

**CAUSES AND EFFECTS OF DELAYED LEAD TIME IN DISTRIBUTION OF  
PHARMACEUTICAL PRODUCTS A CASE STUDY OF  
HAWSE MC GEORGE LABOREX LIMITED**

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**THE RESEARCH REPORT SUBMITTED TO THE SCHOOL OF BUSINESS AND  
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## DECLARATION

I, Kariuki Irene Wanjiku declare that this is my original work and it has never been produced by anyone in any other university.

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## STATEMENT OF APPROVAL

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Date :

5/12/08

## **DEDICATION**

Dedication goes to my Dad, Mum, Sister, brother and Jeff for their endless love, encouragement and support through out my pursing of my degree up to completion of this project. Mr.Wanyera for his suggestions and positive critics throughout the time I was carrying out the whole research and while writing up the project I thank them for being there for me.

MAY GOD BLESS THEM ALL.

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I would also like to express my gratitude to Hawse Mc George for their support throughout the project and the information they gave me regarding the study.

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To everybody who contributed to the success of this project, I say thank you.

## ABSTRACT

This study focused on the causes of delayed lead time and their effects on productivity in organization. A Case study of Hawse McGeorge was examined and the results taken to represent other organizations.

The specific objective of his study was to scrutinize how delayed lead times cause and to what extends it affects productivity at Hawse Mc George laborex limited and some strategies that will bring improvement to the problem in the organization. The study identified factors that contributed to delay lead times and made recommendations on ways of reducing such delays. Reviewed literature suggests that no exhaustive study on the causes of delayed lead times and their effects on productivity had been done especially in Kenya.

A sample size of administrative departments was used from where 30 respondents were randomly selected to take part of this study. The collected data was analyzed using various statistical methods. Collected data was organized and codified for processing to generate the relevant information which came from the research.

Based on the research findings Hawse Mc George experience delayed times due to internal causes like unqualified staff, poor inventory management, lack of space, poor communication, lack of supply chain management and external causes like government policy, infrastructure, poor feedback, suppliers. This was found to have effects on the productivity of the organization. In the long run this led to added cost in supplying, poor customer satisfaction, drop in production, and low profits. Workable lead times should be set in accordance to his materials required. Training of procurement personnel was recommended so as to equip them with modern techniques that shorten lead times and improve productivity.

The study concluded that efforts should be made to make sure that suppliers are aware of the schedule lead times of materials. Thus will make sure that materials are delivered in time to avoid unnecessary delays and production stoppage. Moderate stocks should be held to ensure that production does not stop incase of delays. Stock should just be enough to ensure non-stoppage in production and deliveries.

Based on the findings it was evident that if lead time is well recognized it increases sale volume and high markets because customers are well satisfied with what is supplied. Thus the organization should adopt appropriate methods in getting their suppliers.

## LIST OF ABBREVIATIONS

LLT	lead time technology
SOP	sales operation planning
HML	Hawse McGeorge laborex
IT	information technology
CPU	control processing unit
JIT	just in time
SA	South Africa



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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background**

The chapter brings out the background of the case study being carried out and also reviews the background of lead time. Many companies have trouble delivering products on time, never mind quickly, and are plagued with excessively long order to delivery cycle times and cannot seem to find a solution even though everyone is in a hurried scramble to ship product, often more than ninety five percent of the order to delivery cycle time consist of waiting. Waiting for corrective actions to design information; Waiting for production process to be corrected, waiting in a manufacturing bottleneck. All of this waiting just keep stretching the order-to delivery cycle time, ballooning inventories, increasing cost, and alienating customers, it also keeps adding unnecessary operating expense in the continuous and scramble to compensate for these problems.

This has led to Lead Time Technology (LTT) which provides companies with process consulting and decision support tools to profitably manage planning, scheduling, and inventory optimization at all production and distribution locations. Lead time technology simultaneously considers all business processes, constraints, costs, and business objectives to determine the most profitable flow of materials, inventory levels, and utilization of resources for any given planning horizon.

Through the use of patented models, advanced business processes, and consulting services, *Lead time technology decision support solutions* turn resources into a competitive advantage. Lead time technology complements existing systems and adds a profitability dimension to the sales and operations planning (S&OP) process. Lead time technology solutions expose the cost-value tradeoffs at each point of the value chain. Lead time technology provides supply chain process control from dynamic daily forecasting, inventory leveling, production and distribution scheduling to procurement including upstream to suppliers and downstream to customers.

The results speak for themselves, 30-35% inventory reductions while maintaining 98% and higher service with rapid ROI recognition. Lead time technology has saved small to large clients from \$3-100M in first year inventory and cost reductions with a particular focus on the process manufacturing and distribution industry.

Thus Hawse Mc George has been experiencing many difficulties due to the delays of their goods. More of this is going to be discussed hence the research is carried out. So as to know the causes and effects of delayed lead time that the organization is facing. Hawse Mc George Laborex limited (HML) is a leading pharmaceutical distribution company in Kenya. Hawse Mc George is a result of a 1999 merge between Hawse Mc George limited and Eurapharm SA from France. Eurapharm is the largest pharmaceutical distribution company in Africa. The merge enhanced the competitive

unable to meet its objectives effectively due to lack of essential materials in good time. This leads to delays in planning delivery of materials to enhance efficiency. On the other hand stores also experience difficulties in standardizing stock levels and so meeting customer requirements within desired time is difficult.

Other factors regarding delayed lead time is the procurement department not following lead time for materials or goods they need, this has resulted to placing requisitions late leading to unnecessary delays and hurriedly doing the work. These delays in service delivery result to inefficient production in terms of customer good will, thus leading to another order being made. As a result of all this problems being faced by Hawse Mc George, it is important to identify the real causes of delayed lead time and their effects on production and search for remedies and that is why this research is being carried out.

### **1.3 Objectives of the study**

1. To find out what causes delayed lead times
2. To investigate the resultant of delayed lead times.
3. To suggest possible mitigation measures.

### **1.4 Research questions**

1. What are the causes delayed lead time?
2. What are the resultants of delayed lead time?
3. What are the possible mitigation measures?



### **1.5 Significance of the study**

The result of this study will benefit Hawse Mc George because it helps them recognize the importance of lead time. Identify the effect of delayed lead time and enhance value in production. It will also increase efficiently on the purchasing function and hence lead time to improve customer satisfaction and better delivery service. Effectively lead time observation by both the Hawse Mc George and the supplier will reduce the cost of acquisition of material and efficient production.

### **1.6 Scope of the study**

Due to the resources available to the researcher, this study will be confined to Hawse, with a few staff chosen at random. Mostly the following departments will be looked upon Stores department, manufacturing department, procurement department and finance department.

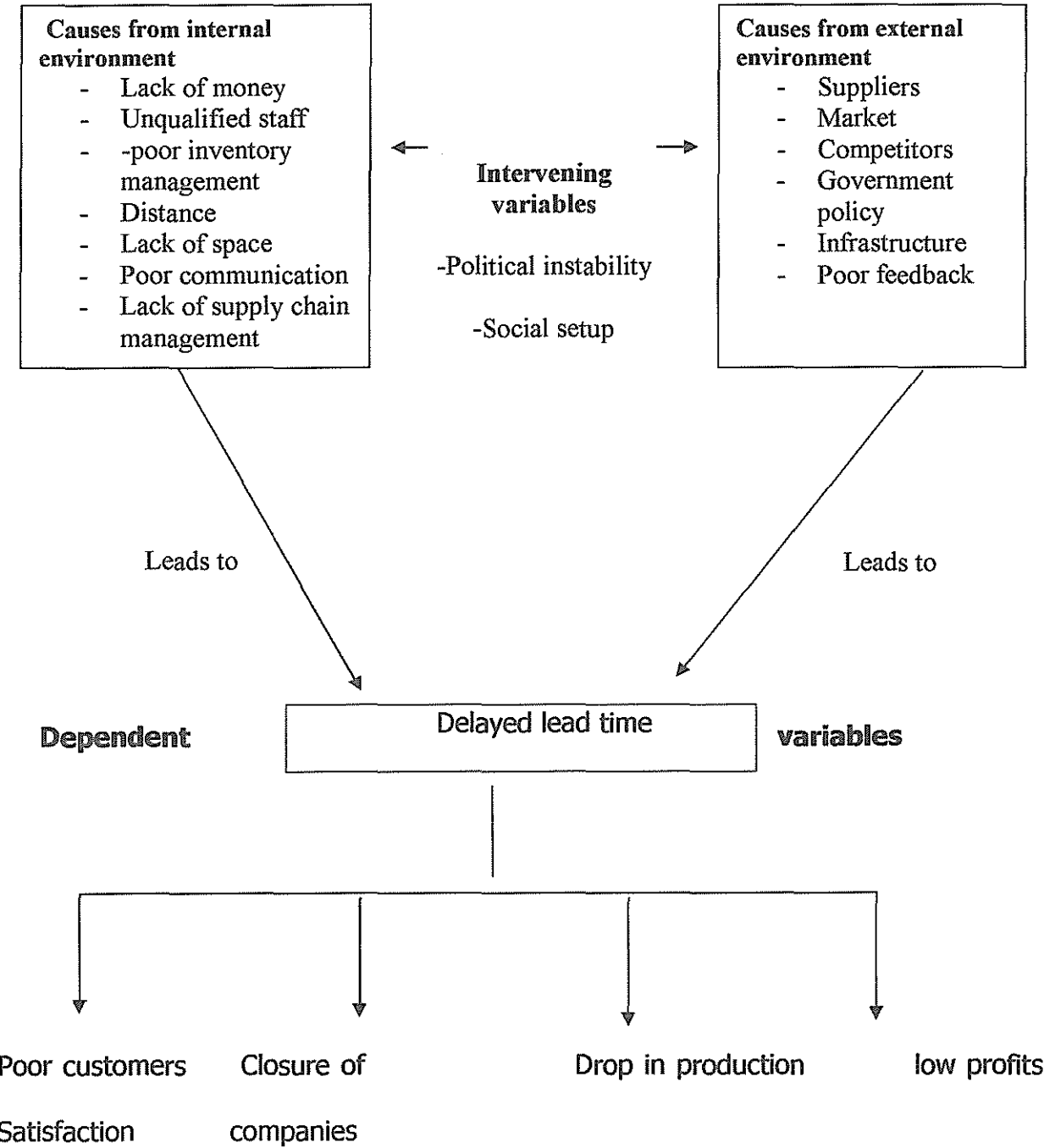
### **1.7 Limitations of the study**

Some of the respondents will not be willing to divulge information as they think that they identification could be revealed. Some will not respond when they are supposed to and this led to a lot of time wastage. Cost is also another limiting factor because it will not be enough to carry out all the activities required.

1.8 Conceptual framework

Independent variables

Independent variables



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the earlier literature that has been put forward in relation to the case study and covers a wide range of factors that pose a challenge to those concerned with the effective and efficient management of supplies in pharmaceutical industries. The purpose of this review is to examine previous studies that highlight major challenges facing lead time. It also examines similar studies carried out that could throw some light on the effective and efficient management.

Lead time has no definite definition but some scholars refer to it an order work in progress until the order is completed. According to Greene (1997) he defines lead time as the time required to complete an operation on a component. Greene further states that manufacturing lead time as the total time required for manufacturing an item and if not well managed, the firm may not be in a position to compete effectively in the market thus losing a lot of customers an end up making losses. Hall (1977) state that lead time is the elapsed time between two different events that may occur.

Mwiti (2001) states that it is important to recognize the consistency of lead time are more important in its actual length. Lead time is that interval between the time an item is ordered and the time an item is ordered and the time it becomes available for shipment. If poor management of inventory is kept it might be difficult to reorder more goods on time thus not delivering on time. The importance of lead time on the

productivity of a firm is an integral part of part of the management of such an undertaking if the set objectives and standards are to be effected.

According to Jessup (1994) expediting is a planned proactive task expression such as ' hastening ' chasing and urging which are sometimes used to describe the process of attempting to ensure that delayed supply of material does not cause problems for the buying organization. These expressions often indicate that the process is seen as a reactive one, where a problem of lateness arises due to lack of money to order on time, unqualified staff who orders when an item is finished in the store and also poor feedback from the customers and then having a reactive situation.

Barley (1996) states that for occasional as distinct from regular requirements it is often the user department which says when something is required it is not good practice for that requirement dates to be specified without regard to supplier lead times market realities and competitors since this is likely to lead to late deliveries thus customer satisfaction is not met. Purchasing should work on the problem of getting shorter lead time (and reliable suppliers) and ensure that relevant departments know what they are and care should be taken that a mutual understanding of the expression 'lead time' is achieved. To emphasize on the effects of delays and ineffective lead times name of author in supply magazines of November 2001 asserts that ' lead time ' for primary materials are increasing which in turn is having a negative impact on production further along the supply chain. A lack of forecast date and subsequent short notice demands are chief causes of this situation.

Jessup (1996) Concur by confirming that ` it is important to recognize that consistency of lead times is more important than its actual length even with MRP and JIT techniques events such as stoppage of delivery dates or receipts of delivery dates or receipts of defective materials require constant scrutiny to ensure that suppliers maintain consistency in certain conditions. It may be necessary to maintain safety stock to avoid break down of production which may lead in making losses of the firm.

Hiltner (1977) argues that Delayed lead time often is the devil workshop in the operations of institutions. Such will cause loss of revenue and unnecessary added costs, which directly affect the production of the organization. The shorter the lead time the lower the cost of maintaining inventory and the faster the response to customer requirements.

Delayed lead time is the time that elapses between when the need is first recognized and when the need is expected to be satisfied. Hawse Mc George has been experiencing delayed lead time thus adopt a "stock to inventory" policy. If the lead time is longer than the time that operation's customer is prepared to wait. If stock items take twelve weeks to be delivered to the operation but customers are only prepared to wait two weeks then the organization will have to keep or make stock inventory or risk letting the customers down.

Magad (1995) suggests that significantly shorter delivery time results in improved reliability to increase efficiency which contributes significantly to the system efficiency. He goes further to argue that the reduction in lead times and set up times increases material & logistics management. Although on the other side it may adversely be affected by the external environment like government policies which may not let them access some of the things and the bad infrastructure which may make the goods reach the end consumer late. He further states that to discontinue delayed lead times one would have the efforts of both the buyer and the supplier. It has earlier been quoted in this study that the purchasing entity should work on the problem of getting shorter lead times by identifying suppliers who through continuous performance evaluation have been proved efficient in delivery of orders.

According to Etal (1997) delayed lead times have been caused by the order management process or cycle which is brought about by poor communication, poor inventory management due to the unskilled or unqualified staff. He further stated that order processing being the enterprise critical linkage to the customer which involves pre order and post order activities, involves a lot of work and determines the continuation of the firm. Thus much emphasis should be taken on the order management cycle closure of the firm making losses.

Lockyer (1988) points out that, procurement lead time is not necessarily the same as the delivery time since it also includes the time required to place an order and the time to receive the goods in to the appropriate stores. It is so frustrating but not uncommon for an operations manager to raise a purchase requisition and then discover that it had arrived two weeks ago but had not been cleared through good inward inspection. The cost of this uncertainty in the lead time can be a significant of the suppliers, Poor feedback and the market. But because of the higher than necessary stock levels which are frequently maintained to allow it.

According to Kenneh (2001) supply chain emphasize the process approach concerned with a product or service is delivered to the customer is concerned that the required product or service is delivered at the right place at the right time and if not well managed the goods may end up to the wrong customer and by the time it reaches to the right customers it will have prolonged the lead time which may tamper with the productivity of the firm or stoppage thus making a lot of losses.

Kenneh (1992) defines supply chain as the network of organizations that are involved through upstream and down stream linkages in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer which if tampered with due to the mismanagement will lead to poor customer satisfaction because of receiving goods at the wrong time and place.

Barley *et al* (2005) argues that, supply chain is the major concern of lead time because it is concerned with the coordination of flow of materials and services from origins through supplies into and through the organization and on the ultimate customer thus if coordination is not done thus there is no way to maximize value and minimize cost.

Jessop (1994), points out that, The chartered institute of purchasing and supplying in the professional syllabus document define supply chain as specification of requirements, sourcing and acquisition of materials and services, negotiation and management of contracts and projects control and movement of materials in to and through production and other operational processes, inspection, quality assurance handling, storage and distribution to the point of need and control and disposal of waste and redundant materials. He further argued that if one of this steps is skipped then the customer may not be fully satisfied by getting goods late due to the delayed lead time the firm may incur some extra cost thus making losses in the long run.

Dobler (1996) says that the objectives of materials (inventory) management are to solve the materials problem from a total company view point by coordination performance of the various material functions providing a communication network and controlling materials flow.



Ammer (1969) argues that, materials management is concerned with the flow of materials from the manufacturing departments. According to Arnold (1991) materials management or inventory management is a coordinating function responsible for the planning and controlling of materials flows. Maximize the use of the firm's resource provide the required level of customers service by making sure they get on time without any delays.

Delays in lead time means larger inventories must be kept to carry out normal operations over the larger unit between ordering and receiving. If items procured are received late there will be loss in sale, production will stop and customer good will be affected adversely. The procurement entity in an organization may be found liable for such delays. It is however important for the purchasing department to ensure that the user department knows that lead times apply for whatever goods they wanted procured.

Annon (2000) according to the institute for logistics (GB) delayed lead time is mainly caused by lack of coordination of material management process which integrates the flow of supplies in to through and out of an organization. He further argues that to achieve a level of service which ensures that the right material are available at the right place at the right time of the right quantity and quality and at the right cost. It includes the functions of procurement material handling and storage production and inventory control packaging transport and associated information systems and their application throughout the supply manufacturing services and distribution sectors.

Lendler (1999) (10<sup>th</sup> edition) emphasis that, materials management is the aggregate planning of material requirement to meet the board overall production plan. If not well planned you may find when the organization needs more goods it doesn't have enough funds to buy because poor communication for not informing them earlier. In the long run the customer will not get the goods on time because the production cycle was tampered with in between.

Kenneh (2006) refers to inventory or materials management is the planning, organization and control of all aspects of inventory embracing procurement, warehousing, work in progress and distribution of finished goods. Scope of logistics management, Logistics is the part of the supply chain process that plans, implements and control the efficiency, Effective flow and storage of goods, Services and related information. He further argues that it has been adversely affected by infrastructure and government policy such as tax to be paid to transport certain goods in a particular distribution. In the long run these difficulties will prolong the duration of when the goods will reach the customer the customer in other words delay the lead time.

Hill (1997) points out that, material as inventory management has helped in lead time because of improvement in communication and coordination between departments. This enables smooth and faster flow of materials. This concept or approach has taken various concepts of material management.

Arnold (1996) emphasis that, separation is the most detailed method of describing requirements. Various types of design separation are detailed description of the materials parts and components to be used in making a product. Hence they are the description of the materials parts and components to be used in making a product. Hence they are the descriptions that tell the seller exactly what the buyer want to purchase. Quality optimism specifications vitally influence the contribution made by all those departments to the firm's success. If all this departments and the buyer don't communicate effectively the lead time will be prolonged forcing the firm or organization to lose a lot of customers since they are not fully satisfied.

Www. Wikipedia lead time is the period of time between the initiation of any process of production and the completion of that process. Thus the lead time associated with ordering a new car from a manufacturer may be anywhere from 2 weeks to 6 months. In industry, lead time reduction is an important activity. Lead Time, is a term for describing the amount of time that has between receiving a writing assignment, and submitting the completed piece. Depending on the publication, lead times can be anything from a couple of hours to many months.

He went further that a more conventional definition of Lead Time in the Supply Chain Management realms is the time from the moment the supplier receives an order to the moment it ships it in the absence of finished goods or intermediate (Work In

Progress) inventory--it is the time it takes to actually manufacture the order without any inventory other than raw materials or supply parts.

In the manufacturing environment, Lead Time has the same definition as that of Supply Chain Management, but it includes the time required to ship the product to the purchaser. The shipping time is included because the manufacturing company needs to know when the parts will be available for Material requirements planning. It is also possible for lead time to include the time it takes for a company to process and have the part ready for manufacturing once it has been received. The time it takes a company to unload a product from a truck, inspect it, and move it into storage is non-trivial. With tight manufacturing constraints or when a company is using Just in Time manufacturing it is important for supply chain to know how long their own internal processes take. Donoran (2001)

For instance company A needs a part that can be manufactured in two days once Company B has received an order. It takes three days for company A to receive the part once shipped, and one additional day before the part is ready to go into manufacturing.

- If Company A's Supply Chain calls Company B they will be quoted a lead time of 2 days for the part.
- If Company A's manufacturing division asks the Supply Chain division what the lead time is, they will be quoted 5 days since shipping will be included.

- If a line worker asks the Manufacturing Division boss what the lead time is before the part is ready to be used, it will be 6 days because setup time will be included.

In very complex manufacturing environment, like the manufacture of microprocessors, a usual Lead Time may be between 5-7 weeks. This is due to the sequence of operations, where there are multiple very similar steps repeated, and none can be skipped. If a manufacture of a central processing unit CPU requires 35 exposure masks, that translates approximately into  $35 \times$  ( photo resist coating, exposure, development, main process step (like etching, diffusion, metal filling), photo resist stripping and/or polishing + other possible steps ) plus additional steps before and after all processing. There are wait times not only associated with scheduling a product into production, since the product lines are busy, but also a beginning run of production goes to scrap (plus tool change and alignment takes time), and there are possible wait times of batches being processed during the production. (Not all machinery works at the same speed, or requires maintenance steps, tool change, plus there is the time it takes to physically transport the silicon wafers from one processing machine to another in small transport batches.)

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter entails the methodology which was used in gathering data of effects and causes of delayed lead time in pharmaceutical industries specifically in Hawse Mc George Laborex Limited. The samples of the population for the organization were employees who work directly for the company. Quantitative method was used to analyze the data.

#### 3.1 Target population

The target population was in different departments in the organization which were affected by delayed lead time. These departments were procurement department, production department, stores and supplies departments. The total population in the company was because we couldn't sample all the population thus covered 60 employees.

**Table 1: Target population**

Population category	Target population	Percentage of target population
Senior	15	25%
Clerks	20	33%
Subordinates	25	42%
Total	60	100%

### 3.2 Sample selection

A simple sample random and stratified technique was used to represent the population from all departments. Respondents were randomly selected from the whole population in each department to represent others. To get respondents a lot of all the staff in each participatory department was developed from which one staff was selected randomly from the list. Every third respondent after the first one was selected.

**Table 2: Sample selection**

Population category	Target population	Sample number	Percentage of target population
Supplies	15	8	27%
Pharmacy	20	10	33%
Stores	25	12	40%
Total	60	30	100

### 3.2 Variables

They are those factors that affect the study and involve those that influence and those that are influenced

### **3.2.1 Independent**

#### **3.2.1.1 Distance**

Since lead time is the duration between the times, an order is placed up to the time to receive the goods into the appropriate store. This distance is one thing that has adversely affected the lead time due to the coordination of flow of materials and services from origins through supplies into and through the organization and on the ultimate consumer. If the distance from the organization to consumer is far definitely the goods will take long before reaching their destination.

#### **3.4.1.2 Inexperienced or unskilled staff**

This is another problem causing delayed lead time in Mc George Laborex Limited. Due to unskilled staff, if an order is placed, they will take long before delivering it because of lack of some concepts like material management which integrates the flow of supplies in to through and out of an organization to achieve a level of service which ensures that the right materials are available at the right place at the right time of the right quantity and quality and at the right cost. Due to ignorance of this concepts the consumer will get the goods very late thus not adhering to consumers wants. They may also supply the wrong goods because they didn't follow the specification placed on by the consumer.



#### **3.4.1.3 Transport**

This is the means used to deliver the goods to the consumer. Hawse Mc George has been experiencing this problem because most of their laboratory items reach their destination when they are broken. This is due to the poor means of transport used. At times they even supply the things ordered very late due to very old vehicles that keep on breaking down now and then. At the long run consumers will not be satisfied.

#### **3.4.1.4 Number of staff**

The number of staff in the organization is small thus overloading some of the employees. Example the person in charge of the store is the one arranging, inspecting, feeding data in the computer, loading and offloading. If this is done one person, things will not end up in the right way.

#### **3.4.1.5 Lack of space**

This is influenced by lack of proper record keeping or lack of proper material management. Hawse Mc George Laborex Limited is experiencing this because they are not in a position to know what is in the store at that time. They just make orders whereby more items not needed in the store are ordered and occupy most of the remaining space. You may also find that what is required in the store is not ordered for and realized when a consumer needs it. This obviously leads to goods being delivered to consumers reach very late. It may also hamper the production process due to lack.

#### **3.4.1.6 Suppliers**

This is another major problem faced by Mc George. They have suppliers who are not competent at all. They supply goods that are not of standard which influence the organization to produce low quality goods that cannot compete in the market and satisfy consumers as well.

#### **3.4.2 Dependant Variables**

##### **3.4.2.1 Lead time**

Lead time is that interval between the time an item is ordered and the time it becomes available for the consumer or for shipment. If it is not recognized, this time will elapse when those particular goods or commodities have not reached on time. They may hamper the process of production or not need the consumer requirement due to late deliveries. This is always influenced by the independent variables.

#### **3.5 Data collection**

The data collection instruments that were used in this study are;

Questionnaire: Were made up of both semi-structured and unstructured questions to avoid being too rigid. This method helped the researcher to collect reliable information.

Observation: Was also used as the subordinates were carrying out their work. Thus enabled the researcher to gather more information that the employees were not be willing to deliver.

Group discussion: Focus group discussion stratified along gender and sub population was collected. Four discussions were conducted and each had an average of five participants. All discussions were recorded on audiotape, transcribed verbatim, translated into English (where necessary) and entered into a word processing package, thereafter prepared into textual data.

### **3.6 Data analysis and presentation**

Data analysis involves delivering meaning from the data collected and this was attained by using of computerized packages like excel and statistical methods for this case rankings. Presentation was in form of table, essay, figures and pie charts.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.1 Introduction

This chapter analysis, present and interprets data as per the study that was carried out at Hawse Mc George. It was aimed at assessing the contribution of staff on lead times and establishing their involvement in observation of lead times. Out of the questionnaires dispatched, the few that were returned were relied upon to give applicable conclusion to this study.

##### 4.1.1 Causes of delayed lead time.

The respondents suggested, causes of delayed lead time that have made the company not meet their goals. The causes refer to factors which make it not to happen. These causes were looked at as external and internal causes.

##### 4.1.2 External causes

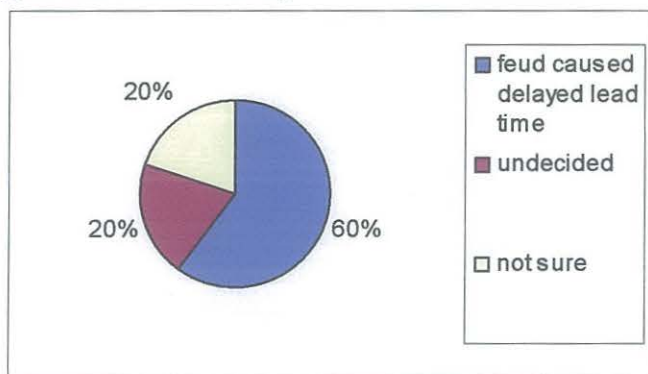
These are factors that are outside the company that influence lead time and among these are:

**Figure 2: political instability**



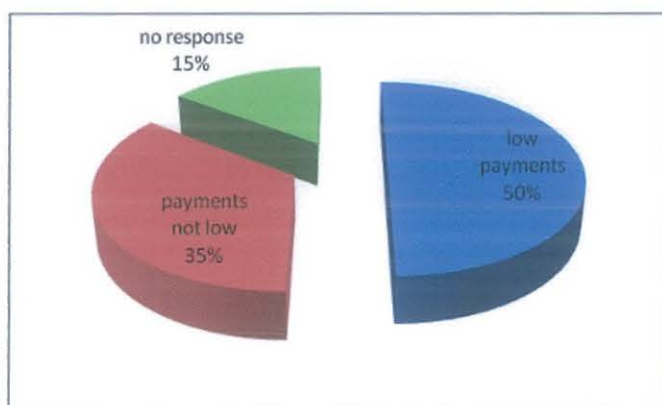
Political instability was pointed out by 98% of the respondents as one of the causes. 2% of the respondent did not respond. Having looked at Kenya during the last election the country was not stable and this directly affected Hawse Mc George because they were unable to supply their goods in time.

**Figure 3: Insecurity**



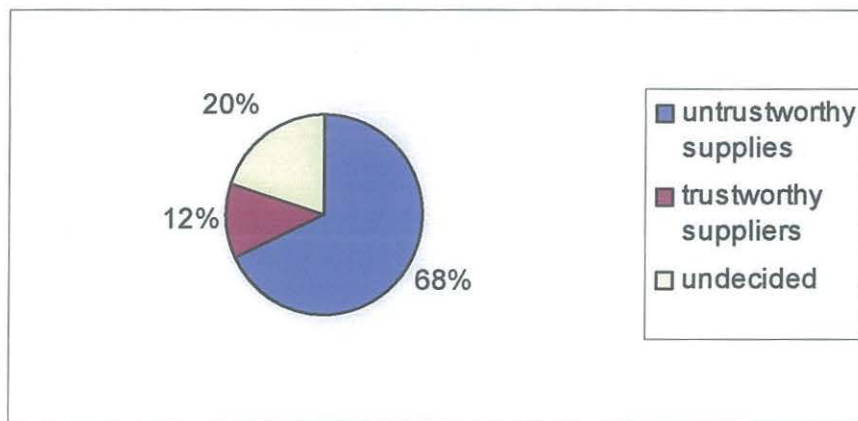
60% of the findings revealed that insecurity also caused delayed lead time, because the company was not in a position to transport or deliver goods where there was feud especially in most places in Mt. Elgon where by most of the times people were fighting. During those times, the trucks already on transit transporting goods had to stop. 20% were undecided and 2% not sure.

**Figure 4 : Showing how workers view their payments**



50% of the respondents also pointed out that due to low payments subordinates of the company in those branches at times strike and at the long run the goods to be transported do not reach their destination on time since it takes time for these subordinates to resume their duties. 35% argued that payment are not so low, 15% feared their jobs and so their never mentioned.

**Figure 5: Shows the number of trustworthy suppliers.**



Another cause pointed out was untrustworthy suppliers. 68% of the respondents pointed out that suppliers did not deliver the right amount at the right time because they also want to get something extra from the goods delivered. Thus, deliver fewer amounts of the goods and then sold the rest. 12% argued that most suppliers are trustworthy and 20% were undecided.

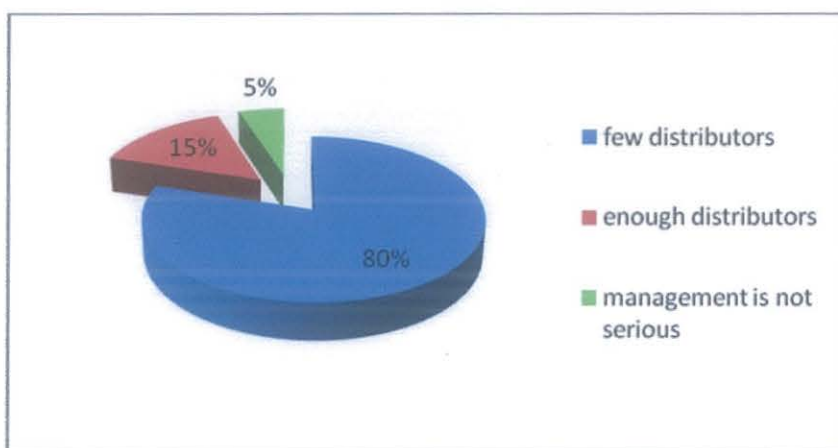


**Table 3: Types of transport used.**

80%	20%
The company is using old trucks and vans	New trucks have been ordered

According to the findings, twenty respondents which represent 80% pointed out that, the company is using very old trucks and vans which break down during the supply of goods. This has directly affected the company because goods are delivered very late and more to that losing customer. 20% said that new trucks have been ordered and so there is hope of improvement.

**Figure 6: Numbers of distributors.**



80% of the respondents also pointed out that there are very few distributors who are supposed to deliver goods to most parts of the country. These distributors are overworked and not able to deliver goods to the right place at the right time. 15% of the respondent said the distributors were enough and 5% argued management is not serious. The table below explains more.

**Table 4: Showing the number of distributors per province**

Provinces	No. of distributors	Percentages
Nairobi	1	8.3%
Eastern	2	16.7%
Central	1	8.3%
Western	1	8.3%
Nyanza	1	8.3%
Rift valley	3	25%
Coast	1	8.3%
North eastern	2	16.7%
Total	12	100%

Out of the findings, the type of transport used by Hawse Mc George also contributed to delayed lead time. Hawse Mc George used trucks which delayed to deliver goods due to their speed, 40% of the respondent suggested. 60% said that vans were not used and were more reliable and fast.

**Figure 7: Type of transport**

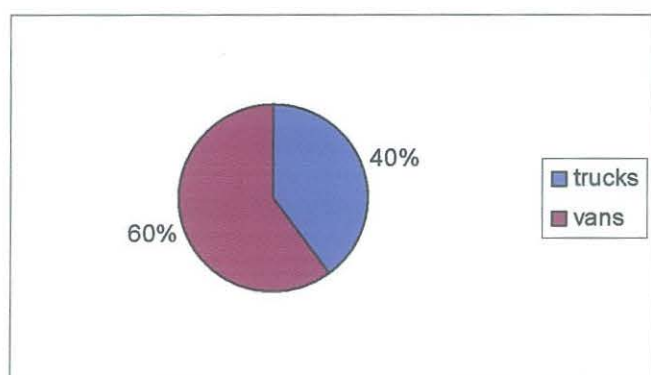
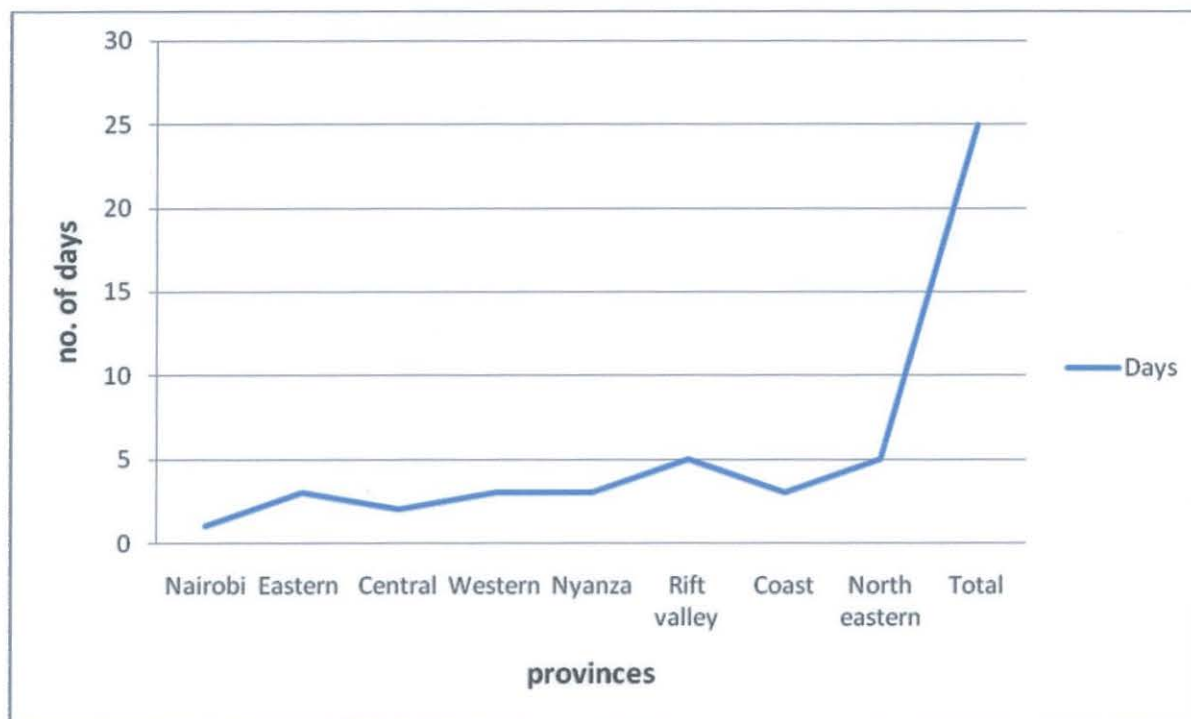




Figure 7 shows that the far the place of destination the more days it took to deliver the products. Thus most of the items reached to the consumers very late because of the long distance between the company and the consumers

**Figure 8: Showing the number of days taken for full delivery of the product**



**Table 5: Time taken to receive and work on orders.**

90%	2%	8%
Took long because of unqualified staff.	Do not know.	Orders are on time.

90% of the respondents pointed out that time was also another cause of delayed lead time. The company used more time to deliver goods required by consumers. This was brought about by unqualified staff in the company were not conversant with the specification given by the customer and so it takes time to know what exactly is required. It also took time for the papers needed to remove items from the stores to be signed by all the people in charge. Loading was also another cause, the company didn't have equipments to load their trucks and so they did it manually which took more time. 2% said they don't know how orders are done and 8% pointed out that orders in most cases are on time.

**Figure 9: Time taken to receive and work on orders**



**Table 6: Do competitors have any impact on delayed lead time.**

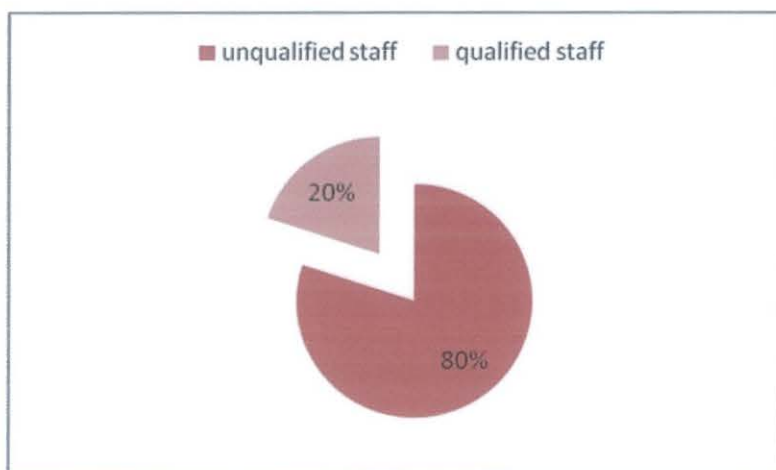
80%	6%	14%
Competitors is another cause	Did not respond	Competitors are not the cause

The findings indicated 80% of the respondents also pointed out that another cause of delayed lead time is number of competitors in the market are so many in that the competitors are in a position to deliver to their consumers in bulky than Hawse Mc George and their payments were more better. 6% did not respond that competition plays part and 14% argued that the number of competitors is not the issue in lead time.

#### 4.1.3 Internal causes

Other than external causes, there are also internal causes of delayed lead time like; unqualified staff. 80% of the respondent argued that Hawse Mc George has employed some unqualified staffs in procurement who have no experience so as to maximize profits, but in the long run the company is the one losing because it cannot run effectively and efficiently. While 20% had confidence in procurement.

**Figure 10: Showing the number of qualified staff**



**Table 7: Number of staffs**

60%	40%
Few staff is the main cause	Said staff are enough and competent

60% of the respondents also pointed out that the main cause of delayed lead time in Hawse Mc George was few staff. In that one employee is overloaded with work such that he or she becomes much tired to be in a position to finish all the work on time. The Researcher also found out that there was only one person in charge of the store. 40% of the respondent indicated that staff are few and competent to do the work well.

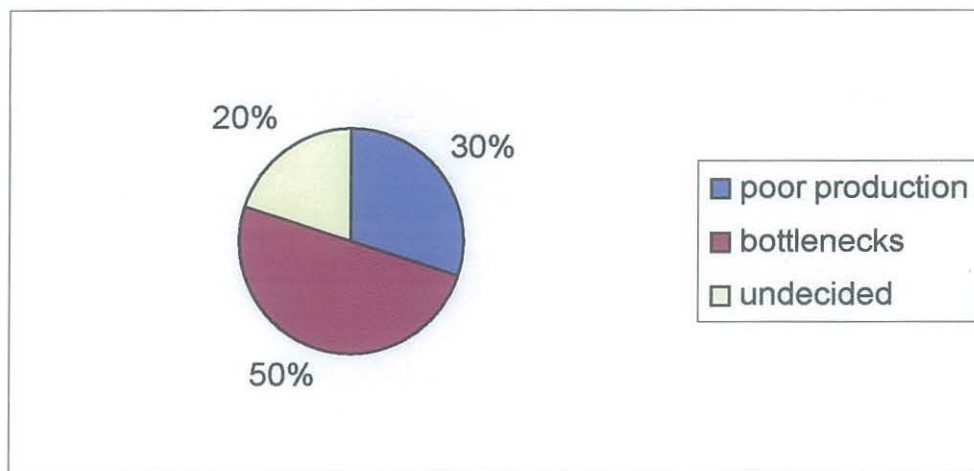
**Table 8: Suggestions to long order to delivery cycle time**

Complicated business process leads to delayed lead time	Scheduling was a problem	Lead time process had a problem
60%	30%	10%

The study found out that 60% of the respondent suggested that complicated business processes leads to ineffective practices and slow fragmented systems for handling orders, acquiring materials, scheduling production and other

information are often big contributors to overly long order-to-delivery cycle times. Though 30% of the respondents were different in their views, instead they said scheduling was a problem. While 10% indicated that the process had a problem.

**Figure 11: Production schedules**



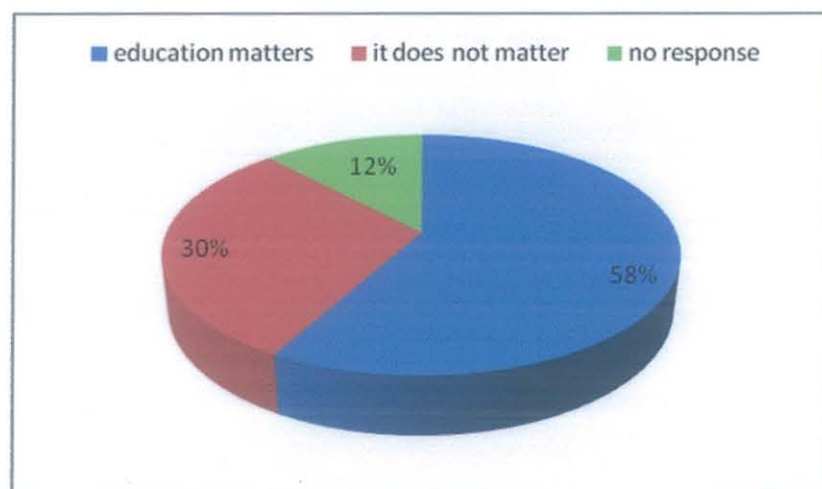
More investigation revealed that inadequate production scheduling. 30% Of the respondents said that poor production scheduling logic and practices invariably leads to flow imbalances which create bottlenecks and depress manufacturing throughput. 50% pointed out production process is okay only that like any Company bottlenecks exist. Instead 20% were undecided and never gave their views.

The investigation found out that Employee educational qualification also contributed to delayed lead time because the employees didn't know the right time to order for an item. Out of the total sample utilized, 58% pointed out that



education level matter where as 30% disagreed that education is the key, instead commitment was reused and 12% feared to say anything since this could lead to job loss.

**Figure 12: Education background**



**Table 9: showing the educational level of the staff**

Education level	No of staff
Primary	3
Secondary	10
Diploma	5
Degree	10
Above	2
Total	30

## 4.2 Effects of delayed lead time

**Figure 13: Effects of delayed lead time**

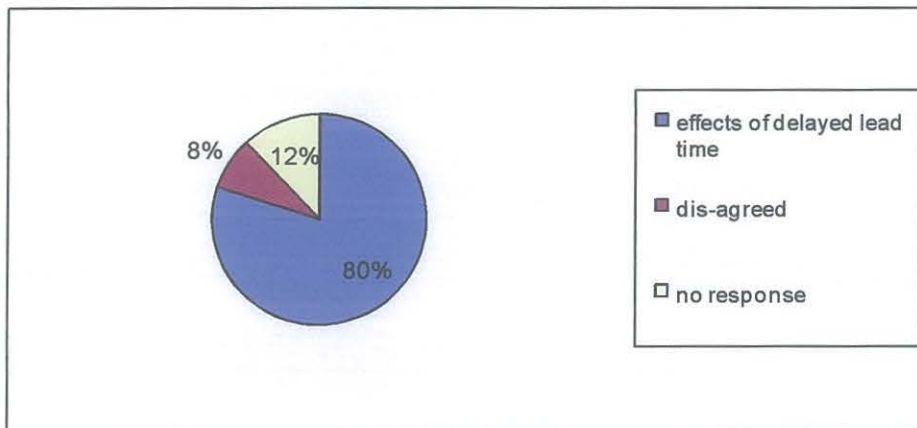
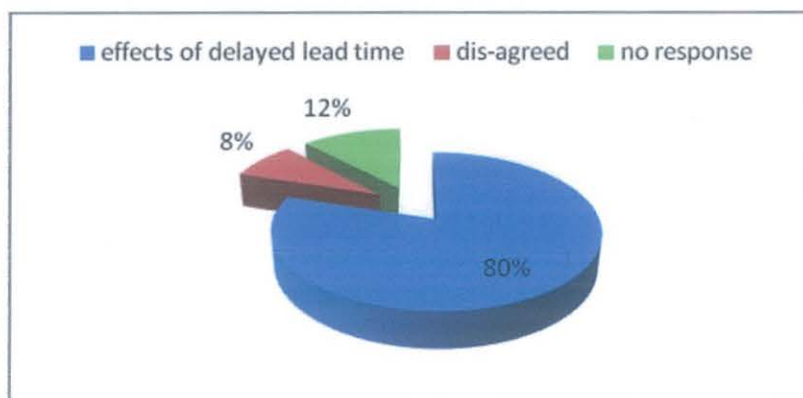


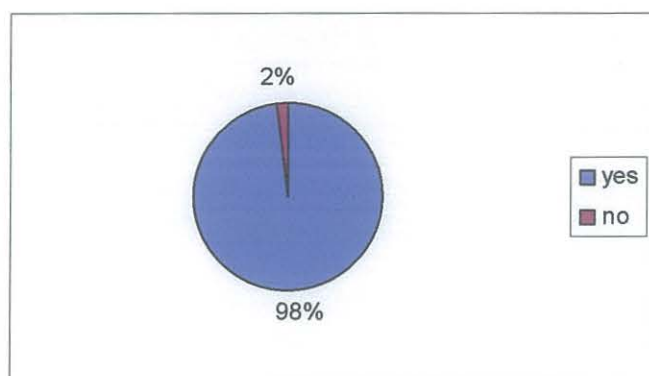
Figure 13 shows that 80% respondents agreed that there are effects of delayed lead time, 8% respondents disagreed while 12% respondents did not respond at all. The study indicated that there are effects on Hawse Mc George that are being caused by delayed lead time.

**Figure 14: Effects of delayed lead time on profits.**



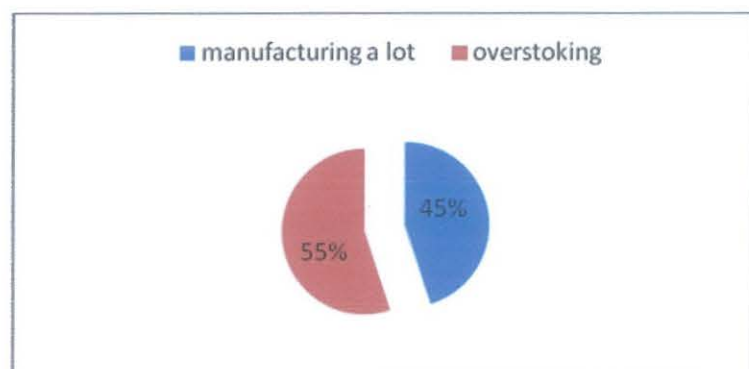
77% of the respondent suggested that one of the effects is low profits. This is mainly being contributed when the company delays to supply to customers on time, thus losing more customers due to inefficient, mostly the customers who buy in bulk. 20% did not support lead time affects profit and 3% gave no answer.

**Figure 15: Response on poaching by competitors**



Another effect is the qualified staffs in Hawse Mc George are poached by competitors for better payments, this was suggested by 98% of the respondents. With this it has adversely affected the company because it will become very hard to replace others who are experienced. 2% of the respondents indicated that people are just not comfortable in this company

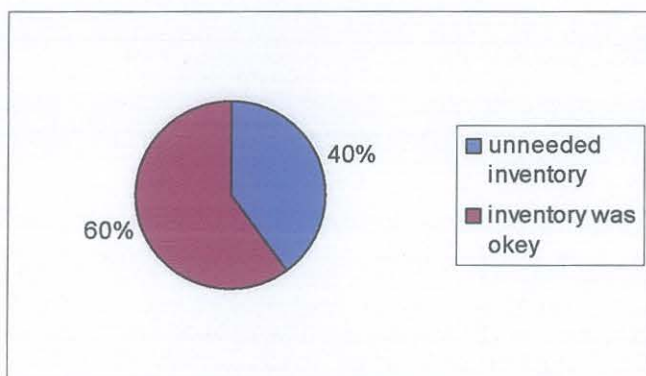
**Figure 16: Causes of waste**





Another effect is waste. According to 45% of the respondents the company is also being affected by wastage because more is being manufactured at the wrong time when it is not needed by customers. So it ends up expiring in the stores. 55% attributed the problem of waste to over stocking which is so common in the company.

**Figure 17: Unneeded materials**



40% of the respondents pointed out that too much inventory of unneeded material and possibly shortages of what is needed creates break down in productions. Other respondent who total 60% argued that there are few instances where materials are unneeded in stores and so there is no problem so far.

#### 4.3 Mitigation measures to the effects?

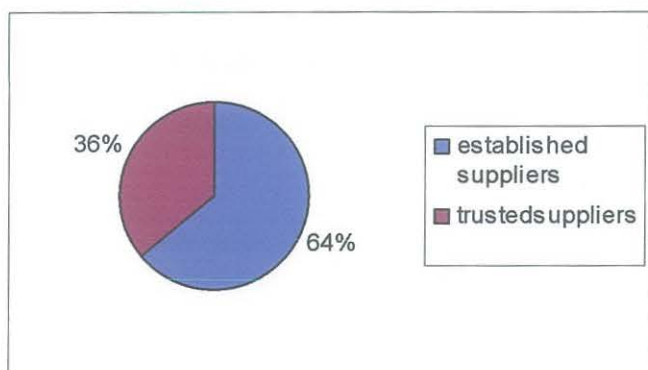
Respondents also came up with some of the measures that Hawse Mc George should come up with. One of the measures suggested was to train the staff so that their can run the company more effectively and efficiently of which 70% of the respondents said the company does not take training of staff seriously. Though 30% argued on job training is enough.

**Figure 18: Is job training taken seriously?**



The usage of quality established supplies in order to supply the right quality, quantity and the right place and at the right time 64% of the respondent said. Dealing with trusted suppliers will help the company to have a good reputation and to attract more customers. 36% of the respondent suggested

**Figure 19: Types of suppliers**

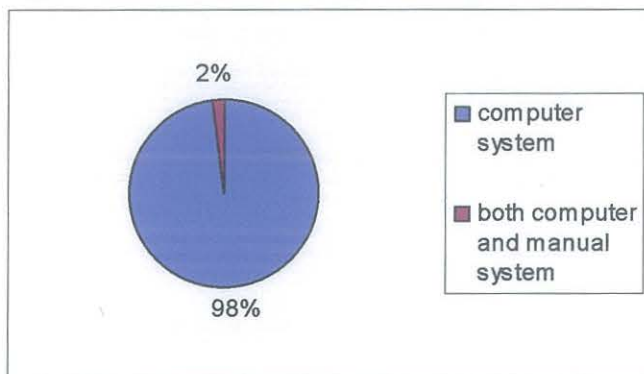


**Figure 20: Response to overstocking and understocking.**



66% of respondents suggested that stores should be improved so that the products are placed in a way they could be traced easily to avoid waste of time. 34% suggested that Their records should be updated now and then so as to know which products need to be added to avoid overstocking or under stocking.

**Figure 21: Use of computer system or manual system**



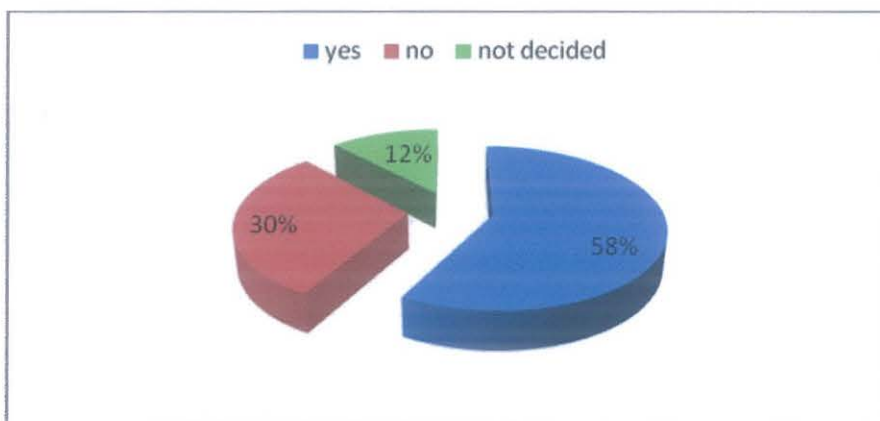
98% of the respondents suggested that the company should also computerize their work since the computers are automatic to identify the stock that is remaining and the one that is to be ordered. By this it will be easy for them to allocate resources where necessary and to buy what is not in the store. 2% argued that both computer and manual systems should be utilized.

**Table 10: Training of procurement staff**

85%	15%
Training of staff could improve delayed lead time	Did not agree

Training of procurement staff to be in the line with the best in the industry was suggested as a remedy. Respondents felt likewise that information of long term relationships of supplies would help to reduce lead time. Out of the total sample utilized 85% agreed that it can work and 15% pointed out that not only training but also experience adds value to everything.

**Figure 22: Use of just in time technique**

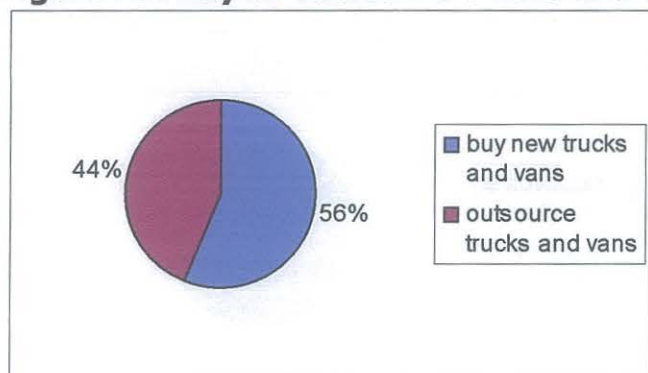


Employment of modern production techniques such as J.I.T (just in time) J.I.T is an inventory philosophy whose goal is to maintain just enough material in just the right place the right time to make just the right amount of product efficiently



that was according to 58% of the respondents. If well used, J.I.T purchasing will eliminate delays in delivery of materials in that only the materials needed for production will be ordered. 30% argued that just in time work well in some companies but not all companies, while 12% of the respondents were not decided.

**Figure 23: Buy or outsource trucks and vans**

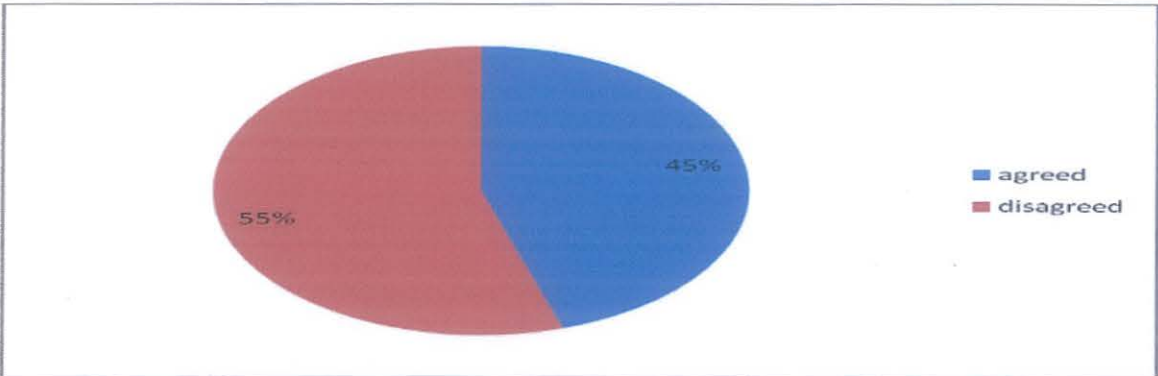


Another measure pointed out by 56% of the respondents was that the company should come up with buying new trucks and vans which they will be in a position to delivery goods on time and in bulky so as to compete effectively with other competitors and also meet the needs of their customers. 44% of the respondent suggested out sourcing as the way to cut on transport costs.

**Table 11: Opening different branches.**

88%	12%
Open other branches	Did not agree with branch opening since it will strain companies funds

**Figure 25: Should the company outsoures?**



Since Hawse Mc George has old trucks and vans, they should come up with carriage outwards whereby they hire another company that deals with logistic to help them supply their products because they more equipped and have more experienced.45% of the respondents pointed out that this could cut down on costs but 55% argued that this is not in line with company policy.

**Table 12: poor scheduling**

78%	22%
Agreed on poor scheduling caused bottlenecks.	Did not advocate for poor scheduling

Production bottlenecks generally occur because a poor scheduling routine created by them, resulting in the need to expedite orders and a disruption in the flow of production. Many systems in use today actually increase cycle times due

to their “illogical logic” about what the real schedule, the study found out that 78% pointed out that poor scheduling was the cause but 22% argued that procurement office should use online order method to avoid disruptions.

**Table 13: suggestion to performance of the company**

90%	10%
Believe organizations can do better	Do not believe that organizations can do better

90% of the respondents believe their organizations can do much better. These Executives see the opportunity, but less than expertly planned and directed efforts often hold Poor emergency stock incase there was a delay in the delivery of supplies. The study revealed that 10% of the respondents felt that the system is in bad state. Dramatic cycle time compression, on the other hand, requires stretch goals in line with world-class performance. This means that goal-setting philosophies must undergo a fundamental shift by setting targets in line with the results necessary to be an industry leader.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND FINDINGS**

#### **5.1 Summary**

This chapter summarized and concluded the research that was undertaken. Then at the end of the chapter some applicable recommendations are given for the organization to improve on the problem under study based on the research findings.

In chapter one background of the study was discussed and it brings out the history of the company, and also tries to bring out more about the topic, statement of the problem that the company is facing ,objectives of the study that is the aim of carrying out the research ,research questions that are reflected in the questionnaire ,significance of the study showing the purpose of the study ,scope of the study which and how many people are involved and the departments to concentrate on mostly ,limitations of the study which explains the problems faced during the research and conceptual framework that brings out dependent variables and independent variables.

Chapter two revealed the literature under which most authors have researched the issue of delayed lead time. Other authors' have also tried filling gaps left by other authors 'and also criticized.



Chapter three showed the target population and sample selection which was used to carry out the research. Independent and dependent variables are also discussed in details. At the end methods used to collect data and how to analysis and present it.

Chapter four presents the data collected, analyzed and data was presented in tables and pie charts according to respondents' suggestions. It also explains the causes, effects of delayed lead time and mitigation measures taken according to the tables and pie charts.

Then chapters five concludes the whole research and indicates some applicable recommendations for the organization to improve on the problem under study based on the research findings. Gives areas for further research

## **5.2 Conclusion**

From the study carried out, the findings indicate that lead time is a complex undertaking. In this regard the company under investigation spends many resources and time to ensure that the materials are delivered at the right time, right place at the right quality and quantity.

Though it is obvious that the organization should recruit highly educated employees the study showed that staff recruited should be people that are professionally trained buyers for effective negotiations to be put into operation.

Training of employees is an important factor that will enable them to make economic specification, supply chain for effective cost control or minimization.

Results indicated that Clear specifications are important aspect in enabling suppliers to respond by supplying the required materials in the right quality and quantity. This promotes good relationship between the organization and the supplier, since rejects are minimal.

### **5.3 Recommendations**

From the study following are the recommendations;

- Multiple sourcing techniques should be employed for most commodities to avoid stoppage in production due to shortages when a supplier fails to deliver in time.
- The user department the supplier and the procurement department should work closely and they should establish workable lead times for all the material needed in production. This will ensure that materials are sourced and delivered on time to facilitate efficient product.
- Efforts to make sure that those suppliers are aware of the schedule lead times for material should be made. Thus they will make sure that materials are delivered in time and avoid unnecessary delays and production stoppage.

- Moderate stocks should be held to ensure that production does not stop in case of delay in new deliveries. Such stocks should just be enough to ensure non stoppage in production.
- Modern electronic purchasing techniques should be employed to ensure that materials are produced exactly when needed. This will avoid delays that are both expensive and unnecessary for efficient production.
- Procurement staff should be trained so that they can be updated on modern efficient procurement methods. This will improve their job performance and will help in speeding up the procurement procedures.
- Bureaucracy that exists within the organization as for the procurement procedures are concerned should be speeded up to ensure that materials needed are delivered within set lead time.
- Further research should be done to examine in details problems associated with delayed lead time in materials and its impact on the profitability of the organization and lead time recognition.

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### TIME PLAN:

ACTIVITY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
feasibility study	***	***							
Proposal writing		***	***	***					
submission of the proposal					***				
Data collection						***	***		
Data analysis							***		
Moderating of research project								***	***
Submission of final report								***	

## BUDGET

Item	Amount (Kshs)
Internet	200
Transport	1000
Photocopying	1000
Binding	1000
Stationery	1500
Secretarial services	1000
Miscellaneous	800
Total	6500

## **QUESTIONNAIRE**

Dear Sir/ Madam,

I would like to kindly request for your cooperation and fill the following questions. These questions are strictly for academic purpose and so are meant to obtain your opinion on causes and effects of delayed lead times in distribution of pharmaceutical products.

### **PERSONAL INFORMATION**

1. Highest academic qualification attained.

Masters degree ☐ diploma ☐

Degree ☐ Others ☐

2. Job Category

Accounts department ☐ Stores department ☐

Purchasing ☐ Other ☐



3. What are your job responsibilities?

Purchasing	<input type="text"/>	Supplies	<input type="text"/>
Storing	<input type="text"/>	Cash handling	<input type="text"/>

4. How long do your orders take to be supplied?

One week	<input type="text"/>	Six months	<input type="text"/>
One month	<input type="text"/>	One year	<input type="text"/>

5. How many vehicles are used in logistics of the supplies?

6. What are the causes of delayed lead time?

.....

.....

7. a) Are there any effects in delays of supplies?

Yes	<input type="text"/>	No	<input type="text"/>
Not sure	<input type="text"/>	none	<input type="text"/>

b) If there is any, please give reasons

.....

.....

8. Is management involved in handling the effects of delayed lead time?

.....

.....

9. Please explain how management handles these effects

.....

.....

10. What do you think are solutions to the effects?

.....

.....

11. Has delayed delivery of material affected productivity of house Mc George  
Laborex Invited?

Yes ☐

No ☐

If yes, how has it done so?

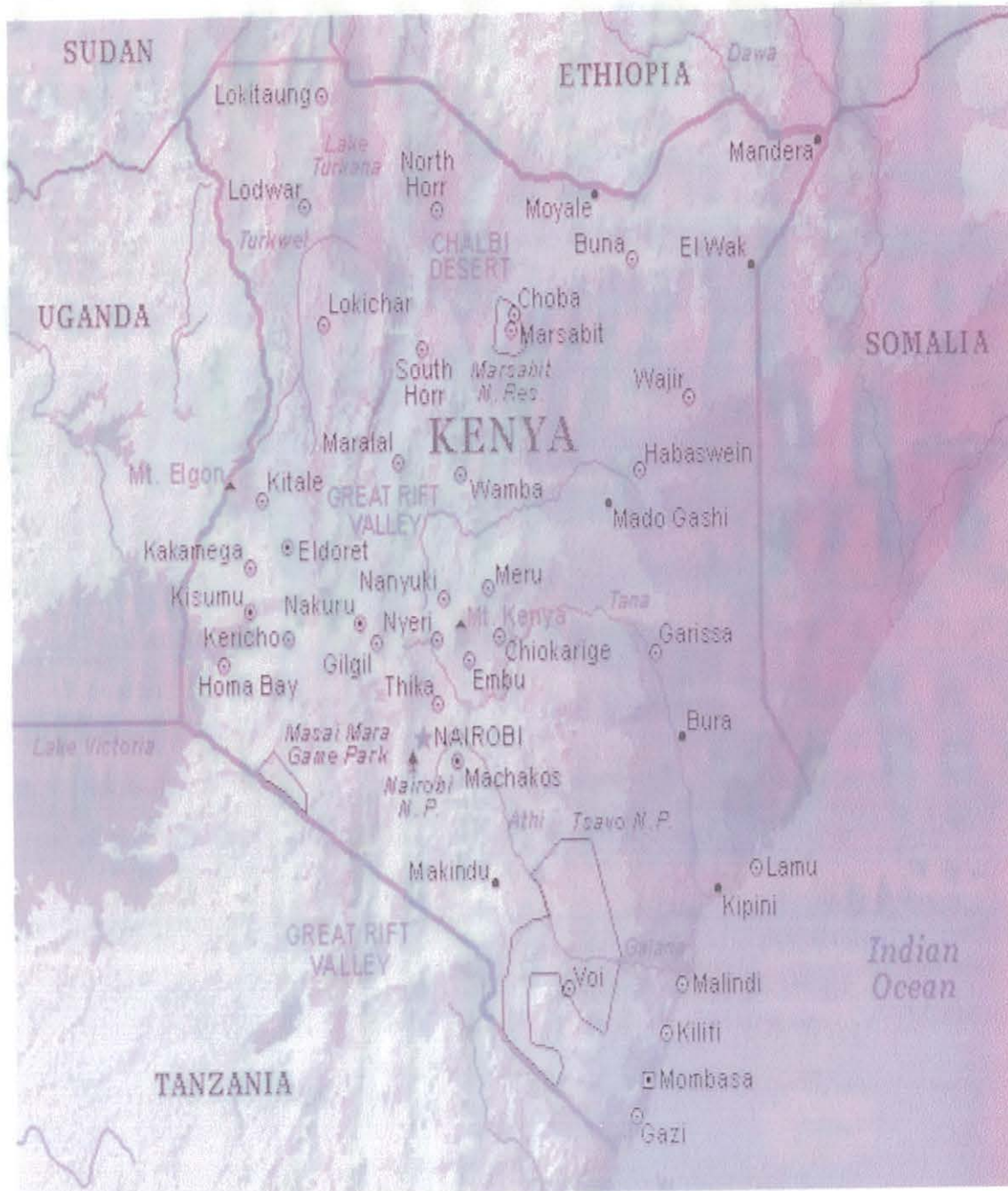
.....

12. Have the purchasing procedures used at Hawse Mc George affected the delivery of certain materials?

.....

.....

## MAP OF KENYA



## MAP OF NAIROBI

