for the projects, technological incompatibility, scarcity of local manufactures, accessing remote areas for the off grid REA projects and centralization of the procurement and these create a new area of research.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Successful companies do not limit their performance parameters to profit making but seek to find and establish efficiency and effectiveness in their end products by ensuring timely delivery. The SCMP is commonly used in accessing and developing operational performance in both public and private sector. Most studies done on the best SCMP in many firms have failed to recognize the complexity existing in planning and coordination of SC activities across network members (Lori & Heiser, 2011). The SCM refers to strategic coordination of activities undertaken within a firm and across other business partners for the mutual long-term benefit and improved performance across the whole SC (Mentzer et al., 2011). The success of firms highly depend on creativity and innovations on SCMP that helps companies achieve operational performance with continuous improvement in their supply networks.

Firms have realized it is not enough to achieve effective operational performance but rather to make the whole SC competitive (Childhouse & Towill, 2003). The SC refers to the interconnectivity of activities, people, resources and firms where there is flow of resources downstream and upstream (Mentzer et al., 2011). The SCMP concept have been endorsed by organizations and this is crucial because it results to effectiveness in operational performance and in turn to profit margins, building a competitive advantage and maximum resources utilization among many other concerns. The SCMP is important to both service and product industries because it helps in satisfying external and internal customers' needs and in return achieve operational performance (Kopczak & Johnson, 2010).

Well known performing firms are more focused on flexibility in their SC (Kristal, Huang, & Roth, 2010). Due to the changing market conditions, firms are quickly moving towards agile SCM that gives rapid response to changes (Stavrulaki & Davis, 2010). World Bank policy research working paper No. 6798 on public sector management portfolio published in March 2014, suggested that public sector project management requires a more open dialogue on risk management between the task team leaders and management. This results to better performance with proper aligned supply networks and project designs.

1.1.1 Supply Chain Management Practices

The SCMP scope has moved from the intra-organizational perspective to inter-organizational practices (Dubois, Hulthen, & Pedersen, 2004). The SCMP refers to interrelated actions practiced in the management of an organization towards achievement of effective and efficiency in internal SC (Li, Nathan, Nathan.T, & Rao, 2006). The key dimensions of SCMP are supplier relationship management, level and quality of information sharing and customer relationship management. SCM is the management of the relations as well as interdependent by the sellers and consumers to provide product and services with added value at lower costs to the SC as a whole (Christopher, 1992). The SCM concept started in early 1980s and gained popularity over time and was widely used in the 1990s. According to (Tan, Kannan, & Handfield, 1998) SCM concept evolved mainly from two bodies; the purchasing and supply management transportation, and logistics management. Tan (2002), argues that the main objective of SCM is to integrate various members of SC seamlessly so as to achieve higher customer satisfaction and to result in long-term sustainable competitive advantage. The strategic importance of SCM at times is not well understood and people

working in the system need to understand the economic and social power of the purchasing decision that they make.

According to Michael, (2011) SCM refers to strategic coordination of the traditional business functions and the tactic across the business functions and across business within the SC of a company to ensure improvement in the long-term performance of the individual firms and the stakeholders. The SCM also refers to coordination of inventory production, location and transportation among the participants in SC so as to achieve the best mix of market being served (Michael, 2011). The SCMP are sets of activities that are designed to promote efficiency management in an organization SC (Li et al., 2006).

1.1.2 Operational Performance

Operational performance refers to the ability and the know-how of an organization being able to manage assets and ensuring it reduces management costs and as well managing capacity effectively (Heizer et al., 2008). With the corporate strategy in place, firms are able to identify its operational objectives. In public sector, operational performance can be measured based on the service delivery that is inputs and output outcome on the resource utilization, government policies and systems. Quality of service as well can be a measure of operational performance where quality means doing things right at the right time, but this varies from sector to the other (Slacks, Chambers, and Johnston, 2007). The level of quality of services determines the satisfaction delivered from both internal and external customer's (Slack et al., 2007). The firm performance should be well outlined to bring out clearly the relationship between firm's performance and SCM practices.

1.1.3 Rural Electrification Authority

The REA was established by the Energy Act No.12 of 2006 as a corporate body and started its operation in July 2007. The REA is a corporation that was established to speed up the pace of rural electrification to act as a stimulant for sustainable socioeconomic development. The Authority is mandated to lighting up the rural electrification to the people of Kenya and this forms important component of Vision 2030 that aims at promoting sustainable social-economic development.

The core values for REA are customer service, integrity, professional excellence, team work, transparency, accountability and environmental consciousness. The REA is International Organization for Standardization (ISO) 9001:2015 certified. This gives it a higher obligation to deliver quality services to the stakeholder's as well as proper management in utilization of available resources. The REA has several departments such as finance, procurement and supplies, human resource and others. Procurement and supplies directly reports to the chief executive officer then to the board. The REA main service is to the people of Kenya to light up the rural areas and the focus of the plan was to electrify the public facilities market centers, health facilities and secondary schools. The REA operates several projects that are funded internally and externally. Internal sources which are from exchequer amount to 80 percent and external development partners to 20 percent.

The REA has been able to run several projects through stakeholder's involvement, bulk purchase of materials, use of labor and transport contractors, turnkey contracts and competitive tendering. The Authority promotes the use of alternative sources of energy that is renewable in nature, these sources are small hydroelectric power, oil fired

components, wind and solar. The REA has endorsed operations management by focusing on the key principles including accountability, change and unified purpose to ensure greater output of both services and power connectivity. Based on REA's initial plan, it had a three-phase target set to help in achieving the ultimate goal by the year 2030. Main target is to connect and increase connectivity to all public facilities and customers within the stipulated period.

1.2 Research Problem

In the last decade, organizations have experienced emerging forces on reshaping the economy for which they have brought in the great changes on business operations. These forces range from industrialization and globalization which emphasis on service and product quality. Technology has tremendously changed the social-economic, political structures and also new sophisticated customers' needs and expectations. These forces have demanded new integration of SCMP for organizations to survive and promote performance towards achievement their overall goal.

Affordable and clean energy is one of the Sustainable Development Goals (SDGs) that aim in promoting social and economic benefits to people of Kenya. Both urban and rural electrification has been essential in achieving the goals (UNDP & WHO, 2005). The World Bank's (2001) study on the economic vulnerability and welfare shows that REA has great impact on lighting up rural areas, easy access to information to the people, improved studying environment for schools as well as improved businesses for the community. This in turn creates employment and contributes to social economic development and poverty reduction. Kaufmann and Carter (2006) concluded that there

is great evidence that social, economic and cultural factors do influence the operational performance and SCMP in terms of their relationship

Kenya's ability to achieve Vision 2030 is hinged on the country's ability to increase access and supply of electricity to its rural areas amongst other variables. Some of the basic vision for Ministry of energy is to ensure sufficient and sustainable energy supply to meet the current and future needs. To ensure people can afford to pay for the energy and companies in operation can earn enough to stay in the business. Energy supply as well should be environment compatible and acceptable. The government established REA in achieving its agenda. The REA carries out its mandate through sourcing funds, extension of grid and promotion as well development of renewable energy sources. Development of energy sector will help Kenya become newly industrialized and a middle income country.

The REA SC has experienced some challenges such as poor supplier relationship management which has led to suppliers' failure on delivery issues hence cancellation of their orders, which in return slows project completion. This has also resulted to incomplete projects due to lack of necessary resources. In public sectors, SCM plays a major role on the operational performance given its complexity nature of its operational environment. Mentzer et al., (2001) found out that SCMP has great impact on operational performance of organizations. The current studies in SC have focused on both upstream and downstream on various SCMP (Li et al., 2006). The SCMP has emerged as the discipline that guides procurement strategy, it is suggested that public sector procurement would benefit through the adoption of the best known methods and strategies as implemented in private sector SCMP.

Significant research has been done on operational performance across different sectors, both public and private sectors. Kingoo (2013) concluded that organizational performance is influenced by SC planning which is positive based on the study done on SC governance and organizational performance. Miring'u (2015) researched on the relationship between organizational performance and SCM practices in agribusiness, Nairobi County. The findings were in order to enhance organizational performance and adoption of strategic SCM systems which is critical. Nyauncho (2016) did a research on SCM and operational performance in manufacturing firms in Kenya and the study concluded that SC analytical techniques help in resource planning and performance management. It also concluded that data management greatly affects firms' operational performance.

All the studies done on SCMP and operational performance shows positive effects. However, no study showed the challenges facing institutions' SC in relation to achieving the operational performance and specifically SCMP during implementation. This research sought to establish the level of SCMP implementation in REA, determine the relationship between SCMP and operational performance and what underlying challenges facing the implementation of SCMP in REA?

1.3 Research Objectives

The main research objective was to establish the relationship between SCMP and operational performance of REA. Specifically, this study sough to:

- 1. Establish the level of SCMP implementation in REA.
- 2. Identify challenges of implementing SCMP in REA.
- 3. Determine relationship between SCMP and operational performance in REA.

1.4 Value of the Study

The knowledge gained assists REA representatives in understanding the major challenges in SCM and how to mitigate these challenges to achieve long run operational performance and therefore gain competitive advantage in performing daily operational activities in the current dynamic business environment. The study also adds knowledge to existing literature on SCMP, operational performance and how they relate. It outlines the importance of proper SCMP in achieving operational performance. It gives challenges faced, the best practices undertaken by organizations under their SCMP in achieving best operational performance.

The paper also impacts knowledge to scholars by adding more literature on how SCMP and operation performance relates. The data collected adds more knowledge on the related topics that is SC, SCM and operational performance and highlight the importance of SCMP on operational performance. Similar institutions will find useful information on the major SCMP and as well understand the importance of SCMP on the operational performance in an organization. The recommended strategies will set a benchmark for these institutions and this leaves a room for improvement in their operations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The review of this section discussed the theoretical foundation and empirical analysis focusing on theories that explains the concept of SCM and operational performance. Secondly, the study gave knowledge on SCMP and operational performance on previous studies.

2.2 Theoretical Foundation

The study was based on: Resource Dependence theory, Resource based view theory, relational view theory and Agency theory which are relevant in explaining the relationship between SCMP and operational performance.

2.2.1 Theories on Supply Chain Management Practices

The Resource Based View Theory (RBVT) it explains that organizations have no relations and they have operational differences and achieve reasonable benefits as a result of exceptional resources and capabilities that cannot be substituted (Barney, 1991 and Peteraf, 1993). Major firms' resources are technology, organizational knowledge, and managerial skills and firms facility. The RBVT mainly focuses on internal resources owned. The concept later was expanded to deliberate more on the SCMP and performance, which help firms to gain competitive advantage and improve performance, this concept brought about the Relational View Theory (RVT) (Dyer & Singh, 1998). The RVT considers relations as a basis of operational performance, resource such as knowledge interchange, lower cost of transactions, firms' facilities and other rare resources. The RVT theory gives a better interpretation of the effect of SCMP

and performance on its operation. These practices are quality and level of the information sharing, Outsourcing, supplier and customer relationship.

Resource dependency theory (RDT) assumes that business partners do exchange important resources with a mutual dependency from external environment (Jeffrey Pfeffer and Gerald Salancik 1978). Resources such as capital, knowledge and raw material are some of the resources that firms rely on for success of their operation. Outsourcing is considered as a way of gaining access to these external resources that are unavailable to the firm and this enable firms to identify what resources is needed from external organization. The RDT emphases that obtained external resources impact on operational performance. Agency theory (AT) is where businesses consist of a principal and an agent relationship. Here both the agent and principal come into a contract relationship where it will be outcome based and behavior-based. The AT is assumed that there is hidden information and the focus is on the most efficient contract. The key issue of this theory is what agency cost will comprise of. The outcome of this relation is based on compensation for interest alignment for both parties.

2.3 Supply Chain Management Practices

Supplier partnership is a great edge for competitive advantage for any SCM (Noble, 1997). The Supplier Relationship Management (SRM) is where both suppliers and the buyer firm maintain a long term and a sustainable relationship. The SRM necessitates a consistent set of behaviors that bring trust between supplier and customer over time. To achieve effective SRM there is need to institutionalize and collaborate with key suppliers to avoid obstructing benefits and collaborations from the relationship. This can be done by dismantling the policies and practices already in place. The purpose of

this is to achieve a long term and mutual benefit towards achieving organizational objectives (Monczka, Petersen, Handfeild, & Ragatz, 1998). The SRM enables the two firms to work more closely and effectively where both should be willing to share responsibility for a win - win situation. By involving suppliers from the early stage it results to a reduced management cost, order time and lead-time as well ensure quality products while using best technologies (Tan et al., 2002).

Customer Relationship Management (CRM) is referred to as a range of practice used by firms in which issues related to complaints by the customers are managed and this helps in giving faster solutions to their problem. It also builds and improves customer satisfactions as well as long-term relationship with both internal and external customers (Claycomb et al., 1999). In an article by (Wines, 1996) he noted that for any company to survive, it is core that it has a good relationship with customers, not only does it allow any firms to maintain loyal customers but also help them extend the value to customers through differentiated products from their competitor. The CRM system is important in that, it compiles data from company's' websites, emails, live chats, telephone calls and social media (Shaw, 1991). Relational intelligence helps create awareness of the relationship between a customer and a given firm. Companies captures demographic data such as gender, age, income and education and link them with the purchasing information so as to categorize customers into profitability tier and this is a prove that customers are major resource that can be used for setting up opportunities (Baumann, Elliott & Burton, 2012).

The kind of information shared in an organization is important in SCMP, that is, the quantity and level of information either shared internally or externally (Monczka et al.,

1998). The quality aspect is the degree on which important proprietary information is transferred to SC party (Monckza et al., 1998). Level of information exchange comprises of features like credibility, timelines, accuracy and adequacy (Moberg et al., 2002). With the recent advance on information technology, shared information is timely especially in the retail firms by use of electronic data interchange (EDI). For increased performance in an organization information should be continuously circulated within major parties which are a key resource to organizations (Wagner, 2006). The impact of information shared across SCM depends on the matter shared, time and process of sharing as well parties involved (Holmberg, 2000). Quality information stands to be one of the strategic asset. Organizations have to make sure information is shared with little or no alteration.

Outsourcing refers to the consideration made in use of specialized firms to implement tasks previously done internally. Strategically outsourcing is where organizations contract major services from more specialized firms who are considered as business value partners (Baily et al., 2008). Outsourcing lowers investment risks, increase flexibility and as well lowers extra labor cost. Most organization uses outsourcing because external suppliers have better capabilities, due to lack of internal resources, to mitigate risks and to concentrate more on their major core functions (Johnson & Fearon 2006). Tactical outsourcing mostly is seen as immediate approach to solve problems at hand as well solving specific and most regular problems (brown and Wilson 2007). Strategic outsourcing is favorable when organizations adjust their corporate and business strategies into long term. Strategic outsourcing helps organizations to save on costs business performance and stand at a good position which is competitive (Greaver, 1999). Transformational is a long-term relationship where partners for service

providers continuously give support to the business on various changes and help businesses achieve operational effectiveness. Transformational outsourcing gives organization a new ability to convey new capabilities in areas change is needed. This empowers senior management by implementing the practices the outsourcing partners bring to their organization (Chew & Gottschalk 2013).

2.4 Operational Performance

Operational performance refers to measure of how organizations achieve the overall goals based on the planned versus the outcome (Hayes & Wheelwright, 1984). In the organization communities, there is a need to track the changing operational strategies due to great forces in the economy such as politics, technology and cultural changes so as to remain relevant. The performance of a company is measured against a given standard such as returns on investments, compliance in regulations, productivity, service delivery and waste reduction strategies. Operational performance of an organization is important because it determines the firm's survival through achieving the corporate and operational goals.

2.5 Supply Chain Management Practices Implementation Challenges

Application of SCMP has numerous benefits on which organization gain competitive edge in their operations. Despite the many known benefits, firms implementing the SCMP encounter various challenges at different levels of the organization. Performance barrier is one of the major barriers that are experienced during implementation of SCM (Hendricks and singhal, 2003). Other challenges include inadequate measurement systems, poor order fulfillment, non-satisfactory in quality of service and goods, rigidity of deliveries and poor employees' motivation. These barriers are categorized

under internal and external of the organization. Internally they include poor management support, poor employee's motivation and insufficient fund to manage projects fully. Externally they include poor collaboration among the parties in the chain and government interference.

Managerial complexity is another barrier that affect organizations performance within the SC, this include misalignments in firms processes, structures and culture (Park and Ungson, 2001). These challenges include information systems, conflicting structures and culture of the organization, and inadequate measurement systems. Different organization experience different barriers and this helps identify major challenges and employ major curbing measures to boost the operational performance for each unique case.

2.6 Empirical Review

The study done by Li et al., (2006) outlined SCMP and they did a validation, which included SRM, CRM, postponement quality and level of shared information. The study finding was that SCMP had effect on organizational performance and competitive advantage which is positive. Li et al., (2006) refers information sharing as range on which protected content is shared to external partners within SC. More studies done by Cook and Heiser (2011), identified SCMP as follows; quality of shared information long-term relationships, techniques like planning in advance, use of internet and proper distribution and supply networks. A positive effect on organization performance was identified. Chang, Tsui, Hsu, (2013) did a study on the E-procurement, SCM and performance. The study targeted 108 Taiwanese firms so as to establish the connection

between E-procurement and the SC performance. The study showed through partnership, integration of the SC and sharing information performance is improved.

Awino and Gituro (2009) did a paper titled 'An Empirical analysis of SCM best practices in Kenya a case of large-private manufacturing firms'. The objective was to identify best practices in the SC mostly used by Kenyan manufacturing firms. 11 critical SCMP were identified that show significant relationship with operation performance of firms. They include; supplier selection, operating policies, linkages within SC firms, use of information systems, measures on performance, evaluation of suppliers, management of customer relationship outlining of clear policies, guidelines and procedures and concentration on the goals. Miring'u (2015) study was based on SCMP and operational performance a case of agribusiness in Nairobi County. The objectives sought to bring out the variables connections and identify challenges faced by agribusiness when implementing the SCMP. The target population for this study was 19 Agribusiness Organizations in Nairobi City County. The study concluded that operational performance is influenced positively.

Mutuerandu (2014) did a paper case of Haco Industries Limited in Kenya and the study was based on the impacts of SCMP on the performance. The objective of the study was to assess the extent at which Haco industries the paper sough to establish the level of implementation of SCMP and how they relate to organizational performance. Four dimensions were selected that is; training practices, customer relationship management, sharing of information and strategic supplier partnership. The findings outcome was that SCMP are highly practiced and had positive effect on organization's performance. That is they improved the organization's performance in terms of lowering its

operational costs, reduction of lead time, high customer service levels, product quality, fast response to changes in the market and expanding its market share.

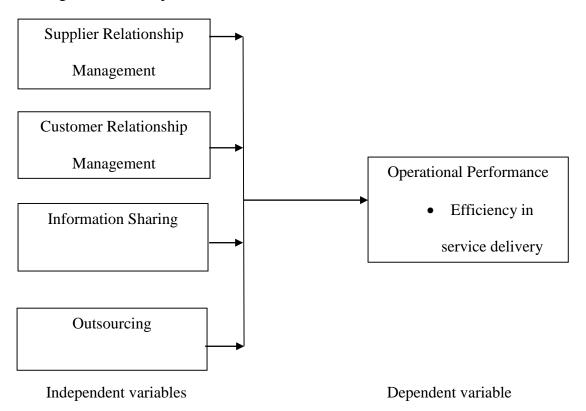
Table 2.1: Summary of Literature Review

Author	Study	Objectives	Methodology	Findings	Study Gaps
Miring'u 2015	SCMP and operational performance in Nairobi County agribusiness.	 Establish SCMP and operational performance in Nairobi County agribusiness. Establish how operational performance relates to SCMP Nairobi County agribusiness. Identify challenges faced by agribusiness when implementing SCMP 	Descriptive survey	SCMP impact positively to organizational performance.	Limited to agribusiness only in Nairobi County.
Mutuerandu 2014	Effect of SCMP and organizational performance in Haco Industry Limited (Kenya)	Assess level of implementation of SCMP in Haco Industries Limited (Kenya) Relate SCMP and performance in the organization.	Case study	Adoption showed positive effect on organization performance	Limited to Haco Industry Limited
Awino and Gituro 2009	SCMP in large private manufacturing firms in Kenya	Establish SCM best practices in those firms	Sampling method	Eleven SCM best practices were identified.	Limited to large private manufacturing firms.
Chang et al., 2013	SCM performance and E-procurement.	Discuss how E-procurement relate to operational performance under SC.	Empirical study	E- Procurement contributes to SC performance.	Did not show how e-procurement relate to information sharing and SC integration.
Li et al., 2006	SCM practice, and competitive advantage and organizational performance	Test relationship on how SCM practices relate to firm performance and firms competitive advantage	Pilot study	Positive effect on organizational performance	Generalized the findings since it was done over many organizations.
Cook and Heiser 2011.	Moderating effect of SC role on the relationship between SC practices and performance	Examine SCMP and firms performance and how they relate Examine if the roles of a company moderate how SCM relate to firms performance.	Survey design	SC role for a company makes a difference in terms of specific SC practices that lead to better performance	Limited to few SCMP.

2.7 Conceptual Framework

This section outlines the dependent and independent variables. Operational performance being the dependent variable, measured using service delivery. The four key dimensions of SCMP are the independent variable as outlined in the figure below. Operational performance was measured by the efficiency in service delivery where it means timely.

Figure 2.1: Conceptual Framework



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focused on the various steps and phases followed in carrying out and completing the study. The study highlights the procedures, methods and techniques that was used in the gathering and processing of information such as design to be used, population, tools and instruments for gathering data and analysis of the data.

3.2 Research Design

The study adopted descriptive case study and this design was appropriate for the study because the design had a potential of mining in-depth data. Interview was used for collection of data. The study expounds on the SCMP and operational performance, show the relationships and highlight the SCM practices in REA. The study will also try to identify major challenges faced by REA despite adoption of major SCMP.

3.3 Study Population

The study population was REA staff from the procurement and stores departments. The study comprised of both senior and middle level staff that were relevant to the study. Sample sizes of 15 staff were targeted and interview included 5 senior and 10 middle level managers.

3.4 Data Collection

Data collection was through interview, online sources and company periodicals. The primary data was collected through interview guide. The questions were in four sections the first part (A) was designed to gather general information from the respondents. Part (B) captured the level of SCMP implementation and primary data was used. Section

(C) captured the challenges of implementing SCMP and both primary and secondary data was used. Section (D) captured the relationship between SCMP and operational performance and here primary and secondary data was used. Open ended questions were used and secondary data was collected from online sources and company periodicals.

3.5 Data Analysis

This section presented the collected data for processing which include coding and computations of the responses. To establish the level of SCMP implementation in REA data was analyzed using Content analysis. To establish the challenges on SCMP implementation data collected was analyzed using Content analysis and was presented through textual. To determine the relationship between SCMP and operational performance also content analysis was used.

Table 3.1: Summary of Research Methodology

Objectives	Data and/or Information to be Collected	Interview Guide (Indicate Questions)	Analysis to be Done
Establish the level of SCMP implementation in REA	Primary data	Section B	Content analysis
Identify challenges of implementing SCMP in REA	Primary data and secondary data	Section D	Content analysis
Determine the relationship between SCMP and operational performance in REA	Primary data	Section C	Content analysis

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This section outlines in details the findings of the study in respect to the objectives of the study. Findings are presented on the level of SCMP implementation, secondly challenges of implementing SCMP in REA and lastly the relationship between SCMP and the operational performance. The research questions comprised of four sections and data was analyzed and findings presented as follows.

4.2 Demographics of the Respondents

The data was collected from the procurement and stores department staff who were the main respondents and Table 4.1 below shows information on response rate, level of education and duration (in years) within REA. The researcher was able to interview eight respondents, two out of five were seniors while the other six out of 10 were middle level staff who gave the response. The researcher requested the respondents to indicate their highest level of academic qualification. This was to give the study reliability and validity that the respondents had relevant and necessary knowledge and skills. The findings showed that all the eight respondents had a degree qualification as their minimum while one respondent had master's degree as the highest qualification. From the findings, most of the respondent had over five years' experience. This implies that the respondents were fit for the interview and as well very versed with the organization SCMP. This gave the findings reliability and confidence that information received was relevant as shown in Table 4.1 below.

Table 4.1 Demographics of the Respondents

Parameter	Targeted	Number of Respondents	Percent
Population	15	8	53.0
Level of Education	Postgraduate	1	12.5
	Degree	7	87.5
Duration in	Over 10	2	25.0
Organization (Years)	Over 5	5	62.5
	Below 5	1	12.5

4.3 Level of Supply Chain Management Practices Implementation in Rural Electrification Authority

The first objective was to determine the level at which REA has implemented major SCMP. On SRM, the interviewees were asked if the practice has been implemented and how. The respondents said that SRM has been implemented and the practice is done through making communication as open as possible and through collaboration. All respondents said that CRM has been well implemented and this is made through interactive engagement with customers and open office system, formulating operation procedures for both internal and external customer and solving the customer's complaints promptly. On information sharing, all the respondents said that this practice has been implemented and this was through quick response to any enquiry made based on the sensitivity of the information, use of billboards as well as public forums. On the outsourcing, all the respondents said that the practice has been implemented through outsourcing on non-core services, and expert's services such as construction of lines, survey, security and cleaning services. All the respondents agreed to the implementation of the four key dimensions of SCMP that is SRM, CRM, outsourcing and information sharing. The respondents said that the practices were effective and it can as well be improved.

The interviewees were also asked some of the benefits that REA has gained from implementing SCMP. The responses included efficient and timely delivery of goods and services, able to focus on the core mandate of the organization, quality improvement, short lead time, enjoy competitive advantage, able to comply with the public procurement and asset disposal Act 2015 and enjoy value for money. The interviewees were also asked other practices that they have implemented and the responses were supplier contract management, manufacturers facility inspection prior to production, quality control and assurance by ensuring manufactures are certified by ISO for quality and supplier appraisals.

4.4 Challenges of Implementing the Supply Chain Management Practices in Rural Electrification Authority

Interviewees were asked how various challenges have interfered with the operational performance. One of the challenges listed was insufficient funds to manage projects fully and all the respondents agreed that this problem existed and it has made it impossible to meet deadlines and targets on time. This has interfered with operations by delay in delivery of projects. Funds are re-allocated to other critical projects leaving other projects without funds. The interviewee were also asked the measure in place to address this challenge and the responses were that arrangement are made on getting support, for example from World Bank and Constituency Development Fund (CDF), to ensure that allocation for projects are strictly restricted to avoid stalling of projects and ensuring proper planning of funds. Second challenge was poor management support and the response on how this interfered with their operational performance. The respondents said that management has been very supportive, hence this was not

applicable only room for improvement which the Authority has embraced by changing the management in place.

Third challenge was technological incompatibility and the response on interference on operational performance was that; to a small extent technology was poorly embraced which slows down the operation. Also items in stock have become obsolete due to technology advancement leading to high stockholding cost. On the measures in place to curb this problem is that REA has a research and development division that ensures all operations are conducted within the current technological environment and implementation of System, Application and Products – Supplier Relationship Management (SAP-SRM) which helps avoid poor communication between suppliers and REA being interfered and manipulation done on major procurement operations. The response on the measure to deal this was that REA is in the process of implementing SAP-SRM system that would help in solving these challenges.

The fourth challenge was political interference, and this greatly interfered with their operational performance by making it difficult to complete project on time as per the master plan. Impromptu political projects has greatly affected the operations since they are prioritized hence interfering with ongoing and planned projects. The reallocation of planned budget makes it hard for procurement to plan. Measures in place to curb this issue are supplementary budget are used to finance the projects. Interviewees were asked other challenges they could be experiencing while implementing SCMP, some of the responses were poor supplier performance, customer's complaints poor collaboration among the parties in the chain, inadequate measurement systems, poor order fulfillment, department understaffed, centralization of procurement activities

which leads to high logistic costs, scarcity of local manufacturers for line construction materials, remote location for off grid projects, poor quality in some items, low stakeholders goodwill and litigations and court cases slows down the projects.

The interviewees were asked the measures to be employed to curb the challenges and the responses were increasing public relation activities; seeking way leaves before projects starts; employ more staffs; decentralize procurement activities; proper employee development and empowerment; encouraging employees to work as teams for the common goal; and involvement of suppliers when planning and evaluating customer's complaints. On the issue of challenges, the study revealed that organization performance has been influenced by political interference, that is, fund re-allocation to cater for different projects besides the planned projects. Technology incompatibility being a major challenge where obsolescence of goods has resulted to the Authority putting in place Research and Development (R&D) as well a good procurement plan. The finding indicated that the organization has a strong management support and this is a plus in ensuring goals and objectives of the Authority are met.

4.5 Relationship Between Supply Chain Management Practices and Operational Performance

The study had three objectives and the third objective was to identify the relationship between SCMP and operational performance of REA. First, interviewees were asked if there was a relationship between SRM and operational performance. All the respondents agreed that there was a relationship. They were also asked how SRM has helped in achieving operational performance and the response was that SRM implementation helps in acquisition of items of quality that comply to the

specifications, increase trust, increase collaboration and joint problem solving and relationship management. Secondly, the interviewees were asked if there was a relationship between CRM and operational performance and all the respondents agreed that there was a relationship between CRM and operational performance. Interviewees were asked how CRM has helped them achieve operational performance. The response was that it has enhanced goodwill from the customers both internal and external, improved supplier performance and enhanced communication between the parties in the chain and improved SC planning.

Thirdly, interviewees were asked whether there was a relationship between information sharing and operational performance and all the respondents agreed that there was a relationship between information sharing and operational performance. They also said that information sharing has positive impact on operational performance and this has improved employees' motivation and timely and reliable information exchange. Reduced ambiguity in communication and information exchanged has helped in new product development. Lastly, interviewees were asked if there was a relationship between outsourcing and operational performance and all respondents agreed that there was a relationship between outsourcing and the operational performance. The respondents said that outsourcing affect operational performance positively and it helps in management decision making, improved service delivery as well overall reduced cost and shared risks, which increases efficiency in operations.

The study revealed that the four key dimensions that are SRM, CRM, outsourcing and information sharing are all implemented in REA. In addition, the Authority has implemented other practices such as quality policy and contract management. This is consistent with the literature as some of the authors have identified major SCMP Awino

and Gituro (2009), which has listed the eleven major practices. The findings also showed that operational performance of a firm highly depends on SCMP implementation.

CHAPTER FIVE: SUMMARY, CONCLUSION AND

RECOMMENDATION

5.1 Introduction

This chapter gives the summary of the study, conclusion and recommendation on the theory development and the management. Finally, it provides limitations and suggestions for further study.

5.2 Summary

The study had three objectives that aimed at SCMP and operational performance of REA. The findings of the study on the level of education and duration worked in the firm of the respondents enhanced the reliability and validity of the research findings. Majority of the respondents had good experience in the sector and they had a perquisite education level and technical competence needed to enhance the reliability of the information that they provided. The study reviewed that SCMP implementation has greatly impacted on the operational performance of the Authority. This can be explained by the platform provided in SC efficiencies, goal targets which result to improved overall performance.

In respect to SCMP implemented in REA, it clear that the Authority has implemented various practices, which included information sharing, outsourcing, customer relationship management, supplier relationship management, quality control measures, supplier contract monitoring and manufacturers inspection. The interviewees stated that REA has benefited through the use of these practices. Some of the benefits listed by the respondents were giving the supplier's relevant information on the requirements and needs and so the Authority is able to get the best quality goods and services and achieve

value for money. Finally, the findings showed that there was proper fund allocation, good management support, technology advancement, and consideration on whether to decentralize procurement and also manufactures sourcing that have positive impact on projects effectiveness.

5.3 Conclusion

The findings of the research have practical and theoretical impact. Practically, the findings provide that SCMP implementation exert positive impact on REA operational performance. In conclusion, the operational performance of REA has improved with the implementation of SCMP. This can be seen through some of the efficiency and effectiveness in the service delivery. The study concluded that SCMP adopted by REA includes SRM, CRM, outsourcing, information sharing, supplier appraisal, contract management and conducting of factory assessment tests. For these practices to be effective on operational performance, Authority should establish an effective monitored and evaluated measures to be carried out periodically.

5.4 Recommendations

From the study findings, the researcher concludes and recommends that improvement on supply systems, technological advancement to ensure compatibility and centralization of the procurement is needed to for a company to enjoy all the benefits from the application of SCMP. Management to ensure proper observation to special reserves and preferences as listed by the government so as to mitigate risks associated with this exercise. All challenges must be eliminated for effective supply systems to take place. In addition, the researcher recommends that the management to give special attention on SCMP which includes SRM, CRM information sharing, outsourcing, quality control, supplier appraisal, factory visits and inspections. This results to

organizational improved performance. Also, they should have the correct mix of the key dimensions for improved and greater performance of the overall activities for operations. The study suggests that the organization to either decentralize some of the procurement plan or do full decentralization of goods and services, as well as increase the capacity of the human resource.

5.5 Limitation of the Study

While conducting of the research, the researcher encountered several challenges, for example some of the respondents such as senior managers were very busy and they did not manage to engage for the interview. Some of the respondents were unwilling to answer and give adequate data for the study. Another challenge was issue on time; some of the respondents gave limited time to engage in the interview, which made some of them to give limited feedback. However, despite some of these challenges, the study findings and recommendations provides a good understanding of SCM practices and operational performance of REA.

5.6 Further Research

The focus of this study was on SCMP and operational performance in REA. The findings of the study supports the theoretical framework that is AT, RBVT, RDT and RVT. Further research can be done on a different organizational structure since the study was done on a centralized SC. This would sought to identify how such practices influence the operational performance of the decentralized organizations. A further study would be the influence of SCMP used in achieving the operational performance in other organizations in different sectors.

REFERENCES

- Alireza, C., Anahita, B., Halimi, M. A. E., Seyed Babak, H., & Pejman, S. E. (2011). A model for supply chain performance of electronics industry in Malaysia. Journal of *International Conference on Social Science and Humanity*, 16(5).
- Awino, Z. B., & Gituro, W. (2009). An empirical investigation of supply chain management best practices in large private manufacturing firms in Kenya. *Prime Journal of Business Administration and Management (BAM)*. 1(12): 26-31
- Bailey, P., Farmer, D., Jessop, D., & Jones, D. (2004). *Purchasing principles and management*, eighth edition. Prentice Hall: Great Britain.
- Balsmeier, P. W., & Voisin, W. (1996). Supply chain management: A time based strategy. *Industrial Management*, 38(5), 24–27.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17 (1), 99-120.
- Baumann, C., Elliott, G., & Burton, S. (2012). Modeling customer satisfaction and loyalty: Survey data versus data mining. *Journal of Services Marketing*, 26(3), 148-157.
- Brown, D., & Wilson, S. (2007). The black book of outsourcing: How to manage the changes, challenges and opportunities. John Wiley & Sons Hoboken New Jersey.
- Chang, H. H., Yao, C. T., & Che, H. H. (2013). E-procurement and supply chain performance. *An International Journal of Business Administration*, 18/1(2013)34-51.
- Chew, E. K. (2012). Knowledge driven service innovation and management: IT Strategies for Business Alignment and Value Creation (6th ed.). IGI Global.
- Childhouse, P., & Towill, D. R. (2003). Simplified material flow holds the key to supply chain integration. *International Journal of Management Science*; *Omega* 31 (1):17–27.
- Chizzo, S. A. (1998). Supply chain strategies: Solutions for the customer-driven enterprise. *Software Magazine*. Supply Chain Management Directions Supplement, January 4–9.
- Christopher, M. L. (1992). *Logistics and supply chain management*. London, UK: Pitman Publishing.
- Claycomb, C., Droge, C., & Germain, R. (1999). The effect of just-in-time with customers on organizational design and performance. *International Journal of Logistics Management*, 10(1), 37–58.

- Cooper, M. C., & Ellram, L. M. (1993). Characteristic of supply chain management and the implications for purchasing and logistics strategy. *International Journal of Logistics Management*, 4(2): 13-24.
- Cooper, M. C., Lambert, D. M., & Pagh, J. D. (1997). Supply chain management: More than a new name for logistics. *The International Journal of Logistics*.
- Dubois, A., Hulthen K., & Pedersen, A. C. (2004). Supply chains and interdependence: A theoretical analysis". *Journal of Purchasing & Supply Management 10, pp. 3-9.*
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), 660-679.
- Frohlich, M. T., & Westbrook, R. (2002). Demand chain management in manufacturing and services: Web-based integration, drivers and performance. *Journal of Operations Management*, 20, 729-745.
- Gunasekaran, A., & Kobu, B. (2007). Performance measures and metrics in logistics and supply chain management: A review of recent literature (1995–2004) for research and applications. *International Journal of Production Research*, 45, 2819-2840.
- Hayes, R. H., & Steven, C. W. (1984). Restoring our competitive edge: Competing through manufacturing. New York, NY: John Wiley & Sons.
- Hendricks, K. B., & Singhal, V. R. (2003). The effect of supply chain glitches on shareholders wealth. *Journal of Operations Management*, Vol 21 No. 5 pp. 501-22
- Heizer, J. H., Render, B., & Weiss, H. J. (2008). *Principles of operations management*. Pearson Prentice Hall.
- Holmberg, S. A. (2000). Systems perspective on supply chain measurements. *International Journal of Physical Distribution and Logistics Management*, 52(6).
- Johnson, L., & Fearon, F. (2006). Purchasing and supply management: With 50 supply chain cases, 13th edition. The McGraw-Hill Companies.
- Kaufmann, L., & Carter, C. R. (2006). International supply relationships and non-financial performance: A comparison of US and German practices. *Journal of Operations Management*, 24(5), 653-675.
- Kingoo, E. M. (2013). Supply chain governance and organizational performance among parastatals in Kenya. University of Nairobi, Kenya: *MBA published research project*.

- Koh S., Demirbag, M., Bayraktar, E., Tatoglu, E., & Zaim, S. (2007). The impact of supply chain management practices on performance of SMEs. *Journal of Manage Data. System*, 107(1): 103-124.
- Kopczak, L. R., & Johnson, M. E. (2010). *The* supply chain management effect. *MIT Sloan Management Review*, 44(3): 27.
- Kristal, M. M., Huang, X., & Roth, A. V. (2010). The effect of an ambidextrous supply chain strategy on combinative competitive capabilities and business performance. *Journal of Operations Management*, 28, 415–429.
- Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial Marketing Management*, 29 (1), 65–83.
- Lambert, D. M., Robeson, J. F., & Stock, J. R. (1978). An appraisal of the integrated physical distribution management concept. *International Journal of Physical Distribution and Materials Management*, 9 (1), 74–88.
- Larson, P., (2009). Public versus private sector perspectives on supply chain management. *Journal of Public Procurement*, 9(2): 222-247.
- Lawrence, P. R., & Lorsch, J. W. (1967). Organization and environmental operational capabilities: hidden in plain view. *Business Horizons*, 53, 247-256.
- Li, S., Ragu, N. B., Ragu N. T. S., & Rao, S. S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *The International Journal of Management Science*, 34(2), 107-124.
- Lori, S. C., & Daniel, R. H. (2011). The moderating effect of supply chain role on the relationship between supply chain practices and performance. *International Journal of Physical Distribution & Logistics Management*, 41(2), 104-134.
- Makena, M. (2014). Impact of supply chain management practices on organizational performance: A case study of Haco industries limited (Kenya). *Journal of Business and Management*, 2014. PP 62-64.
- Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G.(2011). Defining supply chain management. *Journal of Business Logistics*, Vol 22, No 2, pp.1-25.
- Michael, H., H. (2011). *Essentials of supply chain management*, (3rd ed) New York, NY: John Wiley & Sons
- Min, S., & Mentzer, J. T. (2004). 'Developing and measuring supply chain concepts. *Journal of Business Logistics*, 25(1):63–99.
- Miring'u, F. (2015). Supply chain management practices and operational performance of mega agribusiness firms in Nairobi city county, Kenya. University of Nairobi, Kenya: *MBA published research project*.

- Moberg, C. R., Cutler, B. D., Gross, A., & Speh, T. W. (2002). Identifying antecedents of information exchange within supply chains. *International Journal of Physical Distribution and Logistics Management*, 32(9), 755–770
- Moberg, C. R., Thomas, W. S., & Thomas, L. F. (2003). "Supply chain management: making the vision a reality. *Journal of Supply Chain Management Review*, 34-39.
- Monczka, R. M., Petersen, K. J., Handfield, R. B., & Ragatz, G. L. (1998). Success factors in strategic supplier alliances. *The Buying Company Perspective. Decision Science*, 29(3), 5553–5577.
- Noble, D. (1997). Purchasing and supplier management as a future competitive edge. *Logistics Focus*, 5(5), 23–27.
- Parker, C. (2000). Performance measurement. *International Journal of Productivity and Performance Management*, 49, 63-66.
- Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Journal of Strategic Management*, 14: 179-191.
- Racheal, M. N. (2016). Supply chain analytics and operational performance in cement manufacturing in Kenya. University of Nairobi, Kenya: *MBA published research project*.
- Shaw, R. (1991). *Computer-aided marketing and selling: Information asset management*. (6th ed). Oxford: Butterworth-Heinemann.
- Slack, N., Chambers, S., & Johnston, R. (2010). *Operations management*. (5th ed), England: Pearson Education Limited.
- Stavrulaki, E., & Davis, M. (2010). Aligning products with supply chain processes and strategy. *The International Journal of Logistics Management*, 21 (1), 127-151.
- Stuart, F. I. (1997). Supply chain strategy: Organizational influence through supplier alliances. British Academy of Management. *Supply Chain Integration*, Omega; 31 (1):17–27.
- Tan, K. C., Kannan, V. R., & Handfield, R. B. (1998). Supply chain management: supplier performance and firm performance. *International Journal of Purchasing and Materials Management*, 34(3):2–9.
- Tan, K. C. (2002). Supply chain management: Practices, concerns, and performance issues. *Journal of Supply Chain Management*, 38, 42-53.
- Tavana, L. K. (2013). Theoretical models of customer relationship management in organization. *International Journals of Business and Behavioral Science*, 3 (11).
- UNDP & WHO (United Nation Development Programme and World Health Organization).2009. The Energy Access Situation in Developing Countries- A

- review focusing on least developed countries and SSA. Sustainable Energy Programme Environment and Energy Group Report.
- Wagner, C. (2006). Breaking the knowledge acquisition bottleneck through conversational knowledge management. *Information Resources Management Journal*, 19(1) 70-83.
- Wines, L. (1996). 'High order strategy for manufacturing', *The Journal of Business Strategy*, 17(4):32-3.
- WPS2835, Asad, A., & Mark, S. (2001). *Economic vulnerability and welfare study Croatia*. Washington, DC: World Bank.
- Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business Logistics*, 22: 1-25.

APPENDICES

Appendix 1: INTERVIEW GUIDE

SECTION A: PERSONAL INFORMATION
1. Which department and job title do you represent in REA?
2. What is your highest level of education?
3. How many years have you worked in REA?
SECTION B: THE LEVEL OF SUPPLY CHAIN MANAGEMENT PRACTICES
IMPLEMENTATION IN REA
1. a) Supplier Relationship Management
Has the practice been implemented and how?
Is the process effective?

b) Customer Relationship management
Has the practice been implemented and how?
Is the process effective?
c) Internal and External Information sharing
Has the practice been implemented and how?
Is the process effective?
Is the process effective?
d) Outsourcing
Has the practice been implemented and how?

How has this interfered with your operational performance in REA?
What measures have been put in place to curb this challenge?
c) Technological Incompatibility
How has this interfered with your operational performance in REA?
What measures have been put in place to curb this challenge?
d) Government Interference
How has this interfered with your operational performance in REA?
What measures have been put in place to curb this challenge?
2.) What are the other challenges experienced in REA?

3.) What are some of the suggestions to overcome these challenges?
SECTION D: THE RELATIONSHIP BETWEEN SUPPLY CHAIN
SECTION D: THE RELATIONSHIP BETWEEN SUPPLY CHAIN MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE.
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE.
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational Performance?
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational Performance? b). How has supplier Relationship Management helped you in achieving operational
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational Performance? b). How has supplier Relationship Management helped you in achieving operational
MANAGEMENT PRACTICES AND OPERATIONAL PERFORMANCE. 1.) Supplier Relationship Management a) Is there a relationship between Supplier Relationship Management and Operational Performance? b). How has supplier Relationship Management helped you in achieving operational

a) Is there a relationship between Customer Relationship Management and Operational
Performance?
b) How has Customer Relationship Management helped you in achieving operational
performance?
Information Sharing
a) Is there a relationship between Information sharing and operational performance?
b) How has Information sharing helped you in achieving operational performance?
2.) Outsourcing
a) Is there a relationship between outsourcing and Operational Performance?
a) is there a relationship between outsourcing and Operational Ferrormance:
b) How has outsourcing helped you in achieving operational performance?