SUPPLY CHAIN MANAGEMENT AND PERFORMANCE OF THE TELECOMMUNICTION SECTOR IN UGANDA: A CASE OF MOBILE TELECOMMUNICATIONS NETWORK (MTN) -UGANDA

BY

ANDREW EMIRU
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DECLARATION

I, Andrew Emiru, do hereby declare that this dissertation presented is my entirely original and my own work, where any work has been used, it has been dully acknowledged in the text. I also declare that this ‘work has been submitted either in whole or part to any institution of learning for any academic degree award before’.

Signature: ……

Date: ……

APPROVAL

This study was conducted under my supervision and the dissertation has been submitted for examination with my approval as the candidate's supervisor.

Sign: …… Date:……..

Dr. Godfrey Mugurusi

Sign:…… Date:……..

Mrs. Pross Nagitta Oluka

DEDICATION

I dedicate this dissertation to my beloved mother Jane Atingo Jane and wife Peace Amunyo who stood by me, provided me with support and encouragement throughout this study. This work is also dedicated to my dear children: Andrew Casemiru and Edith Atingo for their high sense of patience and understanding during the period when I was absent from them, during the course of this study even when they wanted my physical presence most.

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LIST OF ACRONYMS

CSCMP	Council of Supply Chain Management Professional"
EDI	Electronic Data interchange'
ERP	Enterprise Resource Planning'
IMC	Inventory management cost
IMe	Inventory management efficiency
IMVA	Value added from inventory management
IT	Information Technology
KM	Knowledge management
MTN	Mobile Telecommunication Network
RBV	Resource –based View
RM	Ram Materials
ROI	Return on investment'
SC	Supply chain'
SCM	Supply Chain Management'
UMI	Uganda Management Institute
UTL	Uganda Telecommunication limited
VRIN	Valuable, Rare, Inimitable and Non –Substitutable

ABSTRACT

This study focused on examining the role supply chain management plays on the performance of telecommunication sector in Uganda taking MTN-Uganda as a case. Despite the research studies conducted on this topic; "supply chain management", most research agree that studies still under this concept is less theorized. This research study addresses gaps in the available literature by investigating the role supply chain management may play to improved performance of MTN- Uganda as compared to its peers in the region like safaricom of Kenya. The theoretical framework adopted the RBV theory to inform the study, which explored the three Supply chain management dimensions: logistics; supply chain integration and Knowledge management to improve organizational performance. "Qualitative and quantitative approaches was adopted for this study because it was of a shorter period of survey." and Interview guides and Questionnaires helped data collection from a targeted sample of 194. Whereas data that was qualitative, content and thematic analysis was used and inferential analysis was for quantitative data. The study outcome, "recommended strengthening and enforcement of logistics management in the store network; integration of supply arrangement and management of knowledge in production network to enhance MTN-Uganda performance". The findings in this study address a frequently asked question; "about the importance of supply chain management to the implementation of organizational performance successfully". This study contributed both theoretical and practical application in literature.

CHAPTER ONE
INTRODUCTION

1.1 Introduction

This study examined the role played by Supply Chain Management in the performance of telecommunication sector, using a case of Mobile telecommunication network (MTN)-Uganda. "Supply Chain Management and telecommunication sector performance were the independent and dependent variable respectively". "The background of the study, the statement of the problem, purpose of the study, objectives of the study, research questions and research hypotheses, conceptual framework, study justification and, significance, scope of the study and operational definitions of terms and concepts is what this chapter covers.

1.2 Background to the Study

The historical background, theoretical background, the conceptual background and the contextual perspectives is what the background focused on

1.2.1The Historical Background

The supply chain management (SCM) origin is traced from the United States of America, around 1980s", (www.ros.hw.ac.uk; Alvarado & Kotzab, 2001; Abushaikha, 2014). The concept of "supply chain management aimed at achieving the long term benefits by way of achieving organizational benefits across different organizations linked by a "chain" (Stuart, 1997; Balsmeier & Voisin, 1996; Burt *et al.*, 2003) and enable organizations work cost- effectively with key suppliers ready to bear the responsibility of sharing risk management. "The consultants at Booz Hamilton in the early 1980's introduced management of Supply Chain and subsequently has widely become to be used. Supply chain management have been attempted to structure by academician since the early 1990's, an retrospective extensive review of the management of research on supply chain and has been literature provided" and

the core consideration and principal guideline of supply chain management that must be timing alert for the future," generic schools of thought was identified by them.

In Europe and particularly the United Kingdom, Supply Chain Management is traced back from time "specialization demonstrated a begin of management performance and at the prior start of transportation brokerages, warehouse management in terms of storage and inventory, non-resource based bearers that developed past transportation and coordination into parts of supply arranging, joint effort, execution and execution administration" (Monczka, *et al*., 2002).

In Asia, Malaysia in particularly, supply management was traced back in manufacturing and in book of the economy of machinery by Charles Babbage as far back as 1832. In South Africa, 2003, supply chain management was introduced to improve financial management in public sector and to ensure cost-effective procurement and (Rampedi, 2010). The introduction of Supply Chain Management resulted into government decentralizing and delegating procurement authority to public institutions that led to the procurement reforms Supply chain management (SCM) in South Africa deals with the management processes of suppliers, logistics and customers' requirements among supply chain partners in an efficient way.

In Uganda, the introduction of Supply Chain Management must have been from the time when the "National Drug Policy and Authority Act 1993 (CAP 206)," was enacted to ease the procurement and supply of medicines and drugs. These "interventions estimated and considered three independent variables below to test the: collaboration linkages, procurement practices and efficient logistics and distribution of drugs as a whole set of interlinked actions along entire supply chain. Further affirmed that "procurement and supply of medicines and drugs are multifaceted and tending to them requires set of inter linked actions along entire supply chain," thus "the relevance of the system based theory". It is currently "obvious that piece-meal intercessions along a few sections of the chain, without tending to

the capacities and linkages of all actors' results in no or sub-optimal return to the government programmers".

In general, world –over, organizations agile to innovative technological and administrations are under heavy pressure to improve store network planning and performance because of factors such as increasing uncertainty in competitive intensity, based cycle solutions to obtain and adopt sustain competitive advantage variety over their competitors. The concept of organisational performance is very common in academic and attendant literature, although the origin and evolution of concept has not been clear and definite. Some scholars believed that the origin of organizational performance is as old as the creation and its historical evaluation is traced back to the time man started settling together in groups as a community, as during this time organization performance was focused on work, people and organizational structure. However, the first definition of formal system of organizational performance was penned down in the 1950s as the extent to which organizations, viewed as asocial system fulfilled their objectives. The evolution of organization performance led to evolution of performance management of the modern times, defined as procedure of aligning employees an organization to strategic priorities, systems objectives and resources

1.2.2 Theoretical Background

"The Resource Based- View" (RBV) Theory of; (Barney, 1991; www.ros.hw.ac.uk.) was used to inform this study. "The inception of (RBV) Resource Based View can be followed back from the fundamental work of Penrose (1959) of the hypothesis of the development of the firm' (www.ros.hw.ac.uk)'. Penrose saw the firm as an arrangement of one of a kind inward assets through which firms are separated from each other and can exceed expectations, the "firm comprises of a bundle of resources (www.ros.hw.ac.uk)". Wernerfelt was the first to present an entire work on the RBV hypothesis in which he upheld the perspective of Penrose that the "firm comprises of a heap of novel assets," ''By the by, RBV was not well known until the mid-1990s when a few researchers completed an escalated examine

on it" (www.ros.hw.ac.uk). The rationale of the RBV theory and its emergence represent "the conflict with the five powers examination show or what is known as Potters (Dyer and Singh, 1998). "The RBV scholars contend that organizations comprise of a gathering of heterogeneous assets and that these assets are the wellspring of upper hand (Barney, 1991; Peteraf, 1993)." These scholars contend that "creating an upper hand relies upon what interesting interior assets a firm has, which assets can be either substantial or immaterial."(www.ros.hw.ac.uk)"

Resource Based View (RBV) is a theory, which 'justifies various organizational practices and technological that are primary resources for gaining suitable an upper hand for the organization'. The considered resources encompassed by the RBV are for example, operational facilities of operations, knowledge of organizational, skills of management and technology, manufacturing (Dong, Xu, & Zhu 2009). The theoretical framework of the RBV is "covered within three levels of outside service providers, outside customers and inside the company integration (ww.ros.hw.ac.uk), he further indicate, "whereas the pure tenet of RBV hypothesis is aimed at within the firm level .The advanced stage of the hypothesis in literature is laid down by commencing supply chain management to improve organizational performance, by way of having competitive advantage over organisational competitors. (www.ros.hw.ac.uk)

The RBV is a supply chain tool for analyzing and interpreting internal resources of the organization, with its emphasis on "capabilities in formulating strategies and resources to achieve competitive sustainable competitive". The RBV concepts, which underpin supply chain that impacts organization performance, are: resource, capabilities and strategic assets. In the supply chain, RBV theorists, contends that "difference in association's execution can be clarified by key assets, for example, center abilities, "dynamic capacity and "absorptive limit". In the same vain, RBV scholars additionally contends that "organizations that can join their assets in special way may again favorable position over contending firms unfit to do as such" (Dyer & Singh, 1998). Hence "eccentric interfirm connections might be a

wellspring of social rents and an upper hand".". RBV theorist also alluds that by "owing scarce resources and excelling in major performance competences and capabilities in the supply chain, firms can excess a market advantage and sustained competitive advantage"

1.2.3 Conceptual Background

The key ideas of this examination were "production network administration" and "authoritative execution". "A supply chain comprises of all gatherings included, specifically or by implication, in satisfying a client ask for. The "supply chain incorporates makers and providers, as well as transporters, distribution centers, retailers, and even clients themselves" "Supply Chain Management as an idea is new and numerous writers have recognized in composing on the theme, alluding to it to another" and "moderately new administration hypothesis". "Store network administration is the administration of exercises engaged with buying materials, changing them into middle of the road merchandise and last items and conveying an item or administration," which "succession starts with fundamental providers of crude materials and stretches out the distance to the last buyers". "Successfully, inventory network administration (SCM) has turned into a possibly significant methods for securing upper hand and enhancing hierarchical execution, since rivalry is no longer between associations, yet among supply chains" (Suhong Li, et al., 2004).". This research examine conceptualizes three measurements of SCM; logistics, supply chain integration and knowledge management in SC and tests the relationships between SCM on performance of telecommunication sector:

Logistics in supply chain is characterized as "a major aspect of the production network process that designs, actualizes, and controls the proficient, powerful forward and turns around stream and capacity of merchandise, benefits, and related data between the purpose of inception and the purpose of utilization with a specific end goal to meet clients' requirements.

Logistics management as an idea in the production network, characterized as the "reason for understanding the key character of the coordination among the exchanging accomplice and furthermore portray the operations by the way toward arranging, actualizing and controlling the proficient and viable stream and capacity of merchandise, benefits and related data from purpose of birthplace to purpose of utilization to conform the shopper prerequisite". Further, "Logistics incorporates every one of the exercises to move item and data to, from and between individuals from an inventory network". He assists settings that "store network alludes to five basic streams: data, item, benefit, money related and information". "Logistics is the essential channel of item and administration stream inside a production network plan and the procedure of coordinations are seen as far as two interrelated streams of data and stock".

The idea of store network mix has as of late increased across the board consideration in the inventory network writing (Gimenez et al., 2012; Schoenherr and Swink, 2012; Zhang and Huo, 2013)." Lee, (2000);Mishra, et al., (2013);Caridi, et al., (2014), "as it is especially pertinent that the intricacy of business condition expects firms to work in a more agreeable way to smooth the stream of data and assets between production network accomplices". "Firms are presently under expanded strain to coordinate their supply chains to wind up plainly more focused keeping in mind the end goal to address the difficulties of current business needs" (Danese and Romano, 2011). "The primary explanation behind the Supply Chain combination is advance in the normal operations of the individual associations and to improve the execution of all means engaged with store network" (Lee, 2000; Mishra et al., 2013; Caridi, et al., 2014).

In Supply Chain, "Knowledge Management has risen as the procedure for catching (Matheus et al., 2005), creating, sharing, and viably utilizing hierarchical learning .Chu and Lee, (2006) and Abushaikha, (2014) suggest this by attesting that "fruitful usage requires a reasonable distinguishing proof of the business issue to be tackled and an arrangement of the information administration venture with general

business targets". They additionally show that "knowledge frameworks to be managed and shared in the supply chain ordered into Tacit and explicit". This concept of knowledge management, requests firms and accomplices in the supply chain to increasingly share knowledge and information to improve their competitiveness and better their performance in all the steps involved, and "conduct towards the joint effort accomplice , depending if the cooperation is performed down or upstream in the production network". In the "embodiment the inventory network part nearer to the end client is by all accounts the prevailing players, and in this manner to a more noteworthy degree characterizes and deals with the outline of the coordinated effort".

Taking everything into account, the Supply Chain Management objective is "to join the stream of data in addition to substance to better uses inventory network as a beneficial weapon for remaining focused" (Childhouse and Towill, 2003; Feldmann and Muller, 2003; Caldwell and Howard, 2014). As indicated by Tan KC, et al., (1998), the idea of SCM advanced from "two separate ways; buying and supply administration, transportation and coordinations administration". Obtaining and supply administration viewpoint, (Banfield, 1999; Lamming (1993), "inventory network is synonymous with the joining of supply base that advanced from the conventional buying and materials capacities". Association execution prompted development of execution administration of the advanced circumstances, characterized as process by which association adjusts their assets, frameworks and workers to key destinations and needs.

1.2.4 Contextual Background

"Telecommunication industry before 1977, telephone utility in the southeast African district was given all in all by the administration of Uganda, Kenya and Tanzania". It additionally battles that " in 1977, Uganda moved far from this provincial administrations shared administrations display by building up the Uganda post and media transmission partnerships (UPTC) as a state possessed restraining infrastructure supplier of broadcast communications (and other) administrations". Amid this period, "administrations quality was poor organization accounts were grim and there was little development,

and thusly a worldwide aggressive delicate for second private (national) administrator after celtel was finished toward the finish of 1997 and the champ, cell phone systems (MTN) Uganda Limited got authorized for settled, portable, long separation and web benefits in April, 1998" (Econ One Research, Inc and ESG universal, 2002).” Although, MTN-Uganda plays leading role in the industry with 9.9 million customers representing 52.7 % of the market share in telecommunication industry (Uganda business news 2016) over other players in the industry such as Airtel with 7.4 million customers and representing 39% market share , Africell with 3 million Customers and 2.4% market share with the remaining percentage of 5.9 % being covered by UTL , smile and Vodafone.

The researcher chose MTN because it is the most widely used telecommunication network in Uganda, though it was the second to join Celtel. “Unlike Celtel, that brought in just mobile services to fight directly with UTL in the delievery of full range of services was licensed to operate mainly in urban centers and thus coverage which was poor, and to provide only mobile service – to directly compete with UTL in the provision of the full range of services (fixed-line, mobile and international gateway access”.

Mobile telephones network (Often referred to as MTN-Uganda), “is a telecommunications network that was licensed in Uganda in April 1998. They further indicate that “MTN-Uganda are the subsidiary of the MTN Gathering, a multinational interchanges and system get to organization, working in Uganda and are energetic about individuals, and concentrate on giving the most ideal administration to clients". With "MTN-Uganda, you can remain over everything. SMS, email, surf and talk route with our availability arrangements on Mobile, Fixed Line or Internet; intended to be redone to you particular needs".

On 21th October, 1998, “MTN-Uganda launched commercial services in Uganda, soon after a half year in the wake of securing and marking of the permit from Uganda communication Commission, and has since grown to be the leading telecommunications company in Uganda adjusting in overabundance of 3,500,000 clients in each of the 111 regions of Uganda"(www.ide.go.jp/English/Data/Africa_file). In

spite of the lacking "framework control, streets, MTN-Uganda has canvassed in abundance of 90% of the urban populace, giving administrations in more than 150 towns and towns and their quick surroundings" (www.ide.go.jp/English/Data/Africa_file). MTN is "pleased to have driven the path in acquiring broadcast communications to for all intents and purposes each family unit Uganda through authority in advancement, steady interest in foundation and individuals improvement, we keep on being focused on putting resources into the groups where we work and collaborating with the Government of Uganda as an improvement accomplice through our corporate social speculation activities."(www.mtn.co.ug). "MTN got the prepaid administration to Uganda 1998, fiber to the entryway, Mobile Money in 2009 and all the more as of late the 3G and 4G LTE administrations to the market". "These advancements and speculations have put Uganda keeping pace with the created world as far as interchanges". "We thank our clients, the Government of Uganda for empowering a decent speculation atmosphere and our conferred and indefatigable 'Y'ellow family' that is our staff and merchants. On the same note MTN-Uganda has been able to enhance all the growth and competitive advantage over the competitors because of effective management of its sustainable supply chain. Sustainable Supply Chain Management has empowered MTN-Uganda facilitate and incorporate every one of these exercises in to a consistent procedure, and this effort has improved our performance in terms of quality service delivery to our consumers through delivering a product crude material through to the client including sourcing crude materials and parts, assembling and gathering, warehousing and stock following, arrange passage and request administration, dispersion over all channels, conveyance to the client, and the data frameworks important to screen these exercises. The then CEO of MTN-Uganda; Mr. Brian Gouldie, on Tuesday, 16, 2016 daily monitor, asserted that " I was mandated to resolve the short-term competitive, operational and compliance issues that were confronting the MTN, to restore market leadership with an effective segmented customer strategy, provide transparency and drive effective compliance and finally implement key transformational actions that would future-proof the

organization to deliver on a data and digital strategy going forward," that has a linking of the sustainable supply chain.

1.3 The Problem Statement

All companies, being it public or private, can effectively benefit from enforcing their supply chain management practices to enhance their organizational performance (Golicic & Davis, 2012), through "logistics management, supply chain integration and knowledge management in supply chain" (www.chiolink.edu). This seemed not the case with MTN Uganda, when it was taken by surprise on 18th May, 2015, when about 300,000 of its disgruntled subscribers took to the social media complain under the hash-tag #Occupy MTN# on twitter to protest the company's poor feedback; like the increased and / or inability to load data bundles, where subscribers were unable to purchase data; and instead receive a service message *"Sorry service interruption, try again later,"* erratic network outages, reflecting their mobile handset as not available, inaccurate data bundle billing, activation failures and data charged but not activated (Uganda Business News, 2015,27,July) In response, MTN - Uganda established Supply Chain Management tools such as coordinated public communication strategy to inform the public that they are doing everything possible to restore the system, effective agency laws, organizational supply chain culture, rules and regulations, strong governance measures and full effective participation of all the activities of stakeholders in the management of Supply Chain enhancing performance of an organization. Despite all these attempts to improve inner functioning of their Supply Chain, MTN-Uganda's performance has not changed significantly; at least as compared to their peers in the region like Safaricom, (CEO –Brian Goudie, 2015). Hence this study's need, "to investigate Supply Chain Management and Organizational Performance in the Telecommunications Sector in Uganda, using a case of Mobile telecommunications network (MTN) - Uganda."

1.4 Purpose of the study

The study purpose was to "establish the role of supply chain management on performance of the Telecommunications Sector in Uganda": a case of MTN- Uganda.

1.5 Objectives of the study

a) To examine the role logistics management in supply chain plays on performance of MTN- Uganda.
b) To examine the role of supply chain integration plays on performance of MTN- Uganda.
c) To examine the role Knowledge management in the supply chain plays on performance of MTN - Uganda.

1.6 Research Questions

a) What role does logistics management in supply chain play on performance of MTN -Uganda?
b) What role does supply chain integration play on performance of MTN-Uganda?
c) What role does knowledge management in the supply chain play on performance of MTN -Uganda?

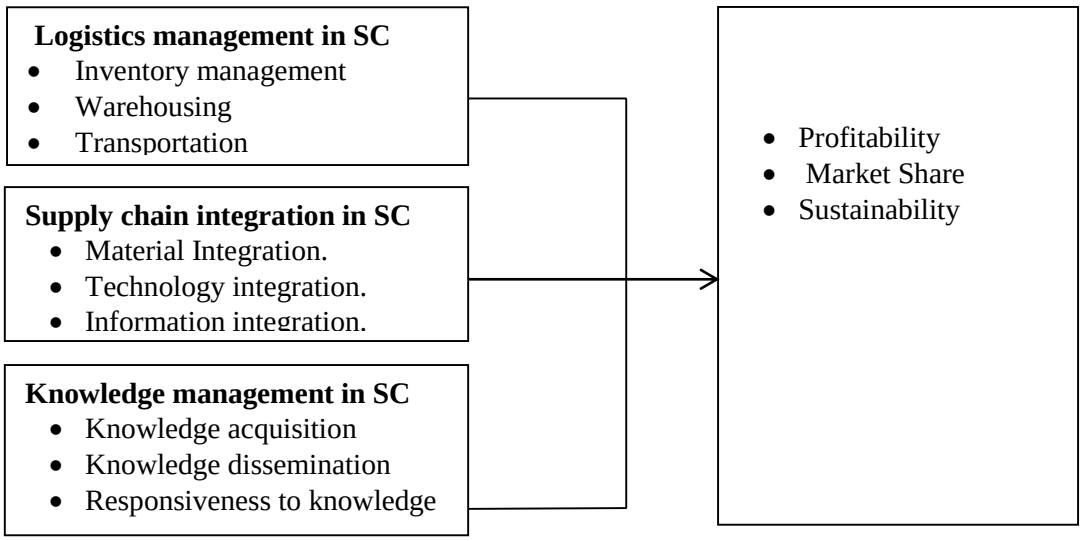
1.7 Research Hypotheses

a) Logistics management plays a positively significant role on organizational performance
b) Supply chain integration plays a positively significant role on organizational performance
c) Knowledge management in the supply chain plays a positively significant role on organizational performance

1.8 Conceptual Framework

The 'Conceptual framework is an analytical tool with several variations and contexts to organize linkages, between the independent and dependent variables'

SC Management (IV) **Organizational performance (DV)**



Source: Adopted from Nyangweso, (2013) and modified by the researcher

Figure 1: Conceptual Framework on Supply chain management and organizational performance

Logistics refers to effective and efficient management of materials flow and storage within and between companies. (Ulgen & Forslund, 2015). For the purpose of this study, logistics was studied under three constructs: Inventory Management, Warehousing and transportation.

Inventory management: is the process which is responsible for 'managing and controlling raw materials, stock, finished goods, warehousing, storage and which other aspects which help reach the product from production to distributor

Warehousing: is the part of "an association's coordination's framework that stores items at and between purpose of inception and purpose of utilization, and give data to administration on the status, conditions and air of things being put away

Transportation: physical connection associating the firm to its providers and clients

Supply chain integration: is characterized as "how much an association deliberately teams up with its inventory network accomplices and oversees intra and between association procedures to accomplish viable and effective streams of items, administrations, data, cash and choices, with the destinations of

giving most extreme incentive to its clients". With the end goal of this examination, supply chain integration was examined under three constructs: material, technology and information integration.

Material integration: as the process of executing institutionalized strategies for dealing with the material stream among the practical divisions found that the "nearby coordination of exercises and data sharing brought about enhanced stock control for the firm" (www.ros.hw.ac.uk).

Technology integration: "is the reason for connecting the diverse utilitarian offices inside the firm". "This has regularly been accomplished through Enterprise Resource Planning (ERP) frameworks (www.ros.hw.ac.uk).

Information integration: "Data combination includes "the coordination of data stream over the production network (Williams, et al., 2013)". Data coordination "grants administration to inspect the operations of the association in totality and not in a divided, practically segregated way". Data coordination characterized is as "how much the inside generation and supporting capacities share superb data that produces enhanced inward deceivability and operational execution" (Barratt and Barratt, 2012; www.ros.hw.ac.uk).

Knowledge acquisition: In the supply chain study, "the concept of knowledge acquisition ensures that partner organization create / build knowledge" which knowledge is shared for "competitive advantage in the supply chain". In the "inventory network structure, it is clarified that an accomplice association wishing to set up and keep up the information required for an upper hand must make and procure new learning, transmit such information to proper accomplices parts of the organization in the production network", "translate that information, coordinate it with existing information, and utilize the information to accomplish a superior execution" (www.hpocenter.nl)"

Knowledge dissemination: In this examination and under inventory network, information scattering was "to guarantee that procured information by either accomplice in the store network is transmitted to target

collectors for engrossing and to be utilized by" the objective accomplices “in the supply chain” to enhance the "store network administration” (www.hpocenter.nl; www.ros.hw.ac.uk) The argument saying, procured "information is spread crosswise over associations, for instance through "the versatility of individuals”. “Knowledge dissemination in the store network makes chances to boost the association's capacity to address these issues, producing arrangements and efficiencies that give associations an upper hand (Reld, 2003; Lin, 2007)" and emerging from "the dissemination of epitomized information all through a firm or an esteem chain (www.hpocenter.nl).

Knowledge Responsiveness: Knowledge responsiveness in the production network speaks to "the moves made because of the information accumulated and separated and spread" (Kohli and Jaworski, 1990; Liao et al., 2003), since it "is the main asset that increments by its utilization (Probst et al., 1999)". Learning responsiveness involves the usage or utilization of information to upgrade a positive store network execution, prompting enhanced inventory network administration practices, and therefore hierarchical execution of the accomplice association in the production network, (www.hpocenter.nl)

1.9 Significance of the Study

The study has two parameters, one on theoretical and another on applied aspects that played significant contributions to the following categories of people:

Telecom Investors and the general Public: The findings of the study may be applicable to MTN-Uganda and the industry in that by taking the study recommendations into account, they improved their organisational productivity and performance as well. The investors may benefit from the built knowledge and understanding of the researcher on study variables; and gaining “more skills of conducting research”.

The Government of Uganda: The government of Uganda are interested in knowing how management operates the company particularly the charges levied to its subscribers, company losses or gains/profit, for the purpose of taxation.

The researcher and future researchers: This study examined the potential, "to support generation to come research in the areas of store network management in general, and store network relationships in particular".(www.ros.hw.ac.uk)

Academic Community: The research added directly to available knowledge in the academic world, "on store network management and their "influence" on organizational progress; student, lecturers and other scholars will find it very useful and make reference to it.

Society and the Public: Shareholders, customers and the public at large benefit from research because it gives them insight to what supply chain is all about, its importance to the private sector and particularly to MTN-Uganda.

Management: The study was to provide management of MTN-Uganda with suggestions and recommendations on how best to improve the progress of the store network management practices. It is only meant as a study, it can go a long way in alleviating similar problems for some organization in the telecommunications industry.

1.10 Justification of the Study

The rationale of the study was to improve current supply chain management practices and inadequate organisational performance of MTN-Uganda. It was deemed necessary to conduct the study because MTN-Uganda, a service providing telecommunication sector needed to enhance its Organizational Performance using SCM practices. It should provide effective SCM practices and position itself in the mind of the public that their main duty is to satisfy the quest of customers and to effectively and efficiently deliver the desired services, this being the main reason for its establishment.

The study findings may also help to identify the weaknesses of SCM practices at the MTN-Uganda and help in the design of an appropriate SCM practices parameters and strategies to improve on its Organizational Performance.

1.11Scope of the Study

The scope of the study is explained under the following headings:

1.11.1 Content Scope

The study focused on the role of "Supply Chain" Management as "an independent variable and" Organizational "progress as a dependent variable".

1.11.2 Geographical Scope

The study was conducted at MTN-Uganda office located at MTN Towers; Plot No. 22 Hannington Road in the Central Division of Kampala City Council Authority- Uganda.

1.11.3 Time Scope

The study time scope focused on the period of 3 years; that is, 2014 - 2016, because this is the period MTN-Uganda was facing 'challenges in its green supply chain, green management, disgruntled customers and green sustainability towards achieving quality service delivery (CEO report –Brian Goudie, 2015)'.

1.12 Operational definition of terms

Supply chain: "is the network of outside service providers, inside activities, outside distributors and the links connecting them" and which "deliver finished product or service to clients. The typical supply chain can" be summarized as suppliers plus logistics plus customers.

Supply chain integration: is how much a producer deliberately works together with its store network accomplices and cooperatively oversees intra-and between association forms.

Supply Chain Management: may be defined as "as "overseeing free market activity , sourcing crude materials and parts, assembling and gathering , warehousing and stock following, arrange passage and

request administration, circulation over all channels and conveyance to the clients" "Supply chain management involves; settling on choices in regards to the structure of the store network, planning the development of merchandise and conveyance of administrations and sharing data between individuals from the inventory network".".

Organizational performance: "characterized as "the real yield of an association as estimated against its proposed yields, for example, productivity and supportability.

Sustainability: "characterized as advancement that addresses the issues of the present without bargaining the capacity of future ages to address their issues".

Green Supply Chain Management = Green Purchasing + Green Manufacturing and Materials Management + Green Distribution + Marketing + Reverse Logistics.

Knowledge Management: characterized as by the way toward catching, creating, sharing, and viably utilizing authoritative information whose successful usage "requires an unmistakable distinguishing proof of the business issue to be unraveled and an arrangement of the information administration venture with general business destinations".

Logistics: "Procedure of arranging, executing and controlling the proficient, viable stream and capacity of products, benefits, and related data from purpose of inception to purpose of the utilization to conform to client prerequisites".

Integration: characterized as "joining together, consolidating or fuse of at least two capacities inside an organization or at least two procedures between at least two organizations into a good or brought together process in an operational sense".(www.ros.hw.ac.uk).

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews ‘available literature in relation to the role played by Supply Chain Management in the performance of telecommunication sector, using a case of Mobile telecommunication network (MTN)-Uganda.’ The literature was reviewed according to objectives of the study. Section two, presents a review of the available literature that has been previously put forward by different scholars’ on the studies related to this current study. In particular, the chapter covers the theoretical literature review, related review and a summary of literature review

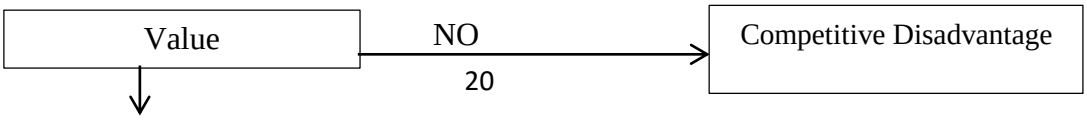
2.2 Theoretical literature review

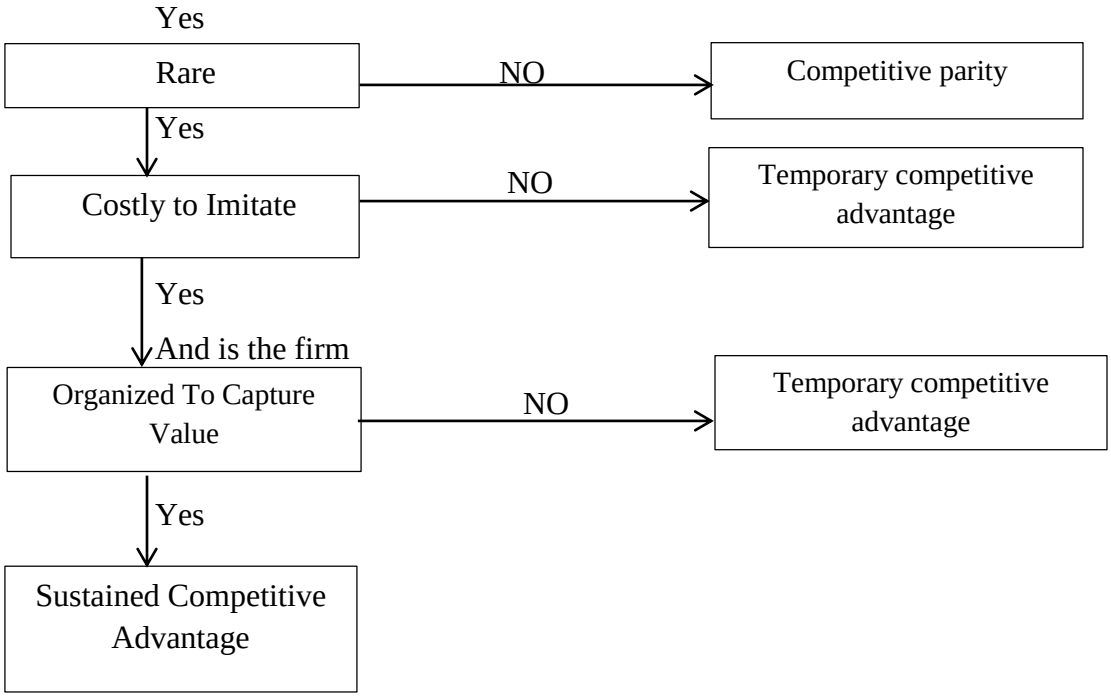
As prior said in section 1, this investigation was drawn from "Asset Based View" (RBV) hypothesis of Barney, (1991) to clarify the philosophical premise of the connection between "inventory network administration" and "hierarchical execution," which are the primary ideas of this examination.

"The starting point of the Resource-Based View (RBV) can be followed back to the fundamental work of Penrose (1959) of the hypothesis of the development of the firm"(www.ros.hw.ac.uk).. Penrose, (1959); Tukamuhabwa, Eyaa and Derek, (2011), "saw the firm as an arrangement of one of a kind interior assets through which firms are separated from each other and can exceed expectations". 'Rubin, (1973), upheld Penrose's view in that the firm comprises of a heap of assets'. 'Wernerfelt, (1984), was the first to present a total work on the RBV in which, he additionally upheld the perspective of Penrose, (1959) that a firm comprises of a heap of novel assets(www.ros.hw.ac.uk).. ". "By and by, the RBV was not well known until the point when the mid-1990s as a few academic works were presented seriously, (www.ros.hw.ac.uk). The "RBV scholars contend that organizations comprise of an accumulation of heterogeneous assets and that these assets are the wellspring of upper hand (Barney, 1991; Peteraf, 1993; Karia and Wong, 2011)", and they additionally clarified that these inner assets of the firm are the wellsprings of managed rivalry.

The RBV hypothesis and the related speculations as clarified fight that "a firm is an accumulation both of unmistakable and impalpable assets" (Kraaijenbrink, et al., 2010), in which these assets are "extraordinary to each firm in that each firm is viewed as heterogeneous from each other inside a similar industry i.e. no two organizations have similar encounters, gained similar resources, abilities or fabricated the same authoritative culture" (Barney and Clark, 2007). The "differential enrichment of assets among firms is a definitive determinant of key choices in inventory network" (Shang and Marlow, 2005). "Ganotakis and Love (2010) utilized the RBV to clarify the significance of inventory network administration to a firm, and as indicated by them, coordination's adaptability and productivity which is mainstay of transportation and capacity in store network administration is thought to be a wellspring of upper hand". The investigation by "Wong and Karia, (2010) affirms that, RBV concentrated on the possibility of expensive to-duplicate characteristics of the firm as wellsprings of business returns and the way to accomplish prevalent execution and upper hand", on the grounds that "creating an upper hand relies upon what interesting interior assets a firm has". These "assets can be unmistakable or impalpable". "Barney, (1991, p101) characterized firms' assets as all benefits, capacities, hierarchical procedures, firm properties, data, and learning, and others controlled by firm that empower the firm to think about and actualize techniques that enhance its proficiency and adequacy." "Barney,(1991) arranged the firm assets into three classes as: (a) Physical capital assets: are what the firm has and utilize, for example, physical advancements, creation offices, gear and in addition its land area and availability to crude materials; (b) Human capital assets: incorporate immaterial assets, for example, preparing, individuals encounters, judgment, knowledge, connections, and understanding of the association's supervisors and specialists; (c) Organizational capital assets: are the idea of the formal structure in the firm, the company's formal and casual arranging, controlling, and planning frameworks and casual relations among gatherings of representatives inside a firm and amongst firms and those in its condition(www.ros.hw.ac.uk).

The three categories classified, further explain that the “firm’s resources are: tangible or intangible, this attribute lead a firm to outperform another in a specific industry creating a competitive advantage”. Rothaermel, (2013) fight that "these assets are diverse in their significance and can't be misused to accomplish a managed upper hand unless they meet four qualities to be specific: important, uncommon, incompletely imitable and non-substitutable (VRIN)" and later this framework was further improved to VRIO with the last letter “O” in VRIO meaning organized to capture value Rothaemels, (2013). The VRIN framework is based on two assumptions of resource attributes”(www.ros.hw.ac.uk): The first frame -work is **resource heterogeneity;** which emphasizes that, "there has been a concentrated talk in vital administration writing about the homogeneity and heterogeneity of firm assets (Porter, 1980; Barney, 1991; Peteraf, 1993; Pankaj,2014)" and "it is the heterogeneity of firms' assets that creates upper hand of a firm finished another", something else, "if all assets were homogeneous at that point no single firm will have the capacity to produce an upper hand as all contending firms will have the capacity to imagine and actualize similar procedures and enhance their proficiency and adequacy similarly and by a similar degree (Barney, 1991)", subsequently the RBV sees " a firm as an accumulation of heterogeneous assets which add to separating them from each other". The other asset property is "asset fixed status"; which clarifies that association's "assets are said to be consummately stable in the event that they can't be exchanged or are less important to different clients (Dierickx and Cool, 1989; Peteraf, 1993;" Karia, and Wong, 2011). The motivation behind why these assets are stable is on the grounds that they are either custom-made to firm-particular needs, altered to a particular exchange or relationship





Source: VRIO framework adopted from Rothaemels, (2013) and modified by the researcher.

Figure 2: VIRO Framework showing the characteristics of RBV.

Valuable Resources: for the purpose of this study; this concept explains that, all together for a firm to have an upper hand, it must have important assets that are not controlled by countless (Barney, 1991). Firm assets are respected to be significant when they empower a firm to create techniques that enhance its execution Barney (1991; www.ros.hw.ac.uk).

Rare Resources: Priem and Butler (2001,p29) contended that it isn't the rareness of assets that delivers an upper hand, rather; it is the relative contrast in the measure of significant worth produced by firms that is natural to upper hand". Priem and Butler contend that "if a firm reliably creates esteem more noteworthy than that produced by different firms in its industry, it must have no less than one uncommon asset. On the off chance that a firm has uncommon asset, in any case it follows that it will create esteem more prominent than that of different firms in its industry", this implies when an asset produces incredible esteem, this asset is uncommon and significant (www.ros.hw.ac.uk).

“Imperfectly imitable”: with the end goal of this examination, "an association's profitable and uncommon assets can just produce a managed upper hand if different firms that don't have these assets and can't procure them". Subsequently, these assets must not be transferable to contending firms (Barney, 1991). A firm asset is defectively imitable "when one or a blend of three qualities exists, for example, history reliance, causal vagueness and multifaceted nature and brand-names, is trouble to copy its effective procedures by others contending firms (Rothaemel's, 2012, 2013; www.ros.hw.ac.uk).

Non-substitutable Resources: for the center comprehension of this investigation; "the company's asset are deliberately proportional when other present or potential contenders can utilize elective assets to actualize similar techniques and deliver an upper hand (Barney, 1991)". Assets are "deliberately equal when other present or potential contenders can utilize elective assets to execute similar methodologies and deliver an upper hand (Barney, 1991; www.ros.hw.ac.uk).

Organized to capture value: the resource itself don’t confer any upper hand for a firm if it’s not organized to capture the value from them, only the firm that is capable to exploit the valuable , rare, imitable resources can achieve sustained upper hand,(www.ros.hw.ac.uk).

Despite the above theories explaining the role of supply chain practices on organisational performance, they are other scholars that negate the assumptions of those theories. Such are: Barney & Muhanna, (2004); criticized the RBV as the theory that neglects the business process issues in supply chain. Barney & Muhanna, (2004) alludes “that the RBV theory be increased by a thought of the business procedure through which assets are important”. They additionally content that "consideration on examine be refocused on the progression of managerial process in RBV research because is a worthwhile an agenda, since resources alone are not a source of competitive advantage, they end up noticeably important just through the activities of directors occupied with business process”(eprints.qut.edu.au).

The utilization of amassed discoveries; quantities of researchers, for example, Carmeli (2001) censured RBV examines in light of the fact that discoveries "depend on averaging comes about over the example.

Be that as it may, an approach dependent on averaging techniques are conflicting with the principle fundamentals of the RBV, for example, assets "heterogeneity which guides scientists to reveal the novel firm particular resources that can brings about managed gainfulness not tailor research to reveal what is the situation for the normal agent firm",(eprints.qut.edu.au).

The "estimation of elusive assets; in spite of the expanding joining of the RBV in supply chain management research, it has turned out to be a troublesome theory to test experimentally as a result of the issues obvious in operationalizing and estimating assets especially those that are intangible in nature (eprints.qut.edu.au, Barney and Mackey, 2005)".

2.3 Literature review on the purpose and objectives

The study reviewed literature correlate to the purpose of the study and the study objectives.

2.3.1 Supply chain management and Organizational performance

Presently, rivalry in the worldwide markets is significantly more noteworthy between supply chains than between associations, for the advantages acquiring in supply chain that entails improving organizational performance (gvpesquisa.fgv.br). Consequently, "store network administration has turned into a basic factor of progress for associations, where for, aggregate proficiency requires inner and outer strategic logistic management, supply chain integration and knowledge management throughout the supply (gvpesquisa.fgv.br). A successful inventory network must interface the system's individuals and their separate capacities to guarantee a continuous stream for adjusting free market activity". The "scan for enhancing execution has been empowered by authoritative' individual recognitions, as well as all through the supply chains. (gvpesquisa.fgv.br)

The fundamentals store networks in the 21st Century to improve the organizational performance has made great strides in the global market by ensuring "competitive advantage to the organizations which are in the supply chain (gvpesquisa.fgv.br). They additionally insinuate that the execution of an association isn't influenced by a solitary association, yet by the impact of all individuals in the chain;

and one of the inclinations of present day financial aspects is that opposition won't stay concentrated in associations against associations, however may incorporate supply chains versus supply chains(Singh, 2011; Caridi, et al., 2014; gvpesquisa.fgv.br)

2.3.2 The role of Logistics Management in SC and Organizational performance

In today's, "intensive competitive and dynamic supply chain condition, numerous organizations are endeavoring to pick up an offer of the worldwide market and to exploit higher creation and sourcing proficiency in which coordination's assumes a noteworthy part (Roman, Parlina &Veronika, 2013)". With the end goal of this examination, "coordination's (administration) is that piece of administration process, which actualizes, and controls the productive, compelling forward, turns around stream and capacity of merchandise, benefits and related data between the purpose of inception and the purpose of utilization keeping in mind the end goal to meet clients' necessities and organizational performance is an assessment of performance on the three core areas of organizational outputs: financial performance, market performance, and customer value added (Richard, Devinney, Yip, & Johnson, 2009). This definition relates to the conceptual framework in that: profitability implies financial performance, market performance implies market share and customer value added implies sustainability.

In the current trend of nationalization and worldwide market, the "importance of logistics management has been growing in various areas", since demand will only be enjoyed through balanced and cost-effective delivery of products and services (Ittmenn & King, 2010) hence herein logistics management functions is key supply chain contract in that, it smoothens materials flow, products and information throughout the organization. The above argument is possible through: effective logistics planning and logistics information system.

Effective logistics coordination has been an early and extensive takeover of supply chain management practices due to its dependency on data for balanced operations (Bardaki, Kourouthanassis & Pramatari, 2011) that leads to "effective logistics management which provides the right product with a right cost

and quantity in the right place at the right time", therefore receiving much attention over the recent decade from practitioners a (Tilokavichai & Sophatsathit, 2011), and it is also argued that for logistics management to continue contributing to organizational performance, it needs to be measured to reduce operating costs, drive revenue growth, and thus enhancing shareholder value, which is the aim of the firm.

Logistics Information System is a computer-based information system that supports all aspects of logistics management including the coordination and management of various activities such as; inventory replenishment, warehouse management and transportation management (Chang & Lee,2007; Wang, Lai, & Zhao, 2008), hence increasing the overall profitability and operational efficiency of supply chain management (Hofenk, Schipper, Semeijn & Gelderman, 2011),with good communication and cooperation along the supply chain. "Logistics information system enables the combination of operational and information flow, which provides transparent, networks for suppliers and customers hence creating effective logistics management" and thus a positive significant effect on supply chain and organisational performance. This concept has been presented in threefold following the constructs under this dimension:

The role of inventory management in supply chain and organizational performance as concepts, featured from the definition of inventory management by Laird, (2012) as " the procedure of reliably having the optimal measure of raw materials for transformation and finished products accessible in order to deliver them rapidly to meet a stock prerequisite in an aggressively, (Bowersox, et al., 2010;Mangarulkar, et al., 2012)" and authoritative execution as "an arrival on venture (ROI),which a measure to assess accomplishment of a firm and stock (Stevenson, 2009).Stevenson further plainly expresses that stock administration is essential to store network and key to hierarchical execution"(lib.dtc.ac.th)

In inventory management, "stocks must be very much overseen keeping in mind the end goal to boost benefits (Mangarulkar, et al., 2012)", as an excess of "stock bolts up an association's capital yet can be

utilized for different purposes and too little stock neglects to fulfill clients (Kenyon and Meixell, 2011)," at the season of interest. An excessive amount of stock is credited prompts higher holding costs, which are related with the capacity of stock, thusly specific stock organization approaches might be fundamental to pick up a client benefit advantage or kill a quality that contender presently appreciates,(lib.dtc.ac.th) . The efficiency in inventory management will determine the organizational performance since the efficiency is the degree to which resources have been used economically (Monde. Y., 2012). This is represented by the following equation: IMe = IMVA / IMC: where (IMe) = Inventory Management Efficiency; (IMVA) = value added from inventory management; (IMC) = inventory management cost (lib.dtc.ac.th)

The explanation above sums up that without proper inventory management, firms may miss out potential sales, lock up profits in inventory and miss out other opportunities to gain the market share and sustainability because “stock is worth more to an organization or seller when it is more valuable to a consumer (buyer) (lib.dtc.ac.th)”. This therefore implies that, if a firm has great demand its product, but does not have enough products in inventory, then the potential sales cannot take place, and the company misses out on the opportunity to make profits (lib.dtc.ac.th). Properly keeping inventory was a key factor in determining prices and therefore revenue generators, as a less available product becomes more expensive if the demand is there. Ideal stock administration which is influencing supply to take care of demand and including however much incentive as could be expected with the current advantages". "Stock administration cost are identified with being learned about supply, request and patterns, with every item being assessed", and thusly "while deciding interest, organizations must direct research for more current items, or keep up information on request inclines for more established or progressing items” (lib.dtc.ac.th).

The role of warehouse management in Supply chain on organizational performance is a concept featured and first defined “warehousing management as a segment of an association's coordinations framework

that stores items at and between purpose of-birthplace and purpose of utilization, and gives, data to administration of the status, condition and statement of things being put away". "Tompkins, *et al*.,(2003); Bartholdi & Hackman, (2011) depicts the run of the mill stockroom practical zones and streams as; getting, organizing for cross-docking, hold, forward and delivering, exchange and set away and request picking" . At the point when a decent experiences all "these fundamental procedures, it is prepared available to be purchased to the last buyer, or it may not be ideal for the great to be conveyed to a business area promptly, thus an unmistakable occasion that warehousing or putting away of the items is vital"(lib.dtc.ac.th). Like each other piece of the "supply chain, a warehouse adds time and place utility for value for products". The "optimal efficient success for any warehousing are the key principles such as: maximizing the height of the storage building, minimizing aisle space, use of effective storage plan and efficient material –handling equipment's will improve the organizational performance".

Either way, these jobs add value to the products and therefor rise up a major part of the warehouse efficiency (lib.dtc.ac.th) with the efficient use of warehouse documents such as: goods received note (GRN), stock cards, bin cards; waybill, warehouse register and firms are introducing pick-to-light and voice recognition technology among others to improve organizational performance. (ijecm.co.uk)

The role of transport management in supply chain on organizational performance is concept enlisting transport management in supply chain and organizational performance variables. Transport management was defined by Kenyon & Meixell, (2011), as the "exercises associated with delivery any great or completed items from providers to an office or to stockrooms and deals areas (lib.dtc.ac.th)." A main tatics to evaluate success of a firm its return on investment is organisation performance was characterized by." "Transportation is a key part in the store network, in light of the fact that without the effective development of completed products and crude materials the whole framework would not have the capacity to work at its maximum capacity (ijecm.co.uk; Randall *et al*., 2010). Various firms utilize diverse "methods of transportation, for example, rail, street, air, water and pipeline subsequently

increasing the value of merchandise the value of merchandise by moving them from their ebb and flow area to a more profitable area (lib.dtc.ac.th) while meeting the five operational performance objectives: cost, speed, flexibility, dependability and quality (Bowersox, *et al*., 2010; Laird, 2012).” Through research, transportation has been found to be a pivot actor in organizational performance as it joins the separate activities, (lib.dtc.ac.th; Gunasekaran, 2003; Hausman, 2005; Xiande, 2008; Atos, 2012; Kenyon, 2011), and costs generally depend on the distance between the start and end point, transportation means, size and quantity of the product to be transported.

Transport management as defined (Bowersox, *et al*., 2010) is “the planning, controlling and on operational zone of coordination’s that geologically moves and positions stock on account of its essential significance, obvious cost, transportation has customarily gotten extensive administrative consideration and in all associations, of all shapes and sizes." It is just through "great administration and coordination between every part that convey the advantages of authoritative execution to a most extreme." A great transport administration in the association gives "better hierarchical execution (Bowersox, et al., 2010) since an item has more an incentive at a retail location than it did in an association's stockroom, on the grounds that in the retail location it is accessible available to be purchased (laird, 2012)", and at the store it could produce income, while in the "distribution center it is basically staying there holding up to be moved subsequently increasing the value of products".

2.3.3 Supply chain integration and organizational performance

The idea of store network joining is seen as intends to consolidate corresponding assets over the company's limit “store network reconciliation agreeing, (www.ros.hw.ac.uk). Supply chain integration can make blends of unique skills, knowledge, and joint capabilities”, hence is enhancing a significant positive organizational performance. This concept has been displayed in triple after the constructs under this dimension.

“Material integration was characterized by Stock et al., (2000, p535) as" "particular coordination rehearses – operational exercises that arrange the stream of materials from providers to clients all through the esteem stream”, and organizational performance was defined as "an arrival on venture which is a typical measure to assess achievement of a firm” (www.ros.hw.ac.uk)

Material integration is applied both internally and “externally in the organization (www.ros.hw.ac.uk) Inside material mix depicted "can be as far as actualizing institutionalized techniques for dealing with the material stream among the useful divisions (www.ros.hw.ac.uk; Chen & Paulraj, 2004b),), it is basic that store network on-screen characters connected together in a way that enhances the productive dispersion materials (www.ros.hw.ac.uk)

“Outside material reconciliation is portrayed by expanded data sharing frameworks and specialized instruments mix with the store network individuals (www.ros.hw.ac.uk Chan and Paulraj,2004a;Caridi, *et al*., 2014)”, and leads to organizational performance in terms of shorter lead time that leads to profitability, market share and sustainability .

Material incorporation is applicable to the association's asset allotment and use yet in addition picking up an aggressive market position and assumes a key part in accomplishing inventory network combination (www.ros.hw.ac.uk). The role technological integration play in supply chain on organizational performance is concept explaining how technological integration bridged the gap leading

to organizational performance (www.ros.hw.ac.uk). Technological integration “as how much a central organization” establishes IT abilities for the predictable and high-speed exchange of inventory network related data inside and over its limits. (www.ros.hw.ac.uk)

Although Technological integration and data reconciliation are firmly related ideas and numerous past examinations joined them in a solitary build, mechanical coordination is the reason for connecting the diverse practical offices inside the association, technological integration is the basis for linking the different functional departments within the organization (www.ros.hw.ac.uk)”. Technological integration has regularly been seen in writing as far as data framework joining (www.ros.hw.ac.uk). The mix of data innovation encourages the stream of data between the diverse divisions inside the firm, yet additionally between associations involving distinctive position over the store network". There are "distinctive sorts of advancements that give continuous data, for example, electronic information exchange (EDI)", and "undertaking asset arranging (ERP)", frameworks as correspondence foundation (Bagchi and Skjoett-Larsen, 2002), these are "basic component of inventory network combination as it offices coordination reconciliation, data joining, and budgetary mix, prompting building long haul interests in their production network connections". "The observational research from (Barratt and Oke, 2007; Barratt and Barratt, 2012), demonstrated that the data imparted to providers by means of specialized instruments, for example, email and fax;" gives viable authoritative execution. The web based applications are the key for the coordination with outside accomplices (www.ros.hw.ac.uk).

The role of information integration in supply chain on organizational performance is idea clarifying how data reconciliation prompts hierarchical execution. "(Rai, et al., 2006); (Caridi, et al., 2014) characterized data coordination as the degree to which operational, strategic, and key data are shared between a central association and its production network accomplices". "Data joining includes the coordination of data stream over the store network" that "licenses administration to inspect the operations of the association in totality and not in practically segregated way" "(Lee, et al., 1997; Lee, et al., 2000; Zhao, et al., 2002;

Williams, et al., 2013), and they consider that the pointers data incorporation incorporate data sharing identified with request, deals, creation plans, conveyance calendars and execution (www.ros.hw.ac.uk)

Information integration is connected both inside and remotely in the association (Caridi, et al., 2014). "Inside data joining alludes to how much the inward generation and supporting capacities share superb data that produces interior deceivability." "Barratt and Barratt (2012) contended that inner data reconciliation enhances deceivability and operational execution" and further "includes visit individual connection (Pagell, 2004)". Pagell contended that "ongoing data sharing (Yeung, et al., 2009; Prajogo and Olhager, 2012; Mishra, et al., 2013)," they additionally expresses "that inside data sharing frameworks should be bolstered by close coordination between the creation and supporting capacities inside the firm so as to deliver more elevated amounts of inward data reconciliation," and henceforth accomplishing hierarchical execution(www.ros.hw.ac.uk).

“Data incorporation among the inner useful offices can make abilities that are potential wellsprings of upper hand for the firm (Barratt and Oke, 2007; Wei and Wang, 2009; Williams, et al., 2013; Caridi, et al., 2014)," prompting high "deceivability can be accomplished through broad sharing of valuable and important data among various players inside the inventory network (Barratt and Oke, 2007, p1220)."

2.3.4 Knowledge management in the supply chain and organizational Performance

Learning administration idea is characterized as "the way toward catching (Matheus et al., 2005), creating, sharing, and successfully utilizing authoritative information. Successful implementation of knowledge management requires distinguishing proof business issue to be settled and an arrangement of the learning administration with general association's goals .This concept has been presented in threefold following the constructs under this dimension.

The role of knowledge acquisition in supply chain on organizational performance is concept enlisting Knowledge acquisition in supply chain and organizational performance variables. Knowledge

acquisition is the first stage of the overall knowledge creation in the organisations supply chain (Liu & Liu, 2008; Bagnoli & Vedovato, 2012). The uniqueness of knowledge is that it maintains an organisation's competitive advantage (Grant, 1996; Boden, *et al,* 2012), though there is a dilemma on managing knowledge in a way that can create competitive advantage (Beck & Schenker-Wicki, 2014; Barney, 1991). "The increase in knowledge through effective knowledge management causes productivity for an organisation to change in ways unrelated to changes in the environment and also contributes to the uniqueness of the ways in which productivity can be improved (www.hpocenter.nl). They further asserted that knowledge development complements knowledge acquisition. An association wishing to set up and keep up the learning required for an upper hand must make and obtain new information, transmit learning to suitable parts of the firm, translate that information, coordinate it with existing information, and utilize the information to accomplish a superior execution of store network." and consequently general hierarchical execution. Associations that frame organizations together "have the chance to get information from their accomplices without experiencing similar encounters that the accomplices needed to experience some time recently. This fits with "the system which expresses that a high performing association keeps up great and long haul associations with all partners including its accomplices (Waal, 2008; Beck and Schenker-Wicki, 2014)". (Lyles and Salk (2007; Beck and Schenker-Wicki, 2014; Nieves, et al, 2016) express that "there is a connection between information procurement and execution" and that "associations make, secure, and hold for their own utilization the results (or 'leases') that emerge from using learning" (Bogner and Bansal, 2007), (www.hpocenter.nl)

Securing of information in a coordinated effort condition utilizes components embraced from Arthur Andersen and APQC, (1996); and Anand, et al, (2013), which includes successive advances that ought to be taken keeping in mind the end goal to ensure that the learning could be procured from the ideal individuals, time and place to improve inventory network. Learning securing takes into accounts the kind of information to be gained. Nonaka & Takeuchi, (1995), and supported by Anand, *et al*., (2013), and

Nieves, *et al*, (2016) place that "there are two kind of learning, to be specific express and inferred information (Nonaka and Takeuchi, 1995)". "Implicit learning is gotten by inside individual procedures and put away in people". Such learning is some of the time portrayed as "Involvement, Reflection, Internalization or Individual Talent". "Unequivocal information is put away in a mechanical or innovative gadget, for example, archives or databases". This learning would be more valuable on the off chance that it could be "shared and utilized among the group that cooperates utilizing collective innovation at whenever, wherever and anyplace".(www.elliot-projects.en)

The part of Knowledge scattering in store network on authoritative execution is idea talking about the information spread and how it prompts hierarchical execution. Information spread is the second phase of learning administration in an association, and its motivation is to "transmute information to target beneficiaries to be used, (Vorakulpipat and Rezgui, 2008) to better store network administration". The scattering of Knowledge crosswise over associations is through the "portability of its specialists and partners (Singh and Mckeen, 2006; Gavrilova and Andreeva, 2012; Reid, 2003) teaming up inside the store network". The dispersal of Knowledge in the association "makes open doors for the association to boost its capacity to meet the learning needs and produces arrangements and efficiencies that furnish an association with an upper hand (Reid, 2003; Lin, 2007; Nieves, et al., (2016)". Information dispersal is the "conveyance of exemplified learning all through a firm or an esteem chain (Damarest, 1997)". Spread of "notable information is reasoned to affect the arrangement of upper hand (Gupta and McDaniel, 2002) of the organizations inside the production network". Learning spread in any case, has authentic results that include: expanded mindfulness, capacity to settle on educated decisions among choices, and the trading of data, materials, or points of view, and outer sources that have vital ramifications for authoritative execution (Wijk et al., 2007), while thinking about high firms execution. Information in an association is made through the spread procedures which at that point impact the results, for example, authoritative execution (Dess and Shaw, 2001; Kalling, 2003) through enhancing inventory network

administration. The writing looked into investigates that disregarding human information being an association's most important resource, a lot of this learning is never shared (Harris, (2006); Roxas, et al., (2014). They additionally affirm that, bridling such basic learning and utilizing it to make a typical vision, targets can draw an association nearer to understanding an elite work environment. Sharing information makes an all the more intense organization (Schenker-Wicki (2014). "By making a pool of learning and offering it to others in the association and workers can create information quicker and all the more successfully." As firms share progressively more learning; their capacity to adjust to change enhances (Masele, 2008), and this change totally is on a positive authoritative execution (Bagorogoza, *et al*., 2011).

Information responsiveness on authoritative execution is an idea demonstrating how learning responsiveness prompts hierarchical execution. "Responsiveness to information is otherwise called learning application is portrayed as building up the learning procured, empowering the utilization of the learning to be more compelling in order to expand its value (Ng, et al., 2012)". From showcase astute point of view (Supply chain Management), responsiveness is set up by the age and sharing of data, while the hierarchical viewpoint is built from three behavioural components: introduction to client needs; activities of contenders; and between useful mix (Homburg et al., 2007; Gholami, et al, 2013).

There are numerous manners by which "the estimation of an administration can be expanded by including the learning segment for instance, the association consistently improves items, procedures, and administrations, accordingly (1) making new wellsprings of upper hand and (2) reacting to advertise changes". As expressed some time recently, in the "inventory network not at all like different assets, the estimation of information increments when utilized (Shapiro and Varian, 1999)." subsequently, the more Knowledge administration is utilized, the more profitable it moves toward becoming for the general population and the organisation(s) included (Adler, 2002; Smits and de Moor, 2004). Likewise, KM is an interdisciplinary idea covering most of an association' exercises. The primary field of "KM is the

utilization and improvement of an association's information assets to meet its objectives (Ruzevicius, 2006; Ng, et al., 2012)". "Learning, for example, mastery, inventive thoughts and aptitudes, is dealt with as an asset that can be caught, classified, and shared (Nonaka and Tekeuchi, 1995) (www.hpocenter.nl)."

2.4 Summary of Literature Review

The literature reviewed on uncovers "management of supply chain in a number of studies that have been done that is found on three main dimensions of: "logistics management in SC; supply chain integration in SC; and Knowledge management in SC and modified by the researcher", which describes the role among SCM on performance of an organizational. Comprehensively the relationship that subsists between Supply Chain management and organizational performance was revealed in the review of literature. The theoretical basis for defining supply chain management (www.ros.hw.ac.uk) was used in RBV theory which offered a basis for this study. The Literature review confirmed that presently logistics management is a key determinant for performance in business and its management functions because "Management of logistics plays an important role of adding competitive business excellence advantage to a firm in support of customer. In this investigation the writing survey fixated on assessing the part of coordination's administration on stock administration, warehousing administration and transportation. In Supply chain coordination, the "research tends to these holes in writing and explores how production network joining may prompt enhanced upper hand from the viewpoint of RBV." "The parts are connected over these levels of incorporation and incorporate material mix and mechanical reconciliation and data mix." "However this section recommends that there are more issues which have influenced inventory network combination improvement, creating opposing and uncertain discoveries. (www.ros.hw.ac.uk)"

Knowledge management is a concept that comprehensively gathers, organizes, analyzes its knowledge in terms of resources, documents, and people skills that supports an organization consciously though authors have noticed that there are differences in how to defined knowledge management Lin, (2013).

KM has gained attention of supply chain researchers and is strengthening from recent past, growing from only serving one type of firm to abroad spread of different organisations in the supply chain. Finally the review reveals that authors state different purpose of designing supply chain but the end results is to achieve organizational performance (Mbugua, 2103; Huo. *et al*., 2013).Despite all the above revelations, "the literature review didn't critically point out how supply chain was used to eliminate delays in logistics management and material miss statements in organisational performance and also review on the other components of supply chain management".

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This section reviews methodology available that examined: Supply Chain Management and performance of telecommunication sector, using a case of Mobile telecommunication network (MTN)-Uganda. This chapter comprises of research design; population of study; "sample size and selection; sampling techniques and procedures; data collection methods; data collection instruments; Validity and reliability; data collection procedures; data analysis; measurement of variables and the ethical considerations".

3.2 Research Design

The study used cross sectional study that adopted both soft and hard data approaches (Neuman, 2011). "Cross sectional design is an observational study that analyzes data collected from a population sample at a specific point in time". Cross sectional study was used because it involved a selection of a sample from population to act as an inference, (Yin, 2014; Sedgwick, 2014). Qualitative approach was used to promote the understanding of the way things were done, why they are and a phenomena occurring in a population without influencing the subjects that had been studied, (Golicic & Davis, 2012), while "hard data in order to explain, forecast and/or hold phenomena of interest was collected from Quantitative research method.

3.3 Population of the study

A set of people, group of things, households, firm's services, elements which are being investigated the study population. 225 employees of MTN- Uganda generated the study population. The population was categorized into four different groups of respondents, i.e. 30 top level managers with a target population of 28; 55 middle level managers with a target population of 48; 80 lower level managers with the Sample size of 66; and temporary staff of 60 with a target population of 52 that played a leading role in this study.

3.4 Determination of Sample size

Population subset is a sample defined by Saunders *et al*., (2007) and a sample size as a number of units of observation that the researcher intends to collect information from". The study used "a sample size of 194 respondents". Calculating the sample size for each particular was done by using the table for determining the sample size developed by Krejcie, (1970),it is scientific method based on the formula "$S = X^2NP(1-P) \not D^2(N-1) + X^2P(1-P)$ where : S = the required sample size; X = 95% confidence level; N = the Population size; P = the population proportion to be 0.5; d = 5% of the margin of error , and 1 = the constant" but there was no need of using this formula for the determination of a known population that could be read from the table since it had all required sample size provisions to arrive at the figure one required.

Table 1: Sampling approach

Particulars	**Population**	**Target population**	**Sample Size**	**Sampling Technique**
Top level managers	30	28	28	Purposive/ Judgemental
Middle level managers	55	48	48	Purposive/ Judgemental
Lower level Managers	80	66	66	Simple Random Sample
Temporary staff	60	52	52	Convenience Sample
TOTAL	225	194	194	

2017, Primary data*: **Source***

Although there were many employees in MTN-Uganda, the sampling interval (K) was taken as a proportion of members in different departments and was determined: the total population size divided by sample size of the study. The table 1 above indicates that the total accessible population (N=225) of the study but due to time and financial implications an appropriate sample size (n=194) was adequate from Krejcie, (1970) table hence K= N ⁄ n; where K=1.2 and therefore the respondents to participate in this study were sequentially selected basing on the determined sampling interval

3.5 Sampling techniques and procedures

Probability and non-probabilistic sampling techniques were used both in the study. In probabilistic sampling, simple random sampling was used.

"Simple random sampling**:** is an unbiased selection of an element and it is a subset of a statistical population in which each member of the subset being chosen has an equal probability (Crewel, 2014)". The researcher chose it because it required only a minimum knowledge of the study group of population in advance and those that had a long term experience in management matters.

Purposive sampling: called also as judgmental, is a non-probability sampling technique, and was used to serve a very specific purpose, in which the researcher had a specific group of respondents in mind, such as the top level managers' .The researcher used it to get sufficient information on fashion conscious people.

"Convenience Sampling: is where matters are chosen because of their available convenient and nearer to the researcher, it is non-probability sampling technique

3.6 Data Collection Methods

"Information collection methods basically refer to "the tools to be used in idea collection from the participants" (Bless and Smith; 2004; 103)" as explained below:-

3.6.1 Interview Method

Under this method, the researcher read out questions to the respondents and they answered as instructed. The researcher used this method because he had control over the respondent selection. Interview is the most important data collection method (Ferreira *et al.,* 1988). The advantage of using interview was that, it allowed on spot explanations, where adjustments and variation could be introduced during data collection process and through respondent's incidental comments, use of this facial and body expressions, tone of voice, gestures, feelings and attitudes (Amin, 2005; Kumar, 2011).

3.6.2 Questionnaire method

The questionnaire allowed the collection of items to which the respondents were expected to respond in writing. This was chosen because the population under study is literate and time limited (Fairfax, 2012). The questionnaire was administered from office to office since most of the respondents were confined in one location. The questionnaires were structured in both closed and open ended questions. Questionnaires were used to avoid subjectivity that results from close contact between the researcher and the respondent. Also questionnaires were preferred because it was used to collect a lot of data over a shorter time period and less expensive. Questionnaires were distributed to all sample size respondents.

3.6.3 Documentary Review Method

This involved reviewing existing documents from both internal and external. The researcher used the available literatures that were related to the study topic. The documents reviewed were from MTN-Uganda for the years, 2014-2016 pamphlets. The researcher chose this method because helped to provide background information, it is an obstructive and it is relatively cheaper.

3.7 Data Collection Instruments

The appropriate instruments for each method of data collection as explained below were used by the researcher:

3.7.1 Interview guide

An interview guide is list of thematic areas that the research focused on while engaging respondents during an interview (Osborne, 2008). The interview guide is oral questionnaires which the researcher used to gather data through direct verbal interactions with the respondent. The oral questions were both structured and non-structured. The researcher used the interview guide because it gave room for probing and making clarifications on the questionnaires (Kumar, 2011). The verbal answers were recorded and used in chapter four to supplement on the quantified data obtained using questionnaires.

3.7.2 Questionnaire

Questionnaires were self-administered and guided. Questionnaires for data collection were used by the researcher because it provides a way to standardize and structure questions into data analysis for variables and it is research an economical method. Also large amount of data is gathered in a shorter time period and data can easily be analyzed numerically and gives the respondent freedom to provide answer comfortably, (Russell, 2011).

3.7.3 Documentary review checklist

A documentary review checklist contained a record of various documents reviewed for specific information about a research case (Yates, 2004). This was a list of documents that the study consulted in order to get relevant data for the study. It helped the study to verify facts especially during data collection.

3.8 Validity and Reliability of Data collection Instruments

This method examined the precision/quality for this kind of study; while the "validity and reliability is the precision with which study instruments are measured in a study and expressed in terms of (Hopkins, 2001). If a measure is valid then it is reliable that is why these two were related

3.8.1 Validity

Hair *et al*., (2010), Russell, (2011) characterized validity as the study instrument as the level to which machine represents a measure correctly the results" (www.iiste.org). Content validity, Predictive validity, and Construct validity are the three types of validity. Malhotra (2010) characterized the content validity as face validity. This study used Sampling Validity **(**content validity)"; because within the concept under study, it ensures that the measure covered the broad range of areas. "Validity was used to measure Content Validity Index (Coefficient Validity Index – CVI), which is determined by expert judgment. The expert judgment makes a comparison between "what is to be included in the instrument, given in the intended purpose and what actually is included in the instrument." The method for

measurement of validity is given as: - "CVI = Number of items declared valid/Total number of items. CVI = (N – ne) / N. Where: N = Total number of objects; ne = Number of items discarded". The 0.7 must be average CVI or above for an instrument to be accepted as valid.

Table 2: Validity Results

	VARIABLES	Number of items	Relevant Items	CVI
Valid	Logistics Management in SC	22	19	0.864
	Supply chain Integration	18	17	0.944
	Knowledge Management in SC	22	20	0.909
	Overall	**62**	**56**	**0.906**

2017, Primary Data**: Source**

Table 2 from above, showed the three dimension supply chain management included in this study were internally valid as all of them when tested were above 0.70 Coefficient Validity Index (CVI). Logistics management in SC has CVI = 0.864, Supply chain integration has CVI = 0.944; and Knowledge management in SC has CVI = 0.909. This represents an overall average of 0.906, which is above 0.70 CVI (Amin, 2005).

3.8.2 Reliability

"Reliability is a measure of the level to which a research machine yields same marks or data after trial done overtime". Various ways have been used "to examine the reliability of the machine for example, Split-halves, test-retest, equivalent forms and inside the same consistency strategy are used to measure reliability (www.iiste.org). Inside consistency method was used in this investigation. The Cronbach's Coefficient alpha (α) demonstrates that all attributes are internally consistent with approved cut off point of 0.70" (www.iiste.org). The range of the results must be between 0 and 1, and the assessment criteria were as follows: Reliability ≥ 0.70 = Adequate reliability for group comparison; ≥ 0.9.

Table 3: Reliability Coefficient of the variable the study

	Variables	Standardized Items based on Cronbach's Alpha	objects in Number
	Logistics Management in SC	0.909	22
	Supply chain integration	0.889	18
Reliable	Knowledge Management in SC	0.864	22
	Overall	**0.887**	**62**

2017, Primary Data**: Source**

Table 3 from above, showed instruments of the study tested on all the three dimensions of Supply chain management practices were consistent. All of them were tested and found to be above 0.70 Cronbach's Coefficient Alpha (α). Logistics management in SC had α = 0.909, Supply chain integration had α = 0.889; and Knowledge management in SC had α = 0.864.

3.9 Data Collection Procedure

I was given an introduction document from the department of management sciences, Uganda Management institute, after successfully defending of the research proposal and the researcher preliminary surveyed to ascertain the field conditions. The letter was then presented to MTN- Uganda head office, human resource department on 21st October, 2017. It is at this point that Emiru asked for permission to conduct the study and he was granted. Once permission was granted, a team of 3 research assistants led by a researcher started collecting data that covered a period of over 5 working days. Data collected was edited with a view to check for completeness and accuracy. Thereafter, data was processed by means of cleaning, editing, doing and creating a template that helped in minimizing data entry errors. Data was then ready for analysis.

3.10 Data Analysis

Data analysis is the process for raw data gathering and converting it into useful information for users' decision making. This included data Presentation and interpretation, procedure of order bringing,

meaning and arrangement to the mass of collected data. Data collected was analysed using two methods by the researcher

3.10.1Qualitative Data Analysis

Qualitative data analysis involved analyzing and interpreting narrative data or content analysis to bring a systematic approach order and understanding, and discipline which requires creativity, (Creswell,2013). Qualitative data analyze, has no single or best way out, for you can adapt to your own extension evaluations. The common technique for qualitative data analysis is limited to direct interaction with the respondent and the responses recorded. All qualitative data analysis involved the four essential steps: (i) crude data management- 'data washing;' (ii) Data squeezing, I, II – 'chunking', 'coding;' (iii) Data interpretation – coding', clustering; and (iv) Data representation – 'saying the story, 'getting sense of the data for others.(www.omicsonline.com)

3.10.2 Quantitative Data Analysis

Hard data analysis is a systematic approach to investigate during which figures are collected. Information was analyzed through SPSS version 22. Descriptive statistics such as measures of central tendency was used to describe and summarize the data (Black, (2010). SPSS (Statistical Package for Social Scientists) data editor were Quantitative data was coded, edited and entered into. Data was then interpreted using the mean and standard deviation. Also relational statistics like "Spear man's rank correlation coefficient and Pearson's Coefficients correlations used to measure the relationship direction and strength variable among the study Creswell, (2013)".

3.11 Measurement of variables

The researcher used both the nominal scale and ordinal scale in measuring the data. Nominal scales was used for capturing gender, age, occupation, and ordinal scale was used in ranking the data.(Saldana,2015) The researcher used the Likert scale rate system to rate the opinions of the respondents because it measures people's attitudes, beliefs, emotions, feelings and other Psychological constructs (Spector, *et*

al., 2012). The Likert scale was represented by 5= Strongly Agree, 4 = Agree, 3= Neutral, 2= Disagree and 1= Strongly Disagree (www.omicsonline.com).

Table 4: Likert Scale Response Categories

Details of items	**Scale**				
	5 strongly agree	**4 Agree**	**3 Neutral**	**2 Disagree**	**1 Strongly Disagree**

3.12 Ethical Considerations

The researcher first sought permission from UMI to conduct the study, before going in the field for data collection where a letter of introduction was provided to him by the Institute". The researcher obtains informed consent from all respondents before conducting interview so that they don't feel coerced. The researcher introduced himself, explained to the respondents in the study area the objectives of the study, explained why the particular respondents are selected, the benefits, discomforts and harms of the study. The researcher designed the questions in such a manner that they did not violate the rights of the informants and their privacy as well say excluding their titles.

The "respondents were further assured of confidentiality on information provided and (anonymity) - personal names, addresses and contacts didn't appear on the research documents; instead numbers of identification were used to represent each respondent". To avoid plagiarism, the researcher cross checked that all consulted sources were well referenced and all literature used was cited appropriately.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1Introduction

This section covers, "the presentation, analysis and interpretation of findings". The findings are presented following the purpose and objectives as stated in chapter one (cees.mak.ac.ug). The presentation was guided by the study purpose which examined " Supply Chain Management and performance of telecommunication sector, using a case of Mobile telecommunication network (MTN)-Uganda" and the following "research objectives: a**)** to examine the role logistics management in supply chain plays in organizational performance of MTN- Uganda; b) to examine the role supply chain integration plays in organizational performance of MTN-Uganda; c) to examine the role Knowledge management in the supply chain plays in organizational performance of MTN –Uganda".

4.2 Response Rate Respondents

The response rate of the study is 194 employees of MTN -Uganda but the researcher managed to collect 180 respondents. This represents "percentage of 92.78 % as a rate of respondent which analysis deemed very good, a response rate of 70 % and Amin, (2005) rate of 50% is very good hence results in table 5 below show the overall response rate of questionnaires and interviews carried out".

Table 5: the general response rate

Instrument	Target Response	Actual response	Response Rate
Questionnaire	148	140	72.16%
Interview	46	40	20.62%
Total	194	180	92.78%

2017, Primary data: **Source**

Table 5 from above, out of the 148 questionnaires distributed and administered, 140 were returned correctly filled, representing 72.16%. Out of "the 46 interviews that were targeted, for interviews only 40 were actually interviewed imply a response rate of 20.62%. The overall response rate therefore was

92.78%; this response rate was deemed well enough since it was over and above the 50% recommended by Amin (2005)".

Table 6: Cross section of Quantitative response rate as per departments of MTN-Uganda

Population Category	Population	Sample Size	Returned Questionnaires	Response Rate (%)	Cumulative response rate (%)
Finance/Administration	40	36	34	17.53	17.53
Engineering	33	30	28	14.43	31.96
Procurement	23	20	18	9.28	41.24
Quality Assurance	13	10	9	4.64	45.88
Legal department	11	08	08	4.12	50
Customer Experience	17	14	13	6.70	56.7
Marketing and Operations	34	30	29	14.95	71.65
Human Resource	24	20	18	9.28	80.93
Corporate Planning	13	11	10	5.15	86.08
Credit and Risk	17	15	13	6.70	**92.78**
Total	**225**	**194**	**180**	**92.78**	

Source: Primary Data, 2017

The response rate was interpreted per population category, defined by "the population and the sample size". Only 180 respondents out of a sample size of 194 respondents were dully returned. This translated to 92.78 %, of the sampled respondents who "actively participated in this study in a quantitative and qualitative response". The percentage of the respondents were adequate enough to give a researcher representative result for the study.

Table 7: A Cross section of Qualitative response rate as per departments of MTN-Uganda

Population Category	Target Interview Guides	Distributed interview guides	Returned Guides	Percentage Response Rate (%)
Finance/Administration	5	5	5	10.87
Engineering	5	5	5	10.87
Procurement	5	7	6	13.04
Quality Assurance	5	3	2	4.35
Legal department	5	3	4	8.69
Customer Experience	5	5	5	10.87
Marketing and Operations	5	7	5	10.87
Human Resource	5	5	2	4.35
Corporate Planning	3	3	3	6.52
Credit and Risk	3	3	3	6.52
Total	46	50	40	86.96

2017, Primary Data**: Source**

Table 7 from above, the researcher was able to conduct 40 interviews out of the proposed 46 interviews in the study. The target population of qualitative response rate was less as compared to the quantitative response rate, because collecting qualitative data required a lot of time as face to face interactions was a requirement and funds. All in all, 86.96% of the interview guides were effectively responded to. This means that the qualitative research was representative to the study.

4.3 Respondents Background Information and characteristics

This section presents background information of the respondents. The respondents' characteristics included for this study purpose: gender age, and education levels. The investigation on the characteristics of respondents helped the researcher to understand how respondents were familiar with the topic of the study, the study variables, the determination of appropriateness of the collected data for the study and whether they have wider experience in the work place and consequently if they were in a position to understand most of the supply chain management practices concepts.

Table 8: Distribution of Demographics according to Gender, Age and Educational levels

This represented the structure of gender, age and educational level as shown in the table below that is involved in the study and the questionnaires guided data collection, because gathered data was done using the interview guide was to verify data collected using questionnaire. The demographics according to gender, age and educational level were to ascertain which demographics highly participated in the study.

	Characteristics	Category	Frequency	Percentage (%)	Cumulative %
Valid	Gender	Male	83	42.78	42.78
		Female	97	50	**92.78**
		Total	**180**	**92.78**	
	Age	21-30	76	39.18	39.18
		31-40	67	34.54	73.72
		41-50	19	9.79	83.51
		51-60	10	5.15	88.66
		61+	8	4.12	**92.78**
		Total	**180**	**92.78**	
	Educational level	Diploma	22	11.34	11.34
		Degree	114	58.76	70.1
		Masters	36	18.56	88.66
		PHD	8	4.12	**92.78**
		TOTAL	**180**	**92.78**	

2017, Primary data: Source

Above table 8, "analyses of demographic respondents of distribution categories included in this study were: Gender characteristics: the Male were with a frequency of 83 people represented 42.78% of the respondents, and the Female were with a frequency of 97 people represented 50% of the respondents". The female gender highly participated in the study compared to the male. The study was more representative because the female gender respondents were the majority, and who tend to be more realistic in their responses.

On the age characteristics: the demographic distribution of respondents according to age in this study were as follows: the age bracket of 21- 30 had the highest respondent with a frequency of 76 participants and representing 39.18% of the respondents. This was followed by the age brackets of 31-40 with 67

respondents and representing 34.54%; 41-50 age brackets with 19 respondents, representing 9.79%; 51-60 age brackets with 10 participants, representing 5.15%; and the age brackets of 60+ with 08 participants, representing 4.12%.

On the educational level: “the demographic distribution of respondents involved in this study was according to their education levels”. The education level of “degree had the highest frequency with 114 respondents, representing 58.76%; followed by Master’s with 36 respondents, representing 18.56%; Diploma with 22 respondents, representing 11.34% and lastly PhD holders with 8 respondents, representing 4.12%”. These demographics were extracted to establish the respondents’ educational level, in order to determine which educational level highly participated in the study.

4.4 Empirical Findings on the Purpose and study objectives

This “section uses statistics descriptive to analyze key study findings according to the objectives purpose. Spearman’s and Pearson’s Coefficients correlation, analysis of qualitative and testing hypotheses for variables were used in the respective findings”. The section was divided into two sections namely; “descriptive analysis for the independent variables and dependent variable. Supply chain management, the independent variable had different dimension namely; logistics management in SC, integration supply chain and Knowledge management in SC and the organizational performance the dependent variable”. These constructs are discussed below:

4.4.1 Descriptive statistics analysis for each supply chain management dimension

Table 9: Descriptive Statistics on study dimensions

Study Dimensions	N	Minimum	Maximum	Mean (μ)	Standard Deviation(δ)
Logistics Management in SC	180	1.0	5.0	3.91	0.49
Supply Chain Integration	180	1.0	5.0	3.88	0.31
Knowledge Management in SC	180	1.0	5.0	3.92	0.44
Valid N(respondents)	180	**Average**		3.90	0.41

Source: Primary Data collected 2017

The results from table 9 above were "based on the samples of 194 respondents, reliability varies within 1.00 to 5.00 then the mean of 3.90 and the standard deviation of 0.41 respectively" (www.iiste.org). Greater standard deviation interprets that the data are largely spread, which meant that percipients gave bets of varying opinions (www.iiste.org). As shown on the table 9 above : "the co-efficient of variation was smaller at 10.51% calculated using the coefficient of variation formulae meaning that the deviation of data was nearer to the mean hence the respondents expressed close opinion and agreed on the relationship between the study variables as there was a very low deviation from the mean".

4.4.2 Purpose of the Study: Role Supply chain management plays on performance in the telecommunications Sector in Uganda: A case of MTN- Uganda

The results in the table 10 below are meant "to establish whether MTN-Uganda performance and management of supply chain relationship is a positive between the two variables". Spear-man's rank correlation was used to determine the evidence between the two study variables. On study purpose, "the respondents were free to either disagree or agree on the relationship between Supply chain management and performance of an organizational". The returned results were the only ones tabulated.

Table 10: Selected Categories of and composition of respondent's sample

	Departments in MTN- Uganda	Sample Size	Frequency of returned questionnaires
Valid	Finance/Administration	36	34
	Engineering	30	28
	Procurement	20	18
	Quality Assurance	10	9
	Legal department	08	08
	Customer Experience	14	13
	Marketing and Operations	30	29
	Human Resource	20	18
	Corporate Planning	11	10
	Credit and Risk	15	13
	Total	**194**	**180**

Source: Primary Data, 2017

Spear -man's rank correlation was used to examine and determine whether there was a positive relationship between the two variables. The two variables are: a) "Supply chain Management Practices – Independent Variable; and (b) organisational performance – Dependent Variable".

The results from table 10 above were re-tabulated in "the Spear Mans Rank Correlation table shown below and a formula of Coefficient rank Spearman's correlation were used to assess the monotonic strength between the relationships of two variables the study":

Formulae = $1 - \frac{(6\sum d^2)}{n(n^2 - 1)}$.

Where $d^2 = 98$; and n= 180; Constant = 6 and 1

Table 11: Spearman's Correlation Coefficient

Valid	Respondents Category	Sample Questionnaire	Returned questionnaire	Agree	Disagree	Rank Agree	Rank Disagree	Rank Variance (d)	d^2
	Finance/Administration	36	34	30	4	10	10	0	0
	Engineering	30	28	27	1	8.5	2.5	6	36
	Procurement	20	18	15	3	6	8	-2	4
	Quality Assurance	10	9	7	2	1	5	-4	16
	Legal department	08	08	08	0	2	1	1	1
	Customer Experience	14	13	10	3	4.5	8	-3.5	12.25
	Marketing and Operations	30	29	27	2	8.5	5	3.5	12.25
	Human Resource	20	18	16	2	7	5	2	4
	Corporate Planning	11	10	9	1	3	2.5	0.5	0.25
	Credit and Risk	15	13	10	3	4.5	8	-3.5	12.25
	Total	**194**	**180**	**159**	**21**			**$\sum d^2$**	**98**
								n	**180**
								(n^2-1)	**32,399**
								$n(n^2-1)$	**5,831,820**

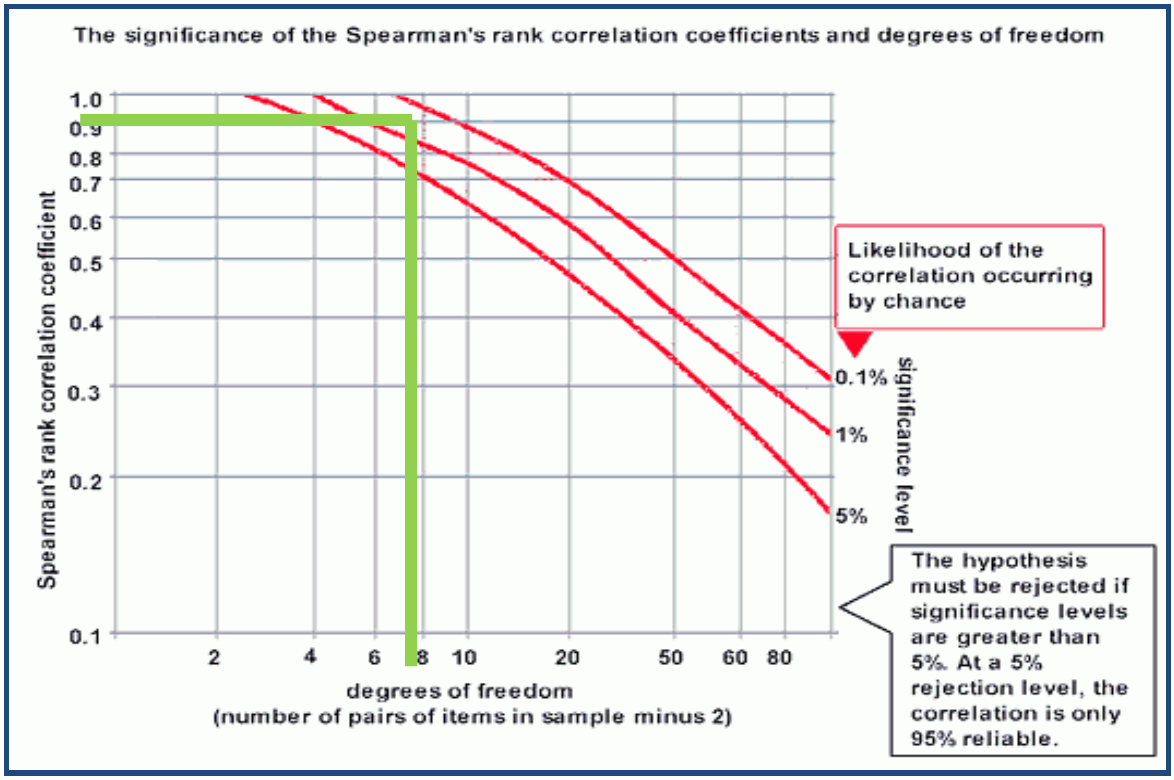
Source: Primary Data, 2017

The findings on "table 11 above showed that 159(159 / 180*100 =88.33%) of the respondents agreed that relationship was positive strong and 21 (11.67%) disagreed of relationship of the respondents between the two study variables". The "Spearman's rank correlation was used to prove this claim and the value of **r** was calculated as (r = 0.9999)". The relationship showed that there was a monotonic function which is a very strong positive organisational performance since the coefficient was too close to 1.

"Spearman's Rank Correlation coefficient was plotted on a graph to disapprove or prove with the hypothesis, test the level of strength and identify the study relationship between variables. The degree

of freedom (sampled categories; 10 departments less 2 departments = 8), is calculated and plotted against the Spearman's rank correlation coefficient r = 0.9999.

Spearman's Rank Correlation coefficient has been presented in figure 3 below to prove between performance of an organisation and management of supply chain relationship



Source: Primary Data, 2017 and Spearman's Rank Correlation Graph

Figure 3: Spearman's rank correlation coefficient graph showing the magnitude of strengths performance of an organisational and management of supply chain relationship existed between them

Analysis, Interpretation the graph of Spearman's rank correlation

The green line on the above graph (Figure 3) meets the red line at line 0.1% at the degree of freedom (line 9 on the Y axis), meaning that it is a greater than 95% chance that the positive relationship between the two variables, and thus the hypothesis is supported.

The "hypothesis was accepted because MTN-Uganda Performance and Supply chain management had a significant relationship between them since coefficient of 0.9999 was too close to 1."

On Qualitative data analysis, some of the respondents interviewed asserted that;

> *"MTN is managed, run by skilled and knowledgeable workforce, but their effectiveness and efficiency depends on the scope and nature of management of supply chain in dynamic business current environment; otherwise challenges of inconsistencies and un-researched results would persist in day-to-day operation (Human resource department, EA/34; interview guide of 27/10/2017)."*
>
> *Another one lamented that;" telecommunication industry today must be ready to collectively combine expertise of areas complementary to create business bespoke, point of single supply chain for customers solutions.(Marketing & operations department EA/17;interview guide of 26/10/2017)."*

These assertions as captured above are a predicator that; "creative solutions that make Supply chain management is better off; ensure quality of organizational performance, and thus overall organizational performance."

4.4.3 Opinion of respondents on organizational performance of MTN-Uganda

The dependent variable of this study is organizational performance. Organisational performance was measured in terms of market performance, financial performance and sustainability. The ultimate goal for the MTN-Uganda is to make profits and satisfy its customers. Satisfied subscribers will come again and might stay as subscribers for longer period of time. It is clear that "MTN-Uganda can improve upon its organisational performance through an informed supply chain management by enhancing organizational performance (Bagorogoza, *et al,* 2011)", and therefore, through informed supply chain, it is possible to save in operating expenses (Edgar, 2012). Respondents were asked either to agree or disagree with the statement of Performance at the MTN-Uganda. Accordingly, to the Likert scale 5-point was used to determine opinion of the respondents of MTN-Uganda performance (where strongly Agree = 5; Agree = 4; Neutral = 3; Disagree = 2 and Strongly Disagree = 1) (www.theijbm.com). In

relation to the performance of an organisational - dependent variable the "respondents gave the following responses.

Table 12: Descriptive Statistics of respondents' opinion on performance of MTN-Uganda

Item	5	4	3	2	1	Mean (μ)	Std. Deviation (σ)
I am satisfied with the performance of MTN- Uganda	76 39.18%	84 43.29%	10 5.15%	5 2.58%	5 2.58%	**3.892**	**0.905**
Organisational performance is out of skill and knowledge	79 40.72%	75 38.66%	15 7.73%	7 3.61%	4 2.06%	**3.745**	**0.950**
Organisational performance is as a result of knowledge management	81 41.75%	78 40.21%	10 5.15%	5 2.58%	6 3.09%	**4.452**	**0.971**
Does the performance meet desired goals in service delivery?	79 40.72%	66 34.02%	25 12.89%	5 2.58%	5 2.58%	**3.124**	**0.949**
There is satisfaction in organisational interaction with clients in service delivery	90 46.39%	67 34.54%	14 7.22%	5 2.58%	4 2.06%	**3.561**	**0.981**
Organisational performance have specific job skills and knowledge required	82 42.27%	77 39.69%	4 2.06%	10 5.15%	7 3.61%	**3.793**	**0.973**
Organisational performance is enhanced by the knowledge management obtained in MTN	78 40.21%	83 42.78%	5 2.58%	8 4.12%	6 3.09%	**4.232**	**0.931**
Organisational performance adhere to professional standards of conduct and act in the best interest	80 41.24%	85 43.81%	7 3.61%	5 2.58%	3 1.55%	**4.264**	**0.930**
There is satisfaction with the appropriateness of the documentation to enhance organisational performance	88 45.36%	82 42.27%	1 0.52%	3 1.55%	6 3.09%	**4.273**	**0.951**
Organisational performance is the pride of the MTN as services delivered as planned	71 36.59%	75 38.66%	5 2.58%	18 9.28%	11 5.67%	**3.364**	**0.815**
Total						**39.3**	**9.356**
Average Mean and Standard deviation						**3.93**	**0.936**

Source: Primary Data, 2017

The descriptive statistics on table 12 above shows the respondents' opinion on performance in MTN-Uganda. The "mean nearer to 1 and 2 indicate disagreement and the mean nearer to 4 and 5 indicate agreement from the respondents in respect of the relationship between the two variables, while the mean

nearer to 3 indicate neutrality on the part of the respondents". The Standard deviation (σ) measures "the magnitude of deviation from the mean of responses explaining supply chain management and performance of an organizational relationship between them." The standard deviation (σ) that is smaller results into "a stronger positive relationship between the two variables based on the response in each element in the scale". The findings from the above table showed that "the average mean **(μ)** was 3.93 and standard deviation **(σ)** was 0.936. The findings were that since the average mean **(μ)** of 3.93 is nearer to 4 and 5, the respondents were in agreement with the statement on organizational performance", and the average standard deviation **(σ)** was 0.936, indicating that the deviation from the mean is lower, meaning that the respondents were in agreement with the statements on organizational performance.

4.5 Objective (a): The role logistics management in SC plays on the performance of MTN

Table 13: Descriptive Statistical Findings

Inventory management Systems and models	5	**4**	**3**	**2**	**1**	**Mean (μ)**	**Std. Deviation (δ)**
Use electronic order processing	76 39.18%	81 41.75%	18 9.28%	5 2.58%	0 0%	**4.120**	**0.961**
Deliver right quality of products at first order	80 41.24%	73 37.63%	23 11.86%	0 0%	4 2.06%	**4.021**	**0.921**
Orders processed on time	79 40.72%	85 43.81%	8 4.12%	8 4.12%	0 0%	**3.902**	**0.925**
Use order processing, tracking system	86 44.33%	82 42.27%	4 2.06%	5 2.58%	3 1.55%	**4.225**	**0.986**
Achieve timely delivery	79 43.89%	78 43.33%	10 5.56%	5 2.78%	8 4.44%	**3.876**	**0.939**
Ensure internal satisfaction	79 40.72%	81 41.75%	7 3.61%	8 4.12%	5 2.58%	**3.978**	**0.961**
Ensure zero double payments	81 41.75%	74 38.14%	12 6.19%	10 5.15%	3 1.55%	**3.745**	**0.975**
JIT replenishment ,EOQ model	77 39.69%	78 40.21%	10 5.15%	6 3.09%	9 4.64%	**3.675**	**0.965**
Automated recording, cycle counting	83 42.78%	75 38.66%	7 3.61%	8 4.12%	7 3.61%	**3.892**	**0.967**
Total						**35.434**	**8.60**
Average mean and standard deviation						**3.94**	**0.96**
Warehousing Management	**5**	**4**	**3**	**2**	**1**	**Mean (μ)**	**Standard deviation (δ)**

Uses material Lifting and Handling Equipment	86 44.33%	67 34.54%	18 9.28%	6 3.09%	3 1.55%	**4.51**	**0.95**
The aisle space is minimized	89 45.88%	55 28.35%	24 12.37%	10 5.15%	2 1.03%	**4.32**	**0.98**
Maximize use of the height of the building	72 37.11%	83 42.78%	12 6.19%	9 4.64%	4 2.06%	**3.92**	**0.93**
Use of an effective storage plan	77 39.69%	64 32.99%	25 12.89%	11 5.67%	3 1.55%	**3.87**	**0.92**
The movement of goods is done in straight line	86 44.33%	69 35.57%	16 8.25%	8 4.12%	1 0.52%	**3.98**	**0.96**
Timely customer service is provided	67 34.54%	84 43.29%	10 5.15%	16 8.25%	3 1.55%	**4.02**	**0.90**
The track of items kept is correctly and readily	89 45.88%	78 40.21%	10 5.15%	2 1.03%	1 0.52%	**3.79**	**0.99**
Total						**28.41**	**6.63**
Average Mean and standard deviation						**4.06**	**0.95**
Transport Management	**5**	**4**	**3**	**2**	**1**	**Mean (μ)**	**Standard deviation (δ)**
Fleet management system	86 44.33%	76 39.18%	14 7.22%	3 1.55%	1 0.52%	**4.007**	**0.97**
Fleet control system	89 45.88%	70 36.08%	18 9.28%	1 0.52%	2 1.03%	**3.821**	**0.98**
Fuel management system	82 42.27%	74 38.14%	12 6.19%	9 4.64%	3 1.55%	**4.726**	**0.92**
Preventive maintenance	87 44.85%	64 32.99%	21 10.82%	5 2.58%	3 1.55%	**4.202**	**0.98**
Tracking system	86 44.33%	79 40.72%	13 6.70%	1 0.52%	1 0.52%	**4.476**	**0.97**
Vehicle scheduling	77 39.69%	74 38.14%	17 8.76%	9 4.64%	3 1.55%	**3.978**	**0.94**
Route planning	79 40.72%	72 37.11%	14 7.22%	8 4.12%	7 3.61%	**3.995**	**0.97**
Vehicle inspection schedule	89 45.88%	71 36.59%	10 5.15%	9 4.64%	1 0.52%	**4.015**	**0.99**
Disposal policy	87 44.85%	78 40.21%	7 3.61%	3 1.55%	5 2.58%	**4.153**	**0.99**
Total						**37.373**	**9.71**
Average Mean and Standard deviation						**4.153**	**0.97**

Source: Primary Data, 2017

From table 13 above, is represented by the respondent's responses. The respondents agreed that there is a relationship between the two variables, though there are some gaps that need to be strengthened as revealed by the mean and the standard deviation. The mean nearer 1 and 2 indicate disagreement and the mean nearer to 4 and 5 show agreement from the respondents in respect of the relationship between the two variables, while the mean nearer to 3 shows the neutrality of the respondents. The Standard deviation (σ) measures the magnitude of deviation from the mean of responses explaining the relationship between logistics management in SC dimension and performance of an organizational (ijecm.co.uk). The standard deviation (σ) that is smaller from the mean, results into a stronger positive relationship between the two variables based on the response in each element in the scale, and the bigger the standard deviation from the mean, meaning that the relationship between the two variables is negative. When there is neutrality in standard deviation, it means there its neither positive strong positive relationship nor negative relationship between logistics management dimension and organizational performance.

Inventory management: table 13 above, is represented by the respondent's responses. A positive relationship between the two studies of variables was agreed by the respondents, though there are some gaps that need to be strengthened as revealed by the average mean **(μ)** of 3.94 and the standard deviation of 0.96".

Warehouse management: table 13 above, is represented by the respondent's responses. The respondents "agreed that the variables of the study between them had is a positive relationship, though there are some gaps that need to be strengthened as revealed by the average mean **(μ)** of 4.06 and the standard deviation of 0.95"

Transport management: table 13 above, the respondents agreed that there is a relationship between the two variables, though there are some gaps that need to be strengthened as revealed by the mean **(μ)** of 4.153 and the standard deviation of 0.97.

In summary; the average mean (μ) for logistics Management in SC as a dimension of SCM Practices was 4.05 and the standard deviation (∂) was 0.96. The average values were the ones taken for regression analysis.

4.5.1Testing Hypothesis in objective (a): Logistics management in SC plays a positively significant role in performance of MTN- Uganda

There is "no significant relationship between logistics management in SC and Performance of organizational: the null hypothesis (H_o): was nullified, and interpreting statistically that a significant relation against the two variables existed," the alternative was accepted.

Table 14: Pearson's Linear Correlation Coefficient on logistics management in SC and organization performance

			Logistic Management in SC	Organizational Performance
		Pearson		0.960**
Logistics Management in SC		Correlation Sig.(2-tailed) N Pearson	1 180	 0.001 180
Organizational Performance		Correlation	0.960**	1
		(2-tailed)Sig.	0.001	
		N	180	180

** "Significance is Correlation" at 0.001 levels (2-tailed).

Source: *Primary Data. 2017*

Analysis and Interpretation

Table 14 above presents Pearson's correlation coefficient (r = 0.960), showing the relationship between logistics management in SC and organizational performance. This relationship in percentage form translates to 96.0%. The Pearson's Correlation Coefficient (r = 0.960) because (P= 0.001), is the level significance level, (P= 5%), is lesser level of significance," the linear relationship between the two

variables at 5% significant level is shown. The Null Hypothesis at significance level (P= 5%) was rejected and the alternative Hypothesis at (P= 0.001) was accepted".

The analysis showed "a greater positive relationship where the dependent variable influenced by the independent variable". Coefficient of determination on analysis of regression used to out find the extent to which dependent variable influenced by the independent variable.

Table 15: Model Summary for Regression analysis of logistics management in SC on organizational Performance

Coefficients[a]

Model	Coefficients Unstandardized		Coefficients Standardized	t	Sig.
	Beta	Error Std.	Beta		
1 (Constant)	1.960	0.04		10.756	0.05
Logistics Management in SC	0.876	0.124	0.248	10.656	0.05

a. "Dependent Variable": Organizational Progress

Summary Model

Model	R	Square R ($R^{2)}$	Square of Adjusted R^2	Error of Standard Estimation
1				
1	**0.960**	**0.921**	**0.922**	**0.078**

a: Predicator: (Constant), logistics Management in SC

Source: Primary Data, 2017

From table 15 above, the Coefficient of determination (by letter R^2) was used as a measure of goodness of fit of the estimated regression variable. The higher the value of R^2 the better the fit of that variable in being used in estimating two variables; on the other hand "the lower the value of R^2 poorer the equation as the measure of goodness of fit in estimating the value of two variables": on table 15 above shows the value for adjusted R Square of 0.922. This represents "the squared linear correlation between logistics

Management in SC and organizational performance". This representation implied that logistics management in SC is able to accounts for 92.2% (0.922 *100) of organizational performance and 7.8% accounted by other factors.

On interview, one of the respondents said:

> *Organizational performance at the MTN-Uganda is commendable, because of the way logistics management is sought, though at times logistics management processes is born with many challenges, unreliable as planned, but the major problem in their operations is that at times they are not accurate and not at the right place. Needs assessment for the required logistics operations in the MTN-Uganda is often carried out and the gaps filled though with difficulties. However, I am fine with whatever transactions MTN gets engaged in. (Finance/ administration, Procurement department EA / 13, 39 Interview guide 26/10/2017."*

> *The major problem in MTN-Uganda logistics operations is that at times they are not timely, when you ask for an item to be issued, the delay in issuance processes results in you getting the material passed the period you needed it and yet in telecommunications business things must be done fast to meet customers' needs and basically time is money, although I am okay with whatever transactions we engage in, I encourage more training process. (Finance/administration department EA/15,07and 02 interview guide 25/10/2017.*

This therefore, means that the MTN-Uganda had better fasten and improve their logistics management in SC processes because their laxity is uneconomical to their clients, as logistics management dimension must be enhanced with timeliness. The respondents in total expressed satisfaction from the logistics management in SC and organizational performance.

4.6 Objective (b): The role supply chain integration plays on the performance of MTN-Uganda

For the purpose of the study on this study dimension as in table 16 below shows results generated using a Likert scale which was coded such that one representation of "Greatly agree = 5, agree = 4, neutral = 3, disagree = 2, and Greatly disagree = 1".A mean (μ) and Standard Deviation (sd. or σ)

(www.theijbm.com) were used to analyses and interpret the results obtained from responses. The smaller the standard deviation means the responses were closer from the respondents, and thus agreed with the relationship between variables.

Table 16: Descriptive Statistical Findings between supply chain integration and organizational Performance relationship

Item	**5**	**4**	**3**	**2**	**1**	**Mean (μ)**	**Std. Deviation (σ)**
Material Integration							
MTN-Uganda has Standardized material dispatching procedures	86 44.33%	66 34.02%	17 8.76%	10 5.15%	1 0.52%	**3.576**	**0.970**
MTN-Uganda has Receiving and inventory management initiatives	89 45.88%	74 38.14%	12 6.19%	3 1.55%	2 1.03%	**4.095**	**0.972**
MTN-Uganda has Close Co-ordination	82 42.27%	81 41.75%	10 5.15%	4 2.06%	3 1.55%	**4.166**	**0.986**
MTN-Uganda has Real time delivery	77 39.69%	84 43.29%	11 5.67%	3 1.55%	5 2.58%	**4.214**	**0.976**
MTN-Uganda has Prequalified suppliers that are aware of green supplies	96 49.48%	76 39.18%	6 3.09%	1 0.52%	1 0.52%	**4.224**	**0.997**
MTN-Uganda Procure of recyclable materials	79 40.72%	77 39.69%	18 9.28%	3 1.55%	3 1.55%	**4.231**	**0.960**
TOTAL						**24.506**	**5.861**
Average mean and standard						**4.084**	**0.977**

Technology integration							
MTN-Uganda has informational sharing system	84 43.29%	73 37.63%	22 11.34%	0 0%	1 0.52%	**3.947**	**0.901**
MTN-Uganda has Communication tools such as ERP system, emails, fax, phones in use	100 51.55%	68 35.05%	11 5.67%	1 0.52%	0 0%	**4.49**	**0.986**
Data consistency	88 45.36%	74 38.14%	13 6.70%	4 2.06%	1 0.52%	**3.97**	**0.974**
Does integration facilities logistics and information integration	87 44.85%	67 34.54%	20 10.31%	4 2.06 %	2 1.03%	**4.501**	**0.966**
Cross functional supply chain management application system integration	69 35.57%	88 45.36 %	8 4.12%	10 5.15%	5 2.58%	**4.602**	**0.800**
Total						**21.51**	**4.627**
Average mean and Standard deviation						**4.627**	**0.925**
Information integration	**5**	**4**	**3**	**2**	**1**	**Mean (μ)**	**Std. Deviation (σ)**
MTN-Uganda Share operational information	75 38.66%	74 38.14%	15 7.73%	9 4.64%	7 3.61%	**3.576**	**0.969**
MTN-Uganda Share strategic information	71 36.59%	84 43.29%	10 5.15%	8 4.12%	7 3.61%	**4.095**	**0.974**
Accuracy of information	81 41.75%	74 38.14%	14 7.22%	2 1.03%	9 4.64%	**4.166**	**0.976**
Trustworthiness of staff	71 36.59%	84 43.29%	16 8.25%	7 3.61%	2 1.03%	**4.142**	**0.971**
Cost reduction due to information integration	72 37.11%	88 45.36%	13 6.70%	7 3.61%	0 0%	**4.224**	**0.977**
Relationship level of staff	102 52.58%	62 31.96%	11 5.67%	2 1.03%	3 1.55%	**4.241**	**0.997**
Total						**24.444**	**5.864**
Average mean and Standard Deviation						**4.074**	**0.977**

Source: Primary data, 2107

SPSS version 22 was used to analyses and interprets the data.

Analysis and Interpretation

From the Quantitative study given on table 16 above were represented by the responses from respondents on how supply chain integration relates to organizational performance. The respondents

were on agreement that there is a relationship between the two variables, though with challenges that need to be addressed as revealed by the mean and standard deviation. By interpretation, the mean nearer 1 and 2 indicate disagreement and the mean nearer to 4 and 5 shows agreement from the respondents in respect of the relationship between the two variables, while the mean nearer to 3 shows the neutrality of the respondents. The standard deviation (σ) measures the magnitude of deviation from the mean of responses explaining performance of an organisation relationship with integration supply chain integration. The lesser the mean from the standard deviation (σ), results into a stronger positive relationship between the two variables based on the response in each element in the scale, and the bigger the standard deviation from the mean, meaning that the relationship between the two variables is negative. Neutrality in standard deviation means that there neither strong positive relationship nor negative relationship between the two study variables. Each dimension was discussed as below:

Material integration: Table 16 above, is represented by the respondent's responses. The "respondents agreed that the two variables has relationship which is a positive between them, thought there are some gaps that need to be strengthened as revealed by the mean **(μ)** of 4.084 and the standard deviation of 0.977".

Technological integration: The findings from table 16 above showed that the average mean **(μ)** was 4.302 and the average standard deviation **(σ)** was 0.925. The findings were that since the average mean **(μ)** was 4.302 which was between 4 and 5, the respondents were in "agreement with the statement on the positive relationship between the two variables", and thus hypothesis is supported with the average standard deviation **(σ)** of 0.934, indicated that the deviation from the mean was lower, meaning that the respondents were in agreement with the "statements: relationship between integration of supply chain and performance of an organizational." **Information integration**: Table 16 finding above showed that the average mean **(μ)** was 4.074 and the average standard deviation **(σ)** was 0.977. The findings indicated that since the average mean **(μ)** was 4.074 which is between to 4 and 5, the respondents were in

agreement with the statement on "the positive relationship between the two variables, and thus hypothesis is supported with the average standard deviation **(σ)** was 0.977, indicating that the deviation from the mean is lower, meaning that the respondents were in agreement with the statements on the relationship between integration of supply chain integration and progress of an organizational."

Summary of this section: average mean (μ) for integration supply chain as a dimension of SCM was 4.153 and the standard deviation (∂) was 0.963. The average values were the ones taken for regression analysis.

4.6.1 Testing Hypothesis in objective (b): Supply chain integration plays significant role in performance of MTN-Uganda

The extent to which the two variables relate have not been measured by this analysis and interpretation, but measured using Spearman's Correlation Coefficient (r), as shown below on table 17.

Table 17: Pearson's Linear Correlation Coefficient on supply chain integration and performance of MTN-Uganda

			Supply chain integration	Organizational Performance
	H	Pearson		0.963**
Supply chain integration		Correlation Sig.(2-tailed) N Pearson	1 180	 0.001 180
Organizational Performance		Correlation	0.963**	1
		(2-tailed) Sig.	0.001	
		N	180	180

** "Significance of Correlation is" at 0.001 levels (2-tailed).

Source: Primary Data.2017

Table 17 above presents "Pearson's correlation coefficient" (r= 0.963), showing the relationship between integration supply chain and performance of an organizational. This relationship in percentage form translates to 96.3%, though; this does not explain the degree of relationship strength. The Pearson's

Correlation Coefficient (r = 0.963) at the level of significance (P=0.005), which is smaller than (P= 5%), shows that there is a linear relationship at a 5% significant level. The Null Hypothesis at significance level (P= 5%) was rejected and the alternative Hypothesis at (P=0.001) was accepted.

The analysis did not tell the extent to which the independent variable influences the dependent variable. The Coefficient of determination on regression analysis was used to find out the extent to which independent variable influences the dependent variable.

Table 18: Model Summary for Regression of Supply chain integration and organization Performance

Coefficients[a]

Model	Coefficients Unstandardized		Coefficients Standardized	T	Sig.
	Beta	Error Std.	Beta		
1 (Constant)	1.963	0.0371		10.873	0.05
Supply chain integration	0.963	0.037	0.074	10.723	0.05

b. "Dependent Variable": Progress of an organizational

Model Summary

Model	R	Square R	Square of Adjusted R	Error of Standard Estimation
1				
1	**0.963**	**0.9273**	**0.927**	**0.073**

a: Predicator: (Constant); Supply chain integration

Source: Primary Data, 2017

From summary model: the Pearson's Coefficient of determination (represented by letter R) on table 18 above shows the value for adjusted R Square of 0.963. This represents the squared linear correlation between performance of an organizational performance and integration of supply chain.

This representation implied that "integration of supply chain is 96.3% (0.963 *100) as it's able to account for performance of organizational and other factors accounted by3.7%.

On qualitative analysis, one respondent when interviewed had this to say:

> *"Well, at the MTN-Uganda; there is some kind of good attitude towards customers in terms collaborations, and above average; the Management give personal attention to internal customers, they are friendly but they need to do more. This is the new world of computer era, where available information with skills and knowledge users are in effective services delivery competitively, (Customer experience, corporate planning & HR department: EA/ 04& 01, Interview guide) 27/10/2017"*
>
> *On Technology integration for the most part, when the email and EDI framework are utilized together, they seem to encourage sharing of great data with clients, diminish stock levels and close precise generation scope organization (www.ros.hw.ac.uk). Be that as it may, the data shared through these innovations should be of high caliber all together for the innovation to make high client mechanical coordination (www.ros.hw.ac.uk). The absence of data sharing frameworks in a single office seems to deliver low deceivability bringing about low nature of data shared, abundance stock toward the finish of season and regular deficiency henceforth developing specialized apparatuses, for example, Viber and Skype give off an impression of being of enthusiasm by clients* (*www.ros.hw.ac.uk)* (*Engineering department*, EA/*39, 17, 18 Interview guide) 23/10/2017."*
>
> *Data coordination seemed to add to upper hand through the normal sharing of brilliant data, standard association and implanted association with community conduct that demonstrates eagerness to shared data. (Designing office EA/09, interview guide) 28/10/2017*
>
> *Material incorporation seems to add to upper hand through coordination in stock control, higher deceivability, information and social intricacy which prompts hierarchical execution however delays in the process is a major test (www.ros.hw.ac.uk)(Engineering department EA/17 interview guide).27/10/2017..*

The above statement from that one respondent on technology integration as a dimension of supply chain integration correlates with organizational Performance.

4.7 Objective (c): The role Knowledge management in supply chain plays on Performance of MTN-Uganda

Knowledge Management (KM): process that involves "activities such as knowledge acquisition, dissemination and responsiveness to knowledge in request to use the learning in the association (Nieves, et al, 2016)". These exercises start with "procuring and putting away the information into the framework, trailed by spreading communicated as learning interpretation and exchange (KTE), is a dynamic and iterative process that supports organizational performance by sharing and effectively applying evidenced- based knowledge among those who have interest or needs in it (Suds wad, 2014)" and responsiveness to information otherwise called learning application is depicted as building up the learning obtained, empowering the utilization of the learning to be more viable in order to expand it worth (ijecm.co.uk; Ng et al., 2012)" inside the association. A Likert scale with 5 point was utilized to decide the sentiment of respondents on "the connection between Knowledge Management in production network and Performance of MTN-Uganda (www.ros.hw.ac.uk) (5 = Greatly Agree; 4= Agree; 3 = Neutral; 2 = Disagree and 1 = Greatly Disagree)" (www.theijbm.com). The mean closer to 4 and 5 implies that the respondents have concurred of the connection between the factors; the mean nearer to 3 is neutral, the mean nearer to 1 and 2 means that the respondents disagreed with the relationship between the two variables. .

Table 19: The Descriptive statistical findings on the relationship between Knowledge management in SC and performance of MTN-Uganda

Item	5	4	3	2	1	Mean (μ)	Std. Deviation (σ)
KNOWLEDGE ACQUSITION							
MTN-Uganda provides KM services to its staff as promised.	85 43.81%	85 43.81%	2 1.03%	4 2.06%	4 2.06%	**4.47**	**0.999**
There is KM acquisition reviews in the MTN-Uganda	79 40.72%	82 42.27%	5 2.58%	8 4.12%	6 3.09%	**3.86**	**0.992**
MTN-Uganda staff keeps the KM records accurately	71 36.59%	79 40.72%	20 10.31%	5 2.58%	5 2.58%	**3.57**	**0.988**

MTN-Uganda performs KM services accurately	76 39.18%	75 38.66%	19 9.79%	7 3.61%	3 1.55%	**3.61**	**0.990**
MTN-Uganda Performs KM services right the first time	70 36.08%	78 40.21%	21 10.82%	7 3.61%	4 2.06%	**3.51**	**0.986**
MTN-Uganda Employees maintain error-free record of KM	76 39.18%	80 41.24%	15 7.73%	3 1.55%	6 3.09%	**3.74**	**0.989**
Accurate records are being maintained for KM	66 34.02%	71 36.59%	25 12.89%	10 5.15%	8 4.12%	**3.22**	**0.979**
There are Accurate KM systems in the MTN-Uganda	81 41.75%	79 40.72%	11 5.67%	5 2.58%	4 2.06%	**3.94**	**0.994**
MTN- Uganda Provides accurate KM services staff	77 39.69%	86 44.33%	10 5.15%	4 2.06%	3 1.55%	**4.15**	**0.993**
MTN-Uganda provides KM services to its staff as promised.	85 43.81%	76 39.18%	9 4.64%	7 3.61%	3 1.55%	**3.98**	**0.997**
Total						**38.08**	**9.907**
Average Mean and Standard deviation						**3.808**	**0.991**
KNOWLEGDE DISSEMINATION							
At MTN-Uganda ,there are physical facilities for KM dissemination	68 35.05%	78 40.21%	17 8.76%	15 7.73%	2 1.03%	**3.69**	**0.979**
Equipment are good and friendly for KM dissemination	90 46.39%	76 39.18%	5 2.58%	5 2.58%	4 2.06%	**4.26**	**0.998**
MTN-Uganda Personnel are neat and smart in KM dissemination	81 41.75%	88 45.36%	6 3.09%	3 1.55%	2 1.03%	**4.28**	**0.997**
KM dissemination improves organizational performance of MTN-Uganda	76 39.18%	79 40.72%	17 8.76%	6 3.09%	2 1.03%	**3.99**	**0.989**
KM facilities and equipment are efficient/effective	77 39.69%	86 44.33%	11 5.67%	3 1.55%	3 1.55%	**4.15**	**0.980**
Equipment and facilities are in good condition	86 44.33%	77 39.69%	9 4.64%	4 2.06%	4 2.06%	**4.19**	**0.984**
Total						**24.56**	**5.927**
Average Mean and Standard deviation						**4.093**	**0.988**
KNOWLEDGE RESPONSIVENESS							
MTN-Uganda Employees give personal attention to customers	79 40.72%	83 42.78%	9 4.64%	5 2.58%	4 2.06%	**4.15**	**0.957**
Employees give personal attention to customers	77 39.69%	88 45.36%	6 3.09%	6 3.09%	3 1.55%	**3.99**	**0.975**
Employees attitudes and behaviour is friendly	65 33.51%	72 37.11%	25 12.89%	10 5.15%	8 4.12%	**3.62**	**0.989**
Employees have best interest in heart to serve	89 45.88%	76 39.18%	6 3.09%	6 3.09%	3 1.55%	**4.21**	**0.967**
Communications in the MTN-Uganda are effective due to KM	78 40.21%	86 44.33%	10 5.15%	3 1.55%	3 1.55%	**4.15**	**0.962**

KM conversion in the MTN-Uganda has improves due to KM	86 44.33%	77 39.69%	8 4.12%	5 2.58%	4 2.06%	**4.19**	**0.979**
There is quality in workforce to care for their service provision	81 41.75%	90 46.39%	3 1.55%	3 1.55%	3 1.55%	**4.23**	**0.995**
Total						**28.54**	**6.824**
Average Mean and Standard deviation						**4.077**	**0.975**

Source: Primary Data, 2017

SPSS version 22 was used to analyses and interprets the data.

From table 19 above: Knowledge Management in supply chain was represented by the respondent's responses. The respondents agreed that there is a relationship between the two variables, though there are some gaps that need to be strengthened as revealed by the mean and the standard deviation. The Standard deviation (σ) measures the magnitude of deviation from the mean of responses explaining the relationship between knowledge management in SC dimension and organizational performance. The smaller the standard deviation (σ) from the mean, results into a stronger positive relationship between the two variables based on the response in each element in the scale, and the bigger the standard deviation from the mean, meaning that the relationship between the two variables is negative. When there is neutrality in standard deviation, it means there is neither positive strong positive relationship nor negative relationship between knowledge management in SC and organizational performance. Each dimension was discussed as below: **Knowledge acquisition:** Table 19 above is represented by the respondent's responses. The respondents agreed that there is a relationship between the two variables, though there are some gaps that need to be strengthened as revealed by (ijecm.co.uk) the mean **(μ)** of 3.808 and the standard deviation of 0.991.

Knowledge dissemination: is represented by the responses from respondents on how knowledge dissemination relates to organizational performance from table 19 above. The respondents were on agreement that there is a relationship between the two variables, though with challenges that need to be addressed as revealed by 4.093 as mean and 0.988 as standard deviation.

On Responsiveness to knowledge: The descriptive statistics above shows the respondents' opinion on "the relationship between responsiveness to knowledge and MTN-Uganda performance" (ijecm.co.uk). The findings from table 19 above showed that the average mean **(μ)** was 4.077 and the average standard deviation **(σ)** was 0.975. The findings were that since the average mean **(μ)** was 4.077 which is between to 4 and 5, the respondents were in agreement with the statement on "the positive relationship between the two variables thus the hypothesis is supported with the average standard deviation **(σ)** of 0.975, indicating that the deviation from the mean is lower, meaning that the respondents were in agreement with the statements on the relationship between knowledge Management in SC and performance of an organizational".

In summary; the average mean (μ) for Knowledge management in SC as a dimension of SCM Practices was 3.993 and the standard deviation (∂) was 0.985. The average values were the ones taken for regression analysis.

4.7.1 Testing Hypothesis in objective (c): Knowledge management in supply chain plays a significant role in performance of MTN-Uganda

The "Null Hypothesis (H_o): there is no significant relationship between knowledge acquisition, dissemination, responsiveness (ijecm.co.uk) and organizational performance of MTN-Uganda was rejected", and, the alternative Hypothesis (H_1): there is "a positive strong relationship between Knowledge acquisition, dissemination, responsiveness and performance of an organizational performance was accepted"(www.hpocenter.nl), investigated using Pearson's Correlation Coefficient (denoted by letter r).

Table 20: Pearson's Linear Correlation Coefficient on Knowledge Management in SC and organizational performance

			Knowledge Management in SC	Organizational Performance
		Pearson		0.985**
Knowledge Management in SC		Correlation Sig.(2-tailed) N Pearson	1 180	 0.001 180
Organizational Performance		Correlation	0.985**	1
		(2-tailed)Sig.	0.001	
		N	180	180

** "Significance of Correlation is" at 0.001 levels (2-tailed).

Source: *Primary Data. 2017*

Analysis and Interpretation

Table 20 above presents Pearson's correlation coefficient (r = 0.985), 98.5% translated in form of percentage forms this relationship. Knowledge Management in SC and organizational performance shows the relationship between two variables." The Coefficient (r = 0.985) and (P= 0.001) is the significance level, which is less than (P=0.05), shows that relationship is there. The Null Hypothesis (H_0) at significance level (P=0.05) was rejected and the alternative Hypothesis (H_1) at (P=0.001) was accepted.

The analysis shows "a strong positive extent in which influences in the independent variable and the dependent variable co-exist". The extent to which independent variable influences the dependent variable was found out by the Coefficient of determination on regression analysis

Table 21: Model Summary for Regression of Knowledge Management in SC on organizational Performance

Coefficients[a]

Model	Coefficients Unstandardized		Coefficients Standardized	t	Sig.
	Beta	Std. Error	Beta		
1 (Constant)	1.985	0.015		10.756	0.05
Knowledge management in SC	0.985	0.0152	1.015	9.256	0.05

c "Dependent Variable": Organizational "progress"

Summary Model

Model	R	Square R^2	Square of Adjusted R^2	Error of Standard Estimation
1				
1	**0.985**	**0.9702**	**0.970**	**0.0297**

a: Predicator: (Constant), Knowledge management in SC

Source: Primary Data, 2017

The Coefficient of determination (denoted by letter R^2) is used as a measure of goodness of fit of the estimated regression variable. The higher the value of R^2 the better the fit of that variable in being used in estimating one variable given the other ; on the other hand the lower the value of R^2 poorer the equation as the measure of goodness of fit in estimating the value of one variable given the other. The table 21 above shows the value for adjusted R Square of 0.970. This represents the squared linear correlation between "Knowledge Management in SC and organizational performance". This representation implied that knowledge management is able to accounts for 97% (0.970 *100) of organizational performance and 3% accounted by other factors.

On interview, one of the respondents said:

> *I have worked for MTN-Uganda for 7 years, why? I do not deny the fact that the services provided are to my satisfaction, though there are some weaknesses here and there like any other telecommunications companies, knowledge management at MTN is purely applicable in practices that is the reason am here up to date; I don't regret being employed by MTN-Uganda (Quality Assurance, credit & Risk department EA/40, 13 interview guide) 24/10/2017.*

This therefore, means that the MTN-Uganda had better improve and do more training to maintain standards in their supply chain processes because their laxity is uneconomical to their clients, as knowledge management in SC dimension must be enhanced with timeliness. The respondents in total expressed satisfaction from MTN-Uganda performance and "the acquisition of knowledge, dissemination of knowledge, Responsiveness to knowledge".

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1Introduction

Summarises of this chapter; “discusses, draws conclusions and makes recommendations basing on discussed above findings of the study”. This section puts together all the information gathered from the first to the fourth section. Finally the section is “arranged in consonance with the research questions and objectives that guided the study.

5.2 Summary of the Findings

Summary on objectives has been presented that guided this study. The findings “revealed that a significant positive relationship between supply chain Management and Performance of MTN-Uganda exist”. Supply chain Management was explained under three dimensions of “logistic management in supply chain, supply chain integration, and knowledge management in SC were tested to find out whether there was a correlation with organisational Performance”. The analysis followed from findings and other results have been ordered into different subsections to manage the particular goals of the whole investigation.

5.2.1 Supply chain Management and Performance of MTN-Uganda

This section summarises the purpose of the study. In this section, the study clearly brought out the understanding of the role supply chain management practices under three major dimensions in enhancing organisational performance of MTN-Uganda.

The summary on the purpose of the study affirms and revealed that there was relationship between the two variables.

5.2.2 Logistics management in supply chain and Performance of MTN-Uganda

This first objective examined the role of logistics management in supply chain plays on performance of MTN-Uganda. “On testing the corresponding hypothesis of the study objective, it revealed that logistics management in supply chain plays a positively significant role in organizational performance of MTN-

Uganda". The study therefore established that "logistics management in supply chain plays a significant positive role in the performance of MTN –Uganda".

5.2.3 Supply Chain integration and performance of MTN-Uganda

"Supply chain integration plays positive significant role on performance of MTN-Uganda, "was the established second study objective. The analysis on the corresponding hypothesis to this study objective stated that integration of supply chain plays a positive significant role on Performance of MTN-Uganda." The study established therefore "integration supply chain plays a significant positive role on the performance of MTN-Uganda".

5.2.4 Knowledge Management in Supply chain and Performance of MTN-Uganda

To establish the role of "Knowledge management in SC and performance of the MTN-Uganda" was third objectives. The analysis on the corresponding hypothesis to this study objective stated "Knowledge management in the supply chain plays a positively significant role in organizational performance of MTN-Uganda". The study established therefore that "Knowledge Management in supply chain plays a positive significant role on the performance of MTN-Uganda".

5.3 Discussion of Findings

These were discussions of findings on the inter-relationship between the two variables from the researcher's point of view, while taking a comparison with the literature review. The discussions were following the study of objectives results based the test of the hypothesis.

5.3.1 Logistics Management in supply chain and performance of MTN-Uganda

The first hypothesis in "the study stated that logistics management in supply chain plays a positively significant performance role of MTN- Uganda". The findings were "consistent with the research findings from "logistics management in supply chain functions is key to supply chain contract in that, information is smoothened throughout the supply chain organization's and for material product flow and hence influencing the performance of MTN-Uganda". These findings were also in line with the findings of

Keebler & Plank, (2009) who "argued that for logistics management to continue contributing to organizational performance", it needs to be measured to reduce operating costs, drive revenue growth, and thus enhancing shareholder value, which is the aim of the firm. These findings were also in line with the findings of "the research conducted by Nieves, *et al.,* (2016*)* who asserted that logistics management positively impacts on organization performance", and also on qualitative research, the findings revealed that logistics management was reliably accurate and dependable. These findings concurred with the research of Geiger & Schreyogg (2012), who asserted "that the firm's ability to offer quality logistics management consistently across the board leads to a significantly positive organization performance reliability, and thus improved organizational performance, by achieving the desired goals and objectives".

5.3.2 Supply Chain integration and performance of MTN-Uganda

Alternative hypothesis (H_1) tested "revealed "amidst challenges, MTN-Uganda performance and a positive significant relationship between supply chain integration exist". The study revealed in findings that an increase in integration of Supply chain is most likely in performance of organization to create advantage to competitiveness". The findings these results are in line with of Nieves, *et al.,* (2016), "asserted that the integration of supply chain in the organisation creates opportunities for the organisation to maximize its advantage of competitiveness abilities to efficiency generate solutions that provide an organisation with abilities to meet these needs. The findings also "revealed that supply chain integration, has legitimate outcomes: choices expanded among capacities to settle on educated decisions, mindfulness and the trade consciousness of data,, materials perspectives, and external sources that have important implications for organisational performance as ones asserted by Wijk *et al*., (2007) and Hong, *et al*, (2014)", while taking high organisation's performance into consideration for organisational competitive advantage. The conducted based research findings of the previous are also in line with "the

impact of intellectual capital management and its dissemination creates organizational competitiveness and financial performance arising from effective and positive organisational performance".

5.3.3 Knowledge management in the supply chain and performance of MTN-Uganda

Findings "knowledge management in supply chain" dimension and organizational performance relationships as hypothesis of the study "revealed (i.e. Knowledge management plays significant positive relationship with organizational Performance)". These findings postulation is "supported the findings of Darroch, (2003); De Waal, (2010)"; whose research had earlier on postulated *"*Knowledge Management in SC is founded on three main pillars of: Knowledge acquiring; Knowledge dissemination; and Responsiveness to knowledge, upon which knowledge must be implemented to enhance organization performance". The study findings are in line with "Probst, *et al*., (1999); Lee, & Chen, (2012); Schiuma, *et al.,* (2012), who asserted that knowledge and its responsiveness. "Performance of an organisation and responsiveness to knowledge findings also revealed that the responsiveness/or utilization of the information gives an all the more capable particular competency for the firm, Alavi & Leider, (2001)", because "knowledge responsiveness produces profitability, innovation of such organisation superior value ;(ijecm.co.uk). The findings further "revealed that knowledge Management in SC enables organizations achieve sustainable competitive advantage through acquisition, dissemination and utilization". The findings of the study that learning is emphatically identified with development, which is characterized as assets, schedules and capacities that supports yield (ijecm.co.uk)". These assertions are also shared "with Alipour, *et al*., (2010, 2014), who add that knowledge management in SC is related to competitive advantage, arising from effective and positive organization performance."

5.4 Conclusion of the Findings

Conclusions were drawn from the investigation findings based on the study objectives.

5.4.1 Logistics management in supply chain and Performance of MTN-Uganda

This conclusion was on the findings of how "logistics management in supply chain correlates with performance of MTN-Uganda". The study showed that "the adjusted R^2(R squared) of the study showed that 0.922; 92.2% translated to in percentage form, implying that logistics management accounts for variance of 92.2% of performance of an organization and other factors a variance of 7.8%. A significant positive relationship between logistics management in supply chain and performance of an organization was revealed by the study finding". The study concluded therefore that "logistics management in supply chain influences organization performance".

5.4.2 Supply Chain integration and Performance of MTN-Uganda

This objective was "to establish the relationship between supply chain integration and organization performance at the MTN-Uganda". As revealed in this study that 92.7% variance, of integration of supply chain and 7.3% accounts for performance of an organization from the adjusted R^2 value of 0.927. A significantly "positive relationship between Supply chain integration and performance of organization was established". The study concluded therefore that supply chain integration is directly influences the organisational performance.

5.4.3 Knowledge Management in supply chain and Performance of MTN-Uganda

This objective was "to establish the relationship between knowledge management in SC and performance at the MTN-Uganda". The findings "revealed that the Adjusted R^2 (R Square) of 0.970 translated to 97.0%, represents the squared linear correlation between knowledge management in SC and organisation performance is significantly positive as stated in the corresponding hypothesis of this study objective". This implied that "knowledge Management in SC is able to account for 97% of organisation management and 3% other factors". The study concluded that "Knowledge Management in SC has a positive significant relationship with performance of organisation".

5.5 Recommendations on the Findings

These recommendations have been forwarded “as conducted on the study findings based on the role supply chain management plays on performance of MTN- Uganda”. These recommendations were in line with “the study objectives and apply to both the MTN- Uganda as a case of study and the telecommunications sector as a whole.”

5.5.1 Logistics management in supply chain and Performance of MTN-Uganda

- The top management of the MTN-Uganda should put in place policies that strengthen the ability of the MTN in delivering the promised logistics management practices dependably, accurately and consistently right from the start of operations, since reliable logistics management policies are the minimum requirements needed to ensure effective operations in order to enhance organizational performance.
- The top management of MTN-Uganda when aiming to provide effective organization performance should focus wholly on good logistics management practices design.
- The top management in addition to the above should put in place logistics development and training policy based on the needs assessment or based on the appraisals, which is strategic and target tailored for specific operations requirement.
- MTN should also consider designing and implementing continuing professional development programmes for staff relevant to the evolving logistics needs of their departments.

5.5.2 Supply chain integration and Performance of MTN- Uganda

- MTN-Uganda should ensure that policies obtaining at MTN should be of easy transmission of integration through the mobility of its workers and stakeholders in order to create opportunities for the organisation advantage competitiveness efficiencies that an organisation provides to meet integration of supply chain needs and generate solutions that maximizes ability of an organisational and MTN should also ensure that adequate facilities to measure integration

performance are put in place to ensure the distribution of information, such as Information Systems that will enable effective and economic decision making in the departments.

- MTN should also delegate some "supply chain integration responsibilities to the lowers levels for the delivery of deployment, development and management of emergencies in the line departments proved as integration of supply accounts for 92.7% and 7.3% for other factors from 0.927(adjusted R^2), to enhance performance of organisation in the telecommunication sector.

5.5.3 Knowledge Management in supply chain and Performance of MTN-Uganda

- On objective (c), Knowledge management in SC entails application of acquired knowledge, disseminated knowledge and responsiveness to knowledge in order to enhance organization performance. MTN should "make policies designed to ensure effective and easy application of knowledge, such as innovating processes, procedures and services", "thereby (i) Advantage of competiveness as new sources and (ii) Environmental dynamic changes as responding to management of an organisation.
- MTN should also "provide practical easy-to-use, how to apply correctly useful information, complete and increase organisation performance at MTN to manage all the common knowledge required", by ensuring that specific employees are trained in "respective core competencies and innovation in deciding and sticking to what they can apply or competencies of non-core outsourcing and keeping competencies of core inside the organisation is the best to do.
- MTN should also "avail facilities and infrastructure necessary for application of acquired and disseminated knowledge such as those of tracking supply and quicken flow of information, workforce operations on the regular facilitate reporting through the system of supply workforce as they move.

5.6 Contributions of the study

The study has a theoretical contribution that has added to the body of knowledge since this work was referenced to confirm that the previous scholars were right in their assertions about “supply chain management and organizational performance”.

Additionally, in applied contribution, these findings and recommendations could be used by the case study and other private telecommunication sector to improve upon their organizational performance, production and productivity.

5.7 Suggestions for further research

a) Due to global supply chain management trends, over time, some new issues “influencing supply chain management on firm performance are likely to appear and there is need to be able to identify when that happens, especially barriers and how to deal with them”. This can only be possible when there is continuation of research on supply chain management. Risk factors also impact managerial decisions about the allocation of resources towards supply chain management in firms and the significance they have on firm performance may be different.

b) On the academia, others supply chain perspective and how those other factors can affect operational efficiency of a firm should be done other than management of supply chain aspect studies.

c) Relating management of supply chain with performance of other aspects of telecommunication sector such as social environmental performance could also be done for further studies.

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APPENDICES

Appendix A: Questionnaire

Dear Respondent,

I am ANDREW EMIRU; Registration No. **15/MBA/00/KLA/WKD/0080** , a participant at Uganda Management Institute – Kampala main campus in the faculty of Management Science, pursuing a degree of Masters in Business Administration. I am conducting a research on the topic; *"Supply chain management and performance in telecommunication sector: a case of MTN-Uganda"* This questionnaire is to help me gather data that will enable me make conclusions and recommendations. Your contribution to this course will be treated with the confidentiality it deserves. Your sincerely co-operation is most welcome.

Tick the most appropriate

1. To which Age bracket do you belong?

a) 21-30 ☐ b) 31-40 ☐ c) 41-50 ☐ d) 51-60 ☐ e) 61 and above ☐

2. What is your Sex?

a) Male ☐ b) Female ☐

3. 'What is your highest level of educational attainment'?

a) Certificate ☐ b) Diploma ☐ c) Degree ☐ Master's Degree ☐

e) PhD ☐ f) others ☐ Specify……

4. Do you think MTN- Uganda is faced with some challenges in supply chain management to achieve organizational performance?

Yes ☐ No ☐

If yes, list such challenges

……

……

Suggest some solutions to the challenges faced by MTN-Uganda in ensuring supply chain management in order to achieve organizational performance.

……

This table below shows the "rating of supply chain management by MTN- Uganda in three sections a) logistics management b) Supply chain integration and c) Knowledge management". You are kindly requested to rate these Practices in supply chain as specified, by ticking your correct choice.

The Likert Scale rating is as follows: 5 'strongly agree'; 4 'agree'; 3 neutral; 2 'Disagree' and 1 'strongly disagree'.

A) Logistics Management in Supply Chain

Elements	**5**	**4**	**3**	**2**	**1**
Inventory management					
Use electronic order processing					
Deliver right quality of products at first order					
Orders processed on time					
Use order processing system					
Achieve timely delivery					
Ensure internal satisfaction					
Ensure zero double payments					
JIT replenishment					
Warehouse management					
MTN-Uganda uses material Lifting and Handling Equipment					
The aisle space is minimized					
MTN-Uganda maximizes the height of the building					
MTN-Uganda uses an effective storage plan					
The movement of goods is done in straight line					
Timely customer service is provided					
The track of items kept is correctly and readily					
Transport management					
MTN-Uganda has Fleet management systems and Vehicle inspection schedules					
MTN-Uganda has Fleet controls and tracking systems					
MTN-Uganda has Fuel management system					
MTN- Uganda has Preventive maintenance					
MTN-Uganda has Procurement and Disposal Policy					
MTN- Uganda has Vehicle scheduling					
MTN- Uganda has Route planning					

B) Supply chain Integration

Elements	**5**	**4**	**3**	**2**	**1**
Material Integration					
MTN-Uganda has Standardized material dispatching procedures					
MTN-Uganda has Receiving and inventory management initiatives					
MTN-Uganda has Close Co-ordination					
MTN-Uganda has Real time delivery					
MTN-Uganda has Prequalified suppliers that are aware of green supplies					
MTN-Uganda Procure of recyclable materials					
MTN-Uganda Involves key suppliers in planning					
Technology integration					
MTN-Uganda has Informational sharing system					
MTN-Uganda has Communication tools such as ERP system, emails, fax, phones in use					
Data consistency					
Does integration facilities logistics and information integration					
Cross functional supply chain management application system integration					
Information integration					
MTN-Uganda Share operational information					
MTN-Uganda Share strategic information					
Accuracy of information					
Trustworthiness of staff					
Cost reduction due to information integration					
Relationship level of staff					

C) Knowledge Management in Supply Chain

Elements	5	4	3	2	1
KNOWLEDGE ACQUISITION					
MTN-Uganda provides KM services to its staff as promised.					
There is KM acquisition reviews in the MTN-Uganda					
MTN-Uganda staff keeps the KM records accurately					
MTN-Uganda performs KM services accurately					
MTN-Uganda Performs KM services right the first time					
MTN-Uganda Employees maintain error-free record of KM					
Accurate records are being maintained for KM					
There are Accurate KM systems in the MTN-Uganda					
MTN- Uganda Provides accurate KM services staff					
KNOWLEGDE DISSEMINATION					
At MTN-Uganda ,there are physical facilities for KM dissemination					
Equipment are good and friendly for KM dissemination					
MTN-Uganda Personnel are neat and smart in KM dissemination					
KM dissemination improves organizational performance of MTN-Uganda					
KM facilities and equipment are efficient/effective					
Equipment and facilities are in good condition					
KNOWLEDGE RESPONSIVENESS					
MTN-Uganda Employees give personal attention to customers					
Employees give personal attention to customers					
Employees attitudes and behaviour is friendly					
Employees have best interest in heart to serve					
Communications in the MTN-Uganda are effective due to KM					
KM conversion in the MTN-Uganda has improves due to KM					
There is quality in workforce to care for their service provision					

'Thank you very much for your attention'

Appendix B:

Interview Guide

Dear Respondent,

I am ANDREW EMIRU, a student of Uganda Management Institute, pursuing a Master's program in Business Administration, conducting a study on *"Supply chain management and performance in telecommunication sector: a case of MTN- Uganda.*" I kindly request your attention for a few minutes. Our discussions will be confidential.

1. What is your title please? (Optional)

……

2. What is your occupation?

……
……

3. What is your age bracket?

……
……

4. What is your highest educational level?

……
……

5. a). Do you face supply chain management gaps in MTN- Uganda?

Yes ☐ No ☐

b). If yes, what is the magnitude?

High ☐ Moderate ☐ Low ☐

c). If high, what effect has it had on the organizational performance of MTN -Uganda?

……
……

d). In which particular Supply chain management practice areas does the MTN-Uganda face challenges?

.....
.....

e). Are these challenges a threat? If yes, what makes them to become a threat?

……
……

f). what strategies has the MTN-Uganda put in place to achieve positive organizational performance?

.....
.....
..

6). a). Is supply chain Management of significant value in terms of organizational performance?
……
……
. b).'Is there any relationship between supply chain Management and performance in MTN-Uganda'?
……
……
.

. c). If yes; give what kind of relationship?

……
……

7. Are the workforce knowledgeable enough due to the disseminated knowledge acquired?

……
……

8. Do you think that MTN-Uganda Supply chain Management is good enough to the service of organizational performance? If yes, give reasons

……
……
……

9. Is the supply chain office competent enough to handle employees' complaints? If yes, how has it impacted on your organizational performance?

……
……
.

'Thank you very much for your attention'

Appendix C:

Documentary Review Checklist

This list consists of the following documents that the researcher is interested to review:

a) Procurement and disposal policy
b) Human resource management policy
c) Transport management policy
d) Customer and supplier files(reports) for 2016, 2015 and 2014
e) ERP systems and email correspondence for 2016, 2015 and 2014
f) Warehouse register for 2016, 2015 and 2014
g) Goods received note (GRN) for 2016, 2015 and 2014
h) Bill of lading for 2016, 2015 and 2014
i) Supply chain reports for 2016, 2015 and 2014
j) Chairman BOD statement on the state of MTN – Uganda for 2016, 2015 and 2014
k) Annual Reports for 2016, 2015 and 2014
l) General Board Minutes on the state of MTN- Uganda for 2016, 2015 and 2014

Appendix (D):

Work Plan and Time Frame

Activity	Duration
Preliminary investigations and Recruitment and training of the Data collection assistants	1 week
Proposal Defense	1 Day
Field visits and distribution of study instruments	2 Days
Data collection	2 Weeks
Proposal Writing that involve data analysis, presentation and interpretation	3 Weeks
Proposal submission, defending and presentation	1 Week

Appendix E:

Budget Frame

Item	Quantity	Unit Cost (UGX.)	Total Cost
Subsistence Allowance	2 months	150,000	300,000
Honorarium	2 persons	150,000	300,000
Travel (Motorcycle –Boda-boda)	14 days	10,000	140,000
Data Analysis using data SPSS	1 person	400,000	400,000
Secretarial services in processing research instruments and reports	1 person	200,000	100,000
Printing and Photocopying	125 Pages	200 per page	75,000
Report production (Binding)	4 Copies	25,000	100,000
Other Expenses(Unpredicted expenses)	N/A	N/A	500,000
Total Costs			**1.915,000**

APPENDIX F

Table 22 for determining sample size for finite population

Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

Source:*Krejcie & Morgan, 1970*

APPENDIX G

Letter from Uganda Management Institute