EFFECTS OF EFFECTIVE INVENTORY MANAGEMENT ON PERFORMANCE OF BUSINESS OUTLETS

(A CASE STUDY OF MANDERA COUNTY, KENYA)

BY

MOHAMEDRASHID MAALIM

Submitted in Partial Fulfillment of the Requirements for the Award of Masters of Arts Degree in Project Planning and Management of the University of Nairobi

2017
DECLARATION

I declare that this is my original work, and has not been submitted to any other institution

SIGN………………………………..                                              DATE…………………………

MOHAMEDRASHID MAALIM
REG NO L50/85304/2016

Approved by the supervisor

This research project was submitted for examination with my approval as a university supervisor.

SIGN………………………………..                                              DATE…………………………

MR.NAVERT AVUTSWA
LECTURER
UNIVERSITY OF NAIROBI
DEDICATION

This research work is dedicated to my beloved wife; Saadia Ibrahim Yussuf, children; Muadh, Yahya, Aisha & Saad, my dad; Maalim Ahmed Adan
ACKNOWLEDGEMENT

I thank the almighty God for giving me the knowledge, opportunity, good health and strength during my study period.

Special thanks go to my supervisor Mr. Navert Avutswa for his professional advice; constructive criticism and wonderful insight that made me achieve my objective of this study.
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LIST OF ABBREVIATIONS AND ACCRONYMS

IT - Information Technology
JIT - Just In Time
FIFO - First in First Out
MRO - Material Repair Operations
GOK - Government of Kenya
ABSTRACT

This study was set to investigate the effects of effective inventory management on performance of Business outlets in Mandera town. Specific objectives were to determine the effects of information technology on effective inventory management in retail outlets, to find out the effects of effective inventory management to customer satisfaction, to determine the relationship between staff skills and effective inventory management, to identify the effects of documentation system on effective inventory management. The researcher used descriptive survey research design for fact-finding study. The research design enables a researcher to gather data at a particular point on time and use it to describe the nature of the existing conditions. A sample of thirty six (36) workers was selected to participate in the study which was thirty percent (30%) of the target population). Simple probability sampling technique was used where the respondents had equal probability of being selected as a representative of the target population. The study revealed that 67% of the respondents were male while the female constituted 33%. The business outlets adhered to the requirement of 30% of either gender. 37% of the respondents had an age of 31-35 years, 33% had an age of 26-30 years, and 17% had less than twenty five (25) years while 13% had over 35 years. That could imply that majority of employees in business outlets were middle aged probably reason being they tend to retain their employees or employ experienced staff from other sectors. 37% of the respondents were certificate holders, 33% were diploma holders and worrying 7% were masters holders. It showed that most of work in retail outlet was manual work which required less academic qualification. The study further revealed that 67% of the respondents supported usage of IT, 20% did not support the usage where 13% were not sure who could be the cleaners. 63% of the respondents supported the innovation of new technologies while 37% never supported the innovation that could be rigid to change. It was also established that 60% of the respondents said that they were satisfied and those who stated that they were very satisfied and not satisfied had the same percentage. That showed that the services offered by the outlets were recommendable. The study also revealed that a large number (70%) of the respondents were general workers while a small number (7%) were managers. It could be stated that most of the staff were general workers and the percentages of the year of service were almost equal. That showed that the business outlets maintained almost equal number of workers who had served for specific years. The study revealed that 77% of the respondents said that the documentation systems were effective and efficient where only 3% were not sure. That led to effective inventory management. A large number (93.3%) of respondents agreed that improved inventory management helps identify clients’ needs and preferences by business outlets since the owners of business are able to identify the fast moving goods hence making them available all-time leading to high customer satisfaction. On the question on whether improved inventory management reduces stock wastage, 90% of the respondents strongly agreed showing that business outlets are able to track the movement of their goods hence avoiding overstocking which leads to wastage. An equal number 50% of the respondents agreed and strongly agreed that Improved inventory management leads to easy storage and retrieval of materials. This showed that most of business people in Mandera town use coding method for easy identification of their good leading to less time wastage while serving their customers hence high customer satisfaction.
CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Companies face a dilemma in today's competitive marketplace, where on one hand, customers demand customized products and services and require that their orders are filled quickly, but on the other hand they do not want to pay a premium for this customization and availability (Graman and Magazine, 2006). Therefore, organizations are exploring ways toward postponement strategy in response to constantly changing demands (Yang et al, 2004). Graman and Magazine (2006) argued that today, the cost of holding inventory, extensive product proliferation and the risk of obsolescence, especially in rapidly changing markets, make the expense of holding large inventories of finished goods excessive and that high demand items naturally have safety stock assigned to them, but in many organizations there are so many very-low-demand items that keeping any stock of these items is unreasonably expensive, so they argue that companies must now provide good service while maintaining minimal inventories. Therefore, inventory management approaches are essential aspects of any organization.

In traditional settings, inventories of raw materials, work-in-progress components and finished goods were kept as a buffer against the possibility of running out of needed items. However, large buffer inventories consume valuable resources and generate hidden costs. Consequently, many companies have changed their approach to production and inventory management. Since at least the early 1980s, inventory management leading to inventory reduction has become the primary target, as is often the case in just-in-time (JIT) systems, where raw materials and parts are purchased or produced just in time to be used at each stage of the production process. This approach to inventory management brings considerable cost savings from reduced inventory
levels. As a result, inventories have been decreasing in many firms (Chen et al., 2005), although evidence of improved firm performance is mixed (Kolias et al., 2011).

The role of inventory management is to ensure faster inventory turnover. It increases inventory turnover by ten (10) and reduce costs by 10% to 40%. The so called inventory turnover is not yet right to sell products on the shelves based on the principle of FIFO cycle (Kenneth lysons and Michael gilligham, 2003).

Inventory is classified basing on the business undertaking from organization to organization. Common criteria used and are nature of inventory for example manufacturing, sale or retail, purpose for which inventory is being held in stock or function and the related usage in the supply chain. Typical classifications are raw materials (items in unprocessed state awaiting conversion e.g. timber, steel and coffee seeds), components and sub-assemblies. These are for incorporation into the end product e.g. side mirrors, glasses for car assembling company and monitors or keyboards for a computer assembling company), consumable (all supplies in an undertaking which are classified as indirect and which do not form part of saleable product. (Divided into production, maintenance, office and welfare). Proper classification of inventory and its control improve the financial position of a business (David Jessop and Alex Morrison 1994).

Inventory management is primarily about specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply network to protect the regular and planned course of production against the random disturbance of running out of materials or goods for improved performance Garry, (1997).

The scope of inventory management also concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventory price forecasting, physical inventory, available physical
space for inventory, quality management, replenishment, returns and defective goods and demand forecasting (Lau A., and Snell, 2006). Inventory management involves the planning, ordering and scheduling of the materials used in the manufacturing process. It exercises management over three types of inventories that is raw materials, work in progress and finished goods. Purchasing is primary concerned with management over the raw materials inventory, which includes; raw materials or semi-processed materials, fabricated parts and MRO items (Maintenance, Repair and Operations) Garry, (1997).

However, Lau and Snell (2006) argued that inventory management is primarily about specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply network to protect the regular and planned course of production against the random disturbance of running out of materials or goods for improved performance. The scope of inventory management also concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventory price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns and defective goods and demand forecasting.

Poor inventory management had become an issue of great concern since performance is regarded as the main stream for development of organizations. A truly effective inventory management system minimizes the complexities involved in planning, executing and controlling a supply chain network which is critical to business success. The opportunities available by improving a company’s inventory management can significantly improve bottom line business performance.
According to Jayeff, (1998) argued that from a financial perspective, inventory management is no small matter. Oftentimes, inventory is the largest asset item on a manufacturer’s or distributor’s balance sheet. As a result, there should be a lot of management emphasis on keeping inventories. The objectives of inventory reduction and minimization are more easily accomplished with modern inventory management processes that are working effectively for improved performance. The inventory management is much more complex than the initiated understood. In fact, in soft drinks industry the inventory control department is perceived as little more than a clerical function as it is probably not very effective. The result of this to inventory management is lots of material shortages, excessive inventories, high costs and poor customer service (Briers, 1995).

Too much inventory and not enough customer service are very common, but unnecessary. There are proven techniques that can help accurately industry customer demand and to calculate the inventory needed to meet defined level of customer service. Using the right techniques for sales forecasting and inventory management help to monitor changes and respond to alerts when action needs to be taken. The right approach to inventory management can produce dramatic benefits in customer service with lower inventory (Kreg, Cristine, 2007).

Modern inventory management in retail outlets industry utilize new and more refined techniques that provide for dynamic performance of inventories to maximize customer service with decreased inventory and lower costs. These improved approaches to inventory management are of major consequence to overall competitiveness where the highest level of customer service and delivered value can favorably impact market share and profits.

However, on the other side business outlets in Mandera County uses different kinds of inventory management, what is not brought out is how such kinds affect the performance of the Company.
This is therefore prompting the researcher to carry the study on the effects of effective inventory management on performance of business Outlets in Mandera County

1.2 Statement of the problem

Inventory management entails all the unified management of those internal activities associated with the acquisition, storage, issue, use and internal distribution of inventory used in the production and provision of services. It is the activity of determining the rate, quantities and the procedures of materials to be stocked in an organization and regulation of receipts and issues of those stocks (Sople, 2010). Many firms have had a persistent problem in establishing the right inventory levels and they have thus turned to computerizing their systems so as to achieve a balance between responsiveness and efficiency.

Allan and Remko (2002) researched on how to establish inventory levels of gifts and decorative accessories in beauty shops and established that companies that make good use of Electronic Data Interchange (EDI) are far much better equipped to succeed than those which rely on outdated methods of inventory control. The research however fails to explain how using such a powerful system would assist the firms increase their profits, improve their service delivery levels and reduce the total operation costs for the firms. Godwin (2003) also did a research on the performance driven in production planning and inventory control to process choice, and established that inventory tracking system might constitute a wasteful use of financial resources. But for the other firms operating in industries, it can result in effective inventory management. It has been established that there are many benefits that accrue from efficient utilization of computerized inventory control systems, the major one being meeting anticipated customer requirements. However, many manufacturing and retail firms are not aware of the systems that can assist them in managing inventory (Eskow, 2005).
Business outlets in Mandera County are generally for retail and wholesale purpose and deal with merchandise such as food stuff, textiles and pharmaceuticals. Inventory management at business outlets in Mandera County is seen in arrangement of goods on shelves, packaging of materials, buying of stock, supply of customers and keeping of stock registers.

The techniques for inventory management adopted by a business entity may impact on its performance positively or negatively. For the decision making on stock, points on materials required and branding of stock for the fast, moving products is done by different kinds of systems in the inventory management that includes the integrated system (Supply Chain Manager Coca Cola Company- Mbarara, 2009). However these techniques for inventory management at Coca-Cola for example, performance of the company had reduced from 80% to 60% in the years 2008 and 2009 respectively. Based on the above information, Coca Cola have registered decline in sales performance over time (Arinaitwe, 2009).

The study therefore was set to investigate the effects of effective inventory management on performance of business outlets in Mandera County

1.3 purpose of the study

This study was set to investigate the effects of effective inventory management on performance of Business outlets in Mandera County

1.4 Objectives of the study

This study was guided by the following objectives;

1.4.1 General objective

To investigate the effects of effective inventory management on performance of Business outlets in Mandera County
1.4.2 Specific objectives

i. To determine the effects of information technology on effective inventory management in business outlets

ii. To find out the effects of effective inventory management to customer satisfaction in business outlets

iii. To determine the relationship between staff skills and effective inventory management in business

iv. To identify the effects of documentation system on effective inventory management in business outlets

1.5 Research questions

The researcher sought to answer the following questions;

i. How does information technology affect effective inventory management in business outlets?

ii. What are the effects of effective inventory management to customer satisfaction in business outlets?

iii. What is the relationship between staff skills and effective inventory management in business outlets?

iv. How do documentation systems affect effective inventory management in business outlets?

1.6 Significance of the study

The research findings will help the business outlets in the country to improve and adopt the best inventory management systems. The findings will also benefit academicians interested in
inventory management and will be used as reference. The stakeholders will also benefit from the research findings to enable them make sound decisions.

1.7 Limitations of the study

In carrying out the study, the researcher was faced by the following major limitations;

i) Unwillingness of the respondents to disclose all the information concerning inventory management in business outlets in Mandera County due to fear of being victimized.

ii) Lack of enough time to carry out the research considering that the researcher is an employed person.

1.8 Assumptions of the study

The researcher had the following assumptions during the study;

i) That the responses given will be true and correct.

ii) That the respondents will be willing to respond to the questionnaires

iii) That the sample will be an accurate representative of the target population

1.9 Definitions of significant terms

Inventory- refers to the stockpile of production a firm is offering for sale and the Components that make up the production.

Management-this is the effective planning, organizing, staffing, leading or directing, and controlling in an organization or initiative to accomplish a goal in an organization

Customer-this is the buyer or user of the paid products of an individual or organization, mostly called the supplier or seller. This is typically
through purchasing or renting goods or services. It is also the person or group that is the direct beneficiary of a project or service.

**Documentation** - a set of documents provided on paper or online or on digital or analog media such as audio-tape or CDs.

**Retail Outlet** – a store that sells smaller quantities of products or services to the general public.

**1.10 Organization of the study**

This study is organized into five chapters. Chapter one covered background of the study, statement of the problem, the purpose of the study, objectives of the study, research questions, assumptions of the study, limitations of the study as well as the definitions of significant terms. Chapter two consist of literature review of researches done by other researchers on the topic. Chapter three dealt with the research design, target population, sample and sampling techniques, the research instruments, their validity and reliability, methods of data collection. Chapter four captures the data presentation, analysis and interpretation while chapter five gives the summary of the findings of the study, conclusions and recommendations of the study and suggestions for further studies.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
The purpose of this chapter is to review literature and theoretical framework of inventory management, which is the management of the largest single investment in assets for most retail outlets.

2.2 Effects of effective inventory management on performance of Business outlets in Mandera County

2.2.1 Effects of information technology
“Inventory management” and “investment in information technology” have generated great interest in the academic and business press in recent years because of the substantial monetary expenditures involved. In October 2006, the total adjusted inventory in the United States (U.S.) was $481 billion for all manufacturers, $492 billion for retailers, and $393 billion for wholesalers. Similarly, investments in information technology (IT) increasingly account for a larger proportion of capital expenditures in U.S. companies, exceeding 50% in 2000 and comprising more than $400 billion (Carr, 2003). In the present study, we examine two important questions associated with IT investment’s impact. We first analyze whether increased IT investment has led to improved inventory performance. Then, we study the role of inventory performance between information technology and financial performance.

Our research is motivated by the following observations. First, while IT investments impact on a firm’s inventory and/or financial performance has been extensively studied in several academic disciplines, few studies have linked all the three variables (i.e. IT investment, inventory, and
financial performance) simultaneously. We fill this gap by holistically examining the empirical associations among these three constructs, using longitudinal data that span four decades.

Second, the empirical evidence supporting the effect of IT investment on financial performance is mixed (Kohli and Devaraj, 2003), prompting researchers to coin it the “profitability paradox” (Dedrick et al. 2003). Carr (2003) argues that large investments in IT don’t result in higher performance and are not a source of competitive advantage because IT is not a rent yielding resource in a “resource based view” sense, but it is an infrastructure that is easily imitable and, at best, provides only a rapidly eroding advantage to firms. Other IT researchers note that instead of directly affecting a firm’s financial performance, IT investment’s impact is indirect through intermediate operational performance related to inventory turnover, product quality, and plant productivity (Banker et al. 1990; Barua et al. 1995; Melville et al. 2004). The mediating role of operational measures between IT investment and financial performance is formalized as the “process-model” in the IT literature. The process-model explicitly specifies that IT investment leads to better financial performance indirectly through improving operational performance. In linking IT investment, inventory and financial performance, we aim to examine the process-model beyond its manufacturing origins into the retail and wholesale sectors.

Third, previous studies have examined relationships among IT investment, inventory and financial performance with firm level data. In their meta-analysis of the IT literature, Kohli and Devaraj (2003) concluded that the impact of IT investment is most likely to be detected in manufacturing industries. Further, they noted that IT investment’s impact is easier to observe with primary data at the firm level than with secondary data at higher levels of aggregation. In contrast, organization systems scholars suggest that similar relationships may exist at multiple levels of an organizational system (Duncan, 1972). Multi-level organization system researchers use homologous models to
represent parallel homological networks among similar constructs across different levels of analysis (Chen et al., 2005). Identifying such cross-level relationship is of considerable importance to theory building (Rousseau, 1985; Barney, 1992; Hack man, 2003) because they signal a boundary condition; however, empirical analysis of such relationship remains scarce (Chen et al., 2005).

### 2.2.2 Effects of effective inventory management to customer satisfaction

Morgan & Rego (2006); Fornell et al (2006) define customer satisfaction as a measure of a firm's customer base in terms of size, quality and loyalty. Customer loyalty and product repurchase are as a result of customer satisfaction (Eckert, 2007). Among the several ways that an organization can employ to service its customers are through information management and customer collaboration (Langly and Halcomb, 1992) Satisfaction according to Eckert (2005) refers to the quality of the products, services, price performance ratios as well as when a company meets and exceeds the requirements of the customer. Manufacturing organizations may identify customer satisfaction in terms of on-time delivery as well as meeting customer specification needs (Eckert, 2005). Variables such as customer needs (having the products immediately and on hand to satisfy the customer’s needs), vendor partnerships (sharing of information regarding sales, sales forecasts as well as amount of inventory) and data integrity (data on SKU and location which assists in overall inventory management) (Lee & Kleiner, 2001) often define customer satisfaction among the manufacturing sector. Firms must respond to the changing customers’ needs in the increasing competitive environment (Zhang, 2005). Zerbini et al (2007) asserts that customer satisfaction is one of a firm’s milestones towards profitability. The main focus of companies today is to satisfy the customer which has an impact on the competitiveness of an enterprise (Rad, 2008). Customers’
expectations according to (Howgego, 2002) are largely dependent on the flexibility of the supply chain partners.

### 2.2.2.1 Customer loyalty

Customer loyalty is the act of customers buying current brands repeatedly as opposed to choosing those of competitors (Wyse, 2012). A study carried out by Mitchell (2004) shows that customer satisfaction leads to customer retention which in turn generates a loyal customer base in an organization. Customer loyalty requires that manufacturing companies delivers on their customers’ expectations fully in a predictable and an ongoing relationship (Campton, 2004). Customers often judge the quality of the services that they receive using their perceived expectations which often lead to customer satisfaction and loyalty (Colburn, 2013). According to Cacioappo (2000), an increase in customer loyalty by five percent can lead to an increase in a company’s profits by 25 to 85 percent. Loyal customers according to Eckert (2005) are six times more likely to purchase or to recommend the purchase of a company’s products and services to someone else. Various studies have also shown that dissatisfied customers are likely to tell nine others while satisfied customers are likely to tell five other people about the good service and treatment that they have received (Cacioappo, 2000). Manufacturers need to provide customer purchase satisfaction before and after a purchase since this is likely to lead to customer brand loyalty (Agarwal, 2007).

### 2.2.2.2 Repeat Purchases

Customer loyalty is often manifested in repeat purchases (Allen & Wilburn, 2002). Tuli&Bharadwaj (2009) observes that satisfied customers are likely to adapt a behavior of increase in purchase as well as a continuous purchase from the firm. Agarwal, (2007) asserts that provision of customer purchase satisfaction before and after a purchase results in repeat purchases. Provision
of satisfaction before the actual purchase by the customer would include aspects such as provision of quality products, fair pricing of products as well as flexibility (Amini et al, 2005). Post purchase customer satisfaction on the other hand would include activities such as provision of repair services and efficient operations of reverse logistics (Howgego, 2002).

2.2.2.3 On-time delivery

According to Wallin (2006), customers are more satisfied if the time taken to deliver their products is less than the time they are willing to wait once they have placed an order. Flexibility is paramount in meeting the delivery deadlines (Gunasekara, 2001) and therefore information sharing is required to enable the members of the supply chain to meet specified delivery dates by the customers (Ellram, 1999). A study carried out by Yin-mei (2013) shows that effective customer delivery influences customer satisfaction and service quality. Customers are said to be more satisfied if their suppliers are able to meet and fulfill their orders within the required time (Widding, 2003).

2.2.3 Relationship between staff skills and effective inventory management

Lyson (2000), defines training as “a planned process to modify attitudes, knowledge or skill behavior through learning experience to achieve effective performance in an activity or range of activities”. Its purpose in the work situation is to develop the abilities of the individual and to satisfy the current and future human resource needs of the organization” The authors further say that employees may be trained internally on the job or externally in a college offering different courses. According to GOK Supplies manual, (2010), supplies personnel are the direct custodians of government stores and assist in achievement of economy in expenditure on supplies by the application of proper stores accounting, prevention and detection of losses, wastage or misuse of stores and disposing of stores in the most advantageous manner to the Government. The manual
therefore recommends that in order to keep costs to the minimum, a supplies organization should ensure that supplies staff are properly trained, supervised and allocated for the work they are required to perform. Baily and Farmer (1980), say that for the supplies function to achieve a superior supply performance, it is necessary to recruit, train and develop personnel with the capacity and motivation to do better work. It is finally assumed that if the above is done each individual person will be able to handle and discharge in a professional manner the task or responsibility placed on him. Carter and Price (1993), indicate that training of staff is vital if full use is to be made of their abilities and talents. The authors stress that labour is a very expensive resource and therefore it makes good economic sense to make full use of it. Incompetent employees can render an organization virtually ineffective. Recruitment of the right kind of people in the organization and their training should therefore be done. The issue of personnel planning is aptly put by Cole (1997), who says that it is important to ensure that sufficient numbers of the appropriate caliber of people is available to the organization in pursuit of its objective.

### 2.2.4 Effects of documentation system

According to Jessop and Morrison (1994), a stock record system is the means of capturing and storing information and a facility for the analysis and use of this information so that the operation of the stores function and the control of stock can be performed in an efficient manner. The author further says that the system of stock recording and the mechanism for the use of recorded information must be very carefully selected. Records and techniques should be appropriate to the items in question and the cost implication taken into account. An organization should carefully choose the best system suitable to it to avoid a situation whereby a lot of money would be spent on maintaining a very expensive system for items of low value. A stock record system can be manual or computerized. Cole (1997), defines a stock record system as a formal set of records that
contain information about stock held within the stores system. The range of this information will depend upon the system employed and the scope of the operation. However, there are basic functions which every stock record system should aim to cover the fundamental one being data held at any given time. It is because of the wide range of information held within a good record system that Carter and Price calls it the “clerical memory”.

Inventory personnel must review various inventory records to ensure accuracy. During the review, they should ensure that quantities are legible and have a correct unit of issue, and that all added items are identified and legibly recorded. Enter any remarks legibly and state them explicitly, Jessop and Morrison (1994). Physical inventory procedures include comparing the inventoried quantities with the quantities in stock records to check if there are differences. If the inventory and stock record quantities match, post the inventory and date of inventory in the stock records. Also, enter the inventoried quantity in the stock record to reflect the on-hand balance. If differences exist, stock control personnel should reconcile the records. Reconciliation is the process of resolving inventory discrepancies. Reconciliation process consists of several steps. It is dependent upon the type of material, cost, and the circumstances that led to a discrepancy, Carter and Price (1993). A major difference exists when the physical count of a stock item differs from the confirmed stock record balance by 10 percent or more. A minor difference exists if the count differs less than 10 percent. Adequate, updated and correct inventory records are to be set up and maintained in stores. All transactions of all inventories are to be properly documented and sufficient audit trail is to be submitted. In the classification of the items, the same definitions should be used. These guidelines should apply to all non-expandable and attractive items, Carter and Price (1993). According to the GOK Supplies Manual, (2010), Storekeepers must verify the issue request before issuing the items and require the receiving staff to acknowledge receipt on the form.
with a copy sent to the accounts section. Issue stocks on a “first-in first-out” basis, particularly for items with an expiry date or a limited shelf life is recommended and Update the inventory movement records without delay. According to the GOK Supplies Manual,(2010), it is important for a stores organization to have a common supply language which is used to positively and uniquely identify any item in a supplies range. This is achieved through the introduction of a single name for an item of supply and a code number assigned to it. This code number represents the maximum data required to adequately identify the essential characteristics of the item. After clear identification and assignment of a code number, a catalogue is prepared and distributed to users who must use the codes consistently when communicating their needs to the storehouse.
2.3 Conceptual framework

Independent variables | moderating variables | dependent variable

- Modern Information Technology
- Effective inventory management
- Proper staff skills
- Proper documentation system
- Social Economic Factor
- Government policies
- Improved performance
- Customer satisfaction
Figure 1: Conceptual Framework

In this framework, there are certain factors influencing performance of business outlets in Mandera County. For this study, four factors are considered as the independent variables. Performance of the business outlets is the dependent variable that is affected by the independent variables as shown above.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter consists of the research design, target population, sample and sampling techniques, research instruments, methods of data collection, validity of the instruments, reliability of the instruments, methods of data analysis and ethical consideration.

3.2 Research design

The researcher used descriptive survey research design which is recommended by Mugenda & Mugenda(2003) as a good method for fact-finding study. The research design enables a researcher to gather data at a particular point on time and use it to describe the nature of the existing conditions (colen at el 2000).

3.3 Target population

The term target population refers to a universal set of the study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the results. The study targeted one hundred and twenty (120) workers of business outlets in Mandera County there were eighty (80) male workers and forty (40) female workers.

3.4 Sample and sampling techniques

A sample of thirty six (36) workers was selected to participate in the study which was thirty percent (30%) of the target population as is recommended for research studies by Mugenda & Mugenda (2003). The researcher used simple probability sampling technique where the respondents had equal probability of being selected as a representative of the target population.
3.5 Research instruments

The researcher used questionnaire to collect data. The questionnaire had two parts; part one consisted of the participants demographic information such as gender, age, academic qualification, work experience and many others. Part two concentrated on information that was required to achieve the study objectives.

3.6 Validity of the instrument

Validity is the degree to which the instrument measures and produces results that actually represents the phenomenon under study. Mulusa (1988) defines validity as extend to which the item measures or describes what it is supposed to measure or describe. To ensure validity in this study, the researcher carried out a pilot testing of the study. All the shortcomings noticed were corrected.

3.7 Reliability of the instruments

Orodho, (2005) states that reliability of measurement concerns the degree to which a particular measuring procedure gives similar results over a number of repeated trials. Reliability of the instruments was ensured through thorough corrections of all the weaknesses of the instruments noticed during the pilot testing.

3.8 Methods of data collection

The researcher personally sought permission ‘to carry out the study from the Chief Executive officer of the company and booked for the date and time which was convenient to the company. The questionnaires were personally presented by the researcher who was available to answer for any clarifications that the respondents sought.
3.9 Data analysis methods

The collected data was thoroughly examined and checked for completeness and comprehensibility. The data was then summarized, coded and tabulated. Statistical Package for Social Sciences (SPSS) was used to do the analysis. Descriptive statistics especially, frequencies and cross tabulation was applied to help establish patterns, trends and relationships, and to make it easier for the researcher to understand and interpret implications of the study. Tables and percentages are used to present the data.
CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF STUDY FINDINGS

4.1 Introduction

The chapter presents and discusses the findings of the study. The findings serve to reinforce the existing knowledge proven about the effects of effective inventory management on performance of business outlets in Mandera County. The chapter involves presentation, analysis and interpretation of the study results. Data presented, analyzed and interpreted according to the research objectives. It is presented in the form of tables basing on the responses got from the study respondents that were selected during the process of data collection.

The discussion of findings has been arranged in accordance with demographic characteristics of respondents’ and objectives of the study as were formulated in chapter one of this report. The interpretation of the data intended to enable the researcher make appropriate conclusions and recommendations for better understanding of the research problem.

4.2 Response Rate

The researcher administered 36 questionnaires to the respondents and 30 of them were returned duly filled. This translated to 83% return rate. The same information is presented in Table 4.2.1 below;

Table 4.2.1 return rate

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Issued</th>
<th>Received</th>
<th>Not received</th>
<th>Total</th>
<th>Percentage%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>36</td>
<td>30</td>
<td>6</td>
<td>36</td>
<td>83%</td>
</tr>
</tbody>
</table>
4.3 Demographic information

Table 4.3.2 Distribution of respondents by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cum. percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
<td>33%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The above Table shows that 67% of the respondents were male while the female constituted 33%. The business outlets adhered to the requirement of 30% of either gender.

The researcher sought to know the age of the respondents and the results are show in Table 4.3.3

Table 4.3.3 Distribution of respondents by age

<table>
<thead>
<tr>
<th>Age bracket</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum. Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25 years</td>
<td>5</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>26-30 years</td>
<td>10</td>
<td>33%</td>
<td>50%</td>
</tr>
<tr>
<td>31-35year</td>
<td>11</td>
<td>37%</td>
<td>87%</td>
</tr>
<tr>
<td>Over 35 years</td>
<td>4</td>
<td>13%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

From the results, 37% of the respondents had an age of 31-35 years, 33% had an age of 26-30 years, and 17% had less than twenty five (25) years while 13% had over 35 years. This could imply that majority of employees in Mandera County business outlets are middle aged probably reason being they tend to retain their employees or employ experienced staff from other sectors.
Table 4.3.4 Distribution of the respondent by highest academic qualification

<table>
<thead>
<tr>
<th>Highest academic qualification</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum. Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters Degree</td>
<td>2</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Degree</td>
<td>7</td>
<td>23%</td>
<td>30%</td>
</tr>
<tr>
<td>Diploma</td>
<td>10</td>
<td>33%</td>
<td>63%</td>
</tr>
<tr>
<td>Certificate</td>
<td>11</td>
<td>37%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100%</strong></td>
<td></td>
</tr>
</tbody>
</table>

The Table above shows the highest academic qualification where 37% of the respondents were certificate holders, 33% were diploma holders and worrying 7% were master’s holders. This shows that most of work in retail outlet is manual work which requires less academic qualifications.

The Table below further revealed that 67% of the respondents supported usage of IT 20% did not support the usage where 13% were not sure who may be the cleaners.

Table 4.3.5 support of usage of information technology

<table>
<thead>
<tr>
<th>Support of the usage of IT</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum. percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>20</td>
<td>67%</td>
<td>67%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>20%</td>
<td>87%</td>
</tr>
<tr>
<td>Not sure</td>
<td>4</td>
<td>13%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100%</strong></td>
<td></td>
</tr>
</tbody>
</table>

From the table below, 63% of the respondents supported the innovation of new technologies while 37% never supported the innovations that may be rigid to change.
Table 4.3.6 support of innovation of new information technologies

<table>
<thead>
<tr>
<th>Support of innovation of new technologies</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum. percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19</td>
<td>63%</td>
<td>63%</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>37%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

The researcher also sought to know whether the customers were satisfied with the inventory management, 60% of the respondents said that they were satisfied and those who stated that they were very satisfied and not satisfied had the same percentage. This shows that the services offered by the outlets were recommendable as indicated in the table below

Tables 4.3.7 are the customers satisfied with inventory management?

<table>
<thead>
<tr>
<th>Are customers satisfied with I Mgt?</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum. percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>6</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Satisfied</td>
<td>18</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td>Not satisfied</td>
<td>6</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
The Table below shows the job positions of the workers, from the results a large number (70%) of the respondents are general workers while a small number (7%) were managers. It can be stated that most of the staff are general workers.

**Table 4.3.8 indicate your job position**

<table>
<thead>
<tr>
<th>Job position</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum.percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>2</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Supervisor</td>
<td>3</td>
<td>10%</td>
<td>17%</td>
</tr>
<tr>
<td>General worker</td>
<td>21</td>
<td>70%</td>
<td>87%</td>
</tr>
<tr>
<td>Cleaner</td>
<td>4</td>
<td>13%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

The researcher sought to know the duration of service of the respondents and the results were as shown in Table 4.3.9 where the percentages of the year of service were almost equal. This shows that the business outlets maintained almost equal number of workers who had served for specific years.

**Table 4.3.9 duration of service**

<table>
<thead>
<tr>
<th>Duration of service</th>
<th>Frequency</th>
<th>percentage</th>
<th>Cum.percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5 years</td>
<td>7</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>5-10 years</td>
<td>8</td>
<td>27%</td>
<td>50%</td>
</tr>
<tr>
<td>10-15 years</td>
<td>6</td>
<td>20%</td>
<td>70%</td>
</tr>
<tr>
<td>Over 15 years</td>
<td>9</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
Tables 4.3.10 are the documentation systems effective and efficient?

<table>
<thead>
<tr>
<th>Are the documentation systems effective and efficient?</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cum. Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>23</td>
<td>77%</td>
<td>77%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>20%</td>
<td>97%</td>
</tr>
<tr>
<td>Not sure</td>
<td>1</td>
<td>3%</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

From Table 4.3.10 77% of the respondents revealed that the documentation systems were effective and efficient where only 3% were not sure. This led to effective inventory management.

Table 4.3.11 advantages of improved inventory management

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved inventory management helps identify clients’ needs and preferences hence attract customers Frequency</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>28</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>Percentage</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>93.3</td>
<td>6.7</td>
<td>100</td>
</tr>
</tbody>
</table>
From the above table on whether improved inventory management helps identify clients’ needs and preferences, a large number (93.3%) of respondents agreed that improved inventory management helps identify clients’ needs and preferences by business outlets since the owners of business are able to identify the fast moving goods hence making them available all-time leading to high customer satisfaction. On the question on whether improved inventory management reduces stock wastage 90% of the respondents strongly agreed showing that business outlets are able to track the movement of their goods hence avoiding overstocking which leads to wastage. an equal number 50% of the respondents agreed and strongly agreed that Improved inventory management leads to easy storage and retrieval of materials. This shows that most of business people in Mandera County use coding method for easy identification of their good leading to less time wastage while serving their customers hence high customer satisfaction.
5.1 Introduction

The basic purpose of this chapter is to give the summary of the findings, discussions, conclusions, recommendation and suggestion for further studies. This was based on the research findings that was presented and discussed in the previous chapters.

5.2 Summary of the finding

The study revealed that 67% of the respondents were male while the female constituted 33%. The business outlets adhered to the requirement of 30% of either gender. 37% of the respondents had an age of 31-35 years, 33% had an age of 26-30 years, 17% had less than twenty five (25) years while 13% had over 35 years. That could imply that majority of employees in Mandera County business outlets were middle aged probably reason being they tend to retain their employees or employ experienced staff from other sectors. 37% of the respondents were certificate holders, 33% were diploma holders and worrying 7% were master’s holders. It showed that most of work in retail outlet was manual work which required less academic qualification.

The study further revealed that 67% of the respondents supported usage of IT 20% did not support the usage where 13% were not sure who could be the cleaners. 63% of the respondents supported the innovation of new technologies while 37% never supported the innovation that could be rigid to change.

It was also established that 60% of the respondents said that they were satisfied and those who stated that they were very satisfied and not satisfied had the same percentage. It showed that the services offered by the outlets were recommendable.
The study also revealed that a large number (70%) of the respondents were general workers while a small number (7%) were managers. It could be stated that most of the staff were general workers and the percentages of the year of service were almost equal. This showed that the business outlets maintained almost equal number of workers who had served for specific years.

The study revealed that 77% of the respondents said that the documentation systems were effective and efficient where only 3% were not sure. That led to effective inventory management. A large number (93.3%) of respondents agreed that improved inventory management helps identify clients’ needs and preferences by business outlets since the owners of business are able to identify the fast moving goods hence making them available all-time leading to high customer satisfaction. On the question on whether improved inventory management reduces stock wastage, 90% of the respondents strongly agreed showing that business outlets are able to track the movement of their goods hence avoiding overstocking which leads to wastage. An equal number 50% of the respondents agreed and strongly agreed that improved inventory management leads to easy storage and retrieval of materials. This showed that most of business people in Mandera County use coding method for easy identification of their goods leading to less time wastage while serving their customers hence high customer satisfaction.

5.3 Conclusions

Based on the research findings, it can be concluded that IT led to improved inventory management in business outlets in Mandera County. It can also be concluded that inventory management applied affected the level of customers’ satisfaction. There is a relationship between staff level of training and competency and effectiveness of inventory management. The research findings further show that used led to effectiveness of inventory management in business outlets in Mandera County.
5.4 Recommendations

From the findings of the study, it can be recommended that the business outlets adopt the modern information technologies and the staff need to be taken for specialized training on the use of IT in the stores management since some of them did not support use of IT. The documentation system used should be improved which will lead to effectiveness of inventory management.

5.5 Suggestions for further studies

The researcher suggests that another study be carried out on business outlets in other Countys since this one research is not sufficient to draw generalized conclusion without studying some more others.
REFERENCES


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Wilding (2003). The 3 Ts of Highly Effective Supply Chain s: *Journal of Supply Chain Practice*, (5), 3


APPENDICES

APPENDIX I: STRUCTURED QUESTIONNAIRE

Instructions: Please respond to the following questions and where applicable, mark the relevant box with a tick (✓).

Confidentiality: The responses you provide will be strictly confidential. No reference will be made to any individual(s) in the report of the study.

PART A: DEMOGRAPHIC INFORMATION

1. What is your gender?
   - Male
   - Female

2. In which of the following age brackets do you belong?
   - Below 25 years
   - 26-30 years
   - 31-35 years
   - Over 35 years

3. Indicate your highest academic qualification
   - Masters
   - Degree
   - Diploma
   - Certificate

PART B  INFORMATION RELATED TO RESEARCH OBJECTIVES

4. Do you support the usage of IT?
   - Yes
5. Indicate whether you support the innovation of new information technology in business outlets?
   - Yes
   - No

6. Are the customers satisfied with inventory management of business outlets?
   - Very satisfied
   - Satisfied
   - Not satisfied

7. Indicate your position in business outlets
   - Manager
   - Supervisor
   - General worker
   - Cleaner

8. How long have you served in that position?
   - Below 5 years
   - 5-10 years
   - 10-15 years
   - Over 15 years

9. Are the documentation systems effective and efficient?
   - Yes
   - No
   - Not sure
10. Improved inventory management helps identify clients’ needs and preferences hence attract customers.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

11. Improved inventory management reduces stock wastage

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

12. Improved inventory management leads to easy storage and retrieval of materials

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree