THE EFFECT OF GOVERNMENT DIRECTIVE ON PROCURING MEDICINE AND MEDICAL SUPPLIES FROM MANUFACTURE TO THE PERFORMANCE OF HEALTH FACILITIES:

THE CASE OF ILALA MUNICIPAL

THE EFFECT OF GOVERNMENT DIRECTIVE ON PROCURING MEDICINE AND MEDICAL SUPPLIES FROM MANUFACTURE TO THE PERFORMANCE OF HEALTH FACILITIES:

THE STUDY OF ILALA MUNICIPAL

By

Yonas Gabriel

Research Proposal Submitted in Partial Fulfilment of the Requirements for the Award of Masters of Business Administration in Corporate Management of Mzumbe University 2019

CERTIFICATION

We, the undersigned, certified that we have ready and hereby recommend the acceptance of the dissertation entitled **The Effect of Government Directive on Procuring Medicine and Medical Supplies from Manufacture to the Performance of Health Facilities,** in partial fulfilment of the requirements for the award of Masters of Business Administration Corporate Management of Mzumbe University.

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Accepted by the Board of MUDCC

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DECLARATION AND COPYRIGHT

I, **Yonas Gabriel**, declare that this dissertation is my own original work and it has not been presented and will not be presented to any other University for a similar any other degree award.

Signature: _____

Date: _____

ACKNOWLEDGMENT

I owe my deepest appreciation to those who made this work possible; their contributions have helped me to make this achievement. I thank God for the good health during the entire period of this course. Foremost, thank you, Dr. Cosmas Julius, from Mzumbe University for your enabling support, guidance, and advice throughout the study, I really appreciate your support.

I would also express my sincere appreciation to the ILALA Municipal staff who work in health facilities and MSD procurement unit for their cooperation and support in giving advice and responding to research questionnaires.

Lastly, I would like to give special thanks to my wife Esther D. Kilongola and daughters for their understanding and good support.

DEDICATION

This work is dedicated to my father, Gabriel Yonazi Mtana and my late mother, Happiness Thomas whose dream has always kept me think more for good academic achievements. Their sacrifices have made this dream come true.

LIST OF ABBREVIATIONS

MSD	-	Medical Stores Department
MCDGC	-	Ministry of Health, Community Development, Gender, Elderly and Children
WHO	-	World Health Organization
PSM	-	Procurement Supply Chain Management
HSSP	-	Health Sector Strategic Plan
DMO	-	District Medical Stores
SPSS	-	Statistical Package for the Social Sciences

ABSTRACT

The focus of this study was to assess the extent to which the government decided to procure medicines and medical supplies from manufacturers have impacted the performance of the health facilities.

The study selected ILALA Municipal which is located in Dar es Salaam region as a case study. The data for the research was collected using questionnaires and documentary review. The targeted population was Ilala Municipal employees working in health facilities and staff from MSD procurement unit. The data collected were analyzed using simple descriptive statistics and presented through tables, pie charts, and trend analysis. The analysis used the Statistical Package for Social Sciences (SPSS) version 20.

The study found that the implementation of government decision to procure medicines and medical supplies direct from the manufacturer has a positive effect to the performance of health facilities in terms of cost saving, quality improvement, and availability of medicines and medical supplies. The method leads to competitive prices which increase saving to the health facilities. The increase in saving help the health facilities to improve the services they offer to the final consumer, in this case, the patients. Wouters, Sandberg, Pillay, & Kanavos (2019), suggested that the countries can use bulk procurement to procure medicines and medical equipment.

The findings revealed that the level of rejects of medicines and medical supplies due to quality defect has been reduced. This involves good packaging for easier storage and transportation to the final consumers.

The study revealed that the confidence of the patients on the health facilities services have improved compared to the situation before. This could have been caused by the improvement in the availability of medicines. The products in a storage facility or distribution channels can be easily identified which discourages counterfeit and substandard medicines in the supply chain.

The extent to which the availability of medicines and medical supplies has improved is supported by the ministry of health budget speech for financial year 2019/2020. It was

reported that by March 2019 the country's percentage of availability of thirty (30) tracer medicines has increased to 94.4%.

However, the statistics specifically for the availability of tracer items in Ilala municipal shows that the percentage of availability have increased from 79.98% in 2016, and 94.87% in the year 2018. According to the findings of the study, the following are the recommended.

(a) The government and private sector should invest in manufacturing industries of medicines and medical supplies. The use of locally available raw materials and labor costs would reduce the operating cost and increase savings to the health facilities.

(b) MSD should create a database of reliable manufactures of medicines and medical supplies to enhance the relationship for good contract management. A good relationship between the purchaser and supplier create a good environment for prices negotiations and timely deliveries. This ensures the availability of medicines in the health facility level.

(c) The review should be done to determine the level of availability of other items which are also prescribed to patients in health facilities.

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 Introduction

The availability of medicines and medical supplies in Tanzania has been a key element to the performance of health facilities. The study has examined the effect of the government decision to source medicines and medical supplies from manufacture instead of middlemen.

The first part of this chapter includes the introduction, where the background of the study and a statement of the problem has been discussed. The other part involves the objective of the study, research questions, the importance of the study and the scope.

1.2 Background of the study

In Tanzania, the improvement of the performance in health sectors has been the main agenda to ensure quality health services to all the people (Health Sector Strategic Plan 2015 –2020, (HSSP IV)). Specifically, the performance of health facilities can be affected by the method of procurement adopted by the country to source its medicines and medical supplies.

Medical Stores Department (MSD) was formed as an autonomous government agency through the Act of Parliament No.13 of 1993 that operates under the Ministry responsible for Health, Community Development, Gender, Elderly, and Children. The main responsibilities are to procure, store and distribute medicines and medical supplies to all public health facilities of the best quality at the affordable cost. (Ministry Health, Community Development, Gender, Elderly and Children (MCDGC), 2008)

For many years, MSD has been procuring medicines and medical supplies from producers and middlemen who are found in the country and overseas. Ewen et al., (2017) concluded that the low production of medical products in Tanzania has affected the price of medical services to patients and the performance of health facilities.

Seidman & Atun (2017) suggest that the policymakers should assess the reasons for inefficiency in the procurement of medical products so as to increase the performance in health systems.

In the daily circulating newspaper, The Citizen[1] of 8th July 2017, the Minister for Health, Community Development, Gender, Elderly and Children, Ms Ummy Mwalimu was quoted that in the financial year 2016/2017 the Government of Tanzania has planned to procure drugs and medical supplies directly from the manufacturer and not as per the current practice whereby the middlemen were involved.

According to the Minister, the new procurement system came to implement the directives issued by the President John Pombe Magufuli, whereby, bureaucracy and corruption in the supply chain of medicines and medical supplies were noted to be the problem. This has the effect of the availability of drugs in the society whereby most of the people are poor.

This move is clearly supported by studies which suggest that the Government should review its policies to support the production of medicines and medical supplies to ensure quality health services. (Ewen et al., 2017)

Since the financial year 2017/2018, Medical Stores Department (MSD) started to implement the government directive by procuring medicine and medical supplies straight from the manufacturer. The implementations started with contract awards to 110 manufacturers including ten (10) who are local manufactures. This has reduced the selling prices for some of the items by half and quarter. (MCDGC Budget Speech, 2018/19, p. 22)

[1] http://www.thecitizen.co.tz/News/Hope-as-govt-moves-to-reduce-prices-of-drugs/1840340-4005642-pkls35/index.html accessed on 4th October 2018.

1.3 Statement of the Problem

Among the biggest challenges facing the health sector in Tanzania is the availability of quality drugs and medical supplies at affordable prices.

The accountability, efficiency, and transparency have been identified by the World Bank as the main factors which hinder the performance in Procurement Supply Chain Management(PSM) of the health facilities (World Bank, 2013)

In 2004 the government of Tanzania in collaboration with the World Health Organization (WHO) conducted a national survey on the medicine prices in the public and private sectors. The study revealed a big variation in the end prices of drugs and other medical supplies. To obtain the quality medical items require a good application of a procurement system that may benefit the provision of health services. (Mkoka, Goicolea, Kiwara, Mwangu, & Hurtig, 2014)

According to the study by Seidman & Atun (2017), the centralized procurement system has a direct impact on the cost saving in supply chain management whereby high cost has been incurred. Failure in achieving the required performance of health facilities means the designed systems and processes of procurement has also failed to provide the required level of performance. (Shaw C, 2003)

Despite the fact that, the performance of the health facilities can be enhanced by providing incentives (Payment for performance) to health care workers (Binyaruka & Borghi,2017) the researcher believes that other procurement variables such as procurement cost, quality of medical products and the level of stock available can also affect the performance of health facilities. The government initiative to source its medicine and medical supplies directly from the producer has come as a solution to the problem.

The study has examined these variables to establish the effect of procuring medicines and medical supplies direct from producers to the performance of individual health facilities. Ilala Municipal has been used as a case study.

1.4 Objectives of the study

1.4.1 General Objectives

The general objective of the study was to examine the relationship between direct procurement systems of essential drugs and medical supplies by MSD to the performance of health facilities.

1.4.2 Specific Objectives

(i) To assess if the cost of medicines and medical supplies at MSD has an effect on the performance of health facilities.

(ii) To establish the effect of quality management system in the procurement process to the performance of health facilities.

(iii) To establish the extent to which the availability of medicine and medical supplies available affects the performance of health facilities.

1.5 Research Questions

The research has sought the information's on variables in the procurement function to get the answer to the following key research questions: -

(i) To what extent does the cost of medicines and medical supplies affect the performance of health facilities?

(ii) How does the quality of medicines and medical supplies affect the performance of health facilities?

(iii) To what extent does the availability of medicine and medical supplies affect the performance of health facilities?

1.6 Significance of the study

The study is an evaluation of the procurement method introduced by the government to enhance the availability of medicines and medical supplies to the health facilities in Tanzania. The research explained the relationship that exists between the different variables in the procurement process and its effects on the performance of health facilities.

In a government move of industrialization, the research findings have highlighted the opportunities and benefits that exist in the current procurement system of medicines and medical supplies. These benefits can be used by both the government and potential investors to build more drug production industries.

The results of the research will impact new knowledge to the development of a new policy of the Ministry Health, Community Development, Gender, Elderly, and Children and Ilala Municipality improve the provision of health services in the country.

To the researcher, the study is a partial fulfilment for the attain the requirement for the award of Masters of Business Administration and Corporate Management.

1.7 Scope of the study

The study has been conducted to health facilities located in Ilala municipality to examine the effect of MSD to procure medical items directly from the manufacturer to the health facilities.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

The review explains the relationship between the performance of health facilities and the purchasing methods of medicines and medical supplies.

This section has focused on the theoretical and empirical literature which explain the theories and conclusion reached by previous authors in relation to the area of study. It highlights definitions and concepts. The review of different kinds of literature has enabled the researcher to conduct a critical evaluation on the conclusion reached by different authors and establish the gaps which justify the need for more work.

This study has applied the different model in procurement practice and performance management with the focus of health facilities located at Ilala Municipal.

2.1 Theoretical Framework

This part has examined the theories and concepts that have a connection with the procurement process and the resulting performance in the health facilities.

2.1.1 Agency theory

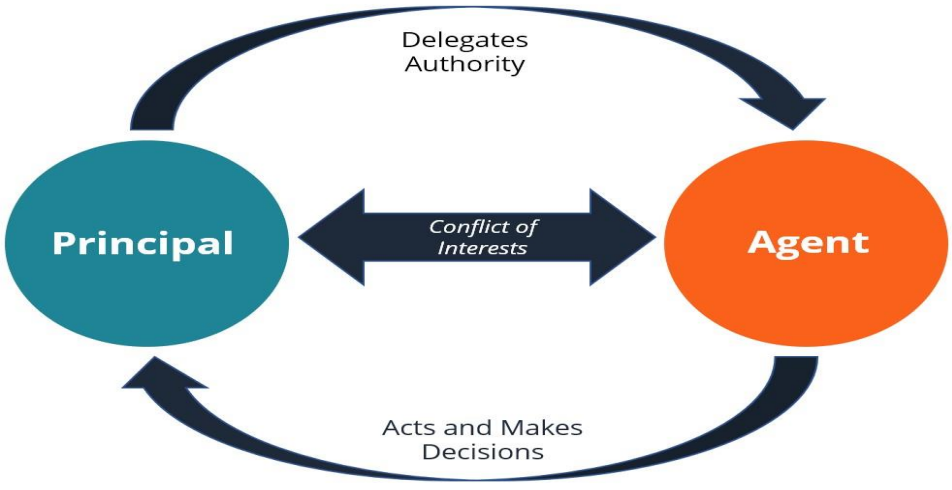
The main assumption in agency theory is the existence of a relationship between two parties whereas the decision making of one part, who is the agent is considered to be the acts performed on behalf of the other part, for this case a principal. Parties involved in the relationship can be an individual person or the company. The agency theory assumes that (a) Efficiency in the Operations of the principal's relays to the work performed by the agency, (b) There is a risk of uncertainty on the decision performed in the relationship (c) there is a conflicting objective between the agent and the principal. (Chrisidu-Budnik, A., & Przedańska, J., 2017).

With the case of the public procurement system, the agency relationship exists between the country citizen and their government. The government's officials have been entrusted with the country's resources to plan and procure medicines and medical supplies on behalf of their citizen. The theory highlights that the agent (government officials) have to perform their functions owing transparency and accountability to their principals who are the citizens (Thai, 2006)

The other view of the agency relationship in the procurement process is between the procurement units in the organizations and the customers who need the product or service for their consumption. Using the guidance of the laws and regulations, the procurement unit (agent) consolidate the needs of all the users who can be identified as the principal to locate the supplier for the required products or services.

In Tanzania, the Act of Parliament No.13 of 1993 have provided the agency relationship in procurement of medicines and medical supplies between the health facilities who in this case act as the principal and the Medical Stores Department (MSD) who has been given responsibilities to procure, store and distribute medicines and medical supplies on behalf of the facilities.

Figure 1: The principal and agent relationship



Source: Researcher own design (2019)

2.1.2 Transaction cost analysis theory

This is a corporate governance theory that explains the effect of the cost when a decision is made to obtain the product or service from the external source. The theory describes the net effect of external and internal transaction environment instead of the legal framework with the outsider[2]. Banker (2011) summarizes the effect of transaction costs theory on supply chain management as developed by Coase, (1937). The theory identifies three main areas that determine the transaction cost of the items.

(a) Search and information cost: these are the cost incurred by the firm when determining the product existing in the market, whether it has the low price, utility and check if it can serve the intended purpose. It also analyses the cost of servicing or maintaining it in the future.

(b) **Bargaining cost:** these are procurement cost incurred when the parties involved are seeking to agree on the term of the transaction and conclude by writing up the contract.

(c) **Policy and enforcement cost**: the firm has the responsibility to ensure what has been agreed is communicated to all parties and terms are adhered, this includes taking correction actions when there is deviation to the agreement.

The theory provides guidelines to the procurement function on the areas to consider during the procurement process. The goods understanding of the transaction cost and the risk involved enhances the performance of the organization supply chain (Schwabe,2013)

2.1.3 Organizational performance

The organizational performance has been defined as the measure of actual results against the organizational objectives[3], this means financial or operational output can be compared against the planned organizational objectives. The measure of organizational performance has been challenged by Hubbard (2006), arguing on difficulties of establishing the

[2] http://kfknowledgebank.kaplan.co.uk/KFKB/Wiki%20Pages/Transaction%20cost%20theory.aspx
[3] https://en.wikipedia.org/wiki/Organizational_performance

measure as the items to be measured has kept on changing. However, the study will focus on validating the relationship between variables and their effect on organizational performance. The operational performance specifically gives the basics of how certain business operations have been efficient and effective in delivering the stakeholders expectation. (Ya'kob and Jusoh, 2016)

This study will measure the performance of health facilities as a result of a change in procurement methods introduced by the government of Tanzania.

2.1.4 Supply Chain Management (SCM)

The supply chain management (SCM) concept has been defined by the Institute of Supply Chain Management (2010) as "The identification, acquisition, access, positioning, management of resources and related capabilities the organization needs or potentially needs in the attainment of its strategic objectives".

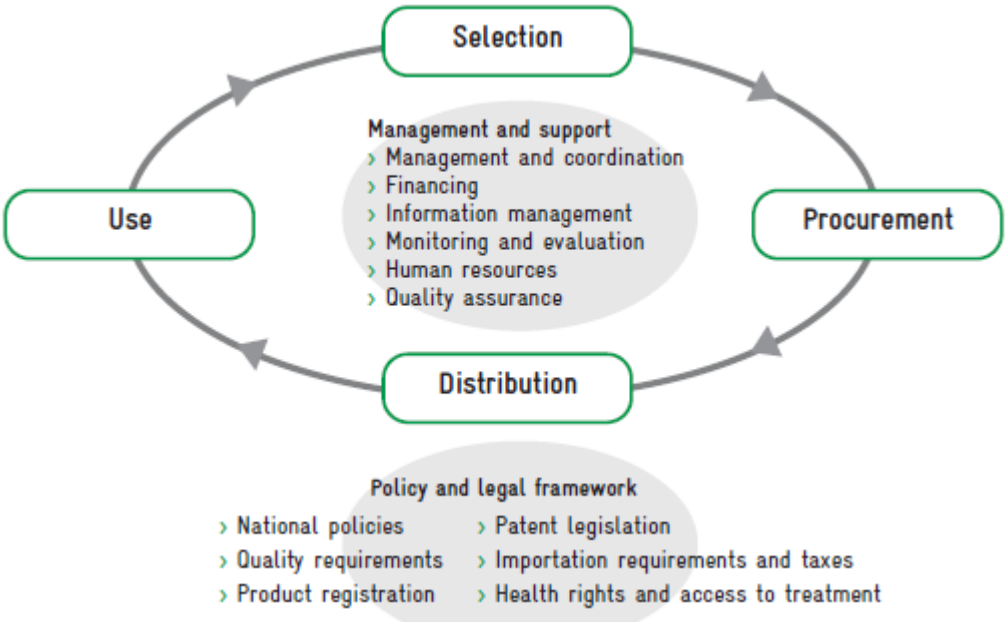
It involves the process of deciding and executing a series of service or product delivery flows that are intended to meet the customer's requirement (Vorst, 2004). It is the process that has the expected inputs to generate the output.

Christopher, M. (2016) look at the supply chain management as the cross-functional process, that involves the purchasing, supplier's management and quality assurance of the expected product or service. It includes both internal operations and external supplier's activities that are both aimed at cost management and total quality control to maximize the total profitability.

The supply chain concept plays an important role in the supply of medicines and medical supplies in Tanzania. It is considered to explain how goods and services will flow to the final consumer. As described in Figure 2, the WHO (2007) have identified four elements which form the supply chain process of pharmaceuticals, these are selection/quantification of the needed pharmaceutical products, procurement process, distribution of the products to the customer and dispensing of the product to the final consumers. The efficiency of

the supply chain management depends on the effectiveness of the information systems in place. Information system management connects parts of the supply chain to communicates such as the system involved in procurement, logistics and customers order management (Handfiled & Nicholas, 1999)

Figure 2: Stages in the supply chain management



Source: WHO (2007)

2.1.5 Procurement process Tanzania

The Tanzania Public Procurement Act 2011, defines the term procurement as, "means buying, purchasing, renting, leasing or otherwise acquiring any goods, works or services by a procuring entity and includes all functions that pertain to the obtaining of any goods, works or services, including description of requirements, selection and invitation of tenderers, preparation and award of contracts".

The procurement functions fulfil this role by applying the procurement procedures established to obtain the required goods or services at the right time from the right source.

(a) Procurement Regulatory framework in Tanzania

The procurement process in the public sector is governed by the Public Procurement Act 2011 which provides the authority and guidelines to government organizations known as procuring entity to conduct the procurement process.

The Public Procurement Act 2011 is the basis of other legal frameworks such as policies, regulations and other procurement circulars that are issued by the Public Procurement Regulatory Authority (PPRA). PPRA is the government authority established by the Public Procurement Act No. 21 of 2004 with the objectives of ensuring that all government agencies adhere to the requirement established by the Act[4]. Also, the PPRA conduct procurement audit to government organizations and assist to resolve procurement complaints in case they arise. (Annual Performance Evaluation Report for Financial Year 2015/16).

The Public Procurement Act 2011 and its regulations 2013 and their amendment of 2016, guide the procuring entity to select the appropriate procurement method for acquisition of goods and services. Depending on the type and value of items procured, the procuring entity has three (3) types of procurement methods to select. These are single source method, competitive method or non – competitive method.

(b) The Performance of procurement function

The procurement function is considered good if it has met the objectives of the organizations. This means the performance of the procurement function depends on the efficiency and effectiveness of the procurement process.

2.2 Empirical review

The studies on the existing literature of the relationship between the procurement process and its effect on the performance of health facilities revealed a positive correlation between the variables.

[4] https://www.ppra.go.tz/index.php/about-joomla/establishment accessed on 10/03/2019

Below is the representation of the findings of different authors and their conclusions to the study.

2.2.1 Cost of essential medicines to health facilities

The price guidelines by WHO (2015) shows that 20% to 60% of spending of the low and middle-income countries are related to medicines while other countries they account only 18%of their spending. In developing countries, medicine purchases are financed by the individual through their own pockets. High prices of these medicines are not affordable to the large part of the population who are not covered with health insurance.

Danzon, Mulcahy, & Towse, (2015) identified the procurement and distribution channel as the source of the high cost of prices pharmaceutical products in the supply chain. The study shows that the price of medicines can be high or low depending on the type of ex-manufactures who were invited to supply the product. To obtain the best prices of medicines and medical equipment, the countries can procure medicines in bulk using the single procurement point. This method allows the country to obtain the most competitive prices and cost saving from the pharmaceutical firms whereby the aggregate demand of the country attract more competition. (Wouters, Sandberg, Pillay, & Kanavos, 2019)

The other source of the increased cost of a pharmaceutical product is the increase of for-profit pharmaceutical businesses in the supply chain, in Tanzania, this has affected the final consumer's prices. In the study conducted by Mhamba & Mbirigenda, (2010) in the East and Southern Africa it was revealed that operational factors have contributed to the inefficiencies of the supply chain of pharmaceutical. Some of these factors include;

(a) the high operating cost for manufacturing industries who have invested in the production of medical items.
(b) The higher cost of capital determines the flow of capital within the business environment. This is due to the fact that the high-interest rate discourages the local pharmaceutical industries to obtain credit from the financial institutions.

(c) The high demand and participation of many players in the pharmaceutical businesses contributed to the rise of counterfeit drugs and substandard medicines. (Euro Health Group,2007).

The study concluded that the high cost incurred by industries in productions of pharmaceutical has an effect on the price of the final product. The price of the medicines in the market determines the level of availability to the consumers. However, In Tanzania, the government through the Medical Stores Department maintain the price list of all its medicine and medical supplies, this action controls the price of medical items which are accessed by Public health institutions. There is no evidence of the procedure to control the prices of medicines and medical supplies available in the market.

2.2.2 Quality of medical supplies

Giralt et al., (2017) analysis of the quality of pharmaceutical products in the sub-Saharan African countries shows that the assurance of quality is the major challenge. the study revealed two major sources of quality problem of the pharmaceutical products which imported to sub- Saharan African countries, one of this problem is the different standards of the oversite regulatory authorities from the products origin countries, and the second observation is lack of resources (technical and skills) which are required in validating the quality of medicines and medical supplies. however, the existence of international brokers, wholesalers, distributors and other intermediate traders of pharmaceuticals products makes the quality issues more complex as they only look to the profit side of the business. The supplier's selection of the manufactures depends on the set criteria by the purchaser, this affects the consistency of the quality of product distributed.

2.2.3 Availability of medicines and medical supplies

(a) The demand versus supply of Medicines and medical supplies

The demand versus the supply of medicines and medical supply in health facilities has been a major bring a major challenge of out of stock. The situation analysis and baseline survey conducted in 2017 in Dodoma region in Tanzania on 24 tracer medicines in 2010

and 2011 respectively showed that essential medicine was available in health facilities at the rate of fifty-three percent (53%), this defines the level of stock out to be forty-seven (47%). It was further established that the orders fulfillment level for medicines and medical supplies by MSD was 58.6%. The low rate of orders fulfillment, necessitate the health care stakeholders to come up with the new means of sourcing which cover the gap of the remained percentage of orders which the MSD was not able to fulfill. The introduction of a new modality of purchasing medicine from the private vendors known as Prime vendor has improved the availability of medicines and medical supplies in the public health facilities in the region from 54% in 2011 to 80% in 2016. (Wiedenmayer K, 2017)

Figure 3: Availability of medicines and medical supplies

Source: Report on Prime Vendor Dodoma region case study (Wiedenmayer K, 2017)

According to Kigume, Maluka, & Kamuzora, (2018) the health facilities have narrow decision making on the fund's allocation for procuring medicines and medical supplies from MSD regardless of the fact that the country has the policy on health system which decentralized the key decisions to the districts and health facilities levels. The central government has set the criteria from which it determines the funding for each health facility. In some cases, the health facilities lack visibility of their funds available with MSD to decide on the number of medicines to order. Despite the fact that the facilities

were mobilizing the funds from a local source to finance their daily demand, the system was prone to non-ethical activities.

On the other hand, although the prime vendor system has shown the improvement in supporting the availability of medicines and medical supplies, the involvement of private commercial sector in the supply chain is not always sufficient to provide effective supplies to the public sectors. (WHO, 2008)

(b) Procurement of medicines and medical supplies from Manufactures.

Procurement of medicines and medical supplies is one of the elements of the budget in any country that consumes a large part of the budget. For the financial year 2018/2019, the Tanzania government set aside TZS269 billion from shillings TZS31 billion in 2015/16 for procurement of medical items. (National Budget 2018/2019)

The decision by the government to source its medicine and medical supplies direct from the manufacture lies on the procurement procedures as narrated by the governing laws and regulations. Some countries use local agents to procure their pharmaceuticals, while in other countries the laws are flexible. The pharmaceuticals products can be procured from local agents, wholesalers or manufactures. The direct procurement from the manufactures is mostly preferred when the cost of dealing with middlemen/wholesalers or agents is high and involve more complications during the negotiations process. The main benefits associated with direct procurement from manufacturers are low prices, assurance on the required quality and effective communication especially on technical cases. (World Health Organization,2002)

(c) Procurement of medicine and medical supplies at Health Facilities level

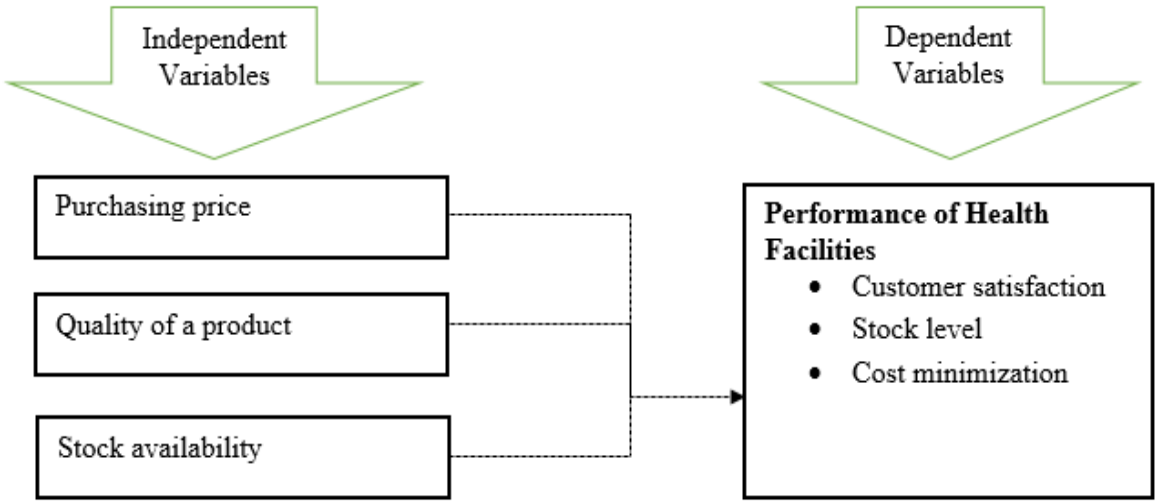
The procurement of pharmaceutical products at Health facilities level involves quantifications of the products needed and ordering the same using computer system known as electronic Logistics Management Information System (eLMIS). This is a transparency system where all the people involves in the process can access and validate the orders from their origin. However, the main challenge involving this process is the assurance of getting all the product as per the health facilities requirement from MSD.

Procuring of medicines and medical supplies direct from manufacture is expected to increase the level of stock available at MSD for distribution to the health facilities.

2.3 Conceptual Framework

A conceptual framework is a logical structure representation of the researcher phenomenon that summarizes the study to be conducted. It is represented in the visual display to explain how different variables relate to each other in the theoretical framework (Grant & Osanloo, 2014). In the research, the conceptual framework outlines the courses of action in relation to the two variables. In this study the researcher has identified two types of variables, which are dependent and independent variable as narrated below;

Figure 4: Conceptual Framework



Source: Researcher own design (2019)

2.4 Summary of Literature/Research Gap

The evidence from the available literature shows that the method used in the procurement process of medicines and pharmaceutical have both positive and negative effect on the performance of health facilities. In these studies, the effects were evaluated and respective

recommendations issued based on their magnitude. For instance, prime vendor system which was established in to solve the problem of stock out, and the system was able to increase the stock availability in the supply chain from 54% in 2011 to 80% in 2016. (Wiedenmayer K, 2017). Although this method showed good results, it didn't provide a clear solution to the problem of quality controls and an increase in administration cost of the procurement process which is centred on middlemen distribution service.

This affirms that the study conducted on the implementation of government decision to procure medicines directly from the manufacturer has provided the recommendation to the policymaker whose decision may have a positive or negative effect to the end-users who are health facilities.

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 Introduction

This chapter highlight different research methods, design and approaches in establishing the relationship between direct procurement methods and performance of the health facilities. The detailed methods, design, and approaches included information such as methods used in sample selection, sample size, source of data, how data was collected, analysed and how the researcher has presented the findings and conclusions.

3.1 Research Design

In defining the research problem, the research design explains the overall strategy adopted in the research. The research design explains the procedures to achieve the objective of the study derived from research questions by defining the measurement and data analysis methods. Also, it provides the answer regarding what, where, and how the data was analysed and the style of the report generated. (Kothari, 2004)

In this study, a descriptive research design was used in collecting data to demonstrate the relationship between variables by using the case study. This means the effects of direct procurement system to the performance of the health facilities has been established.

3.2 Area of the Study

The study was carried out in ILALA Municipality (Dar es Salaam) using data from public health facilities. The researcher selected this Municipal because, it has all categories of health facilities which includes districts hospital, health centres, and dispensaries. Moreover, the national census of 2012, shows that ILALA Municipal is a 3rd populated district in Dar es Salaam region with a total population of 1,220,611peoples. (National Census report, 2012)

Therefore, the researcher believes that the understanding of this municipal may be applied in all other public health facilities in Tanzania. On the other hand, selection considered the accessibility of people who were contacted to provide the required information. The geographical location of the study area enabled the easy collection of data with consideration to costs and time required to complete the study.

Figure 3: Access centres of medicines and medical supplies from MSD

Source: http://www.msd.go.tz/index.php/sbus accessed on 10/03/2019

3.3 Study Population

Saunders et al, (2007) define the population as all individual selected as a focal element in the study to represent a general population with the same characteristics from which the conclusion was established.

In our study, the target population was the staff working under the office of Ilala District Medical Officer (DMO) in health facilities. These include staffs working in public health facilities such as nurses, pharmacists, doctors, accountants, supply chain advisors, and other supporting staff.

The study has also involved sales and procurement staff from the Medical Stores Department, who are mainly responsible for sales and procurement activities of medicines and medical supplies for public health facilities.

3.4 Sampling Design and technique

Sampling design refers to a framework or plan which explain the process or procedures for gathering information (sample) from the identified populations. The information of a sample obtained is then used to provide a conclusion which represents the entire population. (Kothari, 2004)

The study applied a stratified sampling technique which a nonprobability sampling. In this sampling method, the researcher obtained the data from the population in a number of strata such as sales and procurement department from the Medical Stores Department. Also, professionals' groups working under the office of District Medical Officer such as pharmacists, and Supply chain advisors and other supporting staffs were included.

3.5 Sample Size

The sample of fifty (50) respondent was selected from the office of Ilala District Medical Officer which included pharmacists and staffs working in public health facilities such as nurses, doctors, accountants, Supply chain advisors, and other supporting staff. On the other hand, thirty-seven (37) respondent from sales and procurement department at the Medical Stores Department was included.

3.6 Data Collection Method

The data was collected from both primary and secondary data sources, whereas questionnaires were used to gather the primary data and review of available documents to obtain secondary data.

(a) **Questionnaires**: This type of data collection technique assist to get the information from the respondent by requesting the person to provide the answer to the question outlined in the questionnaires (Dawson, C. 2007). The questionnaire may contain closed-ended or open-ended questions. However, in our study, the respondent was given closed-ended questionnaires. Closed questions are aimed at obtaining standardized responses which were analysed through quantitative techniques. The aim of information collected through the questionnaire was to answer research questions number one (1), two (2) and three (3)

(b) **Documentary review**: These are secondary data obtained from organizational publications or records such as sales records and MSD price catalogue for essential drugs. Using the documentary review, the researcher obtained further answer for research question number three (3).

3.7 Data Analysis and Interpretation

3.7.1 Data Analysis

The analysis of data refers to the process of using statistical methods to analyse data collected from the respondent and check whether the hypothesis generated is supported by the results.

The researcher applied the SPSS data analysis tool to conduct a test of the data collected. As explained by Kothari, (2004), the result of the analysis provided the pattern of actual relationship among the data groups, this has provided the answer to the questions defined in the research questions.

Quantitative data analysis was used to convert data collected into meaningful information, where the results were compared with the formulated hypothesis.

3.7.2 Interpretation

The study used simple statistical analysis whereby the data collected were presented in a table, pie charts and bars to further show the percentage and frequencies of the result. The researcher opted to use table and pie chats because they can be easily present the actual responses and be understood.

The presentation assisted the researcher to provide the correct interpretation of the information collected and derive the correct conclusions.

3.8 Ethical Consideration

The study is a partial fulfilment of the award of the Master in Corporate Management at Mzumbe University. The principles of research ethics were being considered in the all process, whereby information's collected from the area of study or respondents are confidential and used only for the purpose of the study. Also, the right to privacy for the people involved during data collection has been taken into consideration and will be respected.

3.9 Accuracy and Reliability of Data

According to Sekaran, & Bougie, R. (2010), reliability in research refers to the measure of how the information is consistency regardless of number times the same test is performed, it refers to the

extent to which the true measures are stable.

To ensure the accuracy and reliability of information collected, the researcher applied a stratified sampling technique to obtain the sample that represents the entire population. Moreover, the collection of data and analysis was transparency and properly documented to arrive at the right conclusion.

CHAPTER FOUR
PRESENTATION OF FINDINGS

4.0 Introduction

This chapter analyses the data collected using questionnaires and documentary reviews. The researcher used the analysis to interpret the findings in relation to the objectives of the study. The analysis of the data has been presented in frequency and percentage using tables.

The researcher distributed fifty (50) questionnaires to health facility workers from ILALA Municipal and thirty-nine (39) questionnaires which are equivalent to 78% were returned. For the case of staff who are involved in sales and procurement process at MSD, all 37 questionnaires distributed were returned, this makes 100% of the distributed questionnaires. The data collected were analysed using Statistical Package for the Social Sciences (SPSS). The analysis and interpretation were done for each research question separately.

The following research questions were addressed in the study.

(a) To what extent does the cost of medicines and medical supplies affect the performance of health facilities?

(b) How does the quality of medicines and medical supplies affect the performance of health facilities?

(c) To what extent does the availability of medicine and medical supplies affect the performance of health facilities?

In analysing and interpreting the data collected, the profile of the respondent such as age, gender, educational level and their work experience in the health sector have been discussed followed by the research objectives as described below;

4.1 Respondents profile

4.1.1 Gender of respondent

The analysis of the respondent by gender as indicated in Table 4.1 shows that the majority of respondent were male who constitutes 52.6%. The remaining 47.4% of the respondent

were female. This shows that in the supply chain of pharmaceuticals both at MSD and health facilities males form are more engaged than female. However, the variations of representation between male and female in the total list of respondent vary by 5.2%. This means that the gender issue was considered in the study.

Table 4.1 Sex of the respondents

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	40	52.6	52.6	52.6
	Female	36	47.4	47.4	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.1.2 Marital Status of the respondent

The composition of the respondents by gender in Table 4.2 below, shows that 41% of the respondents were married, 27% were single, 6% were either widow or widower and the remained 2% were divorced.

Table 4.2 Marital status of the respondent

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	27	35.5	35.5	35.5
	Married	41	53.9	53.9	89.5
	Divorced	2	2.6	2.6	92.1
	Widow	6	7.9	7.9	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.1.3 Age of respondent

To establish the age characteristics of respondent who are dealing with the procurement of medicines and medical supplies in different public health institutions the researcher

grouped the respondent age in five levels as shown in Table 4.3 below. The age group of respondents ranging between 25-35 years is the most people who are mainly involved in the supply chain of medicines and medical supplies in the public sector with percentage coverage of 44.7%, followed by age group ranging from 35-45 years who count 36.8%. the age group ranging from 18-25 years covers only 11.8% of the population while age group ranging from 45years and above covers only 6.6%.

Table 4.3 Age of respondent

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25 Years	9	11.8	11.8	11.8
	25-35 Years	34	44.7	44.7	56.6
	35-45 Years	28	36.8	36.8	93.4
	45+ Years	5	6.6	6.6	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.1.4 Educational level of respondent

The researcher identified the level of education as an important element in measuring their capacity and skills in the supply chain of health products. The composition of the respondents by their level of education shows that most of the respondents are the graduate who covers 52.6% of the total number of respondent. However respondent with an ordinary diploma and ordinary certificate covers 34.2% and 13.2% respectively. This means the large part of the group of respondent have a good academic background that makes them fit in their designation. Table 4.4 below summarizes the analysis.

Table 4.4 Educational level of respondent

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ordinary Certificate	10	13.2	13.2	13.2
	Ordinary Diploma	26	34.2	34.2	47.4
	Graduate	40	52.6	52.6	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.1.5 Work Experience of respondent

Out of seventy-six (76) respondents, thirty-nine (39) respondents equal to 51.3% have the experience of more than five (5) years in dealing with pharmaceuticals at both health facilities and MSD who is the main procuring agent in Tanzania. The other 25% have the experience of 3-5 years, and 13.5% have the experience of 1-2years. The remained 10.5% are new in dealing with pharmaceuticals, however, their short experience has also enabled the researcher to obtain unbiased views on the current situation. the analysis shown in Table 4.5 below is the evidence that views from both respondents with long and short experience were considered. In total 76.3% of the respondents have experience of more than three (3) years. This means relevant information's have been collected to present the actual situation of the performance of health facilities before and after the situation.

Table 4.5 Work Experience

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 Year	8	10.5	10.5	10.5
	1-2 Years	10	13.2	13.2	23.7
	3-5 Years	19	25.0	25.0	48.7
	More than 5 Years	39	51.3	51.3	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.2 The effect of purchasing medicine and medical supplies direct from the manufacturer on prices/cost

The researcher wanted to know the extent to which procuring medicine and medical supplies direct from manufacture leads to low prices against the standard market prices.

4.2.1 Actual purchasing prices against the standard market prices.

As described in Table 4.6 below, the question was directed specifically to the sales and procurement department from the Medical Stores Department who are the main procuring agent of the government. In this case, the researcher wanted to know the extent to which the decision to procure medicines and medical supplies direct from the manufacturer has led to low prices of medicines and medical supplies against the standard market prices. The result revealed that 48.6% of the respondents strongly agree and 37.8% agree that the procurement method has reduced the prices for items purchased. Only 13.5% of the respondents believe that price reduction is moderate. From the responses above, considering 48.6% and 37.8% of respondents who agreed on the reduction of prices in the market, in total 86.4% of the respondents have shown that the prices for medicines and medical supplies have low due to the decision to procure directly from the manufacturer.

Table 4.6 Procurement prices

Variable		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate	5	13.5	13.5	13.5
	Agree	14	37.8	37.8	51.4
	Strongly Agree	18	48.6	48.6	100.0
	Total	37	100.0	100.0	

Source: Research data (2019)

4.2.2 Cost saving to health facilities

To establish the effect of procuring direct from the manufacturer on the cost of medicines to the health facilities the researcher posed the question to the respondents who are

working at the health facilities and the results were as follows, 43.6% Strongly agreed and 30.8% agreed that the purchasing power of health facilities have been increased as a result of cost served when procuring medicines and medical supplies from MSD. While 15% believed that health facilities have experienced moderate changes of the cost saved whereas 10.3% have disagreed. Based on the fact that the combination of those who strongly agreed and those who only agreed makes 74.4% of the responses, this suggest that the implementations of government decisions to procure have reduced the prices of medicines and medical supplies which have resulted in cost-saving at the health facilities level and provided them with more purchasing power. Refer Table 4.7 for details.

Table 4.7 Cost saving

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	10.3	10.3	10.3
	Moderate	6	15.4	15.4	25.6
	Agree	12	30.8	30.8	56.4
	Strongly Agree	17	43.6	43.6	100.0
	Total	39	100.0	100.0	

Source: Research data (2019)

4.2.3 Patients medicines affordability

As presented in Table 4.8, The researcher wanted to know whether the patients can afford the medications prescribed at the health facilities due to the cost of medicines and medical supplies. The responses from staff who are working at the health show that 38.5% of the respondents strongly agree the responses have shown to afford the medications prescribed at the health facilities, 33.3% of the respondent agreed the patients afford the medications prescribed while 20.5% were not sure whether the patients can afford the responses. On the other hand, 7.7% of the respondents did not agree on the affordability of the patients to the medications prescribed by their health care professional. Given that the

combinations of respondent who agreed on the affordability of the medication prescribed at the health facilities are about 71.8%, this suggests that the cost of medicines and medical supplies at the health facilities has the effect on how the patients can afford their medication prescribed.

Table 4.8 Medicines prices at health facilities

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	7.7	7.7	7.7
	Moderate	8	20.5	20.5	28.2
	Agree	13	33.3	33.3	61.5
	Strongly Agree	15	38.5	38.5	100.0
	Total	39	100.0	100.0	

Source: Research data (2019)

4.2.4 Trend analysis of the selling price

Although each health facilities have a different model of computing the prices of medicines and medical supplies, the study has found that the sales prices for some of the medicines procured from the manufacturer have been reduced. As shown in **Appendix – III** below, the comparison of sales prices of medical items between the financial year 2016/2017 and the year 2017/2018 has shown a reduction in prices ranging from 2% to 89% respectively.

4.3 The effect of purchasing medicine and medical supplies direct from the manufacturer on the quality of products

To study the performance of health facilities in terms of the availability of quality medicines and medical supplies, the researcher wanted to know the extent at which the quality of medicine and medical supplies have changed compared to the situation before

the decision of the government to procure medicines and medical supplies direct from the manufacturers.

The questionnaires were set based on the following key quality variables in medicines and medical supplies.

4.3.1 Level of rejects

The study aimed to establish the extent to which the decision to procure medicines and medical supplies from manufacture has an impact on the level of rejects of medicines and medical supplies received by the health facilities.

As described in Table 4.9 below, about 63.2% of the respondents strongly agreed that the procurement method from the manufacturers have reduced the level of products rejects as compared to the situation before. Moreover, 27.6% of the respondents have agreed that the procurements method has reduced the level of products rejects, 7.9% of the respondents reported that only a moderate level of rejects have been observed. The remained 1.3% of the respondents did not see any quality improvement in terms of the level of rejects of medicines received. The combination of respondents who agreed on the reduction of rejects at the health facilities makes 90.8% of the responses. This suggests that since the implementation of action to procure medicines and medical equipment direct from the manufacturers the level of rejects have decreased.

Table 4.10 Level of rejects

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	1.3	1.3	1.3
	Moderate	6	7.9	7.9	9.2
	Agree	21	27.6	27.6	36.8
	Strongly Agree	48	63.2	63.2	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.3.2 Packaging of medicines and medical supplies

In Table 4.10 below, the researcher wanted to know the whether the packaging style by the manufacturer has simplified the storage and distribution of medicines at all levels of the supply chain including at MSD central warehouses and at health facilities levels. The responses from 64.5% strongly agreed and 30.3% agreed that the packaging style by the manufacturer has simplified the storage and distribution of medicines at all levels of the supply chain. The responses have shown that only 5.3% of the respondents have noticed moderate changes in the packaging style by the manufacturer. No responded disagreed on the packing style by the manufacturer. With the combination of 94.8% of the respondents who agreed on the improvement of the packaging by the manufacturer, it implies that the decision has helped MSD and health facilities to store and distribute the medicines and medical supplies easily. As explained by Newton, Green, & Fernández, (2010) packaging of medicines and medical supplies is the essential factor to ensure efficient distribution of the medical products.

Table 4.11 Packaging

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate	4	5.3	5.3	5.3
	Agree	23	30.3	30.3	35.5
	Strongly Agree	49	64.5	64.5	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.3.3 The level of patient confidence

Table 4.11 present the analysis which explains whether quality medicines delivered to patients and medical equipment used in hospitals have increased the patients level of confidence to health systems in health facilities. The answer from the respondents shows that, 53.9% of the respondents strongly agree that the level of confidence to the health systems at the health facilities have increased, 26.3% agree that the level of patient's

confidence has increased and 13.5% of the respondent believe that there is a moderate change in patient's confidence over the quality of medicines and medical supplies. The remained 6.6% have indicated to disagree that there is an increase in the patient's confidence in the quality of medicines and medical supplies. The combination of 80.2% of the respondents who agreed on the increase of the level of confidence to health systems in health facilities means the medicines and medical supplies of quality are delivered to health facilities.

Table 4.12 Patients confidence

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	6.6	6.6	6.6
	Moderate	10	13.2	13.2	19.7
	Agree	20	26.3	26.3	46.1
	Strongly Agree	41	53.9	53.9	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.3.4 Assurance of quality by Tanzania Foods and Drugs Authority (TFDA)

In table 4.12 below, out of 76 people who responded to the questionnaires, 56.6% strongly agreed and 32.9 agrees that the procurement direct from manufacture provides assurance that the medicines received by health facilities have been registered by the Tanzania Food and Drugs Authorities (TFDA) and can be accurately verified to avoid counterfeit and substandard medicines. The remained 10.5% of the respondent believe that the method of procurement direct from the manufacturer have resulted in a moderate assurance of quality by the Tanzania Food and Drugs Authorities (TFDA). In total, the response of 89.5% of respondent who agreed on procuring medicines and medical supplies direct from manufacture gives the assurance that all quality check can be accurately verified by TFDA to avoid counterfeit and substandard medicines.

Table 4.13 TFDA Assurance

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate	8	10.5	10.5	10.5
	Agree	25	32.9	32.9	43.4
	Strongly Agree	43	56.6	56.6	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.4 The effect of purchasing medicine and medical supplies direct from the manufacturer on the level of stock available

The researcher wanted to know the level of performance in health facilities in terms of the of stock availability compared to the situation before the implementation of the government decision to procure medicines and medical supplies direct from the manufactures.

Based on the questionnaire, below is the analysis of different responses as received from the respondents.

4.4.1 Timely delivery of medicines and medical supplies.

As reported in Table 4.13 below, 53.9% of the respondents strongly agreed and 26.3% agreed that the improvement in the procurement process has also improved the timely delivery of medicines and services to the patients at the health facilities. On the other hand, 17% of the respondents did not agree or disagreed that there are improvements on the time used to deliver medicines and medical supplies to the patients after the implementation of the government decision to procure directly from the manufactures. The remaining 2.6% did not agree on the improvement in the timely delivery of medicines and services to the patients at the health facilities. The combination of respondent who agreed on the improvement in the delivery of medicines and services to the patients at the health facilities make 80.2%. This suggests that the procurement methods adopted by the government have improved the timely delivery of medicines to health facilities which in

turn have improved the availability of medicines and medical supplies at the health facilities.

Table 4.14 Customers Satisfaction

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	2.6	2.6	2.6
	Moderate	13	17.1	17.1	19.7
	Agree	20	26.3	26.3	46.1
	Strongly Agree	41	53.9	53.9	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.4.2 Traceability of medicine and medical supplies

The researcher wanted to know the extent to which procuring direct from the manufacturer has improved the stock availability by increasing the traceability of government medicines and medical supplies in the supply chain of which it discourages theft. From the question posed to the respondent, the following were the responses.

As per the analysis in Table 4.14 below, 55.3% strongly agree that 55.3% of the respondents strongly agree that the traceability of the medicines and medical supplies have increased, 27.6% agree that the traceability have increased, 13.2% of the respondents did not agree or disagree on the increase in traceability of medicines and medical supplies at the health facilities. The remained 3.9% of the respondents did not agree on the increase in the traceability of medicines and medical supplies at the Health facilities. The total of 82.9% of the respondents who agrees on the increase in the traceability of the medicines and medical supplies means the increase in the traceability of medicines and medical supplies have also improved the availability of medicines and medical supplies at the Health facilities due to the fact that the increase in the traceability of medicines discourages theft and pilferage.

Table 4.15 Traceability

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	3.9	3.9	3.9
	Neutral	10	13.2	13.2	17.1
	Agree	21	27.6	27.6	44.7
	Strongly Agree	42	55.3	55.3	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.4.3 Level of Communication between supplier and purchaser (MSD)

Adequate communication between parties involved in the procurement is an important factor to ensure that the intended products of the same specification are delivered timely. For the case of medicines and medical supplies, the researcher wanted to know if communication there is improvements in the communication between the supplier and purchased after implementation of government decision to procure medicines and medical supplies direct from the manufacturer compared to the previous situation.

Based on the questions posed to the respondent, the followings were the responses. 53.9% of the respondent strongly agreed that the communication between the supplier and purchaser has improved, 39.2% agreed and 1.3% of the respondent did not agree or disagree. The remained 6.6% of the responded believe that no improvement in communication has been observed between the supplier and purchaser. The combination of respondent who agreed that there is an improvement which is equal to 92.1% proposes that the improvement in communication between purchaser and supplier who is the manufacturer improve the accuracy in the availability of medicines and medical supplies in the supply chain which includes health facilities.

Table 4.16 Communication

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	6.6	6.6	6.6
	Moderate	1	1.3	1.3	7.9
	Agree	29	38.2	38.2	46.1
	Strongly Agree	41	53.9	53.9	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.4.4 Effectiveness of Contract Management

As analysed in Table 4.16 below, the researcher asked the respondents whether the management of Contract involving multilevel supplier is more complex than dealing with manufacture. The answers from the respondent using a Likert scale were as follows; 48.7% of the respondent strongly agree that the contact management in a multilevel supplier is more complex than dealing with manufacturer directly, while 38.2% of the respondent agrees that the contact management in a multilevel supplier is more complex than in the contract with manufacture. The other 13.2% of the respondent did not either agree or disagree that the contact management with a multilevel supplier is more complex than contract with manufacture. None of the responded disagreed with the statement. The combination of respondent who makes 86.9% of the respondent agree on the statement that the multilevel supplier is more complex than dealing with manufacture. This means that the complexity in dealing with the multilevel supplier may result in delays in deliveries of medicines and medical supplies than when the manufacturer is directly contracted.

Table 4.17 Contract Management

Variables		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate	10	13.2	13.2	13.2
	Agree	29	38.2	38.2	51.3
	Strongly Agree	37	48.7	48.7	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

4.4.5 The level of availability of medicines and medical supplies

The analysis of the findings in Table 4.17 shows that 56.6% of the respondents agree that the procurement methods have impacted positively the level of medicines and medical supplies available for consumption, whereas 28.9% agree. The remained 13.2% remain undecided while 1.3% did not see any improvement. A total of respondents who agreed that there is an improvement in the availability of medicine and medical supplies makes 85.5% of the respondents.

Tanzania's Ministry of Health, Community Development, Gender, Elderly, and Children maintain the statistics of the availability of essential medicines known as tracer items. The statistics for the period before implementation of government decision to procure medicine and medical supplies direct from the manufacturer shows that there is an increase of the percentage of availability in 2018 compared to the situation before in 2016. Moreover, according to the budget speech in the parliament for the financial year 2019/2020 the level of availability of thirty (30) essential medicines as at March 2019 was 94.4%.[5]

The percentage increase of availability of tracer items to 94.87% is an indication that government decision to procure medical items direct from the manufacturer has been efficient.

[5] http://www.mcdgc.go.tz/data/HOTUBA_WAMJJW_2019_20.pdf accessed on 26/05/2019

Table 4.18 Stock Availability

	Variables	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	1.3	1.3	1.3
	Neutral	10	13.2	13.2	14.5
	Agree	22	28.9	28.9	43.4
	Strongly Agree	43	56.6	56.6	100.0
	Total	76	100.0	100.0	

Source: Research data (2019)

CHAPTER FIVE

Discussion of the Findings

5.0 Introduction

The findings reported in chapter four has been discussed in this chapter. The discussion evaluates the findings obtained in data analysis in comparison to what has been previously known about the research problem. The main focus of this chapter is to answer the research questions as presented in this study. In this case, the researcher wanted to know whether the government decision to procure medicines and medical supplies from the manufacturer has an effect on the performance of health facilities.

5.1 Response to the Questionnaire

The analysis of respondent by gender shows that the composition of the respondent was proportionally represented by both gender whereby male constitute 52.6% and female constitute 47.4% of the respondent. This composition shows that in the supply chain of pharmaceuticals both at gender has been well represented. According to Iskandar, Rahim, Yussoff, & Bakar, (2018), gender inequality at the workplace has a negative effect on the organization's involvement.

The good mix in the age group of the respondents of 25-35 years who counts 44.7% of the respondent and age group of 35-45 years who count 36.8% means the responses were obtained from the respondent in good proportional of the age group that is dealing with pharmaceuticals.

The educations and experiences of the respondents measure the quality of responses which is based on the level of understanding to the questions provided. In this study, 52.6% of the respondent were graduate and 34.2% have ordinary diploma certificate. In terms of work experience, 76.3% of the respondent have experience of more than three (3) years, in dealing with pharmaceuticals, the researcher believes that relevant information's collected are the best representation of the actual situation of the performance of health facilities before and after the government decided to procure medicine and medical supplies direct from the manufactures.

5.2 Cost reduction of medicines and medical supplies improves the performance of health facilities compared to the situation before.

The implementation of the government decision to procure its medicines and medical supplies direct from the manufacturer has a reduced the cost of items purchased. This in turns increases the purchasing capacity of the health facilities in the provision of services at a low cost and increases the patient's affordability to pay their bills.

It has been observed that the actual prices of medicines and medical supplies from the manufacturers have been reduced compared to the standard market prices. This is proved by the results from the respondent which shows that 86.4% of the respondent agreed that the prices of medicines and medical supplies decreased after procuring items direct from the manufacturer.

The study examined whether procuring directly from the manufacture have led the health facilities to cost saving when ordering medicines and medical supplies from MSD. The analysis of the finding shows that 74.4% of the respondent agreed with the statement that health facilities have recorded cost saving after since the implementation of government directive. The number of monies served during procurement of medical items from MSD has increased the purchasing power of the health facilities. The excess monies can be used to buy more items which were not budgeted.

The patient's affordability to medical prescription has increased compared to the situation before the implementation of a government directive to procure medical items from manufactures. This is due to the fact that the method has reduced the cost of purchases which in turn reduced the prices of medicines at MSD and health facilities. This observation has been supported by the analysis of questionnaires response in which 71.8% of the respondent agreed with the statement that cost of medicines and medical supplies at the health facilities has the effect on how the patients can afford their medical prescriptions.

According to WHO (2015), the high prices of medicines affect the large part of the population in developing countries whereby the medicines purchases have been financed through their own pockets. As suggested by Danzon, Mulcahy, & Towse, (2015) the prices of pharmaceutical items can high or low depending on the methods of procurement adopted by the countries. The government has been able to lower the procurement cost due to the fact that the procurements are made by MSD from the manufacture and in bulk which makes it easier to negotiate on the procurement prices. (Wouters, Sandberg, Pillay, & Kanavos, 2019)

From the above discussion, it is true that the decrease in the cost of medicines and medical supplies has the positive effect to the performance of health facilities which keep the purchasing prices low, results into a cost saving and increases their patient's affordability to the medical prescriptions.

5.3 Increased quality of medicine and medical supplies.

The researcher has examined the effect of quality management system after the implementations of government decision to procure medical items direct from the manufacturer to the performance of health facilities compared to the situations before.

It was noted that the level of rejects of medicines and medical supplies due to quality issues have decreased. Analysis of data collected shows that 90.8% of the respondent agreed that the level of rejects at the health facilities has decreased. The improvement comes after the implementations of government decision to procure medicines and medical supplies direct from the manufactures.

It has been revealed that the packaging style by the manufacturer has simplified the storage of medicines at all levels of the supply chain. This is supported by the questionnaire responses whereby 94.8% of respondent were of the opinion that there are improvements in the packaging style by the manufacturer. According to WHO (2002), the packaging of the medical items plays a big role in the quality of the products. However, the packaging must be designed to ensure that products are protected against changes in environmental

behaviors such as temperature and physical contaminations. It must also carry important descriptions for identification. Packaging of medicines ensures efficient distribution of medical products. (Newton, Green, & Fernández, 2010)

The findings on the improvement of quality of medicines delivered to patients and medical equipment used in hospitals show that the level of confidence to health systems has increased. This finding is supported by the questionnaires responses whereby 80.2% of the respondents agreed that confidence in health systems at the health facilities level has increased compared to the situation before.

It has been noted that medicines and medical supplies procured directly from the manufacturer, provides assurance that the medicines received by health facilities have been registered by the relevant authorities including Tanzania Food and Drugs Authorities (TFDA). This means the items procured can be traced from their source to avoid counterfeit and substandard medicines. The responses to the questionnaires show that 89.5% of the respondent support this argument.

Through this study, quality has been identified as a variable that affects the performance of the health facilities. The implementation of government to procure medicines and medical supplies direct from the manufacturers have a positive effect on the quality. the study has identified improvement on the level of rejects, packaging, patient confidence and increased assurance by regulatory authorities.

5.4 The availability of medicines and medical supplies has improved the performance of health facilities compared to the situation before.

The study revealed that the implementations of the government directive to procure medicines and medical supplies direct from the manufacturers have improved the availability of medicines and medical supplies in the health facilities. Also, the finding presented in chapter four revealed that the availability of medicines and medical supplies has improved the performance of health facilities as described below.

The inquiry from the respondent on efficiency in the delivery of medicines and services to the patients at the health facilities revealed that 80.2% of the respondent agreed that procurement methods adopted by the government have improved their efficiency by reducing the time for patients to get services. This is due to the fact that the level of medicines and medical supplies available at the health facilities have increased.
A total of 82.9% of the respondent sees improvements in how the government medicines and medical supplies are identified in the supply chain. The packaging style allows the manufacturer to put security marks which discourage discourages theft and pilferage.

The findings on the effectiveness of contract management show that dealing with the multilevel supplier is more complex than dealing with manufacture. Multilevel suppliers may cause delays in deliveries which may also result in stock out. As presented in the findings, 86.9% support this argument. Also, 92.1% of the respondents see improvement in the way purchaser and supplier relates. Good communication enhances the accuracy of deliveries to ensure availability of medicines and medical supplies in the supply chain which include health facilities.

Using the concept of agency theory, MSD acts the agent while the health facilities have the principal position. The study suggests that the efficiency of MSD affects the efficiency of health facilities. however, there is a risk of uncertainty on the decision performed in the relationship and there is a conflicting objective between the agent and the principal (Chrisidu-Budnik, A., & Przedańska, J., 2017).

CHAPTER SIX

Summary, Conclusions, and Policy Implications

6.0 Introduction

The conclusion and recommendations of the research findings have been presented in this chapter in accordance with the research questions and specific research objectives. The presentations were based on the findings obtained in chapter four (4) of the data analysis. Section 6.1 and section 6.2 cover a summary of the findings and conclusion respectively, while the recommendations and areas for further study have been presented in section 6.3 and section 6.4 for improvements in the area of the study.

6.1 Summary of findings

The findings of the study were based on the specific research objectives, whereby the study examined whether the implementation of the government decision to procure medicines and medical supplies direct from the manufactures has an effect to the performance of health facilities. The three (3) specific objectives were, to assess if the cost of medicines and medical supplies at MSD has an effect on the performance of health facilities, establish the effect of quality management system in the procurement process to the performance of health facilities, and establish the extent to which the availability of medicine and medical supplies affects the performance of health facilities. The analysis information collected provided the following findings.

6.1.2 Cost reduction of medicines and medical supplies

The study found that the implementation of government decision to procure medicines and medical supplies direct from the manufacturer has a positive effect on the purchasing prices compared to the situation before. Based on the measures used 86.4% of the respondent agreed that there a decrease in prices for medical items purchased directly from the manufacturer. On the other hand, 74.4% of the respondent confirmed that health facilities have enjoyed cost saving as a result of sourcing medical items from the manufactures. The analysis further shows that the patient's affordability to the medication

prescribed has improved, this has been confirmed by 71.8% of the respondent. The decision to procure medicines and medical supplies from the manufactures incorporate the recommendations by WHO (2015), which encouraged the developing countries including Tanzania to implement establish and implement health policies that will reduce the burdens to individuals who depend on their own pockets to finance their health bills.

Among the areas identified by Danzon, Mulcahy, & Towse, (2015) which consume a large part of financial resources are procurement and distribution channel of pharmaceuticals. These findings are supported by the argument by Wouters, Sandberg, Pillay, & Kanavos (2019), who suggested that the countries can use bulk procurement to procure medicines and medical equipment. The countries can obtain competitive prices and save more, in return the health facilities will also save cost and improve the services they offer to the final consumer, in this case, the patients.

6.1.2 Improved quality of medicines and medical supplies

According to Giralt et al., (2017) the quality of pharmaceuticals product in Sub Saharan African countries is a major challenge. Different standards of the oversite regulatory authorities from the products origin countries and existence of middlemen such as brokers, wholesalers, distributors and other intermediate traders of pharmaceuticals products makes the quality issues more complex as they only look to the profit side of the business. However, after the implementation of government decision to procure medicines direct from the manufacturer the situation has improved. The findings revealed that the level of rejects of medicines and medical supplies due to the quality problem has decreased, this has been confirmed by 90.8% of the respondent. Also, 94.8% of respondent agree that there are improvements in how medical products received from MSD are packaged.

Moreover, the findings show that 80.2% of the respondents agreed that the confidence of the patients on the health facilities services have improved compared to the situation before. Among the respondents who were asked on how easily a person can identify the government medicines, the results show that 89.5% of the respondent agreed that the

traceability of items procured can be traced from their source to avoid counterfeit and substandard medicines.

6.1.3 Availability of medicines and medical supplies

The study revealed that the implementations of the government directive to procure medicines and medical supplies direct from the manufacturers have improved the availability of medicines and medical supplies at the health facilities. Also, the finding presented in chapter four revealed that the availability of medicines and medical supplies has improved the performance of health facilities.

The inquiry from the respondents on efficiency in the delivery of medicines and services to the patients at the health facilities revealed that 80.2% of the respondents agreed that procurement methods adopted by the government have improved their efficiency by reducing the time for patients to get services. This is due to the fact that the level of medicines and medical supplies available at the health facilities have increased.

A total of 82.9% of the respondents sees improvements in how the government medicines and medical supplies are identified in the supply chain. The packaging style allows the manufacturer to put security marks which discourage discourages theft and pilferage.

The findings on the effectiveness of contract management show that managing with multilevel supplier deliveries is more complex than dealing with manufacture. Multilevel suppliers may cause delays in deliveries which may also result in stock out. As presented in the findings, 86.9% support this argument. Also, 92.1% of the respondents see improvement in the way purchaser and supplier relates. Good communication enhances the accuracy of deliveries to ensure availability of medicines and medical supplies in the supply chain which include health facilities.

According to the budget speech presented to the parliament for the financial year 2019/2020, the availability of thirty (30) selected tracer items have increased to 94.4%.[6]

[6] http://www.mcdgc.go.tz/data/HOTUBA_WAMJJW_2019_20.pdf accessed on 26/05/2019

as at March 2019. However, the statistics show that the percentage of availability of tracer items in Ilala municipal for the year 2016 was 79.98%, and for the year 2017 and 2018, the percentage of availability of tracer items have increased to 92.13% and 94.87% respectively. The statistics have been presented using the pie chart in Figure 4, Figure 5 and Figure 6.

6.2 Conclusion

The study has concluded that there is a government decision to procure medicines and medical supplies direct from the manufacturers have a positive effect on the performance of health facilities. during the implementation period, the cost of health products have decreased due to the low purchasing prices in the world market and gave the option for health facilities to use the amount of money saved to buy other products which were not in the budgets. The improvement has also enhanced the patients to afford their medications bills.

Apart from the cost, the study shows that the level of rejected medicines at the health facilities due to quality problems have decreased. This means the supply chain contains quality items to satisfy the needs. The packaging is another area of concern that was not properly managed before, deliveries by the manufacturers have improved the packaging and labelling. This has reduced the level of theft and pilferages incidences in the supply chain of medicines and medical supplies. According to the study, all medicines procured directly from the manufacturers are inspected by the Tanzanian Foods and Drugs Authority (TFDA). This means the possibility of counterfeit medicines has been reduced.

In general, the availability of medicines and medical supplies in health centres have increased the patient's confidence over the health systems. The government report on thirty (30) selected tracer items shows that the percentage of availability at Ilala municipal have increased from 79.98% in 2016 to 94.87% in 2018. These improvements in the medicines availability have contributed to the increase in customer's satisfaction.

6.3 Policy Implications and recommendations

6.3.1 Policy Implications

From the findings, it has been concluded that the performance of the health facilities can vary depending on the other external factors such as cost, quality and the percentage of availability of medicines and medical supplies delivered to them. This means the policies established and implemented by other health stakeholders could also impact the performance of health facilities in delivering their services to the customers.

In general, cost saving, increase in patient's confidence, good quality of medicines and percentage increase of availability medicines have contributed to the performance of health facilities positively. The achievement in the performance of health facilities involves the participation of all stakeholders involved in the supply chain of medicine and medical supplies. These are all people involved in the design of policies, planning, procurement, distribution and prescribing the medicines to the final consumers. The efficient of one of the stakeholder means the improved performance of the other stakeholder in the supply chain.

6.3.2 Recommendations

Although the health facilities have continued to enjoy the good result of a government initiative to procure medicines and medical supplies direct from the manufacturer, however, the researcher has identified areas for improvement as explained below;

(d) According to explained by Mhamba & Mbirigenda, (2010), the inefficiencies in the supply chain of pharmaceutical is contributed by high operating cost in manufacturing industries. The study has identified cost as an important variable that affects the performance of the health facility. The government and private sector should invest in manufacturing industries of medicines and medical supplies. The use of locally available raw materials and labour costs would reduce the operating cost and increase savings to the health facilities. Since the cost of medications affects the efficiency of health facilities in delivering services, the government should consider increasing the funding to health

(e) The study advises that MSD should create a database of reliable manufactures of medicines and medical supplies to enhance the relationship for good contract management. A good relationship between the purchaser and supplier create a good environment for prices negotiations and timely deliveries.

(f) The study shows that the statistics on the percentage of availability of medicines and medical supplies involve few selected essential items. The review should be done to determine the level of availability of other items which are also prescribed to patients in health facilities.

6.4 Areas for Further Studies

The study examined the effect of the implementation of government decision to procure medicines and medical supplies direct from the manufacturer to the health facilities. However, the study was limited to health facilities which are found in Ilala municipal. Further study should be done in hospitals and in other districts to compare the results. Also, the study didn't provide the quantification items of value of the performance obtained by the health facilities, other scholars should focus their study to accurately quantify the effects of procuring medicines and medical supplies direct from the manufactures compared to the situation before.

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Appendix I - QUESTIONNAIRE FOR HEALTH FACILITIES

MZUMBE UNIVERSITY

DEPARTMENT OF BUSINESS STUDIES

INTRODUCTION

This questionnaire is a tool selected by the researcher to collect data and information's on the research titled **The Effect of Government Directive on Procuring Medicine and Medical Supplies from Manufacture to the Performance of Health Facilities, The study of Ilala Municipal Council**. The study will assist the policy makers and public health institution in the provision of health services to the public in consideration to the procurement process of medicines and medical supply in Tanzania.

The research is conducted as the partial fulfilment for the requirement for Award of Masters in Business Administration and Corporate Management of Mzumbe University.

I'm hereby requesting your time to answer the questions as provided in the questionnaire. All information provided/collected during the study will be used for academic purposes guided by Mzumbe University research ethics which prevents the use of data outside academic purpose.

The questionnaire has three (3) parts, whereby Part – A represent demographic information's, Part – B and Part C are Likert scale.

PART – A: DEMOGRAPHIC DATA

Name (optional): _____

Select the appropriate answer by putting tick [√]

1. What is your gender
   (a) Male [ ]
   (b) Female [ ]

2. Marital status

(a) Single [ ]

(b) Married [ ]

(c) Divorced [ ]

(d) Widowed/Widower [ ]

3. Age of respondent (Choose one)

(a) 18-25 Years [ ]

(b) 25-35 Years [ ]

(c) 35-45 Years [ ]

(d) 45+ years [ ]

4. Highest level of education attained (Choose one)

(a) Primary Education [ ]

(b) Secondary/Vocational Education [ ]

(c) Ordinary Certificate [ ]

(d) Ordinary Diploma [ ]

(e) Graduate [ ]

5. How long have you been working in pharmaceuticals?

(a) Less than 1 year [ ]

(b) 1 – 2 years [ ]

(c) 3 – 5 years [ ]

(d) More than 5 years [ ]

PART - B: THE EFFECT OF PURCHASING MEDICINE AND MEDICAL SUPPLIES DIRECT FROM MANUFACTURE ON PRICES/COST

6. To what extent has the procurement of essential medicine and medical supplies direct from the manufacturer has an effect on the cost of items purchased by health facilities?

Rate using a scale of 1 to 5 where 1 Strongly disagrees, 2 is Disagree, 3 is Moderate, 4 is Agree and 5 Strongly agrees.

s/n	**Please indicate the extent to which you agree on the following statements**	Strongly disagree	Disagree	**Moderate**	Agree	Strongly agree
		1	**2**	**3**	**4**	**5**
(a)	The cost saved when procuring medicines and medical supplies from MSD increases the purchasing power of health facilities.					
(b)	Patients afford the medications prescribed at the health facilities due to the low cost of medicines and medical supplies.					

PART - C: THE EFFECT OF PURCHASING MEDICINE AND MEDICAL SUPPLIES DIRECT FROM MANUFACTURE ON QUALITY

To what extent do you agree with the statements about the quality of medicines and medical supplies delivered to Public health facilities as a result of Government initiative to procure medicines and medical supplies direct from the manufactures? Rate using a scale of 1 to 5 where 1 Strongly disagrees, 2 is Disagree, 3 is Moderate, 4 is Agree and 5 Strongly agrees.

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S/n	Please indicate the extent to which you agree on the following statements	Strongly disagree	Disagree	Moderately	Agree	Strongly agree
		1	**2**	**3**	**4**	**5**
(a)	The method has reduced the level of rejects of medicines received by the health facilities.					
(b)	The packaging style by the manufacturer has simplified the storage of medicines at all levels of the supply chain.					
(c)	The quality of medicines delivered to patients and medical equipment used in hospitals have increased the level of confidence to health systems in health facilities.					
(d)	The procurement process provides assurance that the medicines received by health facilities have been registered by the Tanzania Food and Drugs Authorities (TFDA) and can be accurately verified to avoid counterfeit and substandard medicines.					

PART - D: AVAILABILITY OF MEDICINES AND MEDICAL SUPPLIES TO THE PERFORMANCE OF HEALTH FACILITIES.

7. To what extent does the availability of medicines and medical supplies at MSD has improved the performance health facilities?

Rate using a scale of 1 to 5 where 1 Strongly disagrees, 2 is Disagree, 3 is Moderate, 4 is Agree and 5 Strongly agrees.

s/n	**Please indicate the extent to which you agree on the following statements**	Strongly disagree	Disagree	Moderately	Agree	Strongly agree
		1	**2**	**3**	**4**	**5**
(a)	The methods have contributed to customers/patients satisfaction					
(b)	The methods of procurement have increased the traceability of Government medicines in the country, which discourages theft.					
(c)	Improved communication between the parties purchaser and supplier					
(d)	Management of Contract in the purchase order involving multilevel supplier is more complex than dealing with manufacture.					
(e)	The methods have impacted positively the level of stock availability whereby all essential drugs are available in the warehouses.					

Appendix II - QUESTIONNAIRE FOR MSD SALES AND PROCUREMENT STAFF

MZUMBE UNIVERSITY
DEPARTMENT OF BUSINESS STUDIES

INTRODUCTION

This questionnaire is a tool selected by the researcher to collect data and information's on the research titled **The Effect of Government Directive on Procuring Medicine and Medical Supplies from Manufacture to the Performance of Health Facilities, The study of Ilala Municipal Council**. The study will assist the policy makers and public health institution in the provision of health services to the public in consideration to the procurement process of medicines and medical supply in Tanzania.

The research is conducted as the partial fulfillment for the requirement for Award of Masters in Business Administration and Corporate Management of Mzumbe University.

I'm hereby requesting your time to answer the questions as provided in the questionnaire. All information provided/collected during the study will be used for academic purposes guided by Mzumbe University research ethics which prevents the use of data outside academic purpose.

The questionnaire has three (3) parts, whereby Part – A represent demographic information's, Part – B and Part C are Likert scale.

PART – A: DEMOGRAPHIC DATA

Name (optional): _____

Select the appropriate answer by putting tick [√]

1. What is your gender
   (a) Male [ ]
   (b) Female [ ]
2. Marital status
   (a) Single [ ]

(b) Married [ ]

(c) Divorced [ ]

(d) Widowed/Widower [ ]

8. Age of respondent (Choose one)

(a) 18-25 Years [ ]

(b) 25-35 Years [ ]

(c) 35-45 Years [ ]

(d) 45+ years [ ]

9. Highest level of education attained (Choose one)

(a) Primary Education [ ]

(b) Secondary/Vocational Education [ ]

(c) Ordinary Certificate [ ]

(d) Ordinary Diploma [ ]

(e) Graduate [ ]

10. How long have you been working in pharmaceuticals?

(a) Less than 1 year [ ]

(b) 1 – 2 years [ ]

(c) 3 – 5 years [ ]

(d) More than 5 years [ ]

PART - B: THE EFFECT OF PURCHASING MEDICINE AND MEDICAL SUPPLIES DIRECT FROM MANUFACTURE ON PRICES/COST

3. To what extent does the procurement of medicine and medical supplies direct from manufacture leads to lower prices against the standard market prices?

(a) Strongly disagree

(b) Disagree

(c) Moderate

(d) Agree

(e) Strongly agree

PART - C: THE EFFECT OF PURCHASING MEDICINE AND MEDICAL SUPPLIES DIRECT FROM MANUFACTURE ON QUALITY

4. **To** what extent do you agree with the statements about the quality of medicines and medical

supplies delivered to Public health facilities as a result of Government initiative to procure medicines and medical supplies direct from the manufactures?

Rate using a scale of 1 to 5 where 1 Strongly disagrees, 2 is Disagree, 3 is Moderate, 4 is Agree and 5 Strongly agrees.

S/n	Please indicate the extent to which you agree on the following statements	Strongly disagree	Disagree	Moderately	Agree	Strongly agree
		1	2	3	4	5
(a)	The method has reduced the level of rejects of medicines received by the health facilities.					
(b)	The packaging style by the manufacturer has simplified the storage of medicines at all levels of the supply chain.					
(c)	The quality of medicines delivered to patients and medical equipment used in hospitals have increased the level of confidence to health systems in health facilities.					
(d)	The procurement process provides assurance that the medicines received					

S/n	Please indicate the extent to which you agree on the following statements	Strongly disagree	Disagree	Moderately	Agree	Strongly agree
		1	2	3	4	5
	by health facilities have been registered by the Tanzania Food and Drugs Authorities (TFDA) and can be accurately verified to avoid counterfeit and substandard medicines.					

PART - D: AVAILABILITY OF MEDICINES AND MEDICAL SUPPLIES TO THE PERFORMANCE OF HEALTH FACILITIES.

5. To what extent does the availability of medicines and medical supplies at MSD has improved the performance in health facilities?

Rate using a scale of 1 to 5 where 1 Strongly disagrees, 2 is Disagree, 3 is Moderate, 4 is Agree and 5 Strongly agrees.

s/n	Please indicate the extent to which you agree on the following statements	Strongly disagree	Disagree	Moderately	Agree	Strongly agree
		1	2	3	4	5
(a)	The methods have contributed to customers/patients satisfaction					
(b)	The methods of procurement have increased the traceability of Government medicines in the country, which discourages theft.					
(c)	Improved communication between the parties purchaser and supplier					

s/n	Please indicate the extent to which you agree on the following statements	Strongly disagree	Disagree	Moderately	Agree	Strongly agree
		1	**2**	**3**	**4**	**5**
(d)	Management of Contract in the purchase order involving multilevel supplier is more complex than dealing with manufacture.					
(e)	The methods have impacted positively the level of stock availability whereby all essential drugs are available in the warehouses.					

Appendix – III MSD Price Catalogue for financial year 2017/2018

S/N	Group	DESCRIPTION	UOM	Prices for 2016/17	Prices for 2017/18	Decrease	% Decrease
1.	10060056MD	PHENOBARBITAL SODIUM 100MG/ML INJECTION 2ML	10 VIALS	66,700	7,500	59,200.00	89%
2.	10010066MD	ATENOLOL 50MG TABLET	28 TABLETS	3,800	600	3,200.00	84%
3.	10050025MD	DICLOFENAC GEL 30g, 1% w/w	12 Tubes	30,000	6,400	23,600.00	79%
4.	10060035MD	HYDRALAZINE 20MG/ML INJECTION 1ML	5 VIALS	40,400	8,800	31,600.00	78%
5.	10060033MD	HALOPERIDOL 5MG/ML, 1ML INJECTION	10 AMPOULES	17,300	4,100	13,200.00	76%
6.	10060109MD	HEPATITIS B VACCINES INJ. SINGLE DOSE	1 AMPOULE	22,200	5,300	16,900.00	76%
7.	10060051MD	VITAMIN B COMPLEX INJECTION 2ML	10 VIALS	4,400	1,100	3,300.00	75%
8.	10010123MD	TRAMADOL 50MG CAPSULES	100 CAPSULES	10,100	2,600	7,500.00	74%
9.	10060019MD	CHLORPROMAZINE 25MG/ML INJECTION, 2ML	10 AMPOULES	14,900	4,300	10,600.00	71%
10.	10020023MD	DEXTROSE 50% INTRAVENEOUS	100 MILLILITRES	6,700	2,100	4,600.00	69%
11.	20010032MD	SILK BRAIDED 0, 75CM, 3/8 CIRCLE, REVERSE - CUTTING 45MM	12 PIECES	17,800	5,800	12,000.00	67%
12.	10070003MD	CHLORHEXIDINE 1.5% + CETRIMIDE 15%(SAVLON) LIQUID	5 LITRES	43,000	14,500	28,500.00	66%
13.	10050011MD	BETAMETHASONE CREAM 0.1%, 15GM	12 TUBES	20,700	7,300	13,400.00	65%
14.	20010024MD	COATED POLYGLYCOLIC ACID 1, 75CM, 1/2 CIRCLE, ROUND BODIED,TAPER POINT, 30MM	12 PIECES	40,000	15,100	24,900.00	62%
15.	10060027MD	EPHEDRINE 30MG/ML INJECTION, 1ML	10 AMPOULES	22,700	8,800	13,900.00	61%
16.	20110084MD	PATIENT REGISTER	EACH	5,400	2,100	3,300.00	61%
17.	20010015MD	CATGUT CHROMIC 2, 75CM, 1/2 CIRCLE, ROUND BODY,45MM	12 PIECES	25,800	10,100	15,700.00	61%
18.	20050010MD	BANDAGE HOSPITAL QUALITY SIZE 7.5 CM X 4 M	12 PIECES	6,100	2,400	3,700.00	61%
19.	10060069MD	MANNITOL INJ 20%	500 MILLILITRES	7,300	2,900	4,400.00	60%
20.	10060025MD	DICLOFENAC SODIUM 25 MG/ML INJECTION, 3ML	10 AMPOULES	2,000	800	1,200.00	60%
21.	10010081MD	CETRIZINE 10 MG TABLET	100 TABLETS	3,500	1,400	2,100.00	60%

S/N	Group	DESCRIPTION	UOM	Prices for 2016/17	Prices for 2017/18	Decrease	% Decrease
22.	10010127MD	AMOXICILLIN TRIHYDRATE 500MG+CLAVULANIC POTASSIUM 125MG TABLET	15 CAPSULES	9,800	4,000	5,800.00	59%
23.	10060093MD	TRAMADOL 50MG/ML INJECTION, 2ML	10 AMPOULES	6,100	2,500	3,600.00	59%
24.	10060073MD	CEFTRIAXONE 1G, PDR F INJ	1 VIAL	1,200	500	700.00	58%
25.	10060043MD	NEOSTIGMINE 2.5MG/ML INJECTION, 1ML	10 VIALS	10,300	4,300	6,000.00	58%
26.	10060001MD	NALOXONE 0.4 MG/ML. 1 MILILLITRE	1 AMPOULE	8,900	3,800	5,100.00	57%
27.	10060030MD	FRUSEMIDE10MG/ML INJECTION, 2ML	10 AMPOULES	5,100	2,200	2,900.00	57%
28.	10010069MD	GLIBENCLAMIDE 5MG TABLETS	100 TABLETS	3,000	1,300	1,700.00	57%
29.	20010009MD	CATGUT CHROMIC 0, 75CM, 1/2CIRCLE, ROUND BODY 40MM	12 PIECES	22,200	9,700	12,500.00	56%
30.	10040030MD	CETRIZINE 5MG/5ML SYRUP	30 MILLILITRES	1,600	700	900.00	56%
31.	10060020MD	CLOXACILLIN 500 MG PDR F INJ	50 VIALS	33,300	15,100	18,200.00	55%
32.	10060031MD	GENTAMYCIN 40MG/ML INJECTION, 2ML	10 VIALS	2,200	1,000	1,200.00	55%
33.	10060008MD	ADRENALINE 1MG/ML INJECTION 1ML	10 AMPOULES	8,900	4,300	4,600.00	52%
34.	20110025MD	ANTE-NATAL CARDS (MCH CARD NO.4)	25 PIECES	4,900	2,400	2,500.00	51%
35.	10060061MD	MEROPENEM TRIHYDRATE 1GM INJECTION	10 AMPOULES	252,500	125,600	126,900.00	50%
36.	10060011MD	AMPICILLIN 500MG, PDR F INJ	50 VIALS	23,800	11,900	11,900.00	50%
37.	10010065MD	METFORMIN 500MG TABLETS	100 TABLETS	3,800	2,000	1,800.00	47%
38.	10050001MD	CLOTRIMAZOLE 100 MG PESSARY WITH APPLICATOR	6 PESSARIES	1,300	700	600.00	46%
39.	10040007MD	COUGH EXPECTORANT CHILD 100ML SYRUP100ML	24 BOTTLES	37,400	20,400	17,000.00	45%
40.	10060034MD	HEPARIN 1000IU/ML INJECTION, 5ML	5 VIALS	41,100	22,500	18,600.00	45%
41.	10010075MD	SODIUM DICHLOROISOCYANURATE	100 TABLETS	57,800	32,800	25,000.00	43%
42.	20050013MD	COTTON WOOL ABSORBENT 500 G	500 GRAMS	5,600	3,200	2,400.00	43%
43.	10070018MD	ETHANOL 68.229%+ ISOPROPANOL 5%+	1000 MILILLITRES	66,700	38,800	27,900.00	42%

S/N	Group	DESCRIPTION	UOM	Prices for 2016/17	Prices for 2017/18	Decrease	% Decrease
		BUTANDAIOL 0.115%-(SEPTOCIDE R-PLUS)					
44.	10040009MD	VITAMIN B COMPLEX SYRUP, 100ML	24 BOTTLES	36,100	21,000	15,100.00	42%
45.	20140043MD	UMBILICAL CORD CLAMP, DISPOSABLE	100 PIECES	15,200	8,900	6,300.00	41%
46.	10060050MD	THIOPENTAL SODIUM 500 MG, PDR F INJ	25 VIALS	126,100	74,200	51,900.00	41%
47.	20090004MD	BEDSHEET COTTON 270 X 150 CM		18,800	11,100	7,700.00	41%
48.	20030016MD	I.V. CANULA 18 G	50 PIECES	18,900	11,300	7,600.00	40%
49.	20030017MD	I.V. CANULA 20 G	50 PIECES	18,900	11,300	7,600.00	40%
50.	20030018MD	I.V. CANULA 22 G	50 PIECES	18,900	11,300	7,600.00	40%
51.	10060003MD	PETHIDINE 50MG/ML, 1ML INJECTION	10 AMPOULES	14,700	8,800	5,900.00	40%
52.	10050015MD	OXYTETRACYCLINE EYE OINTMENT, 5GM	20 TUBES	8,300	5,000	3,300.00	40%
53.	10060047MD	PROMETHAZINE 25MG/ML INJECTION, 2ML	10 VIALS	3,800	2,300	1,500.00	39%
54.	10050017MD	MICONAZOLE 2% CREAM , 20GM	12 TUBES	9,700	5,900	3,800.00	39%
55.	10060039MD	LIGNOCAIN SPINAL 7.5 % + DEXTROSE 5% INJECTION, 2ML	10 VIALS	13,900	8,800	5,100.00	37%
56.	10010022MD	DICLOFENAC 50 MG TABLET	100 TABLETS	1,100	700	400.00	36%
57.	10060023MD	DEXAMETHASONE 4 MG/ML INJECTION	10 AMPOULES	5,100	3,300	1,800.00	35%
58.	10070009MD	POVIDONE IODINE LIQUID 10%	250 MILLILITRES	3,500	2,300	1,200.00	34%
59.	20030019MD	I.V. CANULA 24 G	50 PIECES	18,900	12,600	6,300.00	33%
60.	10060064MD	RABIES VACCINE USP(potency of rabies antigen < 2.5 IU/dose)	1 AMPOULE	27,000	18,100	8,900.00	33%
61.	10060029MD	FLUPHENAZINE DECANOATE 25 MG/ML INJECTION	10 VIALS	57,400	39,100	18,300.00	32%
62.	10060002MD	MORPHINE 10MG/ML INJECTION	10 VIALS	16,700	11,800	4,900.00	29%
63.	10060055MD	MAGNESIUM SULPHATE 500MG/ML INJECTION 10ML	25 VIALS X 10 MILILLLITRES	77,800	55,300	22,500.00	29%
64.	10060036MD	HYDROCORTISONE 100MG, POWDER FOR INJECTION	10 VIALS	10,200	7,300	2,900.00	28%
65.	10050014MD	CLOTRIMAZOLE 1% CREAM/OINTMENT , 20GM	24 TUBES	12,100	8,900	3,200.00	26%

S/N	Group	DESCRIPTION	UOM	Prices for 2016/17	Prices for 2017/18	Decrease	% Decrease
66.	10020015MD	SODIUM CHLORIDE INJECTION 0.9% FOR IV, 500ML	24 BOTTLES	27,000	19,900	7,100.00	26%
67.	10040018MD	METRONIDAZOLE 200MG/5ML SUSP 100ML	24 BOTTLES X 100 MILLILITRES	26,700	20,400	6,300.00	24%
68.	10020013MD	SODIUM LACTATE COMPOUND (HARTMANN'S), 500MLS	24 BOTTLES	27,000	20,700	6,300.00	23%
69.	10050008MD	HYDROCORTISONE CREAM 1%, 15 GM	1 TUBE	1,300	1,000	300.00	23%
70.	10040003MD	ERYTHROMYCIN 125 MG/5 ML POWDER FOR ORAL SUSPENSION	100 MILLILITRES	2,200	1,700	500.00	23%
71.	10060070MD	LIGNOCAINE 2% INJECTION 50ML	10 VIALS	14,000	10,900	3,100.00	22%
72.	10050013MD	CHLORAMPHENICOL EYE OINTMENT 1%, 3.5GM	100 TUBES	32,800	25,600	7,200.00	22%
73.	10060058MD	INSULIN HUMAN 100IU (SOLUBLE)INJECTION	10 VIALS	72,200	56,800	15,400.00	21%
74.	10060059MD	INSULIN HUMAN ZINC SUSPENSION 100IU (LENTE) INJECTION	10 VIALS	72,200	56,800	15,400.00	21%
75.	20110090MD	REJESTA NAMBA 1: LEJA YA MALI	1 BOOK	4,900	3,900	1,000.00	20%
76.	10050102MD	Silver Sulphadiazine cream 1% w/w, 20g	12 Tubes	10,400	8,300	2,100.00	20%
77.	20030012MD	I.V. GIVING SET	25 PIECES	8,000	6,400	1,600.00	20%
78.	10070007MD	METHYLATED SPIRIT LIQUID 70%	5 LITRES	18,000	14,400	3,600.00	20%
79.	10060024MD	DIAZEPAM 5 MG/ML INJECTION 2ML	10 VIALS	3,600	2,900	700.00	19%
80.	20110028MD	PRESCRIPTION FORM A5	1 BOOK	2,600	2,100	500.00	19%
81.	10060040MD	LIGNOCAIN 2%+ADRENALINE 1: 80000 INJECTION, 50ML	10 VIALS	33,300	27,000	6,300.00	19%
82.	10060072MD	KETAMINE 50MG/ML INJECTION 10ML	10ml X 25VIALS	57,800	47,200	10,600.00	18%
83.	10020017MD	PILOCARPINE EYE DROPS	5 MILILITRES	5,200	4,300	900.00	17%
84.	10020011MD	SODIUM CHLORIDE + DEXTROSE INJECTION ISOTONIC, 500MLS	24 BOTTLES	28,200	23,500	4,700.00	17%
85.	10060004MD	PETHIDINE INJECTION 100MG/2ML INJECTION	10 AMPOULES	16,200	13,500	2,700.00	17%
86.	10040012MD	PARACETAMOL 120MG/5MLS SYRUP,100MLS	24 BOTTLES	20,400	17,300	3,100.00	15%

S/N	Group	DESCRIPTION	UOM	Prices for 2016/17	Prices for 2017/18	Decrease	% Decrease
87.	10060052MD	WATER FOR INJECTION 10ML	100 VIALS	7,900	6,700	1,200.00	15%
88.	10050010MD	ORAL REHYDRATION SALTS (ORS) FOR 1 LITRE POWDER	100 SACCHETS	22,300	19,000	3,300.00	15%
89.	10060071MD	SUXAMETHONIUM CHLORIDE 50MG/ML INJECTION, 2ML	10 VIALS	10,300	8,800	1,500.00	15%
90.	10060042MD	METRONIDAZOLE 5MG/ML INJECTION, 100ML	10 AMPOULES	6,200	5,300	900.00	15%
91.	10050018MD	MICONAZOLE ORAL GEL, 20GM	12 TUBES	27,300	23,800	3,500.00	13%
92.	10040015MD	CO-TRIMOXAZOLE 200MG + 40MG/5ML, ORAL SUSPENSION100MLS	24 BOTTLES	21,500	18,800	2,700.00	13%
93.	10080001MD	SALBUTAMOL AEOROSOL INHALATION 0.1 MG/DOSE, 200DOSES	1 BOTTLE	3,500	3,100	400.00	11%
94.	10010041MD	NIFEDIPINE RETARD 20 MG TABLET	100 TABLETS	4,500	4,000	500.00	11%
95.	10060014MD	BENZYL PENICILLIN SODIUM 5 MU PDR F INJ	50 VIALS	22,200	20,800	1,400.00	6%
96.	20020005MD	GLOVES SURGICAL LATEX RUBBER STERILE SIZE 7	50 PAIRS	19,200	18,200	1,000.00	5%
97.	20020006MD	GLOVES SURGICAL LATEX RUBBER STERILE SIZE 7.5	50 PAIRS	19,200	18,200	1,000.00	5%
98.	20020007MD	GLOVES SURGICAL LATEX RUBBER STERILE SIZE 8	50 PAIRS	19,200	18,200	1,000.00	5%
99.	10070005MD	CRESOL SAPONATED (LYSOL) LIQUID 50%	5 LITRES	40,000	38,600	1,400.00	4%
100.	10060048MD	QUININE 300MG/ML INJECTION , 2ML	10 AMPOULES	4,200	4,100	100.00	2%