

KAMPALA INTERNATIONAL UNIVERSITY

**THE EFFECT OF INVENTORY MANAGEMENT SYSTEMS ON
PERFORMANCE OF SUPERMARKETS**

CASE STUDY: UCHUMI SUPERMARKET

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**A RESEARCH REPORT SUBMITTED TO KAMPALA
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DECLARATION

I OLONG PATRICK OWICH declare that this research report is my original work and has never been submitted for a ward of a degree in any other University or institution of high learning.

Signed.....


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APPROVAL

This report has been submitted for examination leading to the award of Bachelor's degree on Supplies and Procurement Management with my authority as University Lecturer.

Signed.....

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(SUPERVISOR)

Date.....

DEDICATION

Affectionately dedicated this research report to my wife Akello, boss at work Mr. Ogago Alex and to my brother Dr. Okaka Geoffrey.

ACKNOWLEDGMENT

First of all, I would like to acknowledge the Grace of God for His guidance and support throughout the conception of idea to completing and submitting this report. God was my mentor and helm of every step to achieving this goal.

My sincere gratitude goes to my supervisor Mr. Malinga Ramadhan for his guidance and above all, accepting to supervise me despite the busy working schedule he is subjected. Without your patience and positive criticisms this piece of work would not have been completed.

I am also indebted to my boss at work Mr. Ogago Alex, Brother Dr. Okaka Geoffrey, wife Akello Judith, for their tireless effort to see me through. Please your help was invaluable that the only reward is to ask God bless the work of your hands.

In the same vein, I record my work of thanks to all my friends and course mates who gave me moral support and encouragement wherever I was in need especially Ssentongo David among others I have not mentioned I wish you prosperity in everything.

Finally, I would like to register my whole hearted thanks to all the respondents of Uchumi supermarket who took part in this research by accepting to share their invaluable time to respond to my questionnaires. Your response were treated with utmost consideration may the joy of the Lord fill you forever.

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ABSTRACT

Many supermarkets experience over or under stocking of inventories, which increase holding and ordering costs, wastages and accidents affect their performance. It became a researcher concern to establish the effect of inventory management systems on performance of such Supermarket focusing Uchumi Supermarket as a case study.

The study was organized in five chapters based on research objectives and research questions as presented in Chapter 1-5 and 1-6 respectively.

Chapter one entails the background to the study, background of Uchumi Supermarket, and statement of the problem, purpose, objectives, research questions, scope, significance and definitions of key terms.

Chapter two entails detailed literature about inventory management and performance as discusses by various researchers. Chapter three entailed research design that was used to obtain data, sources of data, data collection techniques and problems faced while collecting data.

Chapter four analyzed, discussed, and interpreted findings from primary and secondary sources. While chapter five gave a summary of findings, conclusion, recommendations and areas for further study.

Findings from both primary and secondary sources revealed that quality inventory management systems are good contributions of Uchumi Supermarkets performance since contribute 80% of the current assets. Therefore, maintenance of optimum inventory leads to effective performance of the Supermarkets.

The researcher recommended that Uchumi Supermarket should use quality inventory management systems like Just in Time, Computerized inventory management so as to reduce risks associated with their systems of managing inventory, recruitment of qualified staffs to run such inventory and setting of other strategies of how to minimize inventory related costs.

CHAPTER ONE

INTRODUCTION

This chapter entails the background of the study, background of the case study, statement of the problem, purpose, objectives, research questions, scope, and significance of the study and definition of key terms.

1.1 BACKGROUND TO THE STUDY

Inventory management systems have evolved over time as an improvement from the earlier buffer inventory systems (Tayi et al, 2000). Inventories constitute the most significant part of current assets of many companies and in case of supermarkets they contribute 80% company's assets yet on average inventories are about 40% of the current assets owned by every firm.

Inventories are a stock of the product supermarkets for sale and components that make up a product (Pandey, 1998). According to Kropp (2005) they do not only constitute stock of finished products but also include work in progress, cash among others basing on the nature of the business.

Inventory management systems aim at minimizing inventory costs and the major key issue is the determination of when to order and how much to order (Schreibdefer, 2006).

1.2 BACKGROUND OF UCHUMI SUPERMARKET

Uchumi Supermarket is an international firm that deals in many domestic products based in South Africa (Headquarters). As an organization's objective of acquiring large market share the entrepreneurs opened up a branch in Uganda to acquire large market share. It is located on Yusuf Lule Road Garden City building, a modernized supermarket that provides services to most customers in highly big offices. The supermarket maintains a wide range of products both domestic and commercial and currently one of the leading supermarkets in Kampala.

However, in the month of October, Uchumi supermarket caught fire which destroyed many of its goods it had stocked for sale making the company to make incur loss. According to the New Vision of 28th October (2006), the company lost many products amounted in millions, which has affected its performance. The loss may be attributed to overstocking of products, which as a result of poor inventory management system such businesses which maintain big inventories shows that the causes of poor inventory management systems are not addressed rather the result of the problem is addressed like fire gutting of inventory, storage and high inventory related costs.

Campsey (2003) stated that businesses that have no or weak inventory management systems become familiarized to doing business in hindsight and when problems are encountered they are resolved temporarily. It is from this background that the researcher intends to find out the effect of inventory management system on performance of Uchumi supermarket.

1.3 STATEMENT OF THE PROBLEM

Inventory management systems are used to maintain adequate stock to fulfill customer demands. However, the over stocking of many goods by Uchumi supermarket led to a loss of many millions of money in destroyed goods caught by fire. The high levels of stock have become an answer to supermarkets, notwithstanding poor remedy of stock controls (Tompkins, 2005). However, it is not clear whether inventory management system used by Uchumi supermarket indeed caused loss affecting firm's performance other factors remaining constant.

1.4 PURPOSE OF THE STUDY

The purpose of the study is to establish the effect of inventory management systems on performance of Uchumi Supermarket.

1.5 OBJECTIVE OF THE STUDY

- i) To find out inventory management systems used by Uchumi supermarket
- ii) To establish the determinants of supermarket performance
- iii) To find out the relationship between inventory management systems and performance of Supermarkets.

1.6 RESEARCH QUESTIONS

- i) What inventory management systems does Uchumi supermarket use?
- ii) What are the determinants of supermarket performance?
- iii) What is the relationship between inventory management systems and performance of supermarkets?

1.7 SCOPE OF THE STUDY

1.7.1 Subject scope

The study focused on inventory management systems that are used by Uchumi supermarket. The study therefore intends to find out whether inventory management systems used are in line with organization's objectives.

1.7.2 Geographical scope

The study was carried out at Uchumi supermarket located on Yusuf Lule Road Garden city building. The researcher will observe, interview and provide questionnaires to employees, customers and directors responsible for inventory management.

1.7.3 Time scope

The study will evaluate inventory management systems used by Uchumi supermarket for a period of one year (2005-2006).

1.8 SIGNIFICANCE OF THE STUDY

- i) To Uchumi supermarkets, the study will help managers to design good inventory management system that will enable it reduce costs, risks and achieve desired performance.
- ii) As a researcher, the study will help me to understand the importance of inventory management systems, which will help me to put in practice if at any time recruited as a procurement manager.
- iii) The study will act as a reference to future researcher who will be investigating on related variables. They will therefore use findings as evidence for further analysis.

1.9 DEFINITION OF KEY TERMS

1.9.1 Effect

The term “Effect” is defined as the results, consequences, outcome, upshot and end product of a given phenomenon. In our study the term effect is used to signify the outcome of using a good inventory management system or the results of using poor inventory management systems on performance of an organization.

1.9.2 Inventory management systems

Inventory management refers to the systematic control and regulation of purchases, storage and usage of materials in such a way to maintain an even flow of production (Arora, 1998). Kagwa (2004) defined inventory management systems as stock of product companies manufacture for sale and components that make up a product, and resources used to satisfy a current and future need.

1.9.3 Performance

Performance refers to the degree of achievement of the prescribed objectives of an organization to the maximum benefits of interested parties (Pandey, 1998).

It is the ability of the firm to attain its goals by using resources in an efficient and effective manner (Drucker, 1996).

1.9.4 Supermarket

These are retail shops that sell different items in small or large quantities especially domestic goods. They are located mostly in areas with large population, and characterized of stocking finished goods in large quantities for sale.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter analyses some of the major issues on the existing literature both empirical and theoretical on inventory management as written by scholars.

2.1 LITERATURE REVIEW AND RESEARCH WORK

2.1.1 Definition of inventory management

According to Van Home (1998), inventory is a link between production and sales of a product. Inventory is any resource used to satisfy a current or future need. However, Pandey (1995) defines inventory as a stock of the product a company is manufacturing for sales and components that make up a product.

Inventories are stock of products a company sale to customer or components that make up the product. Organization whether industrial or commercial, has been recognized inventories as being of three types. These include raw materials that are inventories converted into finished goods through the manufacturing process. Work in progress, which are semi-manufactured products for further production, and finished goods that are completely, manufactured products ready for sale (Render 1998).

Inventory management involves the planning, controlling and conducting of all activities concerned with the flow of materials into the organization (Atkinson, 2006).

Inventory management systems therefore are techniques designed by an organization to forecast customer demands and maintain an optimum level of stock.

2.1.2 Motives of holding inventory

Pandey (1995) and Atkinson (2006), suggest three general reasons for maintaining stock. That is transaction, precautionary and speculative motives.

The transaction motive emphasizes the need to maintain inventories to facilitate smooth production and sales operation

The precautionary motive necessitates holding of inventory to guard against the risk of unpredictable changes in demand and supply forces and other factors.

The speculative motive brings about decision to increase or reduce inventory levels to take advantage of price fluctuations.

2.2 Qualities of a good inventory management system.

A truly effective management system minimizes the complexities involved in planning, executing and controlling a supply chain network which is critical to the business success (Princeton et al, 2006). This renders the need for the quality of inventory management systems.

Mania (2004) stresses that, inventory is the largest asset item on a manufacturer's or distributors balance sheet, as a result there is a lot of management emphasis on

keeping inventories of high quality so that they do not consume too much costs.

Princeton & Mania argue that inventory management systems must have the following qualities;

- There should be adequate disclosure of stock to lower costs like holding wastages thus high financial performance.
- Ensure a continuous supply of raw materials to facilitate uninterrupted production.
- Maintain sufficient stocks of raw materials in periods of short supply and anticipate price changes.
- Minimize the carrying cost and time so as to reduce stock outs
- Control investment in inventories and keep at an optimum level.

In addition, John Schreibfeder (2002), says that, to attain inventory of high quality, management should implement the following;

- Protect the company against theft, such that the only staff in warehouse belongs to warehouse.
- Establish an approved stock list for each warehouse, that is to say order only the amount of non-stock special order items that your customer has committed to buy.
- Assign primary and surplus bin locations, such that picking and receiving documents list from such locations is easy.
- Record all materials leaving the warehouse
- Process paperwork in timely manner
- Appropriate objectives should be set for buyers, that buyers should be judged and rewarded with the customer service level, inventory turns, and return on investment.

- Train organization's employees to make sure that every staff is aware of the cost of bad inventory management.
- Ensure that stock balances are accurate and will remain accurate. Implement a comprehensive cycle counting programme.
- Determine the most advantageous replenishment path for each item in each warehouse. Assign one of these "paths" to each item in each warehouse.
- Specify guidelines for setting the reorder method and other purchasing parameters to maximize inventory turns and minimize stock-outs.
- Establish customer service, inventory turnover, and return on investment goals for the following 24 months for each branch and major product line.
- Initiate an on-going dead stock and excess inventory control programme.
- Make inventory management considerations part of corporate strategic planning.

2.2.1 Types of inventory management systems

To have inventory management systems of high quality, the costs associated with inventory should be low (Pearson 2002). Plossl (1995) stated that, inventory models should aim at minimizing inventory costs. The key issue is the determination of when to order and how much to order (Schreibdefer, 2006). Therefore to attain inventory of high quality, managing should use the following techniques.

Two Bin systems

This is a technique where each stock is kept in its storage bin, where the first bin is emptied; an order must be placed for re-supply. The second bin will contain sufficient

quantities to last until delivery is received. However since this is not based on any formal analysis of stock usage, it may result in holding too much or too little stock (ACCA, 1997).

Order cycle system

Under this, quantified on hand of each item are reviewed periodically say every 1, 2, 3 months. For low cost items a technique called 90 – 60 – 30 days supply so as to boost stocks to 90 days supply. For high cost items, a more stringent stores control procedures is advisable so as to keep down costs of holding stock (ACCA, 1997).

Pareto 80/20 distribution

It is a selective approach to stores control based on the findings that in stores, 80% of the stores in accounted for only 10% of the stores items, and stocks of these more expensive items should be controlled more closely (ACCA, 1997).

Just in Time (JIT) method

According to Tayi et al (2004), the system is used to minimize inventory investment. The philosophy is that materials should arrive at exactly the time they are needed for production. Ideally, the firm would only have Work In Progress inventory because its objective is to minimize inventory investment. A Just In Time method uses no or very little safety stocks. Extensive coordination must exist between the firm, its suppliers and shipping companies to ensure that material inputs arrive in time. The goal of JIT is manufacturing efficiency (Schranze, 2006).

According to Tayi et al (2001), many firms have adopted the Just in Time system in their supply chains and have also implemented collaborative planning, forecasting and replenishment agreements with the intention of improving sales, fill rates and order cycle times. However, to achieve these gains they have initiated a joint business plan that involves sharing forecasts, promotion plans, past sales trends and distributor inventories.

Many firms have adopted the Just in Time system in their supply chain, implemented collaborative planning, forecasting and replenishing agreement with the intention of improving sales all of which aim at improving financial performance (Tayi et al 2001). Saker et al (2000) stressed that the earlier models of inventory management traded off benefits of decreased holding costs from lower inventory with the increased set-up and cost out costs.

ABC method

A firm has to maintain a number of items in the inventory. It should be noted that those items with the highest value have the biggest share of inventory control.

'A items' constitutes of stock, which is necessary for the proper functioning and operation of the business with it making 80% of the business and 20% in terms of stock (Tarsine, 1996).

'B items' represent relatively least values and are under simple management. They represent 15% of the value of the business and 50% of stock (Lucey, 1994).

'C items' represent relatively least value and would be under simple control. the ABC method concentrates on important items and is also known as "control by important exceptions".

Economic order quantity (EOQ) method

This is the most used method of attaining the goals of inventory management (Chapman, 2004). According to Render and Stain (1994), EOQ is the calculated reorder quantity, which minimizes the balance of costs between carrying and ordering costs, are not minimum but also equal.

ABC analysis is a tool to classify items according to their relative importance or profitability (Schreibfeder, 2006), a quality inventory management by value report usually a form of an ABC analysis. From the empirical research made by Becu Company Report (2004) shows that, a better sales forecasting and the good quality of inventory management, as part marketing will reduce inventory costs.

Red Line method

This is an inventory control method in which a red line is drawn around the inside of an inventory-stocked bin to indicate the reorder point level (Campsey et al, 1995).

Computerized inventory control system

Under this method, inventory is controlled by use of a computer in order to determine re-order points and adjust inventory balance (Schreibfeder, 2006). With technologies such as computerized inventory management system strengthens supply chain

management built on the Microsoft platform, manufacturers see direct correlation to a more efficiently managed inventory (Microsoft Corporation, 2006).

Re-order point (EOP)

Under this, once a manufacturing organization has calculated its EOP, it must determine when to place orders (Piasecki, 2001). However this can be determined under conditions of both certainty and uncertainty.

Reorder point under uncertainty

In practice, demand or usage of stock is not known with certainty. In addition there is usually a degree of uncertainty associated with the replacement of an order and delivery of stocks (Hahn, 2006). To protect itself from uncertainty, a manufacturing organization will need to maintain a level of safety stock for raw materials, work in progress and finished goods stock.

It should be noted that optimal safety stock varies from situation to situation but in general it increases with; the certainty, the cost in terms of lost sales and lost good will as a result from inventory shortages, the probability that delays will occur in receiving shipments (Schreibfeder, 2006). As such optimal safety stock decreases as the cost of carrying this additional inventory increases (Lambert, 2001).

2.3 PERFORMANCE

Drunker (1995) defined performance as not only an end in itself, but a means to the end of business performance. It is the ability of the firm to attain its goals by using resources in an efficient and effective manner.

2.3.1 Indicators of performance

According to Viale (2006), an organization performance depend on factors such as organization's structure and desired objectives to be achieved, strategic positioning of resources and human resources.

Coyler (2006) stated that a firm's performance is determined by profits, productivity or sales volume of goods and services. However, Balunywa (2003) stated that among the indicators mentioned above, it is profit that stands out as the most important variables for determining business performance as the rest of variables are just subjective. Thus when discussing performance, consider the above concepts.

2.3.1.1 Profitability

Bean (2001) defines profitability as the excess of revenue of the business over expenses. Profitability is also associated with efficiency, as profitability expresses a relation between the value of factors of production used and value of the goods and services produced. Garcia et al (2006) further agrees that for any business to be able to determine its profits it must control inventory.

Profits are the difference between revenue and expenses accruing as well as a period of time. An organization that does not make profits can not finance its daily operations as well as their long-term goals of the firm (Lucey, 1998). It's for this reason therefore that business owners should curiously evaluate the efficiency of the company in terms of profits (Pandey, 2001).

2.3.1.2 Productivity

Drucker (1995) defined productivity as “the balance between all factors of production that will give the greatest output for smallest effort. Productivity is measured in a number of ways, but for the purpose of this study, it is where the firm optimizes level of stock for sale”.

Productivity of a firm is where the firm optimizes the level of goods and services for sale (Colyer, 2006). If inventories are not put in place, then organization can not optimize the level of targeted sales, productivity and profitability as indicators of performance.

Management should ensure that a firm maintains optimum level of goods and services for sale. For effective performance, organizations should cater for other inventories such as stock, cash, and work in progress (Steir, 1998).

2.4 RELATIONSHIP BETWEEN INVENTORY MANAGEMNT SYSTEMS AND PERFORMANCE.

Inventory management systems are supposed to ensure that stock of goods are of adequate quantities, good quality, bought at fair prices and stored or issued for use within minimum amount of capital tied up hence enhancing effective performance (Campsey, 1998).

There are many techniques both manual and automatic that is associated with inventory management (Monson, 1994), however all these techniques are used by a firm to minimize costs and maximize profits or achieve a targeted objective. This means that quality inventory management leads to organization's efficiency. Without such controls efficient and effective performance can not be achieved hence inventory management systems are strongly correlated.

It's possible for a company to reduce levels of inventories efficiency to a considerable degree of say 10-20% without any adverse affects on production and sales by using simple inventory planning and controlling techniques. Unwanted inventory must therefore be systematically displaced because they add to holding costs, administrative insurance, record files and the capital which when all reduced can lead to increased efficient performance (Macharia, 2006).

A continuing drive to reduce inventory without reducing source is needed to combat the natural tendency of stock due to the fact that many organizations carry too much inventory and this s very expensive and reduces profitability (Bailey et al 1998).

Efficient inventory management systems save costs and improve profitability, due to the fact that achievement of targeted sales volume and profitability signifies effective inventory management systems used by an organization. Pandey (1998) inventory management systems aim at minimizing inventory costs and the major key issue is the determination of when to order and how much to order (Schreibdefer, 2006). The forecast of demand avoids a firm to experience stock outs, which leads to a fall in sales and loss of customer goodwill. A manager should therefore ensure that there is enough stock to satisfy customers and this will reduce this stock at cost (Kakuru, 2000). Van Home (1995) asserts that with proper management of stock together with other current assets an organization will be able to attain a trade off between profitability and liquidity both of which indicates efficient performance.

A good inventory management system adequately disclose the items in stock which reduces over and under stocking of inventory, lead to purchase of quality items thus lowering inventory related costs leading to high profits an indicator of the efficient performance.

Maintaining appropriate levels of inventory is essential to providing timely products to your customers (Lambert, 2004). It is sale levels that signify the effective efficient position of a firm. The provision of inventory of high quality leads to great sales thus attainment of profitability an indicator of good performance. The more the timeless, the lower the holding and stock out costs thus better performance (Schreibfeder, 2006).

2.5 CONCLUSION

Management systems greatly lead to efficient performance of the firm since inventory (stock) contributes the largest figure in the balance sheet. Maintenance of good inventory management reduces cost, increases sales, which leads to profitability an indicator of performance.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter provides the description of the research design, type and sources of data, data collection, data processing, analysis, presentation and limitation to the study.

3.2 Research Design

The researcher will use analytical research design to analyze qualitative and quantitative data about inventory management systems and performance of Uchumi supermarket. The use of the design is because the study will be based on gathering data from primary sources as well as review of theoretical and empirical literature about inventory management systems and performance of supermarkets. The chosen research design method is the best to be used when carrying out research of this type.

3.3 Sources of data

The researcher used both primary and secondary data. Data will be obtained from management, employees and customers of Uchumi supermarket, and review of literature from textbooks about inventory management systems.

3.3.1 Primary data

This is data the researcher will obtain from respondents of Uchumi supermarket as a case study to find out the effect of inventory management systems and performance of supermarkets.

3.3.2 Secondary data

This is the data gathered from review of literature from textbooks, publications and internet. The researcher used this method to obtain relevant data about inventory management and performance of supermarkets. The use of both sources of data is that, the researcher wanted to gather enough information to come up with genuine findings.

3.4 Data collection techniques

These are methods that were used to collect data from primary and secondary sources. They include the following:

3.4.1 Questionnaires

These are short and simple questions that are designed by the researcher to employees and customers of Uchumi supermarket to tick or fill basing on the research objectives. The questions asked will be open ended where directors, employees and customers will be required to answer by either ticking or filling in the space provided. The use of the design is to obtain primary data about inventory management systems on supermarkets.

3.4.2 Observation

This is where the researcher will visit the case study to view clearly performance of Uchumi supermarket as regards inventory management systems used.

3.4.3 Interview guide

This is a data collection instrument that contains short questions with no alternative answers provided. The instrument is designed to obtain information specifically on particular respondents as desired by the researcher.

3.5 Procedure for data collection

3.5.1 Survey population

The researcher will formulate questionnaires and interview guide and distributed them to the management, suppliers, and employees of Uchumi supermarket about the inventory management systems. The researcher will supply 40 questionnaires targeting responses of 40 people including the management as well as other employees and customers.

3.5.2 Sampling method.

The researcher will randomly interview or give questionnaires to employees, managers and suppliers. The use of the sample size will be aimed at obtaining data from all shareholders of Uchumi supermarket to avoid biased information from directors. This can be illustrated in the sampling frame below.

3.6 Data processing, analysis and presentation

After obtaining data from relevant sources, the researcher edited data for accuracy and completeness. Data was analyzed in line with set objectives of the study. The researcher used Microsoft word and Microsoft Excel to type and analyze data into meaningful information. Frequency tables, pie charts and diagrams were used to present the information in form of a research report.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.0 INTRODUCTION

This section interprets analyses and discusses findings about the study that was carried out to examine the effect of inventory management system on performance of Uchumi supermarket as a case of study. The findings are based on answers that were provided by the respondents in the questionnaires distributed to employees, management and customers of Uchumi supermarket, and findings from empirical and theoretical authors. However, findings were based on research objectives and research questions as stated in section one 1.4 and 1.5 respectively.

Out of 40 questionnaires distributed to respondents, only 30 questionnaires were filled. The researcher based on findings from 30 respondents to provided 100% findings from primary sources of data. The response from primary sources is presented on the table below;

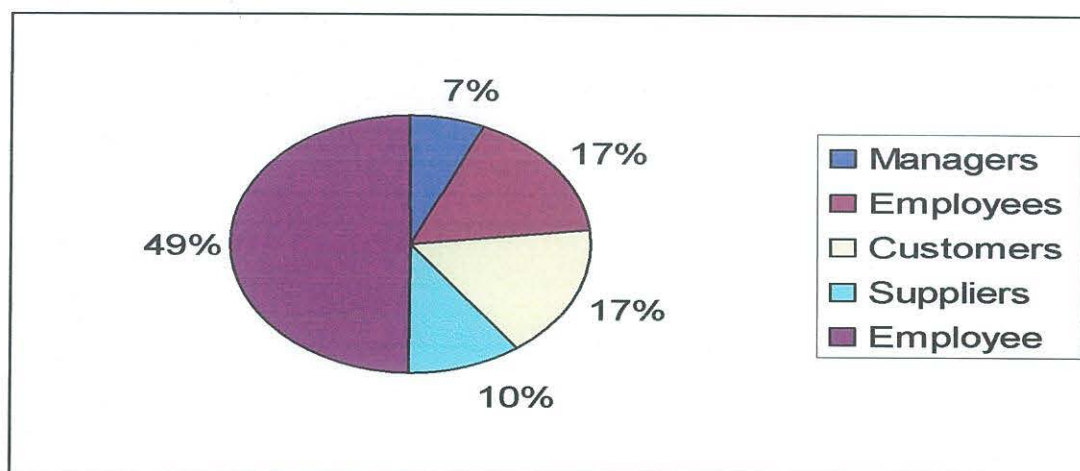
Table 4.1: showing actual response from the questionnaires distributed.

Respondents	Frequency	Response in percentage
Managers	2	6.6
Employees (Market dept)	5	16.6
Customers	5	16.6
Suppliers	3	10
Employee (procurement)	15	50
Total	30	100

Source: Primary data

From the table above, out of 5 questionnaires, which were given to manager, only 2 were answered providing 6.6% response from managers and these were particularly from the procurement department. Out of the 10 questionnaires distributed to employees in the marketing department and customers, only 5 from each category were returned to the researcher making a 16.6 and out of the 5 questionnaires distributed to suppliers, only 3 were answered giving a 10% response. From the analysis of the findings, it can be analyzed that the majority of respondents were employees in procurement department and since our study concerns about procurement, it is a good response to be based on for analyzing the findings.

Figure 4.1 showing response from employees and management of Uchumi supermarket.



Source: Primary data

4.1 Discussion and interpretation of findings

4.1.1 Objective one: Inventory management systems used by Uchumi supermarkets

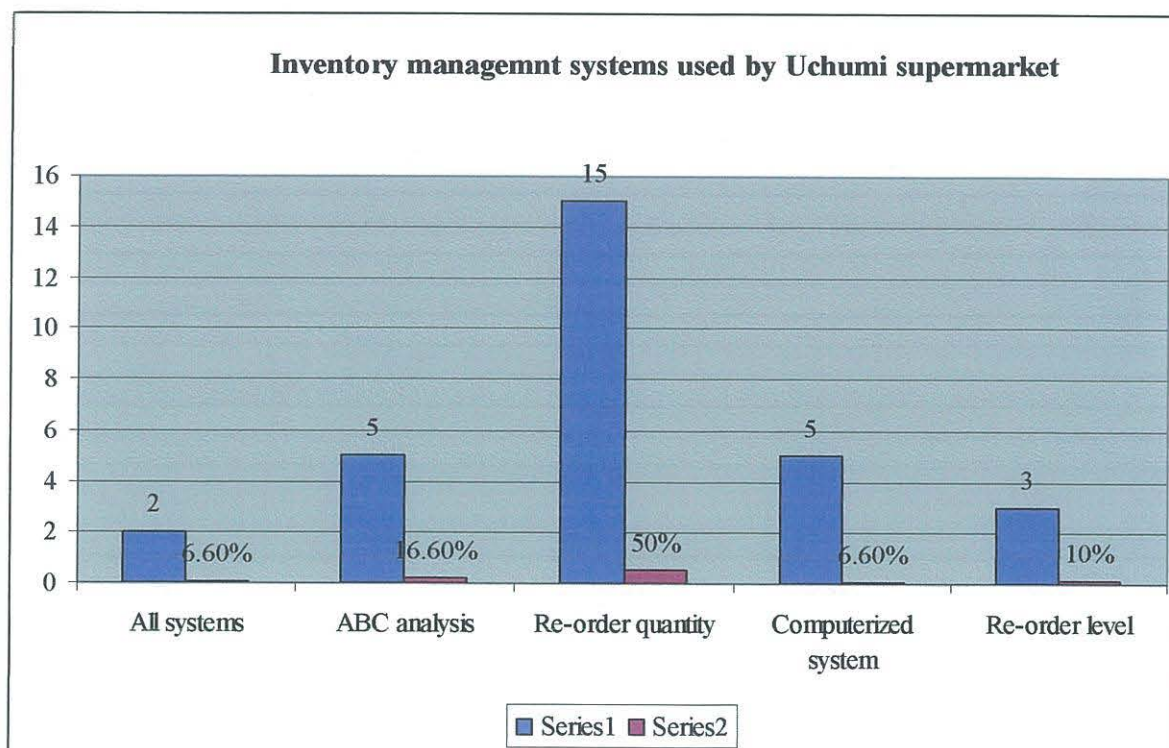
About the techniques used to manage stock of Uchumi supermarket, findings from respondents revealed that the supermarket uses Re-order level method whereby it stocks products commonly demanded by customers, however, findings also revealed that other inventory management systems are used in various departments according to the nature of transaction. The findings from responses are presented in the frequency table below;

Table 4.2: below shows response on the type of inventory management system used by Uchumi supermarket.

Respondents	Inventory management system	Frequency	Percentage
Managers	All systems	2	6.6%
Employees (sales dept)	ABC analysis	5	16.6%
Employees (proc dept)	Re-order quantity	15	50%
Suppliers	Computerized system	5	6.6%
Employee (procurement)	Re-order level	3	10%
Total	30	30	100%

Source: Primary data

From the table 4.2 above, 66% response from managers indicated that Uchumi supermarket uses a number of inventory management systems to maintain stock, that the type in system vary from one department to another, 16.6% response from employees in sales department stated that the department uses ABC analysis to maintain stock. 50% and 10% response from procurement department and suppliers respectively revealed that they use computerized inventory management system since order for stock from South Africa where the main branch is located. The supermarket orders goods once in a while when it is out of stock. 6.6% response from customers did not know the system used to maintain inventory. Findings are presented on the figure 4.2 below;



Source: primary

Basing on the analysis of the findings from the findings from figure 4.2 above, Uchumi supermarket most uses computerized inventory management systems as they order for items from South Africa like other branches like in Kenya use. However, where other commodities can be purchased local at low costs, re-order level system is used to maintain inventory.

From the review of research findings, I can be stated that Uchumi Super market uses a number of inventory management systems but this is based on the demand of the items.

4.1.2 Problems faced when maintaining inventory

When asked employees about the problems they face while managing inventory, they stated that sometimes face a problem of over and under stocking of certain goods and services. They stated that the problem of over stocking occurs when the supermarket orders for many goods yet some times the demand may be low yet most of the goods are perishable. The supermarket incurs losses of the goods expired. The problem of over stocking also led the Uchumi supermarket to suffer a big loss when the supermarket caught fire in November and most of the stock damaged (Kyakutetera, 2006). This showed a weakness in the inventory management used.

When asked management on the strategies to be used to over come the problems of over and under stocking which led to problems like increase in costs, loss of target profits, and accidents, one manager said that they were still formulating new strategies.

4.2 Objective two: Determinants of supermarket performance

Findings from respondents revealed that the supermarket determines its performance according to the fulfillment of each department's task to achieve the set objective or goal of the organization. According to sales department, determines its performance if sales are high, the procurement department determines performance if it maintains a quality inventory that is efficient and effective among other department. This can be seen from the table below;

Table 4.3: showing the determinants of supermarket's performance

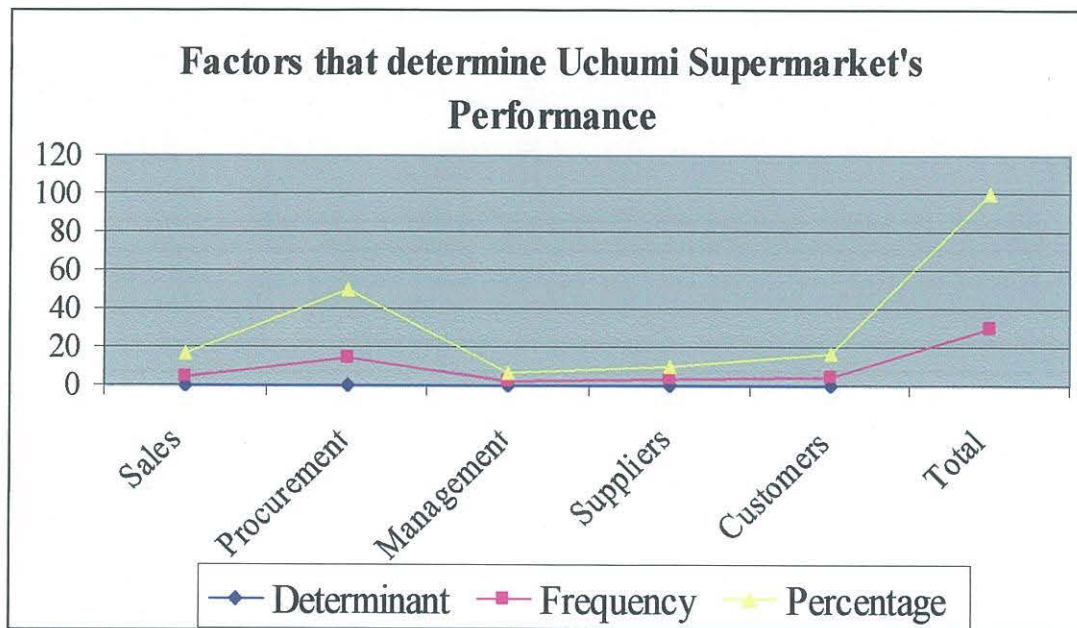
Department	Determinant	Frequency	Percentage
Sales	Level of sales volume	5	16.6
Procurement	Quality inventory	15	50
Management	Achievement of organization goal	2	6.6
Suppliers	Adequate stock	3	10
Customers	Satisfaction	5	16.6
Total		30	100

Source: Primary data

From the table 4.3 above, 16.6% from sales department stated that level of sales volume determine their performance, 50% response making it 100% response from procurement indicated that performance is determined when the systems or techniques used to maintain inventory are efficient and effective. The two managers who responded revealed that management of an organization determines organization's

performance when all departments work towards achievement of set objective for instance profitability, market share among others. 10% response from suppliers said that they determine supermarkets performance when adequate inventories are maintained and when asked customer how they determine performance of supermarket stated that satisfaction of goods and services of the company's products make them loyal meaning that they always come back and buy.

Figure 4.3 showing determinants of Uhumi supermarket performance



Source: Primary

From the graph above, the 50% response indicate that procurement department determines the performance of supermarket when quality inventory management systems are used to achieve the desired organization's goal.

From of review of empirical and theoretical literature about the determinants of performance, different authors revealed that;

An organization performance is determined by factors such as organization's structure and desired objectives to be achieved, strategic positioning of resources and human resources (Vaile, 2006).

Coyler (2006) asserted that a firm's performance is determined by profits, productivity or sales volume of goods and services. However, Balunywa (2003) stated that among the indicators mentioned above, it is profit that stand as out, as the most important variables for determining business performance as the rest of variables are just subjective.

Basing on the primary and secondary analysis of the study, performance can be determined by profits, sales volume, and market share among others. Although finding from primary data perceived determinants according to the role of different department, all the departments' objectives are based on the achievement of organization's goals. Therefore, management's determinants of performance are fulfilled by the departments although each department has different role to play in achievement of targeted performance (objectives).

4.2.1 Factors that hinder performance of supermarket

Findings revealed that unexpected demand from customers; poor management decision, high demand, and poor inventory management systems are the major factors that hinder Uchumi supermarket's performance.

Table 4.4: shows factors that hinder performance of Uchumi supermarket

Category of respondents	Frequency	Nature of Response	Percentage
Managers	4	Unexpected demand	13.3
Employee (sales dept)	3	Poor management decision	10
Employees (procurement)	10	Poor inventory management	33.3
Daily customers	6	High demand	20
Retailers	8	Poor inventory management	26.6
Total	30		100

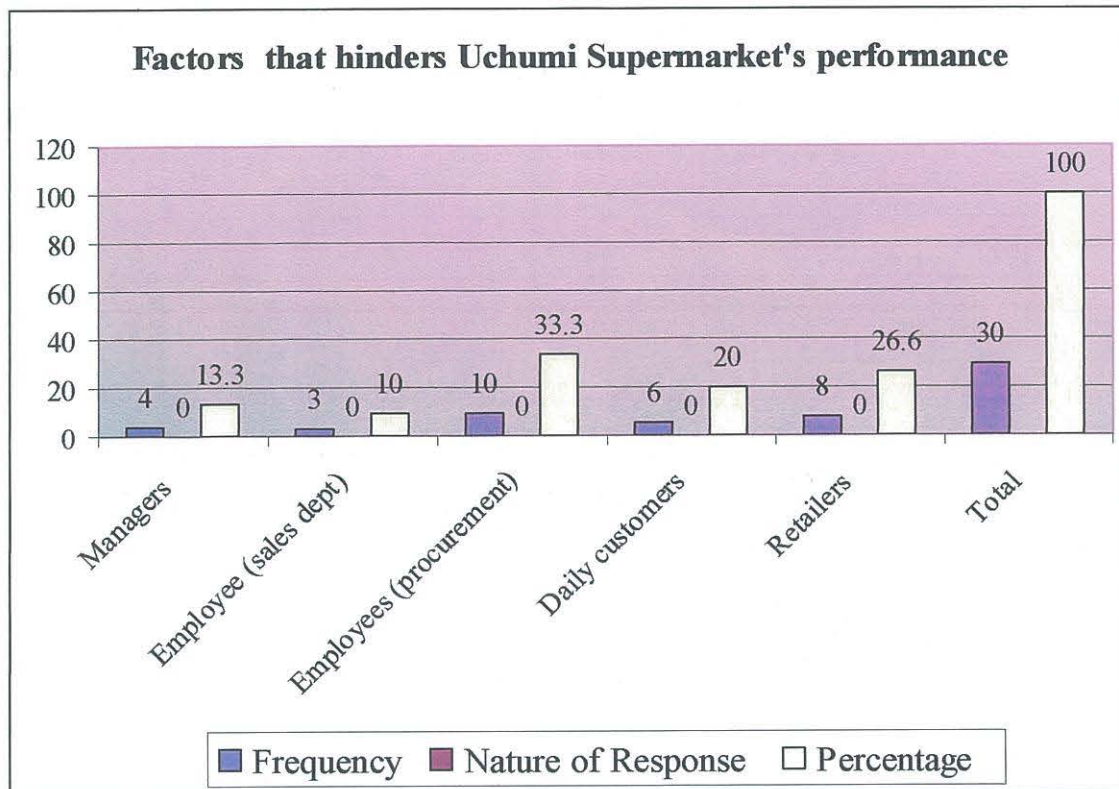
Source: Primary data.

About the factors that hinder supermarket's performance, 13.3% findings from managers revealed that unexpected demand from customers affect performance. 10% findings from employees particularly sales department stated that poor management decision hinder their targets sales which contributed to 33.3%.

33.3% and 26.6% response from employees of procurement and retailers respectively mentioned poor inventory management systems while 20% indicated high demand from customers affect level of inventories maintained and sometimes it is the cause of over or under stocking both of which affect Uchumi supermarket's.

The total of 60% response of both employees in procurement and retailers shows that poor inventory management systems used by Uchumi supermarket is the major hindrance of supermarket's performance. This is shown in the diagram II below;

Figure 4.4 showing factors that hinders Uchumi supermarket performance



Source: Primary data.

About the effect of inventory management on performance of an organization, study revealed that inefficient inventory management leads to loss of loyal customer, loss of targeted sales, profitability, and payment of redundant employees and obsolescence of machines.

4.3 Relationship between inventory management systems and performance of Uchumi supermarkets

Findings from response revealed that inventory management systems are strongly related to organizations performance as shown in the table below;

Table 4.5: showing the response on the relationship between inventory management.

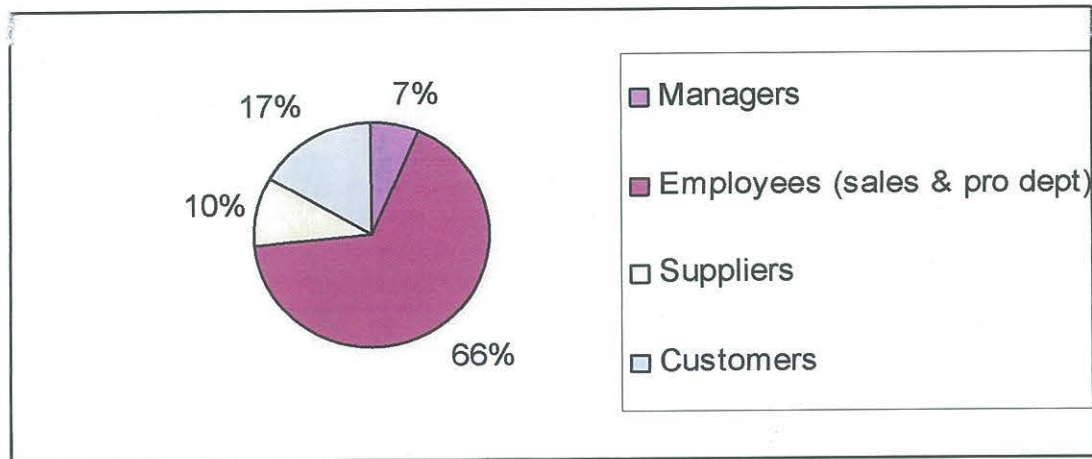
Respondents	Frequency	Nature of response	Percentage
Managers	2	Disagree	6.6
Employees (sales & pro dept)	20	Strongly agree	66.6
Suppliers	3	Agree	10
Customers	5	Not sure	16.6
Total	30		100

Source: Primary data

From the table 4.5 above, 66.6% response from employees of marketing and procurement departments strongly agreed that inventory management is correlated with Uchumi supermarkets performance, 10% response from suppliers also agreed but 20% of customers were not sure yet 6.6% response from suppliers also agreed but 20% of customers were not sure yet 6.6% response from managers disagreed that inventory management have no relationship with performance.

The disagreement between managers and employees is based on the fact that manager's determinant of performance differ from one department to another although these department work in achievement of organizational objectives or goals. The response is presented in the figure 4.5 below;

Figure 4.5 showing relationship between inventory management and performance of Uchumi supermarket



Source: Primary data

From the empirical and theoretical literature about the variables, many authors also supported about the existence of relationship between inventory management systems and performance as presented above.

Campsey, (1998) stated that, inventory management systems ensure that adequate stock of goods are maintained by the firm, good quality, bought at fair prices and stored or issued for use within minimum amount of capital tied up hence enhancing effective performance. This shows that an organization's performance can not be effective without performance of a quality inventory management system.

It is possible for a company reduce levels of inventories efficiently to a considerable degree of say 10-20% without any adverse affects on production and sales by using simple inventory planning and controlling techniques. Unwanted inventory must therefore be systematically displaced because they add to holding costs, administrative

insurance, record files and the capital which when all reduced can lead to increased efficient performance (Macharia, 2006).

Efficient inventory management systems save costs and improve profitability signifies effective performance of an organization. Pandey (1998) inventory management systems aim at minimizing inventory costs and the major key issue is the determination of when to order and how much to order (Schreibdefer, 2006). The forecast of demand avoids a firm to experience stock outs, which leads to a fall in sales and loss of customer good will.

Kakuru (2000) asserted that with proper management of stock together with other current assets an organization will be able to attain a trade off between profitability and liquidity both of which indicates efficient performance.

A good inventory management system adequately disclose the items in stock which reduces over and under stocking of inventory, lead to purchase of quality items thus lowering inventory related costs leading to high profits an indicator of the efficient performance (Van Home, 1995).

Maintaining appropriate levels of inventory is essential providing timely products to your customers (Lambert, 2004). It is the quality levels of inventory levels that signify the effective and efficient position of a firm. Maintenance of a good inventory leads to

attainment of organization's objective of attaining profitability an indicator of good performance (Schreibfeder, 2006).

4.4 Conclusion

Basing on the information given from primary and secondary sources, it is evident that inventory management leads to effective and efficient performance of an organization. Thus, inventory management systems are a great contributor of an organization's performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS OF FINDINGS

5.0 INTRODUCTION

This chapter presents conclusions of major findings and recommendations that were respect to the findings of the study regarding the effect of inventory management and performance of supermarkets, focusing Uchumi supermarket as a case study.

5.1 SUMMARY OF THE FINDINGS

From the discussion and interpretation of findings on the effect of inventory management and performance of supermarket, findings from primary and secondary sources of data revealed the following basing on the objectives.

About the type of inventory management systems kept by Uchumi supermarket, findings from employees revealed that the supermarket uses re-order level of system to maintain stock of goods. The supermarket uses the system because it orders most of its inventory from South Africa where its headquarters are located. However, other goods are supplied by local firms especially perishables.

When asked about the problems faced by Uchumi supermarket, findings revealed that the supermarket's problem emanates from poor inventory management systems used. There is over and under stocking of products which leads to increase in holding and

ordering cost, failure to meet customer's demands, or loss of stock in accidents like fire, wastages among others.

About the indicators of Uchumi supermarket performance, findings revealed that several departments have different indicators of performance depending on the role they play towards achievement of organization's objectives. But for the case of our study, the procurement department stated that, good performance is attained when inventory management systems used, maintain adequate stock of goods either for sale or otherwise.

However, from the review of empirical and theoretical literature about the findings, the study revealed that performance of an organization is reflected in achievement of set goals targeted profits, sales, market share among others. Uchumi supermarket should therefore design an equitable quality of inventory management that will help to achieve its set objectives.

About the relationship between inventory management systems and performance, respondents from the case study agreed that inventory management and performance as independent and dependent variables are correlated. Findings from a wide range of literature from different authors also strongly agreed that inventory management and performance of organizations are related variables.

5.2 CONCLUSION

From the review of findings about the study, it is evident that a good inventory management is one of the best contributors of firm's performance, because maintaining of quality inventory reduces cost, wastage and inefficient performance of other departments within the organization and enables decision makers on issues like what quantity to order, when, why, and how to optimize stock which results in good performance. This makes the two variables strongly correlated.

5.3 RECOMMENDATIONS TO THE STUDY

Uchumi supermarket should use quality inventory management like Just in Time so as to reduce risks associated with other systems of inventory management. This will enhance its performance as holding costs, recurring and fire guts will be reduced.

Uchumi supermarket should recruit qualified employees to manage and implement quality inventory management systems. This will help the supermarket to maintain optimum levels of stock thereby enhancing performance.

The company should put measures on how to prevent set backs in case risk occur like purchase of fire extinguishers in stores train of employees on hoe to overcome inventory related risks.

5.4 Anticipated limitation of the study

- i. Data collection methods used to obtain information was costly as it involved design of questionnaires and interview guide. The costs in terms of type setting, printing and transport to distribute and collect questionnaires from the respondents seems to be high. However, this will be done by minimizing the cost for effective data collection.
- ii. The use of analytical design consumed a lot of time as the researcher was required to analyze clearly data from both primary and secondary sources yet the study had to be carried out in a very short period.
- iii. Poor response. Some respondents could not reveal the required information with fear that I am an agent of competitors. This limited me from obtaining needed information

5.5 Area of further study

The researcher feels that with time limit albeit the costs involved in carrying out research, the following areas should be investigated.

- The effect of inventory management on profitability of an organization
- The effect of computerized inventory management on organization's performance
- Effect of inventory management systems on stock outs of supermarkets.

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APPENDIX I: QUESTIONNAIRE

Dear Sir/Madam,

I am a student of the above University pursuing a Bachelor's degree in supply and procurement. Am carrying out research under the topic "the effect of inventory management systems on performance of supermarkets focusing on Uchumi supermarket as my case study." This questionnaire is aimed at obtaining information for academic purposes only. The survey and all answers given by the respondents are completely confidential.

Please tick or answer in the space provided

1a) Name of the respondent (optional).....

Position held

a) Store keeper ☐

b) Procurement officer ☐

c) Accountant ☐

d) Manager ☐

e) Customer ☐

f) If any other, please specify.....

2a) Do you have inventory management systems in your organization?

Yes ☐ No ☐ Not sure ☐

b) What type of inventory management systems do you have?

- i. Just in Time ☐
- ii. ABC analysis ☐
- iii. Computerized inventory management system ☐
- iv. Re-order quantity ☐
- v. All the above ☐
- vi. Not sure ☐

c) What problem (s) do you face when managing inventory management systems?

- a. Over stocking ☐
- b. Under stocking ☐
- c. Both the above ☐
- d. Do not know ☐

If any either, please specify.....

d) How has management tried to solve the problem (s)?

.....

.....

.....

3a) Do you use records to control stock?

Yes ☐ No ☐

b) What types of records do you use?

- i. Bin cards
- ii. Goods received note

iii. Purchases net

☐

iv. Receipts

☐☐☐

v. Vouchers

☐

c) Who is responsible for recording inventory to stock?

a) Store keeper

b) Manager

☐

c) Procurement officer

☐☐

d) Accountant

☐☐

e) All the above

d) What steps has management of Uchumi supermarket done to solve inventory management problems?

.....

.....

.....

e) What are the indicators of performance?

a. Increased sales

b. Profitability

☐

c. Maintenance of quality inventory management

☐☐

d. Non of the above

☐

If any other, specify.....

f) How long does management take to evaluate performance?

- i. Annually ☐
- ii. Quarterly ☐
- iii. Semi annually ☐
- iv. Every month ☐

If any other, specify.....

g) What are the causes of poor performance?

- a) Poor decision from management ☐
- b) Lack of capital to order for enough stock ☐
- c) Poor inventory management systems ☐
- d) High customer demands ☐
- e) Not sure ☐

h) What should Uchumi supermarket do to maintain inventory management system?

- i. Increased capital ☐
- ii. Use Just in Time method ☐
- iii. Use of appropriate inventory system suitable for particular inventory ☐
- iv. Recruitment of qualified staffs ☐

5a) What are the effects of poor inventory management systems on performance of an organization?

- i. Loss of loyal customers ☐

- ii. Loss of targeted sales ☐
- iii. Loss of profitability ☐
- iv. Paying of redundant workers ☐

If any, specify.....

Compare Uchumi supermarkets inventory management systems to those of other supermarkets

- a) Excellent ☐
- b) Good ☐
- c) Average ☐
- d) Poor ☐

Is there a relationship between inventory management systems and performance?

- a) Strongly agree ☐
- b) Agree ☐
- c) Strongly disagree ☐
- d) Disagree ☐

INTERVIEW GUIDE

1. Name the department do you belong?.....
2. What type of inventory management system do you maintain?.....
3. What is your responsibility as regards inventory management?.....
4. As an employee what contributions have you made to the success of the inventory?.....
5. What problem (s) do you face when managing inventory management systems?...
6. How has management tried to solve the problem(s)?.....
7. Do you use records to control stock?.....
8. Who is responsible for recording inventory to stock?.....
9. What steps has management of Uchumi supermarket done to solve inventory management problems?.....
10. How long does management take to evaluate performance?.....
11. What do you think should the causes of poor performance of the supermarket?.....
12. As a customer how do you evaluate performance?.....
13. What are the effects of poor inventory management systems on performance of an organization?.....
14. Is there a relationship between inventory management systems and performance?.....
15. Compare Uchumi supermarket's inventory management systems to those of other supermarkets.....

Thank you

RESEARCH PLAN

Activity	Period (Months)					
	JAN	FEB	MAR	APR	MAY	JUN
Choosing a topic	→					
Approval		→				
Data Gathering from secondary sources		→				
Presentation of proposal		→				
Preparation of questionnaires				→		
Data collection from primary source				→		
Analysis and presentation					→	
Handing over the report for making						→