**SUPPLY CHAIN MANAGEMENT AND PERFORMANCE OF MANUFACTURING COMPANIES IN UGANDA, A CASE STUDY OF MERIDIAN TOBACCO**

**COMPANY (MTC), ARUA DISTRICT.**

**BY**

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS AND INFORMATION TECHNOLOGY IN PARTIAL FULFILLMENT FOR**

**THE AWARD OF A MASTERS’S DEGREE OF**

**PROCUREMENT AND LOGISTICS**

**MANAGEMENT OF NKUMBA**

**UNIVERSITY**

**FEBUARY, 2022**

# DECLARATION

I, Orale Richard, hereby declare that this dissertation “supply chain management and performance of manufacturing companies in Uganda, a case study of Meridian Tobacco Company (MTC), Arua District”, is my own work, that has not been submitted for any degree or examination to any other University, and that all sources used or quoted have been indicated and acknowledged by the author in complete references.

**ORALE RICHARD**

**(Student)**

Signature...........................................................

Date…………………………………………..

# APPROVAL

This is to certify that this dissertation has been submitted in partial fulfillment of the requirements for the award of Master’s Degree of Procurement and Supply chain management under my supervision.

**Dr. LUTAYA SADAT**

**(University Supervisor)**

Signature…………….…………………

Date……………………………………..

# DEDICATION

I would like to dedicate this work to my wife Annet Victoria Chacio, my son Ayiko Edmund, my daughter Asianju Deborah and my brother Mambo Leonard. I thank my supervisor greatly for helping me in this research.

# ACKNOWLEDGEMENT

I would like to extend my sincere thanks to God almighty who sustained me throughout my stay at the University.

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# LIST OF ACRONMYS/ ABBREVIATIONS

AIDC: Auto ID Data Capture

CIPS: Chartered Institute of Purchasing and Supply

DOD: Department of Defence

LANs: Local Area Networks

MTC: Meridian Tobacco Company

OGC: Office of Government of Commerce

RFID: Radiofrequency identification

SCM: Supply Chain Management

SERVQUAL Service Quality

UK: United Kingdom

UNBS: Uganda National Bureau of Standards

US: United States

# ABSTRACT

The study is to examine the impact of supply chain management on performance of Meridian Tobacco Company (MTC), Arua District. It was guided by three objectives i)assess the impact of storage management on performance of Meridian Tobacco Company (MTC), Arua District, ii) to examine the impact of transport on performance of Meridian Tobacco Company (MTC), Arua District, iii) to establish the impact of inventory planning and control on performance of Meridian Tobacco Company (MTC), Arua District.

The study adopted a combination approach of positivism approach and phenomenological approaches for the research design; the data was categorised under both qualitative and quantitative approaches. The study population was 120 and a sample size of 92 respondents of which only 82 filled and returned the questionnaires.

Findings revealed that transportation as an element of supply chain management accounts more to performance with Adjusted R Square of 71.4%, this was followed by inventory planning which scored an Adjusted R Square of 70.0% and lastly, storage management accounts only 67.1% to performance of MTC.

In conclusion the study notes that are variations among the level of implementation of the supply chain practices. Hence the extent of implementation is concluded to base largely on the desired outcomes or the managements' preferences.

It was recommended that managers and concerned body of should improve warehouse management in strategic plan can increase financial performance and reduce lead-time. It was also recommended that MTC can work closely with transport companies and stakeholders for fast delivery of raw material from farmers to the factory.

# CHAPTER ONE

# INTRODUCTION

# 1.0 Introduction

This chapter presents the background of the study, the problem statement, study purpose objectives of the study, research questions hypothesis of the study, scope of the study, significance of the study and structure of the study.

# 1.1 Background to the study

This chapter presents the background of the study, statement of the problem, objectives, research questions, hypothesis scope of the study, significance of the study and arrangement of the study. This study is about the impact of supply chain management on performance of manufacturing companies in Uganda, A case study of Meridian Tobacco Company (MTC), Arua District. The independent variable is supply chain management, which is examined by the main factors that affect effectiveness of Supply Chain Management (SCM) classified into, storage management and transport management and inventory planning and control. The dependent variable is performance which was measured by the features of the quality performance and that is effectiveness, timeliness and efficiency of services delivered.

The current study is very significant as it is indicated that supply chain management is one of the core functions towards enhancing improved performance. MTC in particular does not keenly select suppliers, end up producing products that are not to the customers’ expected standards due to use of poor-quality raw materials because they wish to incur lesser costs during processing and hence hire the suppliers regardless of whether they have the capacity or capability to supply best quality goods.

Li et al. (2015) defined Supply Chain Management as the set of activities that organizations undertake to promote effective management of the supply chain. Otto and Kotzab (2013) termed SCM as a special form of strategic partnership between retailers and suppliers. Alvarodo and Kotzab (2011) viewed SCM in terms of reducing duplication effects by focusing on   
core competencies and using inter-organizational standards such as activity-based costing or   
electronic data interchange, and eliminating unnecessary inventory level by postponing   
customizations towards the end of the supply chain. Further Koh et al. (2017) categorized SCM practices from the following aspects: close partnership with suppliers, close partnership with customers, just-in time supply, strategic planning supply chain benchmarking, few suppliers, holding safety stock and subcontracting, e-procurement, outsourcing and many suppliers.

According to Jacobsen and Tummers, (2016), organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). Organizational performance can be broken into three operational terms: financial or economic performance, operational performance, and human capital performance. The Economic Performance of the organization looks at the financial and market outcomes, which include topics like profits, sales, return on investment, and other financial metrics. The operational performance of the organization focuses on observable indices like customer satisfaction and loyalty, the firm social capital, and competitive edge derived from capabilities and resources. The human capital performance of the organization, which covers topics around employee engagement, culture, development and internal promotion opportunities, Luo et al. (2012).

Historically, Supply chain management (SCM) as a concept has been applied to some extent in the   
automotive industry for a number of decades. Candler (1998) noted as far back as 1998 a trend   
in the automotive industry. He noted that Original Equipment Manufacturers (OEMs) do not want   
to deal with a large number of suppliers because this results in increased expenditure in   
administration, increased design costs and increased quality problems. Therefore, suppliers are rather organized into tiers of suppliers, where first-tier suppliers are left to design many of the assemblies themselves and second-tier suppliers assist in designing and producing the components.

Globally, countries like UK, US and Canada have long employed Supply Chain Management (SCM) in the management of their procurement and logistics. For instance, Gangster et.al (2004) acknowledges that the Department of Defence (DOD) in the US has minimized cost through lead-time in the management of its logistics through SCM practices. Also, the Office of Government of Commerce (OGC) in the UK releases year to year updates about the best practices of SCM in the public sector.

In Africa from being a system with no regulation in 1960‟s and system regulated by treasury circulars in 1970‟s to 1990‟s, the reasons for slow growth in Africa was occasioned by lack of guidelines for creating alliances with supply chain partners. Failure to develop measures for monitoring alliances, inability to broaden the supply chain vision beyond procurement of products, distribution to encompass larger business processes, inability to integrate the organisations internal process, lack of trust inside and outside the organisation resistance to the concept, lack of integrated information systems and electronics. The enterprises face a number of challenges, which are likely to explain the performance of their supply chains and their survival. In Nigeria, for instance, Onugu (2015) found out that less than 5% of small and medium enterprises survive beyond their first year of existence because of the numerous challenges that limit their competitiveness.

In East Africa for example, Basnet et al., (2015) point that the primary role of SCM is to meet the customer requirement in terms of providing the customer with the right product, of right quality and quantity, from a right source, at a right price and finally utilizing the right technology. Evaluating the performance of the government sector on the above basis will show that the Kenyan public sector does not meet the above criteria successfully. There is need therefore for the both private and public sector to develop effective supply chain practices in order to remain competitive and this forms the basis of this research in which the role of SCM practices as a source of competitiveness was investigated.

In Uganda, majority of small-scale processing and production industries die within the first five years only 5 to 10% survive and make it to maturity (private sector foundation Uganda, 2006). Constraints faced by SMEs (small scale industries) in Uganda that negatively impact their performance and that of their supply chains include; limited access to information, limited information about financing options, inadequate and expensive supply of power and telecommunication, limited experience, limited access to business networks (Kigozi, 2016), unprofessional practices, information technology accessibility and collaborative constraints. According to (Hatega, 2017), most of the manufacturing firms do not keenly embrace e-procurement integrated systems hence end up producing products that are not to the customers’ expected standards due to use of poor-quality supplies for production because they wish to incur lesser costs during production and hence hire the suppliers regardless of whether they have the capacity or capability to supply best quality of good.

This study was guided by two distinct theories; that is goal setting theory and systems theory as explained below Etzioni put the goals theory forward, in 1999, this is traditional theory, which relies on a vision of the organization as a rational set of arrangements oriented towards the achievement of goals (Goodman et al, 2009). Effectiveness is measured in terms of accomplishment of outcomes. The focus is exclusively on the ends: achievement of goals, objectives, targets, in relation to supply chain management, the processes in the supply chain are the set arrangements towards achieving quality production of products in order to yield high profitability that enhances organizational performance.

Yuchtman put the system theory forward and Seashore, in 1997, while not neglecting the importance of the ends, emphasizes the means needed for the achievement of specific ends in terms of inputs, acquisition of resources and processes. The conception of the organization is grounded in the open system approach whereby the inputs, transformation process and outputs are considered part of whole and not independent components, (Min and Mentzer, 2014), in reference to supply chain management, raw materials are the core needs in the manufacturing process of manufacturing organizations and therefore should be monitored right from the supplier to storage and finally for their final use

The study focuses on manufacturing companies in Uganda particularly Meridian Tobacco Company in Arua district. In meridian company, as far as supply chain is concerned, over 90 percent of the required materials used by the company is sourced in Uganda and especially in Arua. In addition, MTC operations require over 2,500 trucks annually to transport raw materials as well as tobacco processing. Meridian Tobacco Company took over the operations of British American Tobbaco (B.A.T) Uganda when the latter closed its operations in 2013.

Meridian Tobacco Company is a US$20 million complex based in Arua, engaged in tobacco growing and processing. MTC began processing in 2014 currently consisting of 32,000m² manufacturing facilities and storage. MTC has a processing capacity of 30 million Kilograms per year of tobacco, (Himbara, 2017). MTC has focused on improving its business effectiveness, identifying structural improvements to increase speed of processing and minimize costs and leverage so as to reduce price, lead-time and cycle times. However, the company continue to struggle with establishing performance culture and ensuring that it streamlines its supply chain functions using the right set of measures, which has been the major challenge in regard to performance.

# 1.2 Statement of the problem

In today’s global economy, manufacturers are faced with a variety of challenges in the business environment (Edward et al. 2019). Supply chain is faced with problems of transportation delays, communication breakdown between suppliers, manufacturers, and inconsistency of raw materials provided by the suppliers. The dynamics of today’s competitive environment also places increasing pressure on manufacturers to reinvent themselves almost continuously, and adopt the supply chain management philosophy, (Tracey and Tim 2011).

Despite the efforts by the management of Meridian Tobacco Company to improve the effectiveness of the supply chain functions as a system or network, problems are still experienced in processing, storage, transportation of the supply chain which affect the whole supply chain and hence poor performance. According to management review Report of June 2020, it was established that Meridian Tobacco Company is one of companies facing storage challenges during processing of tobacco due to roof leakages during rainy seasons, pest destruction by bidle pest and poor-quality tobacco usually mixed with non-tobacco related materials like feathers, rubber and other metallic substances.

In addition, the report further asserted the company was experiencing storage deficiencies attributed to poor preserving systems of tobacco, sub-standard tobacco seedlings which affect tobacco processing. Supplementary to Uganda Manufacturers Association report Meridian Tobacco performance evaluation report of supply chain analysis and performance published in May, 2022 revealed that transportation is a major challenge hampering performance especially due to poor road network, farmers do not deliver tobacco in time to the field stores and use of trucks without proper topline covers, there were also customer complaints due to differentiated pricing for the tobacco sold to the company, late payments leading to losses. As a result all these led to decline in company’s performance in terms of reduced profits, late deliveries and reduced material supply to the company.

Therefore, it was against this background that the current study sought to find out the impact of supply chain management on organisational performance in manufacturing industry focusing on Meridian Tobacco Company.

# 1.3 Purpose of the study

The purpose of the study was to examine the impact of supply chain management on performance of Meridian Tobacco Company (MTC), Arua District.

# 1.4 Objectives of the study

1. To assess the impact of storage management on performance of Meridian Tobacco Company (MTC), Arua District
2. To examine the impact of transport management on performance of Meridian Tobacco Company (MTC), Arua District.
3. To establish the impact of inventory planning and control on performance of Meridian Tobacco Company (MTC), Arua District.

# 1.5 Research questions

1. What is the impact of storage management on performance of Meridian Tobacco Company (MTC), Arua District?
2. What is the impact of transport management on performance of Meridian Tobacco Company (MTC), Arua District?
3. What is the impact of inventory planning and control on performance of Meridian Tobacco Company (MTC), Arua District?

# 1.6 Hypothesis of the study

**H0:** There is no statistically significant relationship between supply chain management and performance of Meridian Tobacco Company (MTC), Arua District

**H1:** There is a statistically significant relationship between supply chain management and performance of Meridian Tobacco Company (MTC), Arua District

# 1.7 Scope of study

The study scope covered content scope, geographical and time scope as discussed below;

## 1.7.1 Content scope

The study provided a logical framework for analyzing the impact of influence of supply chain   
management on performance of manufacturing companies in Uganda, with specific focus on Meridian Tobacco Company (MTC). The study looked at the impact of storage management, transport management, inventory planning and control and how this influence organisational performance of the company, in terms of quality, timeliness and effectiveness.

## 1.7.2 Geographical scope

The study was carried conducted at Meridian Tobacco Company located 2.5 miles away from Arua- Kampala high way in Ocoko parish, Ajai sub-county, Arua District in west Nile region, north western Uganda. The reason for the choice of this geographical area is that the company is involved in supply chain management as a crucial factor for improved performance. Also the study area was convenient enough for the researcher to get the required data for the study with ease.

## 1.7.3 Time Scope

The study covered a period of 5 years (2017 to 2022) to analyse the impact of supply chain management on performance. However, the current research study was conducted for a period of 3 months (December, 2022 to February 2022) so as to be able to make reliable study findings, and compile a final report. This was also the time when the company faced performance problems.

# 1.8 Significance of the study

The study may be significant to the following stakeholders;

**The management of MTC:** The study may help managers of the company to pick supply chain best practices or tools that can assist them achieve an enhanced organizational performance and competitive advantage while ensuring improved performance.

**Policy makers of the manufacturing sector:** The findings of the study may help policy makers come up with more appropriate policies to help the manufacturing enterprises in Uganda to have better supply chain management strategies and enhance improved performance.

**Other manufacturing firms:** Other manufacturing firms may use the findings of this study to justify the benefits of supply chain management in performance and best supply chain practices to achieve a competitive advantage.

**To the scholars and researchers:** the findings of the study may fill the gaps on the role of supply   
chain management on quality of services delivered in Ugandan manufacturing sector. This may help those who may be researching in future in similar field and guide the entrepreneurs in making decisions on the kind of business they should venture in basing on the flow of goods to the final consumer. It may also contribute to the existing literature about supply chain management and its contribution to performance.

# 1.9 Arrangement of the study

The study was arranged in nine chapters:

**Chapter one:** This contains the background to the study.

**Chapter two:** This presents the study literature and it includes the literature survey, theoretical review, literature review, and conceptual framework.

**Chapter three:** This chapter contains methodology, which was used to conduct the study under investigation.

**Chapter four:** Presents the biographic characteristics of respondents.

**Chapter five:** Details the findings of objective about impact of storage management on organisational performance.

**Chapter six:** Presents findings on objective two on the impact ofimpact of transport management on organisational performance.

**Chapter seven:** Presents findings on objective three on the impact of inventory planning and control on organisational performance.

**Chapter eight:** Presents the discussion of study findings.

**Chapter nine:** Contains the summary, conclusions and recommendations to the study.

# CHAPTER TWO

# STUDY LITERATURE

# 2.0 Introduction

This chapter presents several studies carried out in relation to the variables of the   
research on the impact of supply chain management on organizational performance. It presents the literature survey, theoretical review, literature review and the conceptual framework of the study.

# 2.1 Literature survey

Rwasa (2019) carried out a study on the impact of supply chain management on performance of organisations focusing on manufacturing enterprises in Uganda and a case study of Movit Products Limited, Uganda. The study adopted a descriptive cross-sectional design and probability sampling techniques. The findings from her study revealed that when the supply management function integrates its decisions and operations with suppliers, they enable supply management to establish close relationships where appropriate with suppliers to improve the quality and delivery of materials to customers. The findings revealed that there was a positive and significant relationship (r=0.515\*\*, p≤0.01), between inventory planning and organizational performance, a positive and insignificant relationship (r=0.334\*, p≤0.05) inventory control of inventory and organizational performance, a positive and insignificant relationship (r=0.433\*\*, p≤0.01) with Organizational performance. Her study used descriptive case study design carried out in 2019. However, the current study used a different organisation with different study objectives to analyse how supply chain management has impacted on performance of tobacco processing and exporting companies.

Mutuwa (2017) conducted a study on the role of Supply chain management (SCM) on Organizational Performance of Manufacturing Industries in Uganda, a case study of BIDCO Uganda Ltd. The study used a descriptive case study and findings indicate that supply chain management is one of the mechanisms that manufacturing companies adopt to enjoy competitive advantage over their competitors. The findings revealed that there was a positive and significant relationship (r=0.515\*\*, p≤0.01), between inventory planning and organizational performance, a positive and insignificant relationship (r=0.334\*, p≤0.05) inventory control and organizational performance, a positive and insignificant relationship (r=0.433\*\*, p≤0.01) with organizational performance. However, his study did not capture the aspect of storage, transport and inventory planning and control, which the current scope was intended to cover current years 2017 to 2022 and considered a tobacco processing company.

Kajja (2018) studied the influence of supply chain management on operational performance in the Uganda public sector using a case of National Water Sewage Cooperation. The study was guided by the following objectives; to examine the effect of inventory management on the quality of services in public sectors, to determine the influence of supplier relationship management on the quality service in public sectors and to identify the role of transportation management in the quality performance in public sector. The study used qualitative and quantitative research design.  It was revealed that there is a positive correlation between supply chain management and quality service were a significant relationship (r =0 .708, p 0.01). It was also revealed that there is a positive correlation between supply chain management and service quality were a significant relationship (r =0 .882, p 0.01). However, this study covered a public sector organisation conducted in 2018, there was therefore a need to undertake a study in different organisational setting basing on current years and different objectives regarding storage, transport management and inventory planning and control to cover the existing gap on the previous studies.

# 2.2 Theoretical review

This study was guided by two distinct theories; that is goal setting theory and systems theory as explained below.

# 2.1.1 Goal theory

Poustulated by Etzioni, in 1999, this is traditional theory, which relies on a vision of the organization as a rational set of arrangements oriented toward the achievement of goals (Goodman et al, 2009). Effectiveness is measured in terms of accomplishment of outcomes. The focus is exclusively on the ends: achievement of goals, objectives, targets, in relation to supply chain management, the processes in the supply chain are the set arrangements towards achieving quality production of products in order to yield high profitability that enhances organizational performance. Organizations should aim at the lower stages of operations for example, supply of quality raw materials, minimizing of production costs, effective distribution of raw materials to manufacturing in order to expect an excellent in the overall performance of the organization.

# 2.2.2 System theory

Yuchtman put the system theory forward and Seashore, in 1997, while not neglecting the importance of the ends, emphasizes the means needed for the achievement of specific ends in terms of inputs, acquisition of resources and processes. The conception of the organization is grounded in the open system approach whereby the inputs, transformation process and outputs are considered part of whole and not independent components, (Min and Mentzer, 2014), in reference to supply chain management, raw materials are the core needs in the manufacturing process of manufacturing organizations and therefore should be monitored right from the supplier to storage and finally for their final use. In case the process of acquisition and storage of raw materials is poorly handled the output of the products is also poor, therefore organizations should monitor the stages and processes of handling inventory in order to achieve an excellent report on organizational performance.

# 2.3 An overview of the main concepts of the study

## 2.3.1 Supply chain management

A supply chain is a sequence of processes and flows that aim to meet final customer requirements and take place within and between different supply chain stages. The supply chain not only includes the manufacturer and its suppliers, but also transporters, stores, retailers, and consumers themselves. It is not limited to new product development, marketing, operations, distribution, finance, and customer service (Chopra and Meindl, 2011). The theory of SCM is an extension of logistics, though referring to the extended need of relationship issues to be considered in the theory of SCM. However, the notions still remain on a more applied than theory-building level. Embarking on a literature review in the field of SCM is fraught with difficulty (Yeung 2013).

Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufacturers and stores; so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements (Danny and Mile, 2009). This definition leads to several observations. First, supply chain management takes into consideration every facility that has an impact on cost and plays a role in making the product conform to customer requirements: from supplier and manufacturing facilities through stores and distribution centers to retailers and stores (Li and O‟Brien, 2011). Indeed, in some supply chain analysis, it is necessary to account for the suppliers and customers because they have an impact on supply chain performance.

Chartered Institute of Purchasing and Supply-CIPS (2007), provides the following elements of supply chain;

**Integration**: Integration is at the heart of the supply chain and is considered as the brains and heart of the supply chain process. It is the process of technology which closely coordinates with supply chain functions and elements. This allows the supply chain to get the details of all the actions and interactions. The key component of integration is data and its collection, storing and use. Overseeing supply chain integration means coordinating communications between the rest of the supply chain to produce effective and timely results in the [manufacturing](https://www.redlinegroup.com/manufacturing-operations-jobs) process. Often this means exploring new software or other technological means to foster communications among departments, which in turn reduces errors which cost time and money.”, (CIPS, 2007)

**Operations:** As important as strategy is to maintain a strong supply chain, day-to-day operations are the backbone of the work that manufacturers undertake. Supply Chain Managers monitor the processes being performed and ensure everything remains on track. Many of today’s manufacturers operate using lean manufacturing strategies and techniques, which means processes are constantly evaluated to achieve maximum performance and efficiency. Whether it’s monitoring processes or equipment to achieve maximum performance or reducing work or shift patterns during production slows down, the operations team can bring major improvements to the supply chain, (CIPS, 2007).

**Purchasing:** Sourcing is the process of finding, evaluating, and engaging suppliers to provide goods and services to business. Procurement is the process of purchasing goods and services. In a B2B sale, the procurement function will usually manage both the sourcing and the purchasing functions ensuring an organisation has everything required to manufacture a product or deliver a service, including materials, supplies, tools and equipment. This means staying ahead of the process and making sure that everything is available prior to the process. Without the right purchasing personnel, an organisation could find the materials are not available on time, delaying manufacturing production, or that excess inventory is accumulated, straining the company’s cash flow.Businesses have shown success in managing external suppliers and have found that it is beneficial to source some materials and services in order to focus on particular areas of specialisation.

**Distribution:** The supply chain ends when the product or service is delivered to the customer. However, delivering the product or service means having a well-planned and managed distribution and logistics organisation. Most companies today use logistics software to manage the shipment process, whether they handle it on their own or outsource to a third-party provider.Such logistics service providers mainly deal with services such as transportation, warehousing, delivery, and other related operations. However, as these processes are handled, products are moved expeditiously from the warehouse to the customer, a balance between demand and supply is critical for business networks to grow especially globally.

**Customer Service:** Van Weele, (2010) defines customer service as meeting the needs and desires of any customer. Some characteristics of good customer service include: promptness: promises for delivery of products must be on time, delays and cancellations of products should be avoided, politeness: Politeness is almost a lost art. Saying 'hello,' 'good afternoon,' 'sir,' and 'thank you very much' are a part of good customer service. For any business, using good manners is appropriate whether the customer makes a purchase or not, professionalism: all customers should be treated professionally, which means the use of competence or skill expected of the professional. Professionalism shows the customer they are cared for and personalization: Using the customer's name is very effective in producing loyalty.

**Customer Service Management:** Customer service management is the process of managing every aspect related to customer service. To have control over it, it is good to have a system that will ensure control over every step of the client. It is a source of data on customers, their number and, for example, their satisfaction with purchases and customer service. Customer service management is the combination of solutions, workflow and processes that go into managing the customer relationship. With a customer service management system, a company can rely on software and automation to reinforce its human techniques.

## 2.3.2 Performance

Organizational performance is measured for different levels of hierarchy and can be assessed for individuals, groups, and the entire organization as a whole (Jacobsen and Tummers, 2016). A systematic literature review of 213 studies published in reputed journals or a period of only three years (2006-09) revealed different measures used for assessing performance. Eventually, the researchers settled on a multi-dimensional construct of organizational performance with financial performance, product market performance, and shareholder return forming three crucial aspects.

Kanter and Brinkerhoff (2011) pointed out that the measures for organizational performance depend on who is asking the questions and why they need to measure performance. Some of the reasons why professionals need to measure and report organizational performance are to justify the valid use of investors’ money, guide managerial decision making by pointing out the trouble areas, compare performances of different functions, projects, and people, and to exercise control. Therefore, the definition of organizational performance can change as per the use it is put to.

# 2.4 Actual review

This chapter dealt with a critical examination of the existing literature on the subject under investigation arranged under study objectives as follows;

## 2.4.1 Impact of storage management on organizational performance

A store is a facility in the supply chain to consolidate products to reduce transportation cost, achieve economies of scale in manufacturing or in purchasing or provide value-added processes and shorten response time (Mbang, 2012). Storage has also been recognized as one of the main operations where companies can provide tailored services for their customers and gain competitive advantage and thus enhance their performance (Min and Mentzer, 2004) There are various types of stores: they can be classified into production stores and distribution centers and by their roles in the supply chain they can be classified as raw materials stores, work-in-process stores, finished goods stores, distribution stores, fulfillment stores, local stores direct to customer demand, and value-added service stores.

According to Kuei, et al, (2001), storage aims to control the movement and storage of materials within a store and the stock tracking systems also direct and optimize stock put away based on real-time information about the status of bin utilization, Storage management software monitors the progress of products through the stores and it involves the physical stores infrastructure, tracking systems. According to Robert Hughes (2010), storage is the set of activities that are involved in receiving and storing of goods and preparing them for reshipment.

Storage is not only concerned with storage facilities but also involved in various other activities like; receiving, identifying, holding, assembling and preparing to meet the demand and ensuring profitability (Mbang, 2012). From that perspective, the basic important function of storage is to accept and assume the responsibility to deliver the goods by issuing the receipts of the goods and ensuring communication between product stations (Yeung, 2008). A storekeeper checks the items and prepares the records, maintains properly to avoid problems at the time of delivery -continue records and all the items are marked separately and coded with numbers tags which are attached for identification. Identification helps to separate goods of different firms easily.

Another major impact of storage management on the supply chain link is storing. Customers can be satisfied that goods are kept safely in the store as this helps in proper protections of goods from getting damaged or spoiled (Danny and Mile, 2010). They will further be packed a service provided by the storekeeper if owner requires such facilities. Packaging is done in a reasonable way according to size and quantity of goods. The storekeeper will gather information about receipts to check and inform about the goods to the concerned department. Storage is aimed at supporting the company’s customer policy and maintains a source of supply without interruptions.

Storage is also important for achieving transportation economies by supporting changing market conditions and sudden changes in demand (Grant, et al, 2011). Storage management provides customers with the right mix of products always and all locations by ensuring least logistics cost for a desired level of customer service ensure customer satisfaction. Centralized storage improves operating efficiency and inventory control is felt easier and effective since there is no need to carry large stock and there are no dangers of stock outs resulting in low level inventories which affect performance of the organization.

A storage management system or SMS primarily aims to control the movement and storage of materials within a store and process the associated transactions, including shipping, receiving, put-away and picking (Yeung, 2009). A Storage Management System (SMS) is a database driven computer application, to improve the efficiency of the store by directing cutaways and to maintain accurate inventory by recording store transactions. The systems also direct and optimize stock based on real-time information about the status of bin utilization. It often utilize Auto ID Data Capture (AIDC) technology, such as barcode scanners, mobile computers, wireless Local Area Networks (LANs) and potentially Radiofrequency identification (RFID) to efficiently monitor the flow of products.

The primary function of a store control system is to receive information from the upper-level host system, most often being the storage management system, and translate it for the daily operations (Tan, 2012). A common goal is to ensure a situation where store employees never have to retype information because it already lies in one system or is collected automatically. Store control system is usually the interface that is used to manage processes, people and equipment on the operational level. Implementation of SMS necessarily provides an increase in accuracy, reduction in labor costs if the labor employed to maintain the system is less than the labor saved on the store floor and a greater ability to service the customer by reducing cycle times.

## 2.4.2 Impact of transport management on organisational performance

Grant, et al, 2012 also asserts that to practice effective, cost-efficient supply chain Management, an organization must lay the foundation for a responsive, economical transportation network. With a responsive, economical transportation network, an organization is able to implement major strategic changes to reduce costs and increase customer service levels with very little disruption to the overall supply chain flow. A responsive transportation network begins with end-to-end network visibility since visibility allows the business to centralize production operations to lower-cost areas without impacting customer service levels, because any uncertainty within the network can be monitored and appropriately managed to keep inventory levels as low as possible

According to Kenyon and Meixell (2011), transportation is defined as the activities involved in shipping any goods or finished products from suppliers to a facility or to warehouses and sales locations. It is included because it is a major part of the supply chain due to its power to add value to some goods by moving them from their current location to a more advantageous location. The transportation system is the most important economic activity among the components of business logistics systems and from previous studies constitutes approximately a third of all logistics costs. A key decision in supply chain management is the selection of the transportation mode and carrier to move the firm’s inbound and outbound freight. Managers typically consider multiple attributes when making this decision, often focusing on cost and transit time as the primary criteria.

According to Ensermu, (2013), transportation plays a key role in the supply chain, because without the efficient movement of finished goods and raw materials the entire system would not be able to work at its full potential (Randall et al., 2010).it is essential and major sub function of logistics that creates time and place utility in goods. In fact, the back bone of supply is the transportation management that makes it to achieve the well-known seven R’s the right product, in the right quantity, the right condition, at the right time, for the right customer and at the right cost. He adds that the overall of transportation is to connect sourcing locations with customers at lowest possible cost within the constraints of customer service policy

Further according to Ireton, (2017) transport involves carrier selection which has been structured as a two-step process, first the choice of the mode followed by the selection of the carrier within that mode. These decisions today are often made simultaneously, along with the alternative of outsourcing to third-party logistics organizations. Global transportation from sources and to markets around the world yields higher cost and longer transit times, and so international growth is an important challenge in logistics management. On the other hand, it is often the activities associated with international trade that provide the challenge, for example providing adequate transportation and storage, getting items through customs, delivering to foreign locations in a timely fashion at an acceptable cost.

Wisner et al (2011) contend that the primary goal of transport is to move the consignments from A to B. Transport is a crucial strategic link between supply chain companies, and must be efficiently managed for fair prices in meeting customer due dates and other shipping requirements Transportation between manufacturing plants, warehouses, distribution centers, terminals and consumers provide the movement of goods, products and persons in logistics. Transportation is the only operation that delivers services via the logistics outbound and inbound. An inefficient transportation system may cause the company to incur high costs to deliver the product to the consumer, and this will result in a loss to the company; and the transportation system must be able to resolve the major issues of mode selection, route selection and fleet size because it is the critical force for the company's competitiveness

Further according to Goldsby et. al., (2014), transport is an important business activity that both internally and interorganizational plays a connective role. Internally, transport links different activities leading to resourced goods being converted according to consumers' preferences and expectations (Tseng et al., 2005). Transporting is required in the whole logistics chain since it facilitates the entire process of materials and products moving into, throughout of and back to a firm consisting of four main activities: inbound logistics, covering the movement of material received from suppliers, materials management describing the movement of materials and components within a firm, physical distribution referring to the movement of goods outward from the end of the assembly line to the customer and returns back from customers.

Lambert et al. (2011) argued that transportation is one of the six key logistics activities that drive total logistics costs along with customer service (including parts, service support and returns goods handling), inventory management (including packaging and reverse logistics), warehousing and storage, materials handling and procurement and order processing (including information management and demand forecasting) (Externally, transport plays an intermediary role in the supply chain which facilitates the physical flow of goods into or out of where they are manufactured. It therefore covers organizational boundaries linking the entire supply chain's channels and encompassing input and output sides of suppliers.

According to Younkin, (2016), to be successful, a strategic transportation plan must be in place to guarantee lower costs and higher customer service levels. A good example can be found in companies that use electronic data interface (EDI) and other communications to tender shipments, set and confirm pick up appointments and submit shipping documentation to their carriers. Shipping lines have online platforms where shippers can make bookings and process shipping instructions. Vessel schedules are available online and shippers choose suitable vessels depending on their loading requirements. This is one of the win-win areas as carriers will recognize the efficiency in making pickups and deliveries at a well-scheduled dock.

According to Spens, (2011), shipment visibility throughout the organization, not just in the shipping department, is critical to a responsive customer-centric firm. Leading companies have incorporated real-time updates from their carriers into their own systems, giving visibility throughout their organizations. Key benefits include improved efficiency and reduced spending by the shipping department as they spend less time tracking and chasing proof of delivery information from carriers. Manufacturing firms have come to develop specialized systems on the side for tracking and tracing, or fleet management, which they have opened up for use by other organizations. In other words, they have started to act as service providers to each other

Li and O‟Brien, (2011) states that an economical transportation network begins with a shift in attitude. Businesses are often trapped in the traditional view that transportation is a necessary evil an inevitable source of cost and risk. Transport is by far the largest component of the cost structure of a business‟ logistics. From the manufacturing plant, to the store and then to the end consumer, transportation is an integral part of the supply chain and as thus it lays an effect on the overall success of the supply chain link.

According to Mbang, (2012), transport accounts for as much as 30% of the total cost of logistics operations almost as much as storing and Inventory together Without well-developed transportation systems, logistics could not bring its advantages into full play. A good transport system in logistics activities could provide better logistics efficiency, reduce operation cost, and promote service quality. In addition, a good transport system performing in logistics activities brings benefits not only to quality service but also to company competitiveness by ensuring proper routing and scheduling of delivery vehicles.

## 2.4.3 Impact of inventory planning and control on organisational performance

Render and Stair (2014) assert that the planning phase is a primarily concern with what inventory is, how much to be stocked and how it is acquired. This information is then used in forecasting demand for inventory, controlling inventory levels and studying how organizations control their inventory is equivalent to studying how they achieve their objectives by supplying goods and services to their customers. Inventory planning involves developing a records management program that meets the current and future needs of the organization. The records inventory, appraisal, and needs assessment are the preliminary work towards a records management plan. A plan is a road map to a destination, or a set of guidelines for getting a job done. But any records management plan must be practical and realistic.

A records management plan should examine the current records situation, describe both short term and long-term goals, and identify what resources might be needed to achieve those goals. Long-term plans usually cover a three- to five-year framework and the broader purposes of the program. Short-term plans, usually covering one year, indicate exactly what the program is expected to accomplish in the near future. The implementation of lean manufacturing principles has led to substantial cost savings, lead time reductions, and quality improvements in many industries. Originating in the automotive industry, these principles are increasingly applied in other industries, including process manufacturing (King 2011). However, traditional lean manufacturing is mainly focusing on material flows within plants, while the planning and synchronization of operations as well as the optimal management of information flows for example propagation of demand signals across the entire supply chain are not adequately addressed.

In addition, value generation is not limited to manufacturing alone: a substantial share of the total value added is contributed by supply and distribution processes. Consequently, many companies in process industries have coined the vision of lean supply chain management for the efficient planning and execution of material and information flows in an end-to-end way (Packowski et al. 2010). In traditional planning processes, as proposed by the concepts of Material Requirements Planning (MRP I) and Manufacturing Resource Planning (MRP II), production and replenishment decisions are directly based on demand forecasts. In such a planning scenario, adjusting production is the default means of reacting to demand fluctuations. If the forecast- and planning-period is too long, accuracy of the forecast is usually low, resulting either in oversized inventory targets or in stock-outs due to insufficient inventory buffers. On the other hand, short forecast periods lead to frequent adjustments of the production schedule as short-term demand can be subject to significant fluctuation. Consequently, short forecast periods may lead to high setup costs and low-capacity utilization.

Inventory control according to Lucey (2006) is defined as a system used to control the firm’s investment in stock. It starts with ordering, receipt, storage and issue, all together associated with recording. Goods must be properly received, inspected and the goods received note raised. However, sophisticated inventory or stock control in the firm is a basic pre-requisite in that stock movements are accurately recorded (Lucey 1996). Other scholars such as Walgemback et al (2012) defines inventory as the merchandise owned by the company and held for resale to customers in the ordinary course of business. Since inventories constitute stock of products, they have a relationship with performance of the daily monitor printing and publishing company.

Inventory control system as defined by Lucey (1997) is a system in a firm used to control the firm’s investment in stock. It includes recording, monitoring of stock levels, forecasting future demands, deciding on when and how much to order. For a firm to perform efficiently and effectively, the inventory control system has to be properly designed and implemented to suit the firms’ requirements. The overall objective of inventory is to minimize total costs associated with stock there by meeting the firm’s objective of wealth maximization. These systems include just in time systems. This is a recent approach in inventory control that was developed by the Japanese (Kakuru, 2010). The aim of just in time is to have a particular item of inventory delivered hours before they are required. Thus, there is no need for holding stock and there is need to be in close liaison with the supplier and the purchaser.

According to Lucey (1996), just in time aims at producing the required item of high quality at the exact time they are required. Dickerson, Campsey Brigham, (2015), further supported this. Just in time system of control according to Lucey (1996), is the system that aims at producing the required items of high quality exactly at the time they are required and can only operate in an environment where the following assumptions exist; it assumes that deliveries will always be made 100% on time, It assumes that items supplied are perfect quality with zero defects and therefore all costs associated with poor quality will be eliminated, There is a move towards zero inventories which means that the firms will hold on inventories at all and therefore will avoid all costs of carrying and maintaining safety stocks. Inventory control models include;

**Economic order quantity (EOQ) model**

The economic order quantity is one of the oldest and the most commonly known inventory technique dating back to 1915. Publication by Ford W.Harris (Render and stair, 2004). According to Render and Stair (1994), they assert that the EOQ is also known as the optimal quantity and it is calculated using re-order quantity, which minimizes the balance of costs between carrying, and ordering costs. However according to Lucey (1994), the economic order quantity is the quantity at a point where carrying costs and ordering costs are not only minimal but also equal. This control technique answers the inventory control question of “how much to order”, which it does by defining the quantity to order that will minimize carrying and ordering costs (Arora 2005, Drury, 1995). The re-order point as per Lucey (1994) is a definite action level while according to Van Horne (1995), it is appoint when replenishment should be ordered with inventory(Lucey 1994). According to Render and Stair (1994), the reorder point is given as; Reorder point =demand per day x lead time for new order. From the above, because of uncertainty in determining the lead time and usage rate, buffer of inventory should be kept by firms to guard against stock outs.

Furthermore, Van Horne (2005) looks at re-order point when replenishment should be ordered with inventory. The above system and techniques help the firm in determining the right level of inventory to hold at a particular time. Safety stocks are also another technique used when management believes that some economic order quantity assumptions are invalid hence it comes in to correct. According to Pandey (2005), in the real-life situation, lead-time, delivery time, demand and usage of the materials cannot easily be determined. This may give rise to a situation where demand of a commodity exceeds supply hence leading to stock outs. Therefore, there is need for inventory control so as to keep a buffer during the lead time to ensure that there is continuous smooth operation (Pandey 1995,

Furthermore, render and stair (1994) assert that in maintaining safety stocks against stock outs and excessive stocks, a firm should consider including safety stocks in the formula that is re-order point =demand per day x lead time +safety stocks for new order. An effective control system provides reasonable, but not absolute assurance for the safeguarding of assets. The reliability of financial information and the compliance with laws and regulations, reasonable assurance is a concept that acknowledges that control systems should be developed and implemented to provide management with the appropriate balance between risk of a certain business practice and the level of control required to ensure business objectives are met.

Finally, according to Wild (2002), inventory control is the activity which organizes the availability of items to the customers. It coordinates the purchasing, manufacturing and distribution functions to meet the marketing needs. This role includes the supply of current sales items, new products, consumables; spare parts, obsolescent items and all other supplies. Inventory enables a company to support the customer service, logistic or manufacturing activities in situations where purchasing or manufacturing of the items is not able to satisfy the demand. Lack of satisfaction could arise either because of the speed of purchasing or manufacturing is too protracted, or because quantities cannot be provided without stocks. Clodfelter (2003) adds that a good inventory control system offers the following benefits;

**Inventory coordination:** Thomas and Griffin (2006) classify coordination into three categories of operational inventory coordination that is the buyer vendor coordination, production distribution coordination and inventory distribution coordination. Verter et al., (2011) discussed the facility location decisions of multinational organizational organizations. They highlight the need for coordination among all the international entities of global companies in order to improve competitiveness. They also suggest that production distribution networks are the effective tools for modeling the company’s global supply chain configuration.

**Minimizing inventory costs:** In order to minimize a total cost or alternatively maximize a total profit in a supply chain the cooperative decisions among supplier and buyer would be applied which this method leads it to achieve benefit for all parties (Jaber and Zolfaghari, 2008). When there is no cooperation between the firms, each firm in the supply chain will focus on optimizing its own cost or profit function based on the variables. In this case, the decisions concerning production, each of the member of the chain makes purchase and shipment separately and often sequentially. Although each member in the supply chain has different operational goals, the performance of all members depends not only on how well each member manages its operational processes, but also on how well the members coordinate their decisions.

**Proper inventory distribution**: Clark and Scarf (2011) provide one of the earliest efforts in the area of inventory-distribution coordination. They present a recursive decomposition approach to determine optimal policies for serial multi-echelon structures. Silver and Peterson (2008) provide a formation and discussion of simple two-echelon inventory systems. Muckstadt and Thomas (20099) investigate the applicability of multi-echelon method s in low demand stock levels in a two-echelon system, item decomposition and level of decomposition. Level decomposition sets an aggregate service level goal for each echelon. Item decomposition determines stock levels for each item of each item.

# 2.3 Conceptual framework

# Figure 2.: Conceptual framework

**INDEPENDENT VARIABLE DEPENDENT VARIABLE**

**Supply Chain management Performance**

* Storage management
* Transportation management
* Inventory planning and control
* Reliability
* Quality Assurance
* Responsiveness
* Timeliness
* Customer satisfaction

**Intervening variables**

* Policy regulations like UNBS
* Competition
* Changing customer needs and demands

**Source: Goetsch, et al *(*2013) modified by the researcher 2022**

The conceptual framework above, demonstrates the independent variable (supply chain management) which is examined by the main factors that affect effectiveness of SCM and can be broadly classified, storage management, transportation management and inventory planning and control. The dependent variable is performance, which is measured by the features of the quality performance include; reliability, quality assurance, responsiveness, timeliness and customer satisfaction. Intervening variable is factors that control the independent and dependent variables include; Uganda National Bureau of Standards (UNBS), competition and changing customer needs. In the framework, it is further assumed that if this continuum is maintained, supply chain management will improve performance of MTC.

# CHAPTER THREE

# METHODOLOGY

# 3.0 Introduction

This chapter presents methods and techniques that was used to conduct research study. The methods combines both quantitative and qualitative approaches. It further presents other sections like research design, study population, sample size and sampling, data collection instruments, data collection procedures, data analysis which is quantitative and qualitative, ethical considerations and then limitations of the study.

# 3.1 Research design

Amin (2005) defines research design as the overall plan or strategy for conducting the research and for this case, the research study employed qualitative and quantitative techniques. The quantitative design was employed to determine the quantitative relationship on how the variables are related, thus the level to which supply chain management is related to organisational performance of Meridian Tobacco Company. The quantitative pattern was used in that it utilized techniques and measurement that generate numerical or quantifiable data and statistical tools were utilized for analysis (Mugenda and Mugenda, 2004). On the qualitative part the study employed in order to obtain in-depth point of view of the respondents.

# 3.1.1 Research Approach

There are three different approaches to research which are; positivism approach, phenomenological approach and combination approach. In this study, phenomenological approach was used since it attaches numerical values to respondents’ views/ narratives and descriptions of the phenomena as it was observed by the researcher when it occurred.

# 3.1.2 Research Strategy

A case study strategy was used, the researcher planned to carry out the research in two months at MTC. Questionnaires, interviews, were all done within this period and focused on the research topic, research objectives research questions.

# 3.1.3 Research duration

This study was a cases study design and a representation of events over a given period. This helped to gather data required from the managers and the staff at large as indicated under the research scheduled and covered a period of 3 months from December 2022 to February 2022.

# 3.1.4 Research Classification

This study was descriptive and explanatory with quantitative and qualitative data. Descriptive research design was used in order to ascertain and be able to describe various characteristics of variables in the study. Explanatory research design was handy in explaining the variables by associating it with the study and this was used because it clearly described why and how the variables behaved the way they did.

# 3.2 Study population

Malhotra and Dash (2010) defined target population as the collection of elements or objects that possess the information sought by the researcher and about which inferences are to be made. According to Himbara (2019), Meridian Tobacco Company workforce that incorporates 350 permanent employees, 1,700 seasonal workforce, and 9,700 contracted farmers totaling to 11,750. In the study, the target population was 100 consisting of employees especially from the sales, production and supply chain department from Meridian Tobacco Company (Meridian Tobacco Company Statistics, 2020). For the current study, a target population of 120 people was considered due to the limited time and resources that were available to the researcher.

# 3.3 Sample size and selection

Amin (2005) defines a sample size is part of the target population that has been procedurally selected to represent it. This sample size was chosen because it was easier to manage and was enough to generate results for the study. According to Mugenda and Mugenda (2004), a sample frame is a list of all eligible sampling units. Sampling frame is the set of sources material from which the sample is selected. Therefore, the sample frame was 92 respondents from processing, marketing transport, warehousing and customers using Krejcie and Morgan, table (1970).

# 3.4 Sampling techniques and sampling frame

The sampling techniques and sampling frame were structured as follows;

## 3.4.1 Sampling techniques

The sampling techniques used for this study is simple random sampling techniques. Purposive sampling techniques was used to select production personnel who do tobacco processing at the company. Simple random sampling was used to select a representative number of the different units of MTC. In this study, a sample size of 92 thus was considered for the study as in table 3.1 below;

## 3.4.2 Sampling frame

This shows a breakdown of the study population (N) from each department and sample size (n)

# Table 3.: showing the sample size of the study

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Population (N)** | **Sample size (n)** | **Sampling method** |
| Processing | 48 | 25 | Simple Random |
| Marketing | 22 | 20 | Simple Random sampling |
| Transport | 15 | 14 | Simple Random sampling |
| Warehousing | 15 | 14 | Simple Random sampling |
| Customers | 20 | 19 | Simple random sampling |
| **Total** | **120** | **92** |  |

*Source: Primary data*

# 3.5 Source of data

This comprised of primary and secondary data. Under primary data, the researcher obtained data from the company respondents that was selected as sample size. Under secondary data source, the researcher collected data from written documents like textbooks, journals, newspapers, and other publications.

# 3.6 Data collection methods

The methods included questionnaires, document review, and interviews. The data collection tools consisted of the interview guide and self-administered questionnairesand document review checklist.

## 3.6.1 Survey method

Tabachnick, (2011) defines a questionnaire as a method of data collection using structured or semi-structured questions in either virtual or written format. This was survey instruments that was completed by the subjects. Questionnaires, like interviews, can contain short closed-ended questions (multiple choice) or broad open-ended questions. According to Kothari (2015), the use of questionnaire is appropriate because questionnaires are stable, consistent, and uniform

## 3.6.2 Interview method

According to Davis (2011) an interview is a face-to-face conversation between the interviewer and the interviewee, where the interviewer seeks replies from the interviewee for a specific purpose. The interviews were used because they could help the researcher to give first-hand information and also answered technical issues relating to the reasons behind the use of different policies and strategies.

## 3.6.3 Document review

According to Mambo (2013), Document review is a way of collecting data by reviewing existing documents, documents may be hard copy or electronic and may include reports, program logs, performance ratings, funding proposals, meeting minutes, newsletters, and marketing materials. Document analysis was used on reviewing the records in Meridian Tobacco Company so as to authenticate the information and to analyze the issues on supply chain management and service delivery. This method was used so as to relate data with the available records.

# 3.7 Data collection instruments

This involved the use of self-administered questionnaires, interview guide and documentary review.

## 3.7.1 Self-administered questionnaire

Tabachnick, (2011) defined a structured questionnaire as a type of questionnaire either in paper or electronic that a respondent completes on his/her own. Questionnaires constitute a set of questions, which were prepared by the researcher in written form in order to collect required data.

## 3.7.2 Interview schedule

Kabali (2012) asserts that interview schedule is a guide to the formal meeting at which someone is asked questions in order to find out if they are suitable for a course of study. This was carried out with different stakeholders. The purpose of these interviews was mainly aimed to capture the views from respondents from the study

## 3.7.3 Document review checklist

Kothari (2010) defines document review checklist as a checklist that helps a researcher conduct a meaningful review of your documentation pieces, whether he/she holds technical review meetings and/or send the checklist to individual. The information was collected from different reports, journals and other relevant articles. A document review checklist enabled the researcher to get quality information and therefore provided relevant information.

# 3.8 Validity and reliability of instruments

The validity of an instrument is the degree to which an instrument measures what it is intended to measure. Content validity refers to the extent to which an instrument represents the factors under study. To achieve content validity, questionnaires included a variety of questions on the knowledge of the top management officials about supply chain management and organizational performance of MTC.

Quantitatively, to establish validity the researcher was conduct the Content Validity Index (CVI) test to check the validity of the questionnaire contents. The CVI was computed using the following formula:

CVI= No. of items regarded relevant by judges

Total No. of items

CVI= n/N

Where:

CVI= content validity of instruments

n= Number of items indicated relevant

N=Total number of items in the questionnaire

According to the results obtained; n= 82

N = 92

CVI= 82

92

**CVI = 0.891**

The researcher attained validity of coefficients of 0.891 or 89.1%. Creswell (2003) argues that items with validity coefficients to at least 0.70 are accepted as valid and reliable in research. Thus, the data collection tools administered to respondents provided valid responses and results, which were suitable for the study.

Reliability of the instrument refers to the extent to which the instrument is consistent or dependable when measuring a phenomenon. After ascertaining the validity or the questionnaire and interview, the researcher continued to pilot, run them and later establish the reliability.

# 3.9 Data analysis techniques

The findings of the data were analyzed by use of tables, arranging and describing data relation to the objectives of the study. This was to enable the researcher to attain meaning of the used figures used in the tables. Editing was done to ensure competence of data and discover any misrepresenting. Coding as a measure of analyzing was done to assign numbers and letters to avoid ambiguity in the presentation of data.

# 3.10 Data presentation

The collected data was analyzed both quantitatively and qualitatively. Quantitative data was grouped and statistical description such as tables showing frequency and percentages developed for better representation of the study findings. Qualitative data was analyzed in the field as it was being collected verbally while quantitative data was analyzed by using computer programs like Statistical Package for Social Sciences (SPSS) software. Also under qualitative analysis, thematic analysis was used and in quantitative data analysis, tables were used for data analysis and presentations.

# 3.11 Ethical considerations

All the ethical procedures required when collecting data were adhered to. A recommendation letter obtained from the university (research coordinator) to seek for assistance from MTC in collecting data was acquired. Clearance from the management and respondents to perform the study was acquired and the right channels were used to get information. Voluntary participation was sought for, there was no use of coercion or forcing respondents to give information, and confidentiality was ensured during the study. Citation in text was done to acknowledge all the references or work of other authors applied during the study.

# 3.12 Limitations to the study

The results of the study could not be over generalized because scope was Meridian Tobacco Company however; different organizations have different supply chain patterns and strategies and face different problems.

The study was affected by non-response or delayed response by the respondents because they   
had busy schedules while some were not even interested on answering the questionnaires. The researcher overcame this challenge by distributing many questionnaires than the sample size total.

Acquiring information required getting permission from the different authorities in the   
organization and getting this authorization took a lot of time. Some respondents therefore withheld some vital information for the study.

# CHAPTER FOUR

# DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

# 4.0 Introduction

In this chapter, respondents were asked to provide their background information and their Results are summarised in Tables below:

**The response rate** for the study was determined by the 82 respondents out of 92 who participated, filled and returned their questionnaires; thus, the response rate for the study was 89.1%; since it is above 70%, it is acceptable for making conclusions and recommendations for the study. Therefore, the current study was based on the 82 respondents who participated.

# 4.1 Background information of respondents

## 4.1.1 Gender of respondents

The respondents were asked to identify the gender in which they belonged to, responses to the question are summarized in table 4.1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 4.1: Gender of respondents | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 39 | 47.6 | 47.6 | 47.6 |
| Female | 43 | 52.4 | 52.4 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

According to results in table 4.1, it is seen that 47.6% of the respondents were males and 52.4% were female, which means that majority of the respondents were females. This can be interpreted to mean that most of the duties and activities MTC are performed by females.

## 4.1.2 Age of respondents

The researcher was interested in determining the age brackets in which the respondents belonged; the responses are presented in table 4.2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 4.2: Age of respondents | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 18-30 Years | 19 | 23.2 | 23.2 | 23.2 |
| 31-40 | 39 | 47.6 | 47.6 | 70.7 |
| 41-50 | 14 | 17.1 | 17.1 | 87.8 |
| Above 50 years | 10 | 12.2 | 12.2 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

Results in table 4.2 revealed that majority of respondents 47.6% belonged to the age group between 31-40 years of age while minority of the respondents were aged above 45 years of age. However, despite the difference is age brackets, it can be concluded that all respondents were of mature age and as such assumed to understand and comprehend the data collection instruments by providing relevant and valid data about supply chain management and performance of manufacturing companies.

## 4.1.3 Level of education

Here the researcher sought to determine the respondents’ level of education. Responses to the question are summarised in table 4.3.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 4.3: Level of education | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Certificate | 12 | 14.6 | 14.6 | 14.6 |
| Diploma | 24 | 29.3 | 29.3 | 43.9 |
| Bachelor’s Degree | 36 | 43.9 | 43.9 | 87.8 |
| Master’s Degree | 7 | 8.5 | 8.5 | 96.3 |
| Others, specify | 3 | 3.7 | 3.7 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 4.3 indicate that 14.6% of the respondents had certificate level, 29.3% had diploma, 43.9% had a bachelor’s Degree, 8.5% had master’s Degree while 3.7% specified their qualification which included PhD, and these mentioned that they had certificates in different fields and/or UCE. The results also show that all respondents in the MTC had attained an acceptable level of education and as such found it easy to understand the data collection instruments, hence provided relevant data for the study.

## 4.1.4 Work experience

On this question, the researcher sought to determine the work experience respondents had. The responses to the question are obtained in table 4.4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 4.4: Work experience | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1-3 Years | 11 | 13.4 | 13.4 | 13.4 |
| 4-6 Years | 37 | 45.1 | 45.1 | 58.5 |
| 7-9 Years | 17 | 20.7 | 20.7 | 79.3 |
| More than 10 Years | 17 | 20.7 | 20.7 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

According to results in table 4.4, it is indicated that 13.4% had 1-3 years of work experience, 45.1% had 4-6 years, and 20.7% had 7-9 years while 20.7% had worked for more than 10 years. The results clearly indicate that a highest total percentage of respondents had work experience for a reasonable number of years and as such had prior understanding about the supply chain management and how it influences performance; this means they provided reliable and relevant data.

# 4.1.5 Department of deployment

Respondents were also asked to indicate their department of deployment within UPPC. The results are presented in table 4.5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 4.5: Department of deployment | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Procurement | 24 | 29.2 | 29.2 | 29.2 |
| Audit | 20 | 24.3 | 24.3 | 53.5 |
| Finance | 15 | 18.2 | 18.2 | 71.7 |
| Distribution | 9 | 10.9 | 10.9 | 82.6 |
| Production | 6 | 7.3 | 7.3 | 89.9 |
| Stores and warehouse | 8 | 10.1 | 10.1 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in Table 4.5 indicate that majority of the respondents were from the procurement department, this is the department whose responsibilities and activities have a direct link in regards to supply chain management within the company; it was also established that 24.3% were from the audit department which also plays an important role in supply chain management. The results can be concluded to mean that most of the respondents were from relevant departments hence provided the most relevant and valid information about the study variables

# CHAPTER FIVE

# STORAGE MANAGEMENT AND PERFORMANCE OF MTC

# 5.0 Introduction

This chapter presents the findings on storage management and performance of MTC. The chapter begins with the descriptive statistical results and ends with inferential statistics testing for the hypothesis.

# 5.1 Descriptive statistics on the impact of storage management on performance of Meridian Tobacco Company (MTC).

In relation to objective one, the descriptive data was presented in form of frequencies and percentages of the collected data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 5.1: There are good physical storage facilities for proper preservation of tobacco | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 4 | 4.9 | 4.9 | 4.9 |
| Disagree | 13 | 15.9 | 15.9 | 20.7 |
| Not sure | 5 | 6.1 | 6.1 | 26.8 |
| Agree | 24 | 29.3 | 29.3 | 56.1 |
| Strongly agree | 36 | 43.9 | 43.9 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 5.1 show that majority of respondents 73.2% generally agreed while minority 4.9% strongly disagreed and 15.9% disagreed; despite the difference in respondents’ responses, it can be concluded that MTC ensures that their tobacco output is stored in a clean, dry, insect free facility until processing stage. In an interview session, it was stated that;

“*We have many storage facilities for our tobacco output and we commonly use a packhouse or bulk curing barn which is built on standard. The costs of producing, harvesting and curing carryover* *tobacco already has been invested, and the carryover tobacco is additional profit for the producer if quality is maintained by proper storage”.*

This means that MTC stores carryover tobacco in curing barns in boxes or in racks used for curing.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 5.2: MTC uses stock tracking systems to monitor stock movement | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 9 | 11.0 | 11.0 | 11.0 |
| Disagree | 14 | 17.1 | 17.1 | 28.1 |
| Not sure | 9 | 11.0 | 11.0 | 39.1 |
| Agree | 27 | 32.9 | 32.9 | 72.0 |
| Strongly agree | 23 | 28.0 | 28.0 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 5.2 show that majority of respondents 60.9% generally agreed while minority 17.1% disagreed and 11.0% strongly disagreed; despite the difference in respondents’ responses, it can be concluded that the company has a well-implemented inventory management system which allows it to know exactly where its inventory investment resides while under its control. It was revealed that the tracking system is based on transactions where inventory gets tagged with identifiable data such as stock unit numbers; the inventory management department identifies products based on individual features on those tobacco products such as unit of measure, size, weight, price and containerization. It was also indicated that all the data resides on a barcode tag which is used in tracking the movement of each stock unit number during supply.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 5.3: Store manager maintains communication between product stations to know their material needs | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 25 | 30.5 | 30.5 | 30.5 |
| Disagree | 31 | 37.8 | 37.8 | 68.3 |
| Not sure | 11 | 13.4 | 13.4 | 81.7 |
| Agree | 9 | 11.0 | 11.0 | 92.7 |
| Strongly agree | 6 | 7.3 | 7.3 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 5.3 show that majority of respondents 60.9% generally disagreed while minority 11.1% agreed and 7.3% strongly agreed; despite the difference in respondents’ responses, it can be concluded that there are inefficiencies in operations management at MTC between stores manager and product stations. It was revealed that on many occasions the product stations have run out of materials it needs for production which forced production to stop. It was revealed that management has advised the product stations to keep large inventories of materials on hand however this is also not maintained hence introducing new problems. This means that some of the production staff become obsolete before ever being used.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 5.4: There is proper stock record keeping in MTC for proper reconciliation of stock | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 33 | 40.2 | 40.2 | 40.2 |
| Disagree | 19 | 23.2 | 23.2 | 63.4 |
| Not sure | 8 | 9.8 | 9.8 | 73.2 |
| Agree | 12 | 14.6 | 14.6 | 87.8 |
| Strongly agree | 10 | 12.2 | 12.2 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 5.4 show that majority of respondents 63.2% generally disagreed while minority 12.2% strongly agreed and 14.6% agreed; despite the difference in respondents’ responses, it can be concluded that the MTC lacks an effective inventory record accuracy which can be used to ensure that replacement of items is done in a timely manner. It was revealed that inventory is not always properly values and that parts are sometimes not available for production or sale when needed. This means that inventory reconciliation is not accurately done to ensure that the actual and recorded; this has placed the company in situations where inventory amounts are not the same at the end of the year; hence there are issues when inventory is audited.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 5.5: Finished goods are kept safely in the stores for durability and minimise losses | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 11 | 13.4 | 13.4 | 13.4 |
| Disagree | 13 | 15.9 | 15.9 | 29.3 |
| Not sure | 10 | 12.2 | 12.2 | 41.5 |
| Agree | 29 | 35.4 | 35.4 | 76.8 |
| Strongly agree | 19 | 23.2 | 23.2 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 5.5 show that majority of respondents 58.6% generally disagreed while minority 13.4% strongly agreed and 15.9% agreed; despite the difference in respondents’ responses, it can be concluded that management of MTC ensures to keep stock of finished goods in a useful way that can protect production in case of any problems down the line with other supplies. In an interview session, it was indicated that;

“*MTC has stability testing requirements which can determine the safety of tobacco in a way that ensures durability and reduced costs. The standards include those attributes that are susceptible to change during storage and are likely to influence the quality and safety of finished products”.*

This means that MTC has standard requirements which cover the appropriate physical, chemical and microbiological attributes which rely on information and data regarding the fermentation process, fermentation inoculum, and stabilization process for the fermented tobacco as these will impact the chemical and microbial constituents and, therefore, product stability.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 5.6: Proper inventory storage has improved organizational performance | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Not sure | 14 | 17.1 | 17.1 | 17.1 |
| Agree | 34 | 41.5 | 41.5 | 58.5 |
| Strongly agree | 34 | 41.5 | 41.5 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 5.6 show that majority of respondents 83.0% generally agreed while minority 17.1% were not sure; despite the difference in respondents’ responses, it can be concluded that MTC to some extent has higher levels of inventory storage which have contributed to an enhanced competitive advantage and improved organisational performance. It was indicated that the company’s inventory management despite its challenges is effective and efficient in ensuring inventory flow across the value chain. The company as a result has been able to balance the tradeoff between the supplies of inventory with the available demand since it has enough inventory to satisfy the demands of its customers, reduced lost sales due to inventory stock-outs.

# 5.2 Hypotheses of the study

H0: There is no significant relationship between storage management and performance in MTC

# 5.3 Correlation analysis

In an attempt of determining the relationship between storage management and performance at MTC, the study was subjected to Pearson’s correlation analysis and results presented in table 5.7

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 5.7: Correlations for storage management and performance of MTC | | | | |
|  | | Storage management | | Performance of MTC |
| Storage management | Pearson Correlation | 1 | .822\*\* | |
| Sig. (2-tailed) |  | .000 | |
| N | 82 | 82 | |
| Performance of MTC | Pearson Correlation | .822\*\* | 1 | |
| Sig. (2-tailed) | .000 |  | |
| N | 82 | 82 | |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | | |

As shown in table 5.7, the test revealed that there is a significant relationship between storage management and performance at MTC, this was represented by (r (82) = .822, P=0.01). This can be interpreted to mean that there is a statistically strong significant positive correlation between the two variables, meaning that if storage management at MTC is held at a constant zero, performance would increase by a mean value of .822. This means that in order to improve on performance, MTC should enhance the storage management.

# 5.4 Regression analysis

In this study, to facilitate the testing of the hypothesis of the study, the researcher used regression analysis to test the implied hypothesis that there is no relationship between storage management and performance in MTC. The results of the test are shown in the tables below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 5.8: Model summary | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .822a | .675 | .671 | .81982 |
| a. Predictors: (Constant), Storage management | | | | |

The results in table 5.8 show the model summary model summary of the regression which yielded an Adjusted R Square of .671. This means that storage management at MTC contributes 67.1% to performance; the remaining 32.9% is contributed to other factors that were outside the scope of this current study. Since these factors were outside the scope of the study, they were not explored.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 5.9: Coefficientsa | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 6.577 | .247 |  | 26.596 | .000 |
| Storage management | .814 | .063 | .822 | 12.894 | .000 |
| a. Dependent Variable: Performance | | | | | | |

The test revealed that storage management has an influence on performance of MTC, this is because the test yielded a significant relationship between the two study variables, this is shown by the Beta value which is positive presented by (p= .822, P=0.01).

In view of the above tests, it can be concluded that, storage management significantly facilitates performance in MTC as it contributes 67.1% as indicated in the model summary, this is a moderate contribution hence can be interpreted to mean that MTC’s storage management has been successful in facilitating performance.

Since the p value was less than the alpha of 0.05, the study rejects the null hypothesis and accepts the positive hypothesis that there is a statistically significant relationship between storage management and performance; hence the null hypothesis is rejected.

# CHAPTER SIX

# TRASPORTATION AND PERFORMANCE OF MTC

# 6.0 Introduction

This chapter presents the findings on transport and performance of MTC. The chapter begins with the descriptive statistical results and ends with inferential statistics testing for the hypothesis.

# 6.1 Descriptive statistics on the impact of transport on performance of Meridian Tobacco Company (MTC).

In relation to objective two, the descriptive data was presented in form of frequencies and percentages of the collected data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6.1: A responsive, economical transportation network for efficient delivery of products to the customers | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 21 | 25.6 | 25.6 | 25.6 |
| Disagree | 31 | 37.8 | 37.8 | 63.4 |
| Not sure | 13 | 15.9 | 15.9 | 79.3 |
| Agree | 9 | 11.0 | 11.0 | 90.2 |
| Strongly agree | 8 | 9.8 | 9.8 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

The results in table 6.1 show that majority of respondents 63.4% generally disagreed while minority 11.0% agreed and 9.8% strongly agreed; despite the difference in respondents’ responses, it can be concluded that MTC faces challenges in its transport which affects timely delivery of products to customers. It was revealed that some of the common challenges faced are delays, unclear orders for delivery of finished products during transit. It was revealed that the major issue of delay in delivering products is due to slow and poor flow of information; the most common is having the trucks change directions recorded on the map because of poor flow of information.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6.2: Finished products for sale are sent to the right place, at the right time | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 45 | 54.9 | 54.9 | 54.9 |
| Disagree | 18 | 22.0 | 22.0 | 76.9 |
| Not sure | 8 | 9.8 | 9.8 | 86.7 |
| Agree | 7 | 8.5 | 8.5 | 95.1 |
| Strongly agree | 4 | 4.9 | 4.9 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data (2022)**

According to results in table 6.2, majority of the respondents 76.9% generally agreed while minority 8.5% disagreed and 4.9% strongly disagreed; despite the difference in respondents’ responses, it can be concluded that MTC’s transport program is not effective in ensuring that delivery of goods is on time, the right quantity and always in the right place; it was indicated that one major contributor to delays in delivery of products is material handling where there are inefficiencies in arranging and controlling activities for warehouses and transportation; as a result there is improper selection of equipment to physically handle products and minimise losses from damage and theft hence leading to delay in delivery of products to customers.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6.3: Transport management systems are in place to reduce transportation costs | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Not sure | 11 | 13.4 | 13.4 | 13.4 |
| Agree | 27 | 32.9 | 32.9 | 46.3 |
| Strongly agree | 44 | 53.7 | 53.7 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

According to results in table 6.3, majority of the respondents 86.6% generally agreed while minority 13.4% were not sure; despite the difference in respondents’ responses, it can be concluded that the transportation of products and raw materials at MTC is properly organised to ensure an organised a planned distribution of products. In an interview session it can expressed that;

“*MTC has a clearly organised transportation system which ensures that routes for delivery are well planned and vehicles for distribution of products are readily available and in good condition. Our team ensures that only good conditioned vehicles are in place during times of product delivery; all this is to ensure reduced transportation costs which can cost the company in form of hiring other transport services”.*

This means that the transportation system has increased on customer experience satisfaction and reduced costs for the company through reliable, cost-efficient movement of goods through the supply chain.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6.4: Transport facilities are optimally used to deliver products into the market | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 32 | 39.0 | 39.0 | 39.0 |
| Disagree | 17 | 20.7 | 20.7 | 59.7 |
| Not sure | 12 | 14.6 | 14.6 | 74.3 |
| Agree | 11 | 13.4 | 13.4 | 87.7 |
| Strongly agree | 10 | 12.3 | 12.3 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

According to results in table 6.4, majority of the respondents 59.7% generally disagreed while minority 13.4% agreed and 12.3% strongly agreed; despite the difference in respondents’ responses, it can be concluded that the company does not have an optimal follow-up with hence faces difficulty in timely delivery of products into the market place. It was indicated that management ensures that each transport has its own efficient solution, however, despite this this company has still failed to manage delivery of products. It was revealed that at a certain point MTC was advised to purchase a transport management software which could simplify the logistics in the delivery of its products but this has not yet happened. As a result, there has been failure to monitor the execution of products throughout the transportation process hence inefficiencies in delivery of tobacco.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6.5: Transport managers ensure proper routing and scheduling of delivery vehicles | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 4 | 4.9 | 4.9 | 4.9 |
| Disagree | 6 | 7.3 | 7.3 | 12.2 |
| Not sure | 13 | 15.9 | 15.9 | 28.0 |
| Agree | 22 | 26.8 | 26.8 | 54.9 |
| Strongly agree | 37 | 45.1 | 45.1 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

According to results in table 6.5, majority of the respondents 71.9% generally agreed while minority 7.3% disagreed and 4.9% strongly disagreed; despite the difference in respondents’ responses, it can be concluded that MTIC’s transportation system properly facilitates the transportation mode that the organisation adequately and regularly depends on. It was indicated that managers understand that transportation is an important function which ensures effective flow of raw materials and products from the suppliers to the company factory and that movement of finished goods to consumers.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 6.6: Transportation management has improved timely deliveries in MTC | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 31 | 37.8 | 37.8 | 37.8 |
| Disagree | 19 | 23.2 | 23.2 | 61.0 |
| Not sure | 9 | 11.0 | 11.0 | 72.0 |
| Agree | 12 | 14.6 | 14.6 | 86.6 |
| Strongly agree | 11 | 13.4 | 13.4 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

According to results in table 6.6, majority of the respondents 61.0% generally disagreed while minority 14.6% agreed and 13.4% strongly agreed; despite the difference in respondents’ responses, it can be concluded that despite the efforts put in place by MTC, the company is faced with several challenges and the most common are truck break down which leads to over carriage of the remaining trucks, short landing as some of the transport management challenges that affect the delivery of products on a timely schedule within the company hence hampering smooth organisational goal attainment.

# 6.2 Hypotheses of the study

H0: There is no significant relationship between transportation and performance in MTC

# 6.3 Correlation analysis

In an attempt of determining the relationship between transportation and performance at MTC, the study was subjected to Pearson’s correlation analysis and results presented in table 6.7.

|  |  |  |  |
| --- | --- | --- | --- |
| Table 6.7: Correlations for transportation and performance of MTC | | | |
|  | | Transportation | Performance of MTC |
| Transportation | Pearson Correlation | 1 | .847\*\* |
| Sig. (2-tailed) |  | .000 |
| N | 82 | 82 |
| Performance of MTC | Pearson Correlation | .847\*\* | 1 |
| Sig. (2-tailed) | .000 |  |
| N | 82 | 82 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | |

As shown in table 6.7, the test revealed that there is a significant relationship between storage management and performance at MTC, this was represented by (r (82) = .847, P=0.01). This can be interpreted to mean that there is a statistically strong significant positive correlation between the two variables, meaning that if transportation at MTC is held at a constant zero, performance would increase by a mean value of .847. This means that in order to improve on performance, MTC should enhance the storage management.

# 6.4 Regression analysis

In this study, to facilitate the testing of the hypothesis of the study, the researcher used regression analysis to test the implied hypothesis that there is no relationship between transportation and performance in MTC. The results of the test are shown in the tables below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 6.8: Model Summary | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .847a | .717 | .714 | .77738 |
| a. Predictors: (Constant), Transportation | | | | |

The results in table 6.8 show the model summary model summary of the regression which yielded an Adjusted R Square of .714. This means that transportation at MTC contributes 71.4% to performance; the remaining 28.6% is contributed to other factors that were outside the scope of this current study. Since these factors were outside the scope of the study, they were not explored.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 6.9: Coefficientsa | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | .495 | .220 |  | 2.247 | .027 |
| Transportation | .838 | .057 | .847 | 14.593 | .000 |
| a. Dependent Variable: Performance | | | | | | |

The test revealed that transportation has an influence on performance of MTC, this is because the test yielded a significant relationship between the two study variables, this is shown by the Beta value which is positive presented by (p= .847, P=0.01).

In view of the above tests, it can be concluded that, transportation significantly facilitates performance in MTC as it contributes 71.4% as indicated in the model summary, this is a high contribution hence can be interpreted to mean that MTC’s transportation has been successful in facilitating performance.

Since the p value was less than the alpha of 0.05, the study rejects the null hypothesis and accepts the positive hypothesis that there is a statistically significant relationship between transportation and performance; hence the null hypothesis is rejected.

# CHAPTER SEVEN

# INVENTORY PLANNING AND PERFORMANCE OF MTC

# 7.0 Introduction

This chapter presents the findings on inventory planning and performance of MTC. The chapter begins with the descriptive statistical results and ends with inferential statistics testing for the hypothesis.

# 7.1 Descriptive statistics on the impact of inventory planning on performance of Meridian Tobacco Company (MTC).

In relation to objective three, the descriptive data was presented in form of frequencies and percentages of the collected data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 7.1: MTC has a records management system for recording receipts and issues of inventory | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Not sure | 6 | 7.3 | 7.3 | 7.3 |
| Agree | 25 | 30.5 | 30.5 | 37.8 |
| Strongly agree | 51 | 62.2 | 62.2 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

The results in table 7.1 show that majority of respondents 92.7% generally agreed while minority 7.3% were not sure; despite the difference in respondents’ responses, it can be concluded that MTC exercises due care in protecting supplies and products. It was revealed that the chief storekeeper is responsible for recording receipts and inventory; the complexity of requirements varies depending upon the size nature of the finished goods in storage and the position of logistics chain and reporting relationship for accountability. This means that MTC has basic operating standards and controls which are essential for good commodity management.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 7.2: Inventory planning enhances information flow between MTC and its suppliers | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 12 | 14.6 | 14.6 | 14.6 |
| Disagree | 13 | 15.9 | 15.9 | 30.5 |
| Not sure | 7 | 8.5 | 8.5 | 39.0 |
| Agree | 30 | 36.6 | 36.6 | 75.6 |
| Strongly agree | 20 | 24.4 | 24.4 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

The results in table 7.2 show that majority of respondents 61.1% generally agreed while minority 14.6% strongly disagreed and 15.9% disagreed; despite the difference in respondents’ responses, it can be concluded that MTC has an efficient management planning of inventory which flows across the value chain. It was revealed that the company flow of information is crucial in balancing the tradeoff between the supplies of inventory with demand; this is through having enough inventories to satisfy the demands of its customers because the suppliers are always informed about the need of raw materials.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 7.3: Inventory planning is useful in inventory decision making | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 14 | 17.1 | 17.1 | 17.1 |
| Disagree | 10 | 12.2 | 12.2 | 29.3 |
| Not sure | 7 | 8.5 | 8.5 | 37.8 |
| Agree | 19 | 23.2 | 23.2 | 61.0 |
| Strongly agree | 32 | 39.0 | 39.0 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

The results in table 7.3 show that majority of respondents 62.2% generally agreed while minority 17.1% strongly disagreed and 12.2% disagreed; despite the difference in respondents’ responses, it can be concluded that the company uses inventory planning as a strategy of improving performance; it was revealed that this is achieved through an inventory management software the company uses to find out everything to know about its customers. It was indicated that the company uses customer-buying patterns, sales data and delivery time frames which are crucial considerations in improving organisational performance through meeting customer demands.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 7.4: Quality management is adhered to at all levels in acquisition of raw materials | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 27 | 32.9 | 32.9 | 32.9 |
| Disagree | 32 | 39.0 | 39.0 | 72.0 |
| Not sure | 7 | 8.5 | 8.5 | 80.5 |
| Agree | 9 | 11.0 | 11.0 | 91.5 |
| Strongly agree | 7 | 8.5 | 8.5 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

The results in table 7.4 show that majority of respondents 71.9% generally disagreed while minority 8.5% strongly agreed and 11.0% disagreed; despite the difference in respondents’ responses, it can be concluded that MTC operations management follow quality assurance targets as set by management. It was revealed that the quality of the products/services delivered by is consistent with the quality requirement standards stipulated, this was said to be achieved through proactive and collaborative approaches between MTC and its suppliers through quality management system. This means that MTC ensures that its products/services conform to pre-established requirements.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 7.5: Inventory planning enhances profitability of MTC | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Not sure | 4 | 4.9 | 4.9 | 4.9 |
| Agree | 29 | 35.4 | 35.4 | 40.2 |
| Strongly agree | 49 | 59.8 | 59.8 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

The results in table 7.5 show that majority of respondents 95.2% generally agreed while minority 4.9% were not sure; despite the difference in respondents’ responses, it can be concluded that good inventory management system is a pronged approach to reducing costs and reducing losses contributing towards improved profitability. In an interview session, it was revealed that;

“*I think every business enterprise understands the magnitude of inventory planning towards profitability. A good inventory management planning such as that one we have helps to raise the assurance of the marketing and sales employees as they can get new clients or commit to repeat orders from existing clients without the fear of delays in delivery”.*

This means that inventory planning can enhance the productivity of the sales and marketing department within the company to ensure increased profitability.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 7.6: Safety of stock is considered during inventory planning to minimise expected losses and discrepancies | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 12 | 14.6 | 14.6 | 14.6 |
| Disagree | 11 | 13.4 | 13.4 | 28.0 |
| Not sure | 10 | 12.2 | 12.2 | 40.2 |
| Agree | 26 | 31.7 | 31.7 | 72.0 |
| Strongly agree | 23 | 28.0 | 28.0 | 100.0 |
| Total | 82 | 100.0 | 100.0 |  |

**Source: Primary data, 2022**

The results in table 7.6 show that majority of respondents 59.7% generally agreed while minority 14.6% strongly disagreed and 13.4% disagreed; despite the difference in respondents’ responses, it can be concluded that MTC has safety stock which acts as buffer stock in case sales are greater than planned and or supplier is unable to deliver the additional units at the expected time. It was also revealed that efficient stock controls have enabled the company to have the right amount of stock in the right place at the right time; this has ensured that MTC’s capital is not tied up unnecessarily and protects production in case problems arise with the supply chain.

# 7.2 Hypotheses of the study

H0: There is no significant relationship between inventory planning and performance in MTC

# 7.3 Correlation analysis

In an attempt of determining the relationship between inventory planning and performance at MTC, the study was subjected to Pearson’s correlation analysis and results presented in table 6.7

|  |  |  |  |
| --- | --- | --- | --- |
| Table 7.7: Correlations for inventory planning and performance of MTC | | | |
|  | | Inventory planning | Performance of MTC |
| Inventory planning | Pearson Correlation | 1 | .840\*\* |
| Sig. (2-tailed) |  | .000 |
| N | 82 | 82 |
| Performance of MTC | Pearson Correlation | .840\*\* | 1 |
| Sig. (2-tailed) | .000 |  |
| N | 82 | 82 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). | | | |

As shown in table 7.7, the test revealed that there is a significant relationship between storage management and performance at MTC, this was represented by (r (82) = .840, P=0.01). This can be interpreted to mean that there is a statistically strong significant positive correlation between the two variables, meaning that if inventory planning at MTC is held at a constant zero, performance would increase by a mean value of .840. This means that in order to improve on performance, MTC should enhance the inventory planning.

# 7.4 Regression analysis

In this study, to facilitate the testing of the hypothesis of the study, the researcher used regression analysis to test the implied hypothesis that there is no relationship between inventory planning and performance in MTC. The results of the test are shown in the tables below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table 7.8: Model Summary | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .840a | .705 | .700 | .79120 |
| a. Predictors: (Constant), Inventory planning | | | | |

The results in table 7.8 show the model summary model summary of the regression which yielded an Adjusted R Square of .700. This means that inventory planning at MTC contributes 70.0% to performance; the remaining 30.0% is contributed to other factors that were outside the scope of this current study. Since these factors were outside the scope of the study, they were not explored.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table 7.9: Coefficientsa | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 1.381 | .206 |  | 6.708 | .000 |
| Inventory planning | .935 | .079 | .840 | 11.767 | .000 |
| a. Dependent Variable: Performance | | | | | | |

The test revealed that inventory planning has an influence on performance of MTC, this is because the test yielded a significant relationship between the two study variables, this is shown by the Beta value which is positive presented by (p= .840, P=0.01).

In view of the above tests, it can be concluded that, inventory planning significantly facilitates performance in MTC as it contributes 70.0% as indicated in the model summary, this is a high contribution hence can be interpreted to mean that MTC’s inventory planning has been successful in facilitating performance.

Since the p value was less than the alpha of 0.05, the study rejects the null hypothesis and accepts the positive hypothesis that there is a statistically significant relationship between inventory planning and performance; hence the null hypothesis is rejected.

# CHAPTER EIGHT

# DISCUSSION OF FINDINGS

# 8.0 Introduction

This chapter is towards strengthening supply chain management and performance of MTC. Implications are, deduced, from the findings, discussed and interpreted basing on the research hypotheses of the study.

# 8.1 Relevance of the Goal Setting Theory to the study

The current study was guided by the Goal Setting Theory; according to the study findings, it is noted that the Goal Setting Theory carries relevance as it believes that a person who has found his goal will also find the knowledge and skills necessary to achieve it. Edwin Locke found that the conditions necessary for goal accomplishment change on the basis of feedback, goal commitment, ability, and task complexity. In relation to the study, it can be concluded that efficiency is one of the most important aspects of supply chain management. In manufacturing, efficiency is defined by the ability to fulfill customer orders in a timely manner while using the least amount of inventory. While operational efficiency is essential, efficiency between links in the supply chain is also important. Effectively managing inventory, transportation, and logistics can be a complex process; especially for companies who do not have an adequate ERP, MRP, or APS system. However, the collaboration between manufacturers, wholesalers, and retailers is essential to maximize the efficiency of your operations. Manufacturers should focus on increasing the visibility within their operations as well as with their suppliers and other retailers to improve the efficiency of the entire supply chain.

# 8.2 Storage management and performance of MTC

The results under this objective indicate that 73.2% generally agreed to the statement that there are good physical storage facilities for proper preservation of tobacco, 60.9% generally agreed that MTC uses stock tracking systems to monitor stock movement, 60.9% generally disagreed to the statement that store manager maintains communication between product stations to know their material needs, 63.2% generally disagreed that there is proper stock record keeping in MTC for proper reconciliation of stock, 58.6% generally disagreed that finished goods are kept safely in the stores for durability and minimise losses and 83.0% generally agreed that proper inventory storage has improved organizational performance.

Facility location decisions also play a critical role in the efficiency of supply chain management. Location decisions may be the most critical and most difficult of the decisions needed to realize an efficient supply chain. Problems of facility location are of two types, selection of a facility from existing facilities and selecting the location for building the new facility. Location problems are highly uncertain in terms of travel time, cost and demand. For the location of a facility distance to the customer, time and costs have to be considered (Melo, Nickel, and Saldanha-da-Gama, 2009). Many models have been developed with an objective of cost minimization besides maximization the level of demand satisfaction that can be achieved by the effective utilization of available vehicles and resources (Boonmee, Arimura, & Asada, 2017).

Facility location has a long-term impact on the supply chain and must be part of the firm’s strategy. Facility location decisions play a crucial role in the supply chain management activities. As Krajewski, (2017) defined, facility location is the process of determining the geographic site for a firm’s operations. Facility Location can be vital importance for the supply chain management from many reasons such as a limit of production capacity, expansion to a new market, and cost (Thanh, Bostel, and Péton, 2018).

Facility location decision influence the efficiency of supply chain management by influencing inventory and transportation decisions. Research shows a strong relationship between location problem and inventory (Shen, Kremer, Ulieru, and Norrie, 2017) and the linear relationship between transportation cost and location decisions (Shen and Qi, 2017). Generally, locations decisions should consider the availability infrastructure, raw materials, nearness to the consumer, and availability of labor in order to make the right location decision to offer quick service delivery, to deliver at a minimum cost relative to competitors, and to offer quality service to improve supply chain performance.

# 8.3 Transportation and performance of MTC

The results under this objective indicate that 63.4% generally disagreed to the statement that a responsive, economical transportation network for efficient delivery of products to the customers, 76.9% generally agreed that finished products for sale are sent to the right place, at the right time, 86.6% generally agreed that transport management systems are in place to reduce transportation costs, 59.7% generally disagreed to the statement that transport facilities are optimally used to deliver products into the market, 71.9% generally agreed that transport managers ensure proper routing and scheduling of delivery vehicles and 61.0% generally disagreed to the statement that transportation management has improved timely deliveries in MTC.

A critical problem in the mode of transportation is to find out the shortest time path between origin and destination. Decisions of transportation model have a critical impact on supply chain performance because the employed modes of transportation affect reliability, quality of service, capacity, delivery time, cost of transportation, and dependability. The decisions of the selection of the right transportation carriers based on the objective functions of the firms and the objective functions are either minimization of travel cost and travel time. Minimization of travel time leads to improvement in overall response and is sought for identifying the right path with minimum risk for transportation (Safeer et al., 2019).

Minimization of transportation cost by the different model is an objective function of modern transport companies. Transportation models like North West Corner method, stepping stone method, least cost method, and other’s primary objective function is the minimization of transportation cost because it is a key area. Logistics companies can truly differentiate themselves and prove with cost reduction, and build highly competitive advantage and supply chain performance (Neeraja, Mehta, & Arti, 2014). Sustained and effective freight transport is fundamental for economic development, where transport cost and supply chain performance are strongly correlated (Kuse, Endo, & Iwao, 2010). Improvements in physical distribution can yield tremendous improved supply chain performance for supply chain partners.

An empirical study on transportation cost show that the most important consideration in the selection of a particular mode of transport is its cost and nearly one-third of the total cost of logistics operations is transportation cost (Alan, Phil, & Peter, 2006). A good transport system in logistics activities could provide better supply chain performance by reducing operation cost, and promoting service quality. An empirical finding of show a fall in transportation cost by one unit leads to inventory costs to be fall in triple and similarly, a one third to two third of the expenses of enterprises’ logistics costs are spent on transportation and the cost of transportation on average account 6.5% of market revenue and 44% of logistics costs by (Wilson, 2004). However, transportation cost minimization constrained internally by quick-response pressures and externally by increasing traffic congestion on the road network (Fernie et al., 2011).

# 8.4 Inventory planning and performance MTC

The results under this objective revealed that 92.7% generally agreed to the statement that MTC has a records management system for recording receipts and issues of inventory, 61.1% generally agreed that inventory planning enhances information flow between MTC and its suppliers, 62.2% generally agreed that inventory planning is useful in inventory decision making, 71.9% generally disagreed to the statement that quality management is adhered to at all levels in acquisition of raw materials, 95.2% generally agreed that inventory planning enhances profitability of MTC and 59.7% generally agreed that safety of stock is considered during inventory planning to minimise expected losses and discrepancies.

Effective inventory management is very critical for the success of supply chain performance. Inventory management is part of supply chain management function in which create an issue for the imbalance of inventory (Biman & Chaki, 2017). The vast majority of supply chain literature is concerned with minimizing operation cost or maximizing profit but research on effects of inventory management on the performance of supply chains has only recently received significant attention (Melo et al., 2009). There is a direct relationship between the performance of supply chain management and inventories handling system of an organization (Dong, Carter and Dresner, 2018). Supply chain management concerned to inventory to overcome the problem of excess or shortage of inventory and for customer’s satisfaction levels and flexibility to meet unpredicted demand (Lieberman et al, 2019).

Generally, for a better supply chain performance, effective inventory management is essential since inventory account a large percentage of assets of an organization. Therefore, while designing warehouse attention should be given to warehouse design, size and location to reduce transportation cost, holding cost, spoilage cost, insurance cost and leading time. Similarly, during the warehouse design as James, Tompkins, Jerry & Smith (2017) stated considerations should be made to effective utilization of the space, loading and unloading areas, and equipment required to perform certain processes, the flexibility of moving products within the warehouse facility and protection of the items from damaging.

# CHAPTER NINE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

# 9.0 Introduction

This chapter comprises of the summary of findings, conclusion and recommendation of the study according to the study objectives. The study was about supply chain management and performance of MTC. The recommendations are on a basis of the findings and relates to advice and the interventions that the researcher feels should be brought to the attention of MTC to improve on performance. The study ends by presenting the areas that the researcher considers vital for further studies.

# 9.1 Summary of findings

## 9.1.1 Storage management and performance of MTC

The results under this objective indicate that MTC ensures that their tobacco output is stored in a clean, dry, insect free facility until processing stage, the company has a well-implemented inventory management system which allows it to know exactly where its inventory investment resides while under its control, there are inefficiencies in operations management at MTC between stores manager and product stations, MTC lacks an effective inventory record accuracy which can be used to ensure that replacement of items is done in a timely manner, management of MTC ensures to keep stock of finished goods in a useful way that can protect production in case of any problems down the line with other supplies and MTC to some extent has higher levels of inventory storage which have contributed to an enhanced competitive advantage and improved organisational performance.

## 9.1.2 Transportation and performance of MTC

The results under this objective indicate that MTC faces challenges in its transport which affects timely delivery of products to customers, MTC’s transport program is not effective in ensuring that delivery of goods is on time, the right quantity and always in the right place, transportation of products and raw materials at MTC is properly organised to ensure an organised a planned distribution of products, company does not have an optimal follow-up with hence faces difficulty in timely delivery of products into the market place, MTIC’s transportation system properly facilitates the transportation mode that the organisation adequately and regularly depends on and despite the efforts put in place by MTC, the company is faced with several challenges and the most common are truck break down which leads to over carriage of the remaining trucks.

## 9.1.3 Inventory planning and performance of MTC

The results under this objective indicate that MTC exercises due care in protecting supplies and products, MTC has an efficient management planning of inventory which flows across the value chain, the company uses inventory planning as a strategy of improving performance; it was revealed that this is achieved through an inventory management software the company uses to find out everything to know about its customers, MTC operations management follow quality assurance targets as set by management, that good inventory management system is a pronged approach to reducing costs and reducing losses contributing towards improved profitability and MTC has safety stock which acts as buffer stock in case sales are greater than planned and or supplier is unable to deliver the additional units at the expected time.

# 9.2 Conclusion

This study endeavored to answer three questions: (1) What is the impact of storage management on performance of Meridian Tobacco Company (MTC), Arua District? (2) What is the impact of transport management on performance of Meridian Tobacco Company (MTC), Arua District? (3) What is the impact of inventory planning and control on performance of Meridian Tobacco Company (MTC), Arua District? Based on the finding of the study, there are a few key points that can be used to conclude this research paper; First, the most effective contributor performance is transportation (Adjusted R Square of 71.4%), followed by inventory planning (Adjusted R Square of 70.0%) and the least contributor is storage management (Adjusted R Square of 67.1%).

The study therefore concludes that there are variations among the level of implementation of the supply chain practices. Hence the extent of implementation is concluded to base largely on the desired outcomes or the managements' preferences. The study also found out that there are challenges that limit the effectiveness of the supply chain management. The study thus concludes that for the implementation to be successful these challenges have to be addressed.

# 9.3 Recommendations

## Storage management and performance

It is advisable if the factory increase investment on infrastructure of transportation for raw material inventory within factory.

The study recommends that managers and concerned body of should improve warehouse management in strategic plan can increase financial performance and reduce lead-time.

Factory warehouse activities should be supported by automated technology in order to minimize the effort of employees and reduce the time to deliver service.

The factory should give due attention in proper implementation logistics activities for efficient delivery of transportation, better warehouse management and inventory management

## Transportation and performance

The study also established that implementing transport and logistics practices led to incurring of additional costs. The study thus recommends that proper budgetary considerations and plans to be considered before undertaking any process. This will enable determination of the merits and the demerits of that particular process and thus assess its appropriateness.

The study further recommends that Policies and legislation bodies should consider the need for facilitating and setting up policies which will enhance implementation process of logistics and transportation strategies in the company.

The company can work closely with transport companies and stakeholders for fast delivery of raw material from farmers to the factory.

## Inventory planning and performance

Inventory management should be enhanced as it will help to improve performance within the organization. High level of inventory management will tie down capital of the organization, so one of the major focuses in formulating strategic plans of a manufacturing organization should be inventory management.

Also, various inventory management strategies such as just-in-time (JIT) should be used to manage the stocks that is kept in storage, increase efficiency, decrease waste by receiving goods only as they need them for the production process which reduces inventory costs and economic order quantity (EOQ) should be used to minimize the total holding costs and ordering costs.

# 9.4 Areas of further research

To clearly investigate the issue of supply chain management, future research should be done on the other supply chain activities like the effect of procurement, material handling, customer service and others activities which helps to enhance the performance of a factory.

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# APPENDICES

# APPENDIX I: SELF-ADMINISTERED QUESTIONNAIRE

Mr. ORALE RICHARD

Nkumba University

P.O Box 237, Entebbe (U)

Dear respondent,

I am a finalist on conducting Research on the topic “***supply chain management on performance of manufacturing companies in Uganda***”. A case study of Meridian Tobacco Company, Arua District. The questions below are intended to facilitate this study and I humbly request you to answer the questions here in as honestly as possible. The information provided will be used for academic purposes only and utmost confidentiality will be exercised in the completion of the research study.

**THANK YOU**

**SECTION A: BIO DATA OF RESPONDENTS**

**Please tick in the boxes provided**

1. Gender of the respondents

a) Male b) Female

**2. Age of the respondents**

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

**3. Respondent’s level of education**

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

e) Other specify……………………………………

**4. Respondents working experience (years)**

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

**6. Respondent working department**

Processing

Marketing

Transport

Warehousing

Customers

**SECTION B: Impact of Storage Management on Performance**

Please respond to the following statements by indicating the extent to which you agree or disagree, using the following Likert scale.

1= Strongly Disagree 2= Disagree 3= Not Sure 4= Disagree 5= Strongly Disagree

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Question** | **1** | **2** | **3** | **4** | **5** |
| 1 | MTC has good physical storage facilities for proper preservation of tobacco until processing stage |  |  |  |  |  |
| 2 | MTC uses stock tracking systems to monitor stock movement throughout the production process |  |  |  |  |  |
| 3 | The store manager maintains communication between product stations to know their material needs |  |  |  |  |  |
| 4 | There are proper stock records keeping in MTC for proper reconciliation of available stock |  |  |  |  |  |
| 5 | Finished goods are kept safely in the stores for durability and minimization of losses |  |  |  |  |  |
| 6 | Proper inventory storage has improved organizational performance |  |  |  |  |  |

7. Comment on the overall influence of storage management and appropriate strategies employed by the company to improve performance

………………………………………………………………………………………………………

**SECTION C: Impact of transport management on Performance**

Please respond to the following statements by indicating the extent to which you agree or disagree, using the following Likert scale.

1= Strongly Disagree 2= Disagree 3= Not Sure 4= Disagree 5= Strongly Disagree

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Question** | **1** | **2** | **3** | **4** | **5** |
| 1 | MTC has a responsive, economical transportation network for efficient delivery of products to the customers |  |  |  |  |  |
| 2 | Finished products for sale are sent to the right place, at the right time |  |  |  |  |  |
| 3 | Transport management systems are in place to reduce transportation costs |  |  |  |  |  |
| 4 | Transport facilities are optimally used in MTC to deliver products into the market |  |  |  |  |  |
| 5 | Transport managers ensure proper routing and scheduling of delivery vehicles |  |  |  |  |  |
| 6 | Transportation management has improved timely deliveries in MTC |  |  |  |  |  |

7. Comment on the overall influence of transport management and appropriate strategies employed by the company to improve organisational performance

………………………………………………………………………………………………………

**SECTION D: Impact of inventory planning and control on organisational performance**

Please respond to the following statements by indicating the extent to which you agree or disagree, using the following Likert scale.

1= Strongly Disagree 2= Disagree 3= Not Sure 4= Disagree 5= Strongly Disagree

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Question** | **1** | **2** | **3** | **4** | **5** |
| 1 | MTC has a records management System for recording receipts and issues of inventory |  |  |  |  |  |
| 2 | Inventory planning enhances information flow between MTC and its suppliers |  |  |  |  |  |
| 3 | Inventory planning is useful in inventory decision making related to improving performance of the company |  |  |  |  |  |
| 4 | Quality management is adhered to at all levels in acquisition of raw materials to ensure quality of processed products |  |  |  |  |  |
| 5 | Inventory planning enhances profitability of MTC |  |  |  |  |  |
| 6 | Safety of stock is considered during inventory planning to minimise expected losses and discrepancies |  |  |  |  |  |

7. Comment on the overall influence of inventory planning and appropriate control measures employed by the company to improve organisational performance

………………………………………………………………………………………………………

**SECTION E: Organizational performance**

Please respond to the following statements by indicating the extent to which you agree or disagree, using the following Likert scale.

1= Strongly Disagree 2= Disagree 3= Not Sure 4= Disagree 5= Strongly Disagree

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Statement** | **1** | **2** | **3** | **4** | **5** |
| 1 | MTC has achieved a large market share due to the product exported to various countries |  |  |  |  |  |
| 2 | MTC has achieved a competitive advantage over other exporting companies |  |  |  |  |  |
| 3 | The reputation of MTC sounds across boarders |  |  |  |  |  |
| 4 | Customers are satisfied with products of MTC and buy continuously |  |  |  |  |  |
| 5 | MTC produces high quality products which comply with required standards |  |  |  |  |  |
| 6 | Profitability of MTC has increased due to increased sales from the company |  |  |  |  |  |

***Thank you for your cooperation***

# APPENDIX II: INTREVIEW GUIDE

1. What is your department name?
2. How do you comment on the nature of supply chain at Meridian Tobacco Company?
3. In your view does Meridian Tobacco Company, has an efficient and effective supply chain management? And if yes what how does it contribute to performance?
4. Could production management be an element of supply chain management in the company, if yes how does it influence performance?
5. What classes of stock does the company hold?
6. How do you comment on storage management concerning performance?
7. Does the company have an efficient storage system and facilities in place?
8. In your opinion, does transport management constitute supply chain management in the company? If yes, how does it influence performance at Meridian Tobacco Company?
9. What is the relationship between supply chain management and general performance of Meridian Tobacco Company?

***Thank you for your cooperation***

# APPENDIX III: SAMPLE SIZE DETERMINATION

**Sample size(s) required for a given population (n) table**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 | 241 |
| 20 | 19 | 120 | 92 | 300 | 169 | 900 | 269 | 3500 | 246 |
| 25 | 24 | 130 | 97 | 320 | 175 | 950 | 274 | 4000 | 351 |
| 30 | 28 | 140 | 103 | 340 | 181 | 1000 | 278 | 4500 | 351 |
| 35 | 32 | 150 | 108 | 360 | 186 | 1100 | 285 | 5000 | 357 |
| 40 | 36 | 160 | 113 | 380 | 181 | 1200 | 291 | 6000 | 361 |
| 45 | 40 | 180 | 118 | 400 | 196 | 1300 | 297 | 7000 | 364 |
| 50 | 44 | 190 | 123 | 420 | 201 | 1400 | 302 | 8000 | 367 |
| 55 | 48 | 200 | 127 | 440 | 205 | 1500 | 306 | 9000 | 368 |
| 60 | 52 | 210 | 132 | 460 | 210 | 1600 | 310 | 10000 | 373 |
| 65 | 56 | 220 | 136 | 480 | 214 | 1700 | 313 | 15000 | 375 |
| 70 | 59 | 230 | 140 | 500 | 217 | 1800 | 317 | 20000 | 377 |
| 75 | 63 | 240 | 144 | 550 | 225 | 1900 | 320 | 30000 | 379 |
| 80 | 66 | 250 | 148 | 600 | 234 | 2000 | 322 | 40000 | 380 |
| 85 | 70 | 260 | 152 | 650 | 242 | 2200 | 327 | 50000 | 381 |
| 90 | 73 | 270 | 155 | 700 | 248 | 2400 | 331 | 75000 | 382 |
| 95 | 76 | 270 | 159 | 750 | 256 | 2600 | 335 | 100000 | 384 |

**NOTE: “N” is population; “S” is sample size**

**Source:** *Krejcie, Robert V., Morgan, Darley W., “Determining sample size for Research activities”, educational and psychological measurement 2000*