

**EFFECTIVENESS OF INVENTORY CONTROL SYSTEM IN THE
PUBLIC HEALTH SECTOR IN TANZANIA**

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The Research Report Submitted in Partial Fulfilment of the Requirements for the
Award of Masters of Supply Chain Management (MSCM) of the College of
Business Education

2020

DECLARATION AND COPYRIGHT

I, John Gabriel, declare that this research paper is my own original work and it has not been presented anywhere or will not be presented to any other higher learning institution for a similar or any other academic award.

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CERTIFICATION

The undersigned certify that he has read and hereby recommend for acceptance by the College of Business Education a Research project titled “**Effectiveness of Inventory Control System in the Public Health Sector in Tanzania**” in partial fulfilment/fulfilment of the requirements for the award of a Masters in Supply Chain Management of the College of Business Education.

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(Supervisor`s Signature)

Date: _____

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DEDICATION

I dedicate this research report to the Glory of the Almighty God through whose undeserved kindness I have been able to complete this work. It is also dedicated to my family.

LIST OF ABBREVIATIONS

CAG	Controller and Auditor General
DOS	Dormant, obsolete and Slow moving
EOQ	Economic Order Quantity
FEFO	First expiry First out
FIFO	First in First out
JIT	Just in Time
LIFO	Last in first out
MSD	Medical stores department
MRP	Material requirement planning
OBs	Other bodies
PA	Public Authorities
PPA	Public Procurement Act
RFID	Radio Frequency Identification
ROL	Re order level
VED	Vital, Essential and Desirable
WIP	Work in progress

ABSTRACT

The main objective of this study was to assess effectiveness of inventory control system in Tanzania public health sector. Inventory control take above 45% of all costs associated with inventory control system which is needed to ensure that the business has the right goods on hand to avoid stock outs, to prevent decline, and to provide proper accounting. The study was conducted to assess the effectiveness of inventory control system at MSD. Descriptive research design was used in executing the study and sampling technique used was purposive sampling, where by data were collected using questionnaires. Findings on different types of inventory control technique, revealed that EOQ is the best and favorable technique used, but the costs incurred through inventory management; such as holding cost, stock out cost or stock in warehouse including expired stock do not meet the demands of customers. In conclusion, the study aims and objectives were achieved and improvement strategies were identified as intended. Furthermore, roles, challenges, practices and management strategies developed could be practically applied as knowledge contribution. Some of recommendations are: The Company should improve its central data base for archiving the inventory records to enable easy monitoring, decision making and proper inventory management. Inventory management procedures should be put in place to allow Proper management of inventory in a cost effective manner. In order to reduce rate of expiries stock Management of MSD should Improve forecasting quantification data accuracy, ensure FEFO adherence during picking and issuing and Aggressive sales and Immediately commencement of distribution of near to expire medicine.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter presents the background of the study, research problem and the objectives. It also underscores the definitions, significance of the study and research question. Finally, an outline of the dissertation is introduced.

1.2 Background of the Problem

Inventory control systems are technology solutions that integrate all aspects of an organization's inventory tasks, including shipping, purchasing, receiving, warehouse storage, turnover, tracking, and reordering which takes 45% to 90% of all costs associated with inventory control system which is needed to ensure that the business has the right goods on hand to avoid stock outs, to prevent shrinkage (spoilage/theft), and to provide proper accounting. Many businesses have too much of the limited resources and capital tied up in their major asset as inventories. Worse still they may have their capital tied up in the wrong kind of inventory. Inventory may be old, worn out, obsolescence, or the wrong sizes or colors, or there may be an imbalance among different product lines that reduces the customer appeal of the total operation (www.et-clic.com). Inventory control system range from eyeball system to reserve stock system to perpetual computer-run systems. Valuation of inventory is normally stated at perpetual original cost, market value, or current replacement costs, whichever is lowest.

According to Mpwanya (2005), the aim of inventory management is to hold inventories at the lowest possible cost, given the objectives to ensure uninterrupted supplies for ongoing operations. When making decision on inventory, management has to find a compromise between the different cost components, such as the costs of supplies inventories, inventory holding costs and costs resulting from insufficient inventories.

Inventory control is the activities which organizes the availability of item to the customers. It coordinates the purchasing, manufacturing, and distribution function to meet the marketing needs. Some years ago most of the organizations did not know how to control their inventories which resulted to stock out for particular products because replenishment orders of these items were not issued at the right time. This led to failure to determine which characteristics of product must be considered in making this decision (Wild, 2002). Therefore, this study investigated the evolving role of inventory control system in today's public health sector.

1.3 Statement of the Problem

In Tanzania, many organizations are feed up with the problems of ineffective inventory control system which has existed for so long for example most of the rural health facilities in Tanzania have this challenges according to abridged report from USAID Global Health Supply Chain Programme through their Holistic supply chain review of June,2017. This creates challenges to answer the three basic questions in inventory control. These questions are what to order, how much to order and when to order. These challenges may have arrived as a result of increasing activities in connection with

receiving, storage, movement of inventory within the business, process or product inventory and in due course shipping of inventory (Saleemi, 2007).

According to Schreibfeder (2017), determining when the stock of each item should be replenished; intelligently deciding how much should you buy or make; effectively using safety stock to balance customer service and your investment in stock inventory.

Inventory management is about more than counting what you've got. It's about understanding business realities and making decisions that balance current demand with future needs. We can do this while keeping overhead and operating costs at a minimum by maximizing productivity in key areas from physical stock issues to problem identification and resolution to technologies like RFID and other automated inventory mechanisms (Muller, 2019). Some of the problems facing public health sector today are the ability to provide quality services to the general public whose root cause lies in poor inventory management (Manjrekar, Bhonsale & Kamath, 2008).

The main challenge today among the public health sector in Tanzania is the need to enhance efficiency while at the same time achieving effectiveness. However, Public health sector in Tanzania which have around 6,500 Health facilities some of them have been accused of poor inventory management techniques and this has greatly affected their ability to satisfy their customers, thing remain to be done on effectiveness of inventory control system in the public sector. The study went deep in an investigation on the role of inventory control system on organizational efficiency among the Public health sector in Tanzania using a case of MSD. In order to have snapshot why some of Public

health facilities cannot afford to have enough stocks, having some expiries stock at their facilities and lastly how their orders served.

1.4 Research Objective

1.4.1 General objective

The general objective of this study is to examine the effectiveness of inventory control system in Medical Stores Department (MSD).

1.4.2 Specific objectives

This study need to fulfill the following specific objectives:

- (i) To examine the inventory control system used in MSD
- (ii) To examine the effectiveness of the inventory control system to the success of MSD
- (iii) To identify the challenges facing inventory control system in MSD
- (iv) To investigate how the existing inventory control system of MSD support the management and financial accounting practice of the firm.

1.5 Research Questions

This study will provide answers to the following research questions:

- (i) What are the inventory control systems used in MSD?
- (ii) What are factors affecting the effectiveness of inventory control system in MSD?
- (iii) What are the challenges facing inventory control system in MSD?

- (iv) What are the measures that can enhance the effectiveness of inventory control system in MSD?

1.6 Significance of the Study

The findings of the study will provide well-researched information, which can be useful to the Researcher for academic purposes in the area of inventory control system. The study gives awareness of why there are stocks out and sometime expiry of inventory/stocks which can be overcome by having good and effective inventory control system in our public health sector in Tanzania. TDV 2025 seeks to transform Tanzania into a middle income and semi industrialized nation in 25 years. In order to achieve this goal, it is crucial that to involve stakeholders play effective roles in the progress of implementing, following and monitoring of the SDGs, so for public health sector also must have effective inventory control system in order to improve the smooth running of the firm, thereby satisfying customers and generally minimizing costs.

1.7 Scope of the Study

The study will be carried out in MSD, which located in Keko Mwanga along Nyerere road in Dar es Salaam Region, eastern part of Tanzania. The study will focus on the effectiveness of inventory control in improving the management system of the public sector, particularly warehouse section in MSD.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, the views and discussion of other researchers on assessment of effectiveness of inventory control system will be presented. The literature review is divided into three sections. Section one consists of theoretical part which discusses the meaning of inventory, categories of inventory, inventory control techniques, objective of inventory management and reason for holding inventory. Others are need for inventory control, types of costs involved in inventory control, and relationship between inventory policy and credit policy and effectiveness. The second section is the empirical part which provides the foreign countries and Tanzania case studies on effectiveness of inventory control system. Section three presents the conceptual framework.

2.2 Definition of Key Terms

Inventory control system is a system that encompasses all aspects of managing a company inventory, purchasing, receiving, tracking, warehouse and storage, turnover and recording. Computerized inventory control systems make it possible to integrate the various functional subsystems that are a part of the inventory management into a single cohesive system.

2.2.1 Inventory control

Inventory control is the activity which organizes the availability of items to the customers of the organization. It co-ordinates 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 others supplies. (Wild, 2002) Lysons and Gillingham (2003) write that inventory/stock control refers to the techniques used to ensure that stocks of raw materials, WIP and finished goods are kept at levels which provide maximum service levels at minimum costs.

2.2.2 Inventory valuation:

This is a stock control technique, which refers to the establishment of the value of stock and therefore its implication on the profits. Lacey (1945) identified the following methods of stock valuation; First in First out (FIFO), Last in First out LIFO) and Average Price Method.

2.2.3 First in first out (FIFO)

FIFO is a method whereby prices of goods are determined by depending on the oldest stock until all the units are finished and then the second oldest is used to determine the prices and the trend continues. According to (Kamukama, 2006), FIFO method follows the principle that materials received first are issued first. After the first lot or batch of materials purchased is exhausted, the next lot is taken up for supply. The inventory is

priced at the earliest costs. This means that the unused raw materials (closing stock) are constituted by the goods which were not recently purchased.

2.2.4 Inventory

Arnold and Chapman (2004) define inventory as ‘the materials and supplies that a business or institutions carries either for sales or to provide inputs or supplies to the production process. All business and institutions require inventories. Often they are a substantial part of total assets. Inventory, often called merchandise, refers to goods and materials that a business holds for sale to customers in the near future. Although in public health sector some of these materials are given for free.

2.3 Theoretical Literature Review

Wild. (2002) and Lysons and Gillingham. (2003) refers inventory/stock control as the techniques used to ensure that stocks of raw materials, WIP and finished goods are kept at levels which provide maximum service levels at minimum costs.

An effective Inventory Control System should help MSD to minimize time and carrying costs, maintain sufficient stock for smooth production, sales operation and on sufficient customer service. And control investment in inventories or keep an optimum level (Pandey, 2002). Different business concerns may apply different inventory practices to meet specific requirements and circumstances to help in containing the costs associated with inventory. There are a number of techniques which play an important role in the inventory control program. These techniques are very helpful in rationalization of inventory control approach and assist in formulation of inventory control policies.

The following are the important tools and techniques as inventory control: these are

- Determination of stock level
- Determination of safety stock
- Determination of economic order quantity
- Just in time.
- Stock card and bin card etc.

Accurate and up-to- date stores records are keys to effective stores management. The basic procedures include counting and recording promptly after receipt or production and whenever there is a store transaction, issue of stores should be properly authorized and show details such as code number, quantity of the transaction and the voucher reference (Muller, 2003). Inventory recording should support MSD to reduce the errors of stock management and to ensure accurate and reliable stock records. It involves spot checks/ surprise checks, stock taking, which is the physical counting and measuring of quantity of each item in stock and recording the results (Brooks and Daniel, 2007).

Tesha, (1998) define Inventories are materials stored, waiting for processing, or experiencing processing. They are global throughout all sectors of the economy. Observation of almost any company balance sheet, for example, reveals that a significant portion of its assets comprises inventories of raw materials, components and subassemblies within the production process, and finished goods. Most managers do not like inventories because they are like money placed in drawer, assets tied up investments that are not producing any return and, in fact, incurring a borrowing cost. They also incur costs for the care of the stored material and are subjected to spoilage and obsolescence.

In the last two decades there have been a pace of programs developed by industry, all aimed at reducing inventory levels and increasing efficiency on the shop floor. Some of the most popular are conwip, Kanban, just in time manufacturing, lean manufacturing, and flexible manufacturing.

Questions must be constantly answer as to when and how raw materials should be ordered, when production order should be release to the plant, what level of safety stock should be maintained at a retail outlet, or low in-process inventory is to be maintained in a production process. These questions will amenable to quantitative analysis with the help of inventory theory.

In this case study MSD can use inventory theory of Just in time to reduced storage costs, it ensures proper and smooth flow of goods needed for sales while at the same time, the total costs of investment in inventories is kept at minimum.

Billington and Narasimahan, (1995) categorize inventories into such types as raw material inventory, work in progress inventory and finished goods inventory. Inventory control refers to a system which ensures the supply of required quantity and quality of inventory at the required time and at the same time prevents unnecessary investment in inventories. It is one of the most vital phases of material management. Reducing inventories without impairing operating efficiencies frees working capital that can be effectively employed elsewhere. Inventory control can make or break a company.

2.4 Empirical Literature Review

In United Kingdom. (Weber and Rick, 2008) revealed that, organizations' goal and satisfaction are achievable within the given time limitations, however control of

inventory system which typically represents 45% to 90% of all expenses for an organization, is needed to ensure that it has the right goods on hand to avoid stock outs also to prevent shrinkage and run certain accounting, many organizations have fair enough of their limited resources, capital tied up in their major assets and inventory. Worth than that, they may have their capital tied up in the wrong kind of inventory. Inventory may be old, worn out, shop worn, obsolete, or the wrong size, or colors, or there may be an imbalance among different product lines that reduces the customer appeal and concerns of the total operation. (Stevenson, 2010) revealed that inventory management is a key operations management activity, effective inventory management is critical to the smooth operation of most businesses and their supply chains. Good inventory management has an impact on operations, marketing and finance departments. Poor inventory management hinders operations, reduces customer satisfaction and raises operating costs.

According to Utouh (2012), the Controller and Auditor General (CAG) report for the financial 2010/2011 on the audit of Public Authorities (PA) and Other Bodies (OBs) in Tanzania observed that inventories as assets in the form of materials or supplies to be consumed in the production process or in rendering of services, inventories represent a large portion of the entity's investment and must be well managed in order to minimize losses that might result from inventory mismanagement. In fact, Public Authorities and Other bodies (OBs) cannot absorb the types of losses arising from poor inventory management over a period of time. Unless inventories are properly managed and controlled, they become unreliable, inefficient and costly. From the report recommended that Public Authorities should have a proper inventory system which can capture all the

details regarding to inventory so as to establish a list of potential revenue and to avoid unnecessary losses incurred by the service providers.

2.5 Research Gap

From the theoretical and empirical literature reviews the study realized that, there are notably inventory mismanagement to organizations leading to unnecessary losses not planned and the reason behind is unclear. Many studies have been addressing procurement procedures in public organizations and ignoring inventory control system which to Tanzanian context alarming losses has been reported by the Controller and Auditor General on inventory mismanagement refers to report for financial year 2010/2011 on the audit of PA. Therefore, this study will try to ascertain the factors contributing to why inventory mismanagement to Public health sector in Tanzania? By taking MSD Head office Dar Es Salaam as a case area of focus.

2.6 Conceptual Framework (Conceptual Model)

Conceptual framework is a level of theory in which descriptive categories are systematically placed within a broad structure of explicit and assumed propositions, statements of relationships between two or more empirical properties to be accepted or rejected (Nachmias, 2004). In a conceptual framework, one is required to put the concepts together as in a jigsaw puzzle, you work out how all the concepts fit together and relate to one another. The first stage of theorizing identifies and clarifies concepts; second stage concentrates on the connections and relationships between the concepts. A conceptual framework is formed of patterns of concepts and their interconnections (Fisher, et al. 2010). It has been found that various issues contribute to proper

functioning of inventory management system in any organization, some of these variables on which inventory management depends includes, Effective IT systems, Specific and relevant software and regular problem management. The variables under this study of inventory management were related by the study in the following manner as illustrated here below.

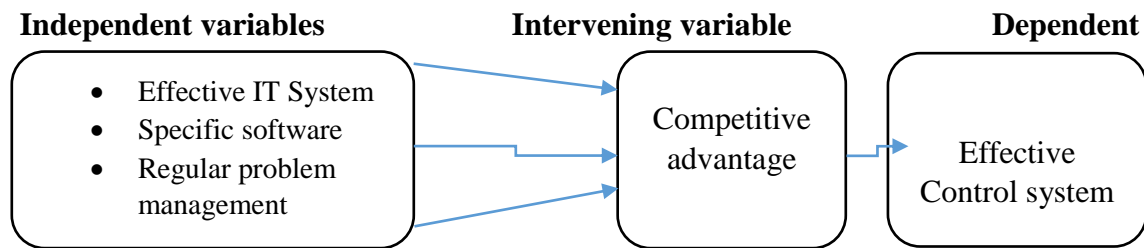


Figure 1: A conceptual framework of inventory control system

Source: Researcher 2019

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that used in the study; it gives a description of the study area and the methods that used to collect data from the field. It gives a summary of the research design, sample population and size, data collection instruments, data type, data processing and presentation and the problems encountered during the process of data collection and analysis.

3.2 Research Design

The research based on the quantitative research designs. A case study opted as the most appropriate research design. (Saunders, Lewis and Thorn, 2003) define a case study as “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence”. The quantitative research design is descriptive in nature and this enable to meet the objectives of the study.

3.3 The Study Area

The Study conducted at MSD Headquarters in Dar Es Salaam. The choice of the study area was due to the convenience of the researcher in commuting to and from the place, and having many connections in the Company, something that eased the getting of

required information also MSD were considered because inventory is among of core functions of organization.

3.4 Population under the Study

Target population is defined as a compute set of individuals, cases/objects with some common observable characteristics of a particular nature distinct from other population. The population from which the sample taken involved warehouse department, procurement department, top management account and staff from various departments in estimated to have 100 employees (population size) and the sample population selected was 50. This number obtained by using formula developed by Yamane (2004).

3.5 Sample Frame and sample size

Key participants of the study comprise of respondents from the warehouse, procurement, top management and other staff from various departments. Sample were selected using both stratified and purposive sampling techniques. Using the purposive sampling technique, the researcher selected 5 key informants who include MSD top management. Stratified sampling help in selecting 45 other MSD employees. The researcher used a sample size of 50 respondents because as it was large enough for the study to obtain reliable information. The sample size determined from the following formula developed by Yamane (2004).

$$n = \frac{N}{1 + N(e)^2}$$

Where

n = Sample size

N = Population number of staff at MSD Head office which is 100

e = Level of precision of sampling of error which is 10%

Therefore:

$$n = \frac{100}{1 + 100(0.1)^2}$$

n = 50

Then the sample size in this study expected to be 50 respondents from MSD out of 100 staff at MSD Head office.

3.6 Sampling Technique

The Stratified sampling was used where by the population was first divided into subgroups (or strata) who all share a similar characteristic. For example, in my study I need to stratify the populations by sex where by 18 were Male and 19 were Female respectively, to ensure equal representation of men and women. The study sample was then obtained by taken equal sample sizes from each stratum. In stratified sampling, it may also be appropriate to choose non-equal sample sizes from each stratum. For example, in my study I taken questionnaires from different staff who have different education or designation level and this ensures a more realistic and accurate estimation of what information needed as per attached tables. Stratified sampling improves the accuracy and representativeness of the results by reducing sampling bias. The researcher selected 5 key informants who included MSD top management who are

regularly participating in inventory management decisions. Stratified sampling help in selecting 45 other MSD employees. Under this approach researcher divided the remain population into departments (starter) whereby, from those department/sections respondents were selected by using simple random approach.

3.7 Types of Data

Two types of data that were used for this study which are primary and secondary data respectively.

3.7.1 Primary data

According to Murray (2001), primary data is that kind of data that has been gathered for the first time, it has never been reported anywhere. Primary data were obtained through the use of self-administered questionnaire to respondents following systematic and established academic procedures, as suggested by Nunnally and Bernstein (1994). Primary data were gathered from respondents at MSD staff who assumed to give first-hand information on the subject under study.

3.7.2 Secondary source

Murray (2001) defines secondary data as that kind of data that is available, already reported by some other scholars. Secondary data used to support the empirical findings of the study. These other sources of data (Literature review) were majorly used to back up the arguments and findings in chapter four and five. Secondary data were obtained from sources like; Annual reports, Journal articles, internet, magazines, newspapers and

books related to the subject of the study and these consulted at length to extract the information required to support the findings from the study respondents.

3.8 Data Collection Methods

Researcher adopted questionnaire as the tool for primary data collection, self-administered questionnaire with closed ended questions were distributed to the selected sample. Questionnaires left to the respondents and after filling them researcher returned for collection up on appointment, others few were posted to the researcher. The questionnaires were written in clear and precise way so that respondents could understand easily. Administered questionnaire insures high rate of return and consumes less time and cost (Kamuzora, 2008).

3.8.1 Questionnaires

Questionnaires were closed besides being simple but logically set in consideration of the study. They were treated with maximum, confidentiality, prepared with maximum bias to ensure comprehensive data collection. Questionnaires were tested on a few respondents to assess their acceptability and study elements coverage. They were then reserved and distributed to the intended respondents. Questionnaires titled “Effectiveness of Inventory control systems in the Public health sector in Tanzania” were used in the process of collecting data. The researcher used administers questionnaires to the selected employees and top management of MSD. The relevance of this is that the questionnaires were convenient and less time consuming. With management staff who may not have time for an appointment, an email of the

questionnaire was sent to them which was easily fill. This questionnaire was pilot as recommended by Saunders, Lewis, Thorn hill, (2003) who writes that, piloting helps ensure validity and reliability and also said that piloting helps to refine the questionnaire so that respondents had no problem in answering the questions and there were no problems in recording the data.

3.9 Study Variables

The study was guided by the following two variables; Effective IT system and specific software as an independent variable and Effective control system as a dependent variable. Inventory management were measured by the techniques used in the process of managing inventory such as; ABC-Analysis model technique, Trial and error technique, , Just in Time ,Purchasing Emerges technique, Materials requirements planning (MRP) technique, Integrated system technique, Material requirement points technique, Determining order quantities and inventory levels technique, Inventory recording technique among others in addition to the skills of labor involved in the management of inventory.

3.10 Reliability and Validity

Validity of an instrument to be used in this study is consistent with the definition provided by Miles and Huberman (1994), as the” extent to which the items in the instrument measure what they will set out to measure.” The validity of the instruments was established by the supervisor. Reliability, according to Miles and Huberman (1994), will to do with the extent to which the items in an instrument generate consistent

responses over several trials with different audiences in the same setting or circumstances”. The reliability of the instruments and data were established by pre-test procedure of the instruments before their used with actual research respondents.

3.11 Research Procedure

The study was observed all procedures followed in research. Using the letter of introduction obtained from the Director of postgraduate, the researcher was introduced himself to every respondent reached at, fully explaining the purpose of research. After getting their consent, the researcher conducted the research. The researcher also built the confidence of the respondents by assuring them that their views will confidential and will be used only for academic purposes.

3.12 Data Analysis and Management

The study used descriptive analysis method to summarize, organize and make sense of a set of scores or observations. Descriptive statistics are typically presented in graphically, in tabular form or a summary statistic through the use of simple counts, tables, percentages and chart presentation for easy understanding. In conducting this analysis, the SPSS were used.

After the completion of the data collection process, all the data were pooled out together to be processed and analyzed. Processing implies editing, classification and tabulation of collected data while accompanied by interpretation thereafter and analysis refers to the computation of certain measures along with searching for patterns of relationships that exist among data groups. Data analysis is performed with the purpose of summarizing them in such a way they answer related research questions. In this

study descriptive statistics were used to measure whether MSD used effectively inventory control system.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Presentation of the data

The background information of the study was considered by the study so as to establish how different characteristics of the people could differently understand the relationship between inventory control system efficiency in MSD. Regarding the background information, the following data was revealed by the study as follows.

4.1.1 Gender composition of the respondents

The research further investigated the respondents' gender. The reason was to find out if both sexes hold same views or different ones on the role of inventory control system efficiency in Public Health sector in Tanzania. This is presented statistically below;

Table 4.1: Gender of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	18	48.6	48.6	48.6
Female	19	51.4	51.4	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

Table 4.1 analyses the sex composition of respondents in the study area. shows that male respondents constituted 48.6% (18) while female respondents were 51.4% (19). Social cultural set up / expectations of society reason more women engage in public

and civil service than men. This therefore follows the more women continues engaging in public service, the more likely has been chances of failure or lack of proper accountability. The reason as to why males are few compared to female is possibly explained the fact that they rarely take up related courses to have them engaged with in some sector. They thus prefer searching non related employment opportunities in which they qualify.

4.1.2 Age Brackets of respondents

The researcher explored on the age of the respondents in regard to the role of effectiveness of inventory control system in the Public health sector in Tanzania. The results are tabulated below;

Table 4.2: Age of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20 - 30 years	9	24.3	24.3	24.3
31 - 40 years	15	40.5	40.5	64.9
41 - 50 years	8	21.6	21.6	86.5
51 - 60 years	5	13.5	13.5	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table presents that 40.5% (15) of the respondents were between 31 - 40 years, 24.3% (9) were between 20-30 years, 21.6% (8) were between 41-50 years, while 13.5% (5) were above 50 years. The respondents between the age of 31-40 are belied to be experienced workers who have not yet reached the retirement age. Thus are still

largely engaged in civil and public service sector. Therefore, most of the categories are benefiting and others very eager to benefit or closely relate to public offices for social services.

4.1.4 Academic background of respondents

The researcher also considered the academic background of respondents to establish how it relates to the relationship between inventory control system and organizational efficiency in MSD. The findings are presented in the table below;

Table 4.3: Academic background of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Diploma	4	10.8	10.8	10.8
Degree	18	48.6	48.6	59.5
Post graduate	11	29.7	29.7	89.2
Other	4	10.8	10.8	100.0
Total	37	100.0	100.0	

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	32	86.5	86.5	86.5
CPSP	2	5.4	5.4	91.9
Masters	3	8.1	8.1	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

From the table above, 10.8% (4) of the respondents had diplomas, 48.6%(18) had degrees, 29.7% (11) had Post graduates/Master degrees, while 10.8% (4) had others qualifications. All respondents (100%) were found to have at least got some form of schooling. Whereby 10.8% had acquired diplomas education. The implication being that the level of education is directly proportional to the degree of access / inclusion into public employment / public service.

The majority of respondents 48.6% had gone through degree and this was because inclusion or recruitment into the public service largely / directly depend on level of education. These still can interpret and implement policies on corruption and other forms related to misuse of office. 29.7% respondents comprised post graduate/Masters who were also instrumental for the study for they quality to perform some duties in several public offices. They are also found occupying medium posts as they go on up grading.

4.1.4 Department of the respondents

The researcher also considered the education levels of the respondents to establish how it relates to the role of effectiveness of inventory control system in public sector. The findings are presented in the table below;

Table 4.4: Departments of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Top Management	2	5.4	5.4	5.4
Stores/Warehouse	20	54.1	54.1	59.5
Procurement	5	13.5	13.5	73.0
Accounts	3	8.1	8.1	81.1
Other	7	18.9	18.9	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

From the table above 54.1% (20) of the respondents were from Stores/Warehouse department, 5.4 % (2) were from Top Management, 8.1%(3) were from Account department, 13.5% (5) were from Procurement department while 18.9% (7) had others department

Table 4.5: Experience of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0 - 3 years	7	18.9	19.4	19.4
4 - 7 years	10	27.0	27.8	47.2
8 - 11 years	12	32.4	33.3	80.6
12 - above	7	18.9	19.4	100.0
Total	36	97.3	100.0	
Missing System	1	2.7		
Total	37	100.0		

Source: Researcher, (2020)

The working experience of the respondents in health institutions were also sort. From the results displayed in the figure above most of the respondents have had experiences in health institutions between 4 to 7 and 8 to 11 years. The results in details are illustrated in the figure above. The table shows that 7 of the respondents had experience between 0 to 3 years, 10 between 4 to 7 years, 12 also between 8 to 11 and 7 had above 12 years all representing 18.9% (7), 27.0%(10), 32.4%(12), 18.9%(7) respectively. The study found that most of the respondents are experienced more than four years which comprise 78% of all respondents so reliable data can be found from them.

4.2 Inventory management practices used by MSD

The study investigated into the inventory management practices used by MSD. The reason was to establish the strategies adopted by the Public Health sector in its quest to ensure proper organizational performance. The findings are tabulated in the subsequent tables. The researcher first asked respondents whether there are various Inventory management practices used by MSD and their effectiveness.

Table 4.6: Types of stock held

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Raw Materials	1	2.7	2.9	2.9
	Finished Goods	16	43.2	45.7	48.6
	Stock Supplies	15	40.5	42.9	91.4
	All the above	3	8.1	8.6	100.0
	Total	35	94.6	100.0	
Missing	System	2	5.4		
Total		37	100.0		

Source: Researcher, (2020)

From the table above 43.2%(16) of the respondents said MSD kept finished good that is Medicine,40.5%(15) of the respondents said that MSD kept Medical supplies and 2.7%(1) said MSD kept raw material for producing Disposable mask and Alcohol based hand sanitizers and 5.4%(2) of the respondents not mention anything.

Stock of raw materials is less kept in the organization because of the use of Just in time purchasing. The respondents pointed out some reasons for holding stock in relation to facilitate smooth production, inconsistencies of suppliers, prepare for contingencies, price fluctuations. This is in line with Drury (1992) who states that “the purpose of holding stock by organizations is for three reasons; precautionary, transactions and speculative motive”.

Table.4.7: Accurate and updates to stores records is an inventory control system used in Public health sector like MSD

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	4	10.8	11.4	11.4
Agree	14	37.8	40.0	51.4
Strongly agree	17	45.9	48.6	100.0
Total	35	94.6	100.0	
Missing System	2	5.4		
Total	37	100.0		

Source: Researcher, (2020)

The table above shows that 45.9%(17) of the respondents covered by the study majority strong agree that accurate and updates to stores records is an inventory control system used in Public health sector like MSD. While 37.8%(14) of the respondents agree that accurate and updates to stores records is an inventory control system 10.8%(4) were neutral and 5.4%(2) not replied anything.

The study found that accurate and updates to stores records is an inventory control used in public health sector, even MSD done every month by doing inventory circle count or perpetual count where by reconciliation done if needed.

Table.4.8: Good stock plan is one of the best inventory management practice used by Public health sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	5	13.5	14.3	14.3
Agree	18	48.6	51.4	65.7
Strongly agree	12	32.4	34.3	100.0
Total	35	94.6	100.0	
Missing System	2	5.4		
Total	37	100.0		

Source: Researcher, (2020)

The table above shows that 48.6%(18) of the respondents covered by the study majority agree that good stock plan is one of the best inventory management practice used by Public health sector.32.4%(12) of the respondents were strongly agree,13.5%(5) were neutral and 5.4%(2) were not answer the question.

The finding shows that good stock plan also can reduce risk of expiry stock due to good plan of purchasing, storage and distribution to customers timely.

Table.4.9: Proper accounting and recording is means of inventory control system in Public health sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	5.4	6.1	6.1
	Agree	13	35.1	39.4	45.5
	Strongly agree	18	48.6	54.5	100.0
	Total	33	89.2	100.0	
Missing	System	4	10.8		
Total		37	100.0		

Source: Researcher, (2020)

The table above shows that 48.6%(18) of the respondents covered by the study majority were strongly agree that Proper accounting and recording is means of inventory control system in Public health sector.35.1%(13) agree so while 5.4%(2) were neutral and 10.8%(4) were nothing to answer.

Table.4.10: Spot check/surprise helps inventory management in Public Health sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	3	8.1	8.6	8.6
Agree	14	37.8	40.0	48.6
Strongly agree	18	48.6	51.4	100.0
Total	35	94.6	100.0	
Missing System	2	5.4		
Total	37	100.0		

Source: Researcher, (2020)

The table above shows that 48.6% of the respondents covered by the study majority were strongly agree that spot check/surprise help inventory management in Public Health sector.37.8%(14) were agree so while 8.1%(3) were neutral and 5.4%(2) were not answer this question.

The study found that spot check normally used by stock verification team who counter check the physical stock verse via system balance helps inventory management in Public health sector.

Table.4.11: Proper inventory management is a form of inventory system in public health sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	1	2.7	2.9	2.9
Agree	18	48.6	51.4	54.3
Strongly Agree	16	43.2	45.7	100.0
Total	35	94.6	100.0	
Missing System	2	5.4		
Total	37	100.0		

Source: Researcher. (2020)

The table above shows that 48.6%(18) of the respondents covered by the study majority were strongly agree that proper inventory management is a form of inventory control system in public health.43.2%(16) were agree the matter, while 2.7%(1) was neutral and 5.4%(2) were not answer this question.

The findings show that by practice properly inventory management in the organization is one of inventory control used to minimize theft, loss of stock and organization capital.

Table.4.12: Inventory control systems have led to reduction of costs incurred by the organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	2	5.4	5.7	5.7
Agree	17	45.9	48.6	54.3
Strongly agree	16	43.2	45.7	100.0
Total	35	94.6	100.0	
Missing System	2	5.4		
Total	37	100.0		

Source: Researcher, (2020)

The table above shows that 45.9% of the respondents covered by the study majority agree that inventory control systems have led to reduction of costs incurred by the organization. 43.2 % (16) were strongly agree with question while 5.4%(2) were neutral and 5.4%(2) were not answer the question.

The study found that by using inventory control system organization reduces the costs incurred by using manual documents and even time taken by staff to do work is reduced.

Table.4.13: Document used in recording inventory information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bin card material	13	35.1	36.1	36.1
	Sock cards	3	8.1	8.3	44.4
	Computerized system (E9)	20	54.1	55.6	100.0
	Total	36	97.3	100.0	
Missing	System	1	2.7		
Total		37	100.0		

Source: Researcher, (2020)

The table above shows that 54.1 % (20) of the respondents covered by the study majority agree that document used in recording inventory information is computerized system known as E9.35.1% (13) were respond that Bin card material was used, while 8.1%(3) used stock cards and 2.7% (1) was not answer the question.

The study found that MSD used computerized system known as E9, but have some challenges needed to be solved in order to have reliable data.

Table 4.14: Inventory control practice contribute greatly to the performance of public health sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	2.7	2.7	2.7
Agree	20	54.1	54.1	56.8
Strongly agree	16	43.2	43.2	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 54.1% (20) of the respondents covered by the study majority agree that inventory control practice contribute greatly to the performance of public health sector. 43.2% (16) were strongly agree, while 2.7% (1) was disagree.

The findings show that inventory control practice contribute greatly to the performance of public health sector even MSD used it in order to manage their inventory.

Table.4.15: Cost reduction in public health sector is result of inventory control system.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	1	2.7	2.7	2.7
Neutral	4	10.8	10.8	13.5
Agree	19	51.4	51.4	64.9
Strongly agree	13	35.1	35.1	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 51.4%(19) of the respondents covered by the study majority agree that cost reduction in public health sector is result of using inventory control system.35.1%(13) were strongly agree with the question, while 10.8%(4) were neutral and 2.7% (1) was not answer the question.

The study found that cost reduction in public health sector is result of inventory control system for examples cost of out of stock, lost sales due to stock out, cost of destruction of expiry stocks and other many.

Table.4.16: Inventory management helps in effective stores management of public health sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	1	2.7	2.7	2.7
Agree	20	54.1	54.1	56.8
Strongly agree	16	43.2	43.2	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 54.1% of the respondents covered by the study majority agree that Inventory management helps in effective stores management of public health sector. 43.2% (16) were strongly agree the question and 2.7%(1) was neutral.

The finding found that inventory management helps in effective stores management of public health sector through proper purchased according to customer demand, proper storage facility and distribution to customers timely.

Table.4.17: Internal Coordination in public health sector can be improved by inventory control system

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	8	21.6	21.6	21.6
Agree	20	54.1	54.1	75.7
Strongly disagree	9	24.3	24.3	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 54.1% of the respondents covered by the study majority agree that Internal coordination in public health sector can be improved by inventory control system, 24.3% (9) were strongly agree with the question, and 21.6% (8) were neutral.

The study found that internal coordination in public health sector can improve by inventory control system. Through proper internal coordination organization can reduce various risk like expiry stocks, stock out, loss of sale etc.

Table 4.18: Loss of inventories

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	4	10.8	10.8	10.8
Disagree	4	10.8	10.8	21.6
Neutral	11	29.7	29.7	51.4
Agree	9	24.3	24.3	75.7
Strongly agree	9	24.3	24.3	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 29.7%(11) of the respondents covered by the study majority were neutral, but 24.3%(9) were strongly agree and the same number also agree that loss of inventories in the stores among challenges faced by MSD in inventory management for the organization efficiency of employees as was revealed by 24% of the study respondents.10.8%(4) were strongly disagree and the same percent also disagree.

On further established by the study, it was established that the above challenges affect the inventory management as sometimes reduce greatly on the organization efficiency of the MSD during the year end.

Table.4.19: Un predicted product demand

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	1	2.7	2.7	2.7
Disagree	2	5.4	5.4	8.1
Neutral	8	21.6	21.6	29.7
Agree	17	45.9	45.9	75.7
Strongly agree	9	24.3	24.3	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 45.9%(17) of the respondents covered by the study majority were agree that un predetermined products demand by the company customers is the problem.24.3% (9) were strongly agree,21.6%(8) were neutral, while 5.4%(2) were disagree and 2.7% (1) was not answer the question.

The findings show that there was weakness in forecasting data so management should strengthen demand and supply planning unit in order to have reliable data which led to procure stocks what customer's needs.

Table.4.20: Opportunity costs

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	2	5.4	5.4	5.4
Disagree	4	10.8	10.8	16.2
Neutral	6	16.2	16.2	32.4
Agree	17	45.9	45.9	78.4
Strongly agree	8	21.6	21.6	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 45.9% of the respondents covered by the study majority were agree that opportunity cost at MSD is higher in relation to the people responsible for inventory management.21.6%(8) were strongly agree the question, while16.2%(6) were neutral, 10.8%(4) were disagree and 2.7%(20) were strongly disagree.

The study found that in MSD opportunity costs used to buy some types of Medicine and medical supplies and kept in warehouse and leave other types due to the higher demands of those items.

Table.4.21: Administration costs

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	1	2.7	2.7	2.7
Disagree	2	5.4	5.4	8.1
Neutral	8	21.6	21.6	29.7
Agree	19	51.4	51.4	81.1
Strongly agree	7	18.9	18.9	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 51.4%(19) of the respondents covered by the study majority revealed that administration cost at MSD is higher in relation to the people responsible for inventory management.21.6%(8) were neutral,18.9%(7) were strongly agree while 5.4%(2) were disagree and 2.7%(1) was strongly disagree.

This study found that administration costs as having a department in the organization to supervise and investigate stores accounts. Such costs were also cited to involve the amount given to the administrators of the business organization to control the inventory levels in the store department of the company

Table.4.22: Thefts

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	5	13.5	13.5	13.5
Disagree	1	2.7	2.7	16.2
Neutral	5	13.5	13.5	29.7
Agree	20	54.1	54.1	83.8
Strongly agree	6	16.2	16.2	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 54.1% (20) of the respondents covered by the study majority revealed that theft is one of the challenge in relation to the people responsible for inventory management.16.2% (6) were strongly agree,13.5%(5) were neutral and the same percent were strongly agreeing while 2.7%(1) was disagree.

The above study results are also an indication that there are still challenges faced at MSD as organization in the process of managing its inventories for improving the organization efficiency.

Table.4.23: Conflicts of interests in the public sector hinders inventory control system

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	3	8.1	8.3	8.3
Disagree	3	8.1	8.3	16.7
Neutral	11	29.7	30.6	47.2
Agree	16	43.2	44.4	91.7
Strongly agree	2	5.4	5.6	97.2
6	1	2.7	2.8	100.0
Total	36	97.3	100.0	
Missing System	1	2.7		
Total	37	100.0		

Source: Researcher, (2020)

The table above shows that 43.2% (16) of the respondents covered by the study majority agree that conflicts of interests in the public sector hinder inventory control system.29.7%(11) were neutral,8.1%(3) were strongly disagree and disagree while 5.1%(2) were strongly agree and 2.7%(1) was not answer the question.

This cause challenge to solve the problems caused by system used due conflict of interest between the member of management.

Table 4.24: Poor evaluation and monitoring hinder inventory control practice in public sector

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	1	2.7	2.7	2.7
Disagree	3	8.1	8.1	10.8
Neutral	4	10.8	10.8	21.6
Agree	20	54.1	54.1	75.7
Strongly agree	9	24.3	24.3	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 54.1% (20) of the respondents covered by the study majority agree that poor evaluation and monitoring hinder inventory control practice in public health sector. 24.3%(9) were strongly agree the question,10.8%(4) were neutral while 8.1%(3) were disagree and 2.7%(10) was strongly disagree.

The study found that poor evaluation and monitoring hinder inventory control practice in public health sector. The control should normally have audited in order to know if there are any weaknesses so as to find solution timely and closely monitoring and evaluate the control system to check if still work as per requirement.

Table.4.25: Weak management systems in public sector is challenge to inventory management practice

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	1	2.7	2.7	2.7
Neutral	3	8.1	8.1	10.8
Agree	18	48.6	48.6	59.5
Strongly agree	15	40.5	40.5	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 48.6%(18) of the respondents covered by the study majority agree that weak management systems in public sector is the challenge to inventory management practice.40.5%(15) were strongly agree while 8.1%(3) were neutral and 2.7%(10 was disagree the question.

Table 4.26: Bureaucratic constraints in public sector hinders the operation of inventory control system

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Disagree	5	13.5	13.5	13.5
Neutral	6	16.2	16.2	29.7
Agree	13	35.1	35.1	64.9
Strongly agree	13	35.1	35.1	100.0
Total	37	100.0	100.0	

Source: Researcher, (2020)

The table above shows that 35.1 % (13) of the respondents covered by the study majority were strongly agree and the same number agree that Bureaucratic constraints in public sector hinders the operation of inventory control system.16.2%(6) were neutral and 13.5%(5) disagree.

The study also found that in public health sector there were bureaucratic constraints which hinder the operation of inventory control system.

Table.4.27: Does system create challenges to the organization?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	9	24.3	30.0	30.0
	Neutral	6	16.2	20.0	50.0
	Agree	11	29.7	36.7	86.7
	Strongly agree	4	10.8	13.3	100.0
	Total	30	81.1	100.0	
Missing	System	7	18.9		
Total		37	100.0		

Source: Researcher, (2020)

The table above shows that 29.7% (11) of the respondents covered by the study majority agree that the system create challenges to the organization especially in managing inventory.24.3%(9) were disagree, while 16.2%(6) were neutral and 10.8% (4) were strongly agree. The study shows that there are challenges caused by system used like slowness, have not some important inventory reports which led some difficulties in making stock reconciliation.

Table.4.27: Does physical inventory vary from the systems stock at stocktaking in the last three years?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid strongly disagree	3	8.1	8.3	8.3
Disagree	7	18.9	19.4	27.8
Neutral	7	18.9	19.4	47.2
Agree	11	29.7	30.6	77.8
Strongly agree	8	21.6	22.2	100.0
Total	36	97.3	100.0	
Missing System	1	2.7		
Total	37	100.0		

Source: Researcher, (2020)

The table above shows that 29.7% (11) of the respondents covered by the study majority agree that the physical inventory vary from the system stock at annual stocktaking in the last three years. 21.6%(8) were strongly agree, while 18.9% (7) were neutral and the same number were also disagreeing and 8.1%(3) were strongly agree. The findings show that there is weakness of the Inventory control system used by organization, this led physical inventory vary from the system stock at stocktaking in the last three years. Management should work out to solve this weakness timely in order to reduce loss occurred every year and properly disciplinary action should be taken to those involved.

Table 4.29: Does storekeepers have power to advice management and contribution concerned with stock matters so the result in positive change in stock management discipline?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	29.7	30.6	30.6
	Disagree	14	37.8	38.9	69.4
	Neutral	8	21.6	22.2	91.7
	Agree	2	5.4	5.6	97.2
	Strongly agree	1	2.7	2.8	100.0
	Total	36	97.3	100.0	
Missing	System	1	2.7		
Total		37	100.0		

Source: Researcher, (2020)

The table above shows that 37.8%(14) of the respondents covered by the study majority disagree that the Storekeepers have power to advice management and contribution concerned with stock matters so the result in positive change in stock management discipline.29.7%(11) were strongly disagree, while 21.6%(8) were neutral, and 5.4%(2) were agree and 2.7%(1) was strongly agree.

The finding shows that MSD management not work on advises given by their expertise in inventory management which is too risk for organization, this may cause expiry of some stocks, stock out, loss of sales or to have DOS items in the warehouses.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter draws the summary of findings. It further presents conclusion and recommendations. The chapter also provides the areas for further studies. Summary, conclusion and recommendations are made with regard to the objectives of this study.

5.2 Summary of findings

The aim of this study was to assess the effectiveness inventory control system in public health sector in Tanzania. Specifically, the study ought to obtain results as per research objectives; that is, to assess the inventory control system used in MSD, to assess the effectiveness of the inventory control system to the success of MSD, to identify the challenges facing inventory control system in MSD, to investigate how the existing inventory control system of MSD support the management and financial accounting practice of the firm.

5.2.1: The first objective; to assess the inventory control system used in MSD.

The development of research questionnaire was done after literature review from which some variables were recognized in relation to the objective. The questions were designed to a scale for the respondents to provide opinion by ranking their level of agreement or disagreement. The analysis conducted. The results from the roles were

Maintaining proper effectiveness inventory control system it shows that MSD has inventory control system used in their daily operation.

5.2.2: The second objective; to assess the effectiveness of the inventory control system to the success of MSD.

The second objective was also achieved through the use of questionnaire which was developed after assess the effectiveness of the inventory control system to the success of MSD.

The findings show that there is weakness of the Inventory control system used by organization, this led physical inventory vary from the system stock at stocktaking in the last three years. Management should work out to solve this weakness timely in order to reduce loss occurred every year and properly disciplinary action should be taken to those involved.

5.2.3 The third objective; To identify the challenges facing inventory control system in MSD,The third objective was also achieved through the use of questionnaire which was developed after identifying challenges facing inventory control system in MSD through analytical review of literature. The respondents were tasked to rank in their level of agreement to the challenges of which the data was analyzed using relative importance. The results showed that the challenges were indeed pressing. The challenge that topped the ranking was the issue of storekeepers have no power to advice management and contribution concerned with stock matters so the result in positive change in stock management discipline.

The second challenges which closely followed the highest was the Poor evaluation and monitoring hinder inventory control practice in public sector.

Other identified challenges also include; the weakness of the Inventory control system used by organization, this led physical inventory vary from the system stock at stocktaking in the last three years.

Lack of Executive Support, the Changing Requirements & Specifications of goods, the issue of Working with different Kinds of Goods (medical and non-medical), unrealistic location of warehouse, the existence of redundant Processes, lack of proper warehouse layout and the Inefficient space utilization.

The findings obtained from the different types were summarized as follow;

Assessing the types of inventory management used in reference to section.

Most respondents asserted that inventory management was most commonly used and it was suitable for day to day delivery of services to their clients at MSD.

However, some respondents explained that there is need for staff motivation to add value to the Company. Measures like heavy trucks to transport inventory, procurement of medicine and medical supplies in time and use of computerization of records and authorization.

Findings on different types of inventory control technique, findings revealed that Economic Order Quantity is the best and favorable technique used at the Company, because it is used to determined finished goods inventory. Also the researcher notified

that at MSD have electronic data interchanged to manage this inventory to improve services availability.

A respondent also noted that just in time is used by the company as alternatives but is not priority.

MRP technique was pointed out as the only way to reduce obsolescence and used ABC analysis for adopting appropriate inventory management and periodic review for improving productivity.

Findings on the costs incurred by the company through inventory management;

It was pointed out that the company experiences holding cost to manage inventory.

Also the company experience stock out cost to manage inventory, when there is loss of stock in quantities expected or stock in warehouse do not meet the demands of customers.

5.3. CONCLUSION

It was revealed that production inventory is the most inventory management system used at MSD. Proper inventory management plays a very big role in the performance of any organization in this age characterized by total quality management. Inventory management effectiveness adds value to the organization by allowing decision to be made faster and allowing production without hindrances as much as possible. It was also noted that the company enjoys Economic Order Quantity as the best control technique and this is attributed to how the method determine the optimal order that

minimizes quality, costs and services availability. The efficiency of any control technique ensures that resources of the organization are managed with the least cost. The performance of any organization therefore depends on the achieved production targets, how much capital is held in stocks which can be achieved by a well-managed inventory technique used. The company also experience high holding costs that lead to loss of production which leads to reduction customer good will, decline of profits and misplace of stock.

In conclusion, the study aims and objectives were achieved and improvement strategies were identified as intended. The research will be a guidance for future studies in the effective inventory control system in health sector as intensive literature review was conducted. Furthermore, the roles, challenges, practices and management strategies developed could be practically applied as knowledge contribution.

5.4. RECOMMENDATIONS

The following were the recommendations on how MSD could improve its productivity by managing its inventory control system properly:

- (i) The company should improve its central data base for archiving the inventory records to enable easy monitoring, decision making and proper inventory management.
- (ii) Inventory management procedures should be put in place to allow Proper management of inventory in a cost effective manner.

- (iii) There is a need for management to emphasize the importance of inventory management. Inventory management should not be the preserve of only the staffs of the warehouse, stores or logistics department.
- (iv) In order to reduce rate of expiries stock Management of MSD should Improve forecasting quantification data accuracy, Ensure FEFO adherence during picking and issuing and Aggressive sales and Immediately commencement of distribution of near to expire medicine.
- (v) Inventory control and adhered to related processes, including documenting inventory movements and storing items where they belong not just where there is open space.
- (vi) Warehouse has to be well equipped with all necessary facilities and make sure that the stores officer becomes the custodian of the warehouse because it keeps most valuable organization property therefore much care has to be exercised to make sure that warehouse is maintained at the standard level and all responsibilities and control of stores operations left to only one person to ensure protection of materials stored.

5.5 Areas for Further Study

In the view of the study findings with the purpose of establishing dependable, reliable, valid and comprehensive conclusion on the assessment of effectiveness of inventory control system practice at MSD Head office, another study from other environments not Dar es salaam (as the study was limited to only Head Office at Dar Es Salaam

Region) could be carried out taking a large representative sample of the entire population that was not covered in this study for the purpose of validating the findings revealed by this study.

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APPENDICES

APPENDIX: I: QUESTIONNAIRE TO STAFF OF MSD

Dear respondent,

As partial fulfillment of the award of Master's degree in Supply Chain Management option of Business College of Education (CBE), I am **John Gabriel** conducting a research on "*The effectiveness of Inventory Control System in the Public Health Sector in Tanzania*". Therefore, I kindly request you to spare a few minutes of your busy schedules to fill this questionnaire to enable me accomplish this task. Your honest and sincere responses are highly appreciated for academic purposes and shall be treated with utmost confidentiality. I thank you very much for your cooperation. Thank you, in advance for any follow up you allowed to contact the researcher on mobile number 0754 695002

Answering Mode: Tick the appropriate answers or write in the space provided.

SECTION A: BACK GROUND INFORMATION ON THE RESPONDENT

(Please tick in the appropriate Box)

1. Age: 20 – 30 years
- 31 – 40 years
- 41 - 50 years
- 51 – 60 years

60 and above

2. Marital status:

Single

Married

Separated

3. Level of Education:

Primary

Secondary

Diploma

Degree

Post –graduate

Others (specify)

4. Designation.....

5. Which department do you belong to?

a) Top management

b) Stores/Warehouse

c) Procurement

d) Accounts

e) Please specify.....

6. How many years have you spend in the MSD.....?

SECTION B: INVENTORY MANAGEMENT PRACTICES USED BY MSD AND THEIR EFFECTIVENESS

7. What type of stock do you hold?

- i. Raw materials
- ii. Work in progress
- iii. Finished goods.
- iv. Stock supplies.
- v. All the above

8. The following are procedures followed in inventory management (Rank according to your choice of usage)

Procedures followed in inventory management	Ranks				
	1	2	3	4	5
1. Accurate and up-to-date stores records is an Inventory Control System used in public health sector like MSD					
2. Good stock plan is an inventory management practices used by Public health sector					
3. Proper accounting and recording is a means of inventory control system in Public health sector					
4. Spot checks/surprise checks help in inventory management in the Public health sector					

5. Proper stores management is a form of inventory control system in public health sector					
6. Inventory control systems have led to reduction of costs incurred by the organization					

9. Which documents are used in recording inventory information?

- 1. Bin card Material
- 2. Requisition note
- 3. Stock cards
- 4. Purchase requisition note
- 5. Others (specify).....

SECTION C: IMPORTANCE OF INVENTORY CONTROL SYSTEM ON THE PERFORMANCE OF PUBLIC HEALTH SECTOR.

10. The following are benefits of inventory Control Rank according to their significance (tick appropriately) as you rank

	Ranks				
	1	2	3	4	5
1. Inventory Control practices contribute greatly to the performance of Public health sector					
2. Inventory Management helps in inventory planning and scheduling in public health sector					
3. Procurement/purchase dates and quantities are improved by inventory management practices					
4. Cost reduction in Public Health sector is a result of inventory Control system					
5. Inventory Management helps in effective stores management of Public health Sectors					
6. Internal coordination in Public health sector can be improved by inventory control system					
7. Improved customer service can be realized with inventory control system					
8. Good management practices to inventory control in public sector					

SECTION D: CHALLENGES FACED IN APPLYING INVENTORY CONTROL SYSTEM BY PUBLIC SECTORS

11. Inventory management practices have got various challenges (tick appropriately) as you rank

	Ranks				
	1	2	3	4	5
1.Loss of inventories					
2.Un predetermined products demand					
3.Opportunity costs					
4.Administration costs					
5.Theft					
6.Conflict of interest in the public sector hinders Inventory control system					
7.Poor evaluation and monitoring hinders inventory control practices in public sector					
8.Strain on resources by Public sector is a challenge to inventory Management practices					
9.Weak management systems in public sector is a challenge to in Inventory Management practices					
10.Bureaucratic constraints in public sector hinders the operation of inventory control systems					

12. Does the system create challenges to the organization?

(1) Strong agree (2) Agree (3) Neutral (4) Disagree (5) Strongly Disagree

Any additional comments

.....

13. Does physical inventory vary from the system stock at stocktaking in the last 3 years?

(1) Strong agree (2) Agree (3) Neutral (4) Disagree (5) Strongly Disagree

Any additional comments

.....

14. Do the storekeepers have power to advice the Management and contribution concerned with stock matters so as the results in positive change in stock management discipline?

(1) Strong agree (2) Agree (3) Neutral (4) Disagree (5) Strongly Disagree

Any additional comments

.....

Thank you for sparing your precious time and God bless you

APPENDIX II: RESEARCH BUDGET

Item	Quality/quantity	Unit cost	Total cost
Proposal Writing			
Stationary			
Ruled Paper	2 reams	10,000=	20,000=
Note book	4	2,500=	10,000=
Printing	60 pages	500=	30,000=
Photocopying	30 pages	100=	3,000=
Pens	1 box	3,000=	3,000=
Box file	2	5,000=	10,000=
Clip board	2	3,500=	7,000=
Subtotal			83,000=
Data Collection			
Allowance	6 days	20,000=	120,000=
Subtotal			120,000=
Data Analysis			
Transcription Allowance	6 days	20,000=	120,000=
Analysis Allowance	6 days	20,000=	120,000=
Subtotal			240,000=
Report writing			
Secretarial services			
Typing	60 pages	500 per page	30,000=

Printing	60 pages	500 per page	30,000=
Photocopying	60 pages	100 per page	6,000=
Binding	4 books	20,000= each	80,000=
Subtotal			146,000=
Grand total			589,000=

Appendix III: Work Plan

Item/Time	January 2020	February 2020	April 2020	June 2020	August 2020
Data Collection					
Data Analysis					
Data Presentation					
Clear Report Writing/ Dissertation					