

**STOCK CONTROL PRACTICES AND OPERATIONAL
PERFORMANCE OF KENYAN COMMERCIAL STATE
CORPORATIONS**

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**A RESEARCH PROJECT PRESENTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR AWARD OF DEGREE OF
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BUSINESS, UNIVERSITY OF NAIROBI**

2017

DECLARATION

I hereby certify that this research projects my original work and has not been presented for examination in any other university.

Signature Date

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D61/83907/2016

This research project has been submitted for examination with my approval as the University Supervisor

Signature Date

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DEDICATION

This project paper is dedicated to my family for their inspiration, understanding and encouragement towards the successful completion of this research project and to God, for giving me the wisdom to undertake this course and the strength to complete this project.

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Special thanks to my supervisors Dr. Magutu. P. Obara and Ernest Akello for their tireless effort in providing guidance support and constructive comments and critique that was all instrumental to the successful completion of this research paper. I also appreciate all those who in one way or another made a contribution to my life during this period. Finally, I owe it all to God who gave me the strength and saw me through every stage of this course.

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ABSTRACT

The purpose of this study was to determine the influence of stock control practices and operational performance on commercial state corporations in Kenya. Two research objectives of this study were; to establish the stock control used by the commercial state corporations in Kenya and to establish the relationship between stock control practices and operational performance in commercial state corporations in Kenya. The study adopted a descriptive survey research design. The target population comprised of 31 commercial state corporations in Kenya, all 31 commercial state corporations returned dully filled questionnaires producing a response rate of 100 percent. A census survey was done on all the commercial state corporations in Kenya. Primary data was collected using questionnaires. Data collected was analyzed by use of descriptive statistics using SPSS and presented through the percentages, frequencies, mean, standard deviations and regression analysis. The information was then presented by use of tables and bar charts. The finding gave a positive relationship between stock control practices and operational performance. It was found that if stock control practices is implemented properly, it produces a variety of benefits such as meeting the customers' needs, reduced defect levels, increased profitability, improved cost efficiency, improved communication and better problem solving. The study found that practices of stock control practices are greatly affect operational performance of commercial state corporations in Kenya. Results using SPSS indicate that there is a positive relationship between stock control practices and operational performance on commercial state corporations in Kenya.

ABBREVIATIONS AND ACRONYMS

ABC	Always Better Control
EOQ	Economic Order Quantity
JIT	Just In Time
MRP	Material Requirements Planning
VMI	Vendor Managed Inventory
SPSS	Statistical Package for Social Science

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Management and stock of control was the Centre cost minimization and increase of revenue, (Ramakrishna (2005). Controlling stock is one of the ways to improve operations of the organization, by effectively managing stocks in the organization. Scholars have recognized stocks as goods and raw materials that are stored in the firms' space, as they are integral part of the operations and assists in meeting the customers' demands in the market place (Arington, 2006).

Many practices are available for effectively managing stocks in an organizational setting (Azari Rad, 2004). Stock control practices has been done since time immemorial by the use of traditional stock control practices, which was initially known as inventory management practices such as order quantity purchase, Always Better Control (ABC) practice and Order Quantity Purchase. The knowledge of stock control practices has provided all sectors of organization the opportunity to supply quality products to customers at a reduced price aimed at holding stock in the organization (Brigham & Ehrhard, 2005). However, controlling these stocks in order to achieve their objectives has posed a great challenge to both the public and private organization. Many organizations have not yet established how much to invest in stocks and the right stocks levels to hold so as satisfy customers in the market.

Too much stock in the organization requires more physical space that makes the firms to invest more capital and increase the occurrence of distortion, thus becoming an overall burden in the organizational performance. On the other hand, having too little stock in the organization often disrupts organization operations, and increases the likelihood of poor customer service. Ineffective administration and mismanagement of resources in form of stock in public owned organization affect the needed quality public service delivery, which as well have adverse effect on the economy of the country hence this is an urge of an effective stock control in the commercial state corporations. The regulation of the

movement of materials is what is termed as stock control and it dictates the adequate amount of the stock to be needed in and out of the storage, (Bim, 2003).

Organizations apply material control to help them avoid too much stock that may lead to more capital being tied. At the same time material control helps the firm to avoid under stocking that can result to lose due to shortage in the production department. Stock control practices assist in accountability of any material delivered in the store, and identifying any form of pilferage or wastage in advance. The aim of practicing material control is not to be overlooked either in the state-owned organization or private organization for it enable the firms' to be able to maintain enough stocks that can meet demand and supply of materials needed.

1.1.1 Stock Control Practices

Stock is an accounting and supply chain term used to identify the raw materials, work in progress components and finished products that are kept in the organization for future use (Lysons, 2000). However, it is impractical economic wise for goods to arrive in a system of operations exactly when the stocks are demanded while meeting the operational excellence in the firm. Lack of stock can make firms fails to offer best services to their customers. Stock is therefore a key for the success of the firms' functions.

For the growth and productivity of the firm, it is important that good stock controls are applied since more capital has been invested in the stock (Kruger, 2005). Proper management of stocks in the organization may lead to the utilization of the gained inventories elsewhere which in turn enhances the company productivity (Ghosh and Kumar, 2003). This stock control practices occurs at all level of the operations of the firm trades in stocks. This practice acknowledges the fact that stocks are kept in the organization space, there is need to have an optimal amount of the goods at the required quality and delivered at the required place. (Levis, 2009). The stock control practice also puts emphasize on the time, quantity and quality of the items being used in the firm (Tosdal, 2006).

Stock control practice is a necessity in the operations of commercial state corporations; therefore, it is essential to control and manage the stocks in the organization in order to enhance the operational performance. Stock control practices addresses two important elements of how much to order/deliver and when to order thus helping an organization become more productive and efficient than before, gravitate towards operation control, and quality control. Some of these stock control practices include ABC Analysis, Economic Order Quantity, Vendor Managed Inventory, Just-in-time purchasing and Material Requirement Planning.

1.1.2 Operational Performance

Performance is a result produced after a specific function has been articulated over a specific period of time (Amstrong, 1994). According to William (2002), performance entails measurement of output in terms of profitability, internal processes efficiency and procedures effectiveness. Operational measure describes the utilization of products. A firm with high productivity in the operational functions requires less input to produce more output. The firm will then be able to charge a lower price and consequently increase its market share and meeting and exceeding the customers' needs in the market.

Some of the commonly used methods of measuring operational performance in the organization include quality circles, balanced scorecard, and best practices adopted in the firms' operations. These techniques involve frequent repetitive activities used in establishing the organizational goals. The activities and functions are important in monitoring the progress of a firm against the set goals and objectives (Mohanty, 2008). The common key operational performance indicators include but not limited to: efficiency, quality, flexibility, compliance, supplier relationship, supplier defects rates and procurement cycle time (Cho & Pucick, 2005).

Effective stock control practices have become a critical issue for firms' operations of any business that wishes to achieve efficiency in its' functions. Many firms have experienced cost reduction, improved operational performance, enhanced efficiency and high-level customer satisfaction through stock control practices (Chapman, 2000). This is because

stock control results to integration of better production and operation methods to minimize costs and wastages.

1.1.3 Commercial State Corporation in Kenya

Commercial States are governed by the State Corporations Act' Chapter 446 of the Laws of Kenya. The commercial state corporations are established through the Act of Parliament and order of the president to establish the corporation in order to perform specific functions in the economy of the country (Wamalwa, 2003). The commercial State corporations in Kenya have been established in order to meet commercial and social function, which have been divided into eight categories depending on their functions and responsibilities in the economy (Njiru, 2008).

The commercial state corporations have been mandated to enable sustainability of the economic growth, reduction of alleviating poverty level and enhancing the social life of the people of the country through production of high quality products and services, creating industrial relation environment, delivery of the essential government services and strengthening the public service delivery to the public, and providing a harmony ground to provide employment opportunities. The commercial state corporations in Kenya are presented by the Inspectorate of state corporations are thirty-one (31) in number (Appendix II).

According to Kobia and Mohammend (2006), the Government of Kenya also developed and launched the Strategy for Performance Improvement in the Public Service in 2001, which sought to increase operational performance and enhance service delivery to the public. The commercial state corporation regulates the bodies that initiate both deliveries of services to the public to ensure consumers are protected from exploitations. This is achieved by placing recommendations that ascertain satisfaction in all sectors concerned with distributions. The country loses a lot of taxpayers' money through poor procurement and contract management practices (Wamalwa, 2003). Therefore, it would be insightful to discover the extent to which state corporations in Kenya conduct inventory management practices.

1.2 Research Problem

Effective stock control practice is a major factor for success of the organization. The main problem that most firms find how to control the demand and supply of these stocks in order to satisfy their customers. At the same time firms, does not want to store so much stock because this will lead to a lot of capital being tied up on the stock.

Most of commercial State Corporation holds stock to meet their customers' needs. Stock therefore contains the most important part of current assets of these firms. Hence it becomes essential to practices cutting-edge techniques to manage stock to avoid loss of sales, production cost, overtime costs, sub-contracting, unnecessary cost of sales and backorder penalties during periods of peak demand (Chen, 2005).

Despite the benefits of stock control practices, Temeng, Eshun and Essy (2010) noted that organizations have continuously ignored the potential savings from proper stock control practices, and end up having more funds invested in stock than necessary. According to (Songet, 2006), manufacturing firms gets significant savings from effective stock control practices, this amounts between 50% - 60% of total costs.

A number of studies, both global and local have been done in the area of stock control practices and operational performance practices: for instance (Bai and Zhong, 2008; Anichebe &Agu, 2013, Gakinya, 2013; Etim, John &Ime, 2014). Bai and Zhong (2008) found out that most companies' values inventory management especially small business; this is because of their limited resources. Proper inventory management enhances a firm's competitive strength and profitability due to minimized costs, and customer satisfaction. This study was not conducted on commercial state corporations and does not show the relationship between inventory management practices and the operational performance.

Anichebe and Agu (2013) according to their research they found out that the organizational effectiveness can be improved by inventory management. It was confirmed when firms adopt inventory management in their production they are able to improve customer satisfaction and high profitability of the firm. The study did not address how stock control practices affect the operational performance of firms'.

Gakinya (2013) found out that inventory management could influence a firm's supply chain performance by achieving service delivery to the customers, meeting forecast demands and gaining a competitive edge. The research was not conducted on Commercial State Corporation in Kenya hence could not show the impact of inventory management practices on a firm's operational performance.

Etim, John and Ime (2014) established that inventory management practices can improve the operational performance of a firm through efficiency in capital utilization, hence reduce lead-time that firms spend to implement inventory management models. However, this research was not conducted on how inventory management practices impacts Commercial State Corporation in Kenya. Therefore, the study sought to answer the following research questions: what stock control practices are being used in the Commercial State Corporations in Kenya? Is there any relationship between stock control practices and operational performance in Commercial State Corporation in Kenya?

1.3 Research Objectives

The study objectives include:

- i. To establish stock control practices used by Commercial State Corporation in Kenya.
- ii. To establish the relationship between stock control practices and operational performance in State Corporation in Kenya.

1.4 Value of the Study

The study will enable policy makers obtain knowledge of Commercial State Corporations and the appropriate stock control practices to be adopted.

The study will also assist stakeholders; it will be a source of information for the Commercial state corporations' firms, hence will help in understanding stock control practices, their mode of application and the practical relevance in the firm. The study will also provide a framework for sound decision making as far as Stock control is concerned.

To the researchers and academicians, the study will form a basis for further studies in the field of stock control and operational performance of organizations, especially in the Commercial State Corporation.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter examines the relevant theoretical framework on which stock control practices is based, literature on operational performance, stock control practices and operational performance. A review of empirical studies is also provided alongside a conceptual framework linking elements of stock control practices to firm and operational performance. The theoretical and empirical review was performed in order to enhance knowledge on efficient stock control practices and their link to operational performance and to identify gaps on stock control practices on operational performance.

2.2 Theoretical Review

Several theories offer insights and provide clarity into the rationale underlying the stock control practices and operational performance on Commercial State Organization. They include the constraints and lean theory.

2.2.1 Lean Theory

It provides insight as that of just in time (JIT). The theory builds on the elements of minimization of wastes and reduction of buffer stocks in the operational system (Green K, 2005). Implementation of leanness in the stock management improves the operations of the organization and eventually increases the profitability of the firm and it is one of the best practices for stock control in the organization. The more the leaner a firm is, the more the positive returns in the organization (Hofer, 2011).

The theory expatiates on how firms gain flexibility in their requisition decisions, reduces the stocks held in the firm and eliminates holding costs associated with having a lot of stock. Research studies on inventory, indicate that firms optimize stocks controls through lean practices to material utilization and increase customer service levels leading to improved operational performance, high profitability and increased customer base (Waller et al., 2008). Apart from the knowledge enhancement from the theory, researchers have retaliated that the theory it can only be applicable when there is a close and long-term

seamless information sharing within the firm and collaborative interaction with its customers and suppliers.

2.2.2 Theory of Constraint

This theory of constraint, which was developed by Dr. Eliyah Goldratt, which seeks to, emphasizes on operational efficiency through identification of those factors that might hinder the achievement of higher operational performance in a firm. It usually takes a scientific step of control and upgrading by considering the elements that limits achieving of operational performance. It identifies these activities as the limiting factors within operational structure that affects firms' performance.

The theory is associated with a high level of criticism especially in the factor of stock control, in that it can cause a high number of emergence order, defective materials order, longer lead-time and lack of customers' involvement. Theory of Constraint is essential in the research study for it builds up on the effective management of constraints that occurs due to stocks that is being held in the organization. This theory is essential for the research study for its basis is employed to production and operation functions for the minimization of the stock in the firm (Cooper, 2006).

2.3 Stock Control Practices

Stock control practices is essential to the operation of the firm because it helps in minimizing on the cost and maximizing revenue while at the same time ensure that the demand of the customers are met by committing on the right quantity and right quality (Jay, 2006).

The paradox of stock control practices is how much is to be ordered and at what time and level to do the delivery or making an order. There are a number of stock control practices, which are able to tackle this paradox in different ways and can be categorized, as it will be discussed below. Stock control practices involves efficient and effective ways of ensuring raw materials, work-in progress and finished products are adequate to provide maximum level of service at minimum costs (Lysons et al, 2006). The concern is meeting the supply

and demand of the items, which are required for operations of the firm, which entails controlling and monitoring its order and usage in order to maintain an uninterrupted material flow and value addition activities in the operations of the firm (Jonsson, 2008).

2.3.1 ABC Analysis

ABC technique is a stock control practices that uses a classification system of items that allocates a certain amount of resources especially in terms of finances, managerial commitment and time in stock control and allows the organization to concentrate with multiple product lines and multitude of stock keeping units (Bloomberg, 2002).

ABC stock control system will enable the commercial state corporation to assess that status of every item stored in the organization in order to determine what specific attention and concentration is required by each group of stocks (Banjoko, 2004). By classifying stocks of the commercial state corporation into different categories that is A, B and C, hence will enable the firms to have an effective and efficient stock control practice. (Onwubolu, 2006), indicates that operations managers can focus on the materials that accounts for the majority of items in the firm to enable them to have an effective control and monitoring of the stock

Banjoko (2004), explained that items on category A accounts for approximately 10% of the items in the stock, with 50% of the financial generation, items B accounts for 40% of the items in the stock with approximately 40% of financial value while C items accounts for 10% of the financial value and 50% of stocks in the stores.

This categorization allows for an effective stock control practices to be developed and implementation of policies regarding stock control in the firm for instance a higher concentration A items than C items; A items should have a higher control practices such as tight security mechanism; prompt and preview forecasting. A item may need a more stock control techniques due to its financial capability that will eventually affects the operations of the firm, thus there is need for a higher physical control and periodic review forecasting.

2.3.2 Just-In-Time Management Practices

Just In Time (JIT) Is an inventory strategy companies adopt in order to enhance efficiency and eliminate wastes by having the items in the corporations when they are needed in the operational process, thereby reducing the cost associated by holding the stock in the organization physical space (Investopedia, 2017).

The primary goal of JIT in the stock control practices involves having the required stock in the firm when there are needed. These helps to improve the quality of the items to be used in the operational functions to zero defective rate, reduce ordering period time and be able to achieve all these objectives at a total minimum cost. JIT is only applicable where there is high effective signal in each stage of the operations, in order to determine what is being required, at what time and how much of it, in order not to affect the operation of the firm, thus the items should arrive in the operational firm neither earlier nor later.

Having a clear communication on the usage rate of the stock makes the stock control practice by using JIT viable, this will help to improve the operational performance, minimize costs associated with stocks and increase profitability. The technique was first put into use by Ford Motor Company which indicated a high operational performance and subsequently implemented by Toyota Motor Corporation of Japan in the 1950s in order to reduce costs associated with stock in the firm and improve operational efficiency (Lysons et al., 2003)

2.3.3 Economic Order Quantity Practices

The Economic Order Quantity (EOQ) involves obtaining an adequate level quantity for an item of stock at minimum cost. It is applicable in a way that it ensures the level of stock in the physical space is equivalent to the minimum total cost of placing an order or storage of an order (Lysons et al, 2006).According to this stock control practice, ordering cost declines with the cost of having the stocks in the firm. The total cost curve is at the lowest/minimum point and this is also the point where the total cost associated with the cost are reduced.

EOQ stock control practices enable the commercial organization to estimate how much of the stock that requires being placed an order and the time to place an order. The organization will be able to plan on its stock requirement on a timely basis therefore minimizing the cost associated with placing an order or storing of the stocks in the firm for the stock will be coming in and leaving the physical space immediately. Thus, this tends to work the same as just-in-time concept of stock control techniques (Schonberger, 2008).EOQ is applicable to determine which items that is needed in the operations and what level is adequate for economically advantageous to a certain organization (Lysons et al, 2006). As commercial state firms that want to improve on stock control, they should consider Economic Order Quantity control practices as an essential technique so that they should not experience (Gonzalez, 2010).

2.3.4 Materials Requirements Planning Practices

Materials requirement planning is a stock control practice that makes materials available in the operations of the firm either purchased or from the physical space just before they are needed by the next stage of operations or for delivery. It enables materials to be tracked through the operation process and helps the purchasing and stock control personnel to ensure the required materials are available at the right time to the operation functions or distribution (Jacob, Berry, Whybark & Volkmann, 2011).

The MRP system assists commercial firms either private or public in the planning of stock that are needed for operation functions. It puts a lot of consideration on the final product that is needed at the consumption point. The amounts of stock are determined on the forecast of the demand. In principle, the technique attempts to control the flow of material in the operation process to meet planned demand of the materials, rather than replenishing stocks as they are used in the firm (Saunders, 1997).The application of a MRP stock control practice is essential to commercial state corporations for it controls and maintain the required stock in the firm, hence minimizing on the cost of storage of these materials in the firm and effectively improving the operation of the firm by making the materials available when there are needed.

2.3.5 Vendor Managed Inventory Practices

Vendor-managed practices are a stock control practice where by the decision to acquire more stocks (Frahm, 2003). It is a new paradigm of stock control practice that emphasizes on collaboration between customers and suppliers. It requires manufacturers to enter into collaboration with distributors under which to agree on the stipulated level of stocks to be kept in order to meet the demand and satisfy the customers. The customer will be required to purchase the amount of stock from the distributors that are required, thus no stocks to be stored in the physical space.

Brownell (2005), states that this collaboration enables firms to minimize the chances of having defective stock and the obsolescence items because the suppliers are directly involved in determining the level of stock needed for effective operation and this requires a proper communication from both the suppliers and the firm. This improves operational performance due to reduced stocks level and having defective materials in the firm. Vendor management practices stock control practices enables the firms to eliminate the reorder level from the customers, minimizes the level of stocks and avoid stock outs. It reduces the costs to be incurred by the customers due to re-ordering, audit of inventory and obsolescence of the items in the stores, hence reducing the overall costs of the product (Loughrin, 2008).

2.4 Empirical Review

Several studies have been carried out concerning stock control and operational performance, and this includes; a study conducted by Juan and Martinez (2002) on a group of small and medium sized Spanish firms revealed a correlation between managerial practice and implementation of inventory goals. The study which incorporated 8872 firms showed that effective inventory management processes helps increase firms' operational efficiency. Eckert (2007) in his studies on inventory management practices and the role it plays in improving customer service levels. His finding confirmed that, there is a positive correlation between inventory management practices and customer satisfaction due to reduction of stock outs in the firm. Koumanakos (2008) studied the effect of inventory

management on firm performance of manufacturing firms operating in Greece. He suggested lean stock control practices lead to an increase in revenue to the firm.

A study conducted by Rajeeve (2008) on 91 Indian machine Tool enterprises to establish the relationship between inventory management practices. The result from this study showed that inventory performance has a positive correlation with management practices. The findings concluded that the higher the level of stocks in the firm, the lower the financial performance due to increase cost associated with holding a lot of stock in the firm. Rajeev (2010) argues that stock control practices are a way of acquiring competitiveness and increase operational performance. The variable of this study is the stock control practices as a independent variable, and dimensions of operational performance as dependent variable. In line with their findings, Eroglu and Hofer (2011) empirically investigated the contribution of the inventory management on company performance. The study which was conducted in USA revealed that lean inventory practices contributed to fruitful implementation of considerable practices in the company's stock control. Over the period 2003-2008, the investigation proved the effectiveness of leanness on profit margins.

2.5 Operational Performance

Performance measurements contribute to the operations of an organization. Operational performance indicates on how well the different functions and activities are doing. Measurement of operational performance provides a platform for firm's overall performance improvement (Gunasekaran et al., 2001). Previous studies on the operational performance suggested that firms need to acknowledge the necessity to measure operational performance for it helps to understand and monitor the functions of the organization and how well the firms perform these functions. There are different dimensions of operational performance and this includes financial performance outcomes, which is reflected on the return on investment, firm's profitability and the value addition. The variables that compute the financial performance on the operational performance dimensions include returns on investment; profit percentage on invoice gross value and sales and; invoicing liquidity and financial increase (Penlope, 2007).

Customer Service level is another dimension of operational performance that indicates the way firm interacts and communicates with its customers in order to maintain the base. According to Ballou (2007), increasing the customer services level indicates progressing through continuum of consumer service to consumer success, to customer satisfaction (3S's). Flexibility is a dimension of operational performance that indicates ability to provide the special requests of customer service for instance on the context of stock control; order flexibility which entails the ability to modify stock orders, delivery time, location of the stocks and availability of the stock in the operations of the firm. Reliability as another dimension of operational performance. The reliability of the materials or products, which can be done through surveys of buyers and consumers of the products or statistical sampling of output of various processes in the operation of the firm.

2.6 Stock Control Practices and Operational Performance

Stock control practices are significant in the operations of the firm. Having an effective stock control mechanism will reduce the cost associated with ordering and holding the stocks, and this will help to improve the operation of the firm due to curbing the cost. Stocks are recognized as current assets to any business enterprise. Adequately holding stocks in the firm ensures operational activities proceed uninterrupted (Kotler& Keller, 2006). Therefore, to achieve high operational performance in the commercial state corporation there is need to incorporate the stock control practices in order to determine and maintain an optimum level of stocks that reduces inventory costs and meets customer demands.

Several studies have been carried out concerning stock control practices and operational performance, and this includes; Koumanakos (2008) studied the effect of inventory management on firm performance of manufacturing firms operating in Greece. He suggested that lean stock control practices lead to an improvement in a firm's financial performance. The findings concluded that the higher the level of stocks in the firm, the lower the financial performance due to increase cost associated with holding a lot of stock in the firm. Eckert (2007) in his studies on inventory management practices and the role it plays in improving customer service levels. His finding confirmed that, there is a positive

correlation between inventory management practices and customer satisfaction due to reduction of stock outs in the firm. Rajeev (2010) argues that stock control practices are a way of acquiring competitiveness and increase operational performance. The variable of this study is the stock control practices as a independent variable, and dimensions of operational performance as dependent variable.

2.7 Summary of Literature Review and Research Gap

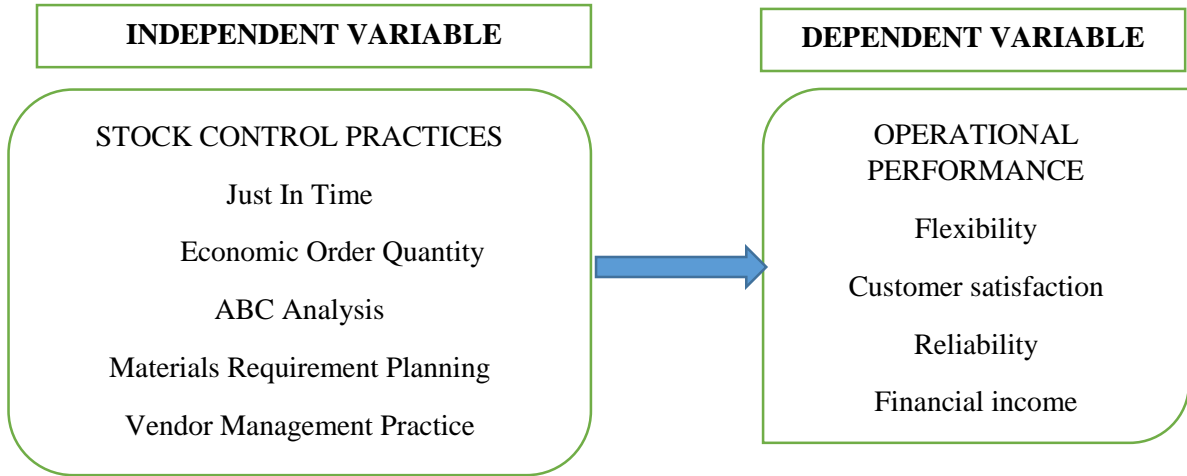
The concept of stock control practices has been done in both theoretical literature and empirical studies It is evident that stock control practices is relevant in the operation of the commercial state corporation, this is due to the benefits that accrue from stock control. Organizations emphasizes on stock controls in order to determine the adequate level of stock to be maintained in the firm, to achieve the required or improve the operational performance and meet the customers demand. Firms should ensure optimal level of stocks in order to avoid stock outs and incurring of costs associated with stocks. However, the various studies on the related study have not comprehensively tackled the stock control practices and operational performance of commercial State Corporation according to the best knowledge of the researcher. Thus, this study sought to explore the stock control practices and operational performance of commercial State Corporation in Kenya.

2.7.1 Conceptual Model

The dependent variable in this study is operational performance of the Commercial State Corporation whereas the independent variables are the stock controls practices.

The conceptualized relationships between the independent and dependent variable is shown in the figure below.

Figure 2.1: Conceptual Framework



(Source: Research 2017)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used in seeking answers to the research questions in the study. It addresses the design that was adopted, the population of the study, data collection and analysis.

3.2 Research Design

The study employed a descriptive survey research design. A descriptive survey involves observation and description of the subject of a study without manipulation of any kind (Kothari, 2004). This design is appropriate for the research study, as it was used to facilitate the collection of substantive information regarding stock controls practices of the commercial state corporation, and this ensured that research questions are answered appropriately.

3.3 Population of the Study

The population of the study was conducted on thirty-one (31) commercial state corporation in Kenya, as presented by Kenya inspectorate of state corporations (appendix II). A census will be carried out given the relatively low population size.

3.4 Data Collection

The study used primary data. The data was collected using a structured questionnaire (appendix I). This data was collected from operations managers, warehouse managers and supply chain managers or their equivalents since they are deemed to be well versed and have good understanding of stock control practices and operational activities of the commercial state corporations. The research targets to administer 62 questionnaires, two questionnaires in each firm of study. The questionnaire comprised three sections.

Section A collected data on demographic characteristics of respondents; section B on stock controls practices that have been adopted in the firm while section C collected data on the relationship between stock control practices and operational performance. The

questionnaires were administered through emails and others was be administered to the respondents in the selected firms using the drop and pick later method. The questionnaire had structured questions that were answered using the form of Likert type scale where respondents were required to indicate their views on a scale of 1 to 5 this indicated the extent to which the variable are practiced in the firm.

3.5 Data Analysis

The data that was collected from the commercial state corporation it was analyzed using descriptive statistics including mean and standard deviation by use of the relevant computer packages. Two methods of data analysis were therefore adopted to enable the researcher to conduct a comprehensive analysis. Objective one was analyzed through descriptive statistics in the form of frequencies and percentages; and regression analysis was used for objective two.

The information from the analysis was displayed by use of bar charts and tables to search for any correlation between stock control practices and operational performance. The following regression equation was used to show the relationship between stock control practices and operational performance of commercial state corporations.

$$y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$$

Where: y = Operational performance

α = Constant; y intercept, that is, the value of y when x is equal to zero

$\beta_1 \dots B_5$ = the slope representing degree of change in independent variable by one-unit variable

X1 = ABC Analysis

X2= Just-in-time management practices

X3= Economic Order Quantity practices

X4= Materials Requirement planning practices

X5= Vendor Managed Inventory practices

ε = error term

Table 3.1: Summary of data collection and analysis to be adopted in the questionnaire

RESEARCH OBJECTIVES	DATA COLLECTION METHOD (Questionnaire)	DATA ANALYSIS METHOD
Demographic Information	Section A	Descriptive statistics
To establish Stock Control Practices used by Commercial State Corporations in Kenya.	Section B	Descriptive statistics
To establish the relationship between stock control practices and operational performance in State Corporations in Kenya.	Section C	Regression Analysis

(Source: Researcher, 2017)

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

In this chapter, we analyze the data collected from commercial state corporations in Kenya in regard to study objective. Data is analyzed to identify, describe and explore the practices used by this Corporation and the relationship between stock control practices and operational performance in this Corporation in Kenya. Data were obtained from self-administered questionnaires, completed by 31 state corporations and they were usable for this study and met the required inclusion criteria as discussed in the previous chapter. This represented 100% of the target sample size.

The responses gathered from the survey have been analyzed using the SPSS software. This chapter solely focuses on presenting the collected data in a meaningful way for easy understanding and to facilitate the discussion, which will be presented in Chapter 5.

In this chapter, we start with the provision of the background of the respondents by analyzing their demographic profile and then this is followed by findings and analysis of data. The findings and analysis is composed of descriptive analysis and regression analysis, this include demographic profile, stock control practices used by commercial State Corporation and the relationship between stock control practices and operational performance in State Corporation in Kenya. Diagrams and tables such as frequency tables have been used to facilitate a simplistic reader-friendly understanding.

4.2 Descriptive Statistics

This presents the descriptive statistics of the data collected in the study in which the researcher used the frequency and percentages in analyzing the data in this section.

4.2.1 Demographic Profile

My target respondent for this study worked in different commercial state corporations. My questionnaire design was to target respondent working in these commercial state corporations under for capacities: Operation Managers, Warehouse Managers, Supply

chain Managers and Others which entails other title than the mentioned above given to personnel working in the stock control department commercial state corporations in Kenya. Out of the 31 respondents from this commercial state corporations who responded to the questionnaire, two are operation managers, eight are warehouse managers, eight are supply chain manager and thirteen are others, translating to 6.5%, 25.8% ,25.8%,41.9% respectively of the sample size.

Respondents were asked to tick how long they have worked in the company appropriately. All of them responded to the question (31 responses or 100%). Twenty nine percent of the respondents worked for that organization under two years' (9 responses). Twenty of the thirty-one respondents (64.5%) have worked for the organization between six and ten years which constituted the bulk of the sample and two of the thirty-one respondents (6.5%) have worked for the organization for more than ten years which constituted the least category of the sample size

Table 4.1: How long have you worked in this position?

The table below represents the level of experience of the respondents

Service	Frequency	Percent
below 5 years	9	29.0
between 6-10 years	20	64.5
above 20 years	2	6.5
Total	31	100.0

(Source: Researcher, 2017)

Respondents were required to tick how long the organization has been in operation appropriately in this categories of below 5 years, 6-10 years, 11-15 years, 16-20 years, 21-35 years, above 25 years and 3.2%,3.2%,19.4%,25.8%,9.7% and 38.7% respectively respondent to these categories. Most of the respondents worked in the commercial state corporations which have been in operation for more than eleven years which constitutes of

93.6% of the sample. From these findings, it was ascertained that all the respondents involved in this study had adequate knowledge on the study sought based on their adverse experience in the various specializations.

Table 4.2: How long has the organization been in operation?

The table below represents the responses on the number of years the state corporations have been in operation.

Service	Frequency	Percent
below 5 years	1	3.2
between 6-10 years	1	3.2
between 11-15 years	6	19.4
between 16-20 years	8	25.8
between 21-25 years	3	9.7
above 25 years	12	38.7
Total	31	100.0

(Source: Researcher, 2017)

From the findings, 3.2% of the respondents indicated that the firm had been in operation for a period below 5 years, 3.2 % of the respondents indicated that the firm had been in operation for 6-10 years, 19.4% of the respondents ascertained that the firm had been in operation for 11-25 years ,25.8% of the respondents indicated that the firm had been in operation for a period between 16-20 years,9.7% of the respondents indicated that the firms had been in operation for a period between 21-25 years and 38.7% of the firms had been in operation for over 25 years. This indicated that most of the firm a used in this study had adverse practical experience in the use of stock control practices.

4.3 Analysis of Stock Control Practices adopted by Commercial State Corporation

The first objective of the study was to ascertain the stock control practices adopted by commercial state corporations. To establish these, the researcher used descriptive statistics to indicate the level at which the various stock control practices had been implemented. There are five (5) stock control practices used by the commercial state corporations and among them are: Just in Time Practice, ABC analysis practice, Economic order practice, Material requirement practice and Vendor managed inventory

4.3.1 Just In Time Practice

The table below represents the various responses on the extent to which Just in time practice had been adopted in commercial state corporations:

Table 4.2. The firm produces what is being needed

Service	Frequency	Percent
.00	1	3.2
Neutral	3	9.7
Agree	13	41.9
strongly agree	14	45.2
Total	31	100.0

(Source: Researcher, 2017)

Respondents were required to rate on what extent their organization has used Just-In-Time Practices to manage stocks in an effort to improve on operational performance had been adopted by commercial state corporations by indicating the agreeable level with them in accordance to the likert 5-pointscale where: 5= strongly agree, 4 = Agree ,3= Neutral ,2= Disagree and1= Strongly Disagree. From the responses, 3.2% of the respondents disagreed 9.7% of the respondents indicated a neutral response ,41.9% of the respondents agreed and 45.2% of the respondents strongly agreed that the firm produces what is being needed. This response indicated that JIT has been adopted in commercial state corporations to large extent.

Table 4.3: The firm only stores what is being required in the production process

The table below shows the responses on the extent to which the respondents felt about JIT practice adoption based on the firm only stores what is being required in the production process.

Table 4.4: The firm only stores what is being required in the production process

The table below represents responses on the extent to which JIT have been adopted by the state corporations in Kenya

Service	Frequency	Percent
strongly disagree	2	6.5
Neutral	1	3.2
Agree	15	48.4
strongly agree	13	41.9
Total	31	100.0

(Source: Researcher, 2017)

From the findings, 6.5% of the respondents strongly agree, 3.2% of the respondents were neutral, 48.45 of the respondents agree and 41.9% strongly agree that the firms only store what is being required in the production process. From the findings it was ascertained that to a large extent, JIT had been implemented in the commercial state corporations based on the responses where most of the respondents agreed that firms only store what is required in the production which is an activity of JIT.

Table 4.5: It reduces the stock and the carrying cost associated in the firm

The table 4.4 below shows the frequencies on the responses on the extent to which JIT has been adopted by commercial state corporations.

Service	Frequency	Percent
strongly disagree	1	3.2
Neutral	2	6.5
Agree	15	48.4
strongly agree	13	41.9
Total	31	100.0

(Source: Researcher, 2017)

From the findings 3.2% of the respondents strongly disagree, 6.5% of the respondents were neutral, 48.4% of the respondents agreed, and 41.9% of the respondents strongly agree that JIT had been adopted in the commercial state corporations indicated by its feature where the respondents agreed that to a large extent it reduces the stock and the carrying costs associated in the firm. In conclusion, the responses indicated that JIT had been adopted in the commercial state corporations.

Table 4.6: It leads to zero defects products

The table below represents the responses to the fact that the respondents were asked on the extent to which they agree that JIT leads to zero defects.

Service	Frequency	Percent
.00	1	3.2
Neutral	4	12.9
Agree	8	25.8
strongly agree	18	58.1
Total	31	100.0

(Source: Researcher, 2017)

The findings indicated that 3.2% of the respondents indicated that they disagreed, 12.9% of the respondents were neutral, 25.8% of the respondents agreed, 58.1% of the respondents strongly agreed, that JIT leads to zero defects. From the findings, it was concluded that JIT as a practice, had been implemented in the commercial state corporations.

4.3.2 ABC analysis

Respondents were required to rate on what extent their organization has used A, B, C Practices to manage stocks in an effort to improve on operational performance by indicating the agreeable level with them in accordance to the likert 5 point scale where: 5= strongly agree, 4 = Agree ,3= Neutral ,2= Disagree and 1= Strongly Disagree.

A lot of the respondents (81%) agrees that the firm uses it as a stock classification system to allocate time and finances in stock practice while 19% are neutral, twenty seven respondents out of thirty one translating to 87% agrees the firm uses it to assess the status of the items in the stocks while 13% are neutral, 87% of the respondents agrees that the firm can use this method to determine the specific attention required by each group of stocks while 13% are neutral about it, All the respondent were in agreement except for one that the firm through this practice can divides stocks in the warehouse into different classification of A, B and C. Below is a frequency table list.

Table 4.7: The firm uses it as a stock classification system to allocate time and finances in the stock practice

The table below represents the responses from the respondents who were asked to indicate to what extent ABC had been adopted in the state corporations.

Service	Frequency	Percent
Neutral	6	19.4
Agree	15	48.4
strongly agree	10	32.3
Total	31	100.0

(Source: Researcher, 2017)

The findings indicated findings 32.3% of the respondents strongly agree, 19.4% of the respondents were neutral, 48.4% of the respondents agreed that commercial state corporations adopt ABC analysis as a practice. This is based on high levels of the responses who agreed that the firm uses it as a stock classification system to allocate time and finances in the stock practice

Table 4.8: The firm uses it to assess the status of the items in the stocks

The table below represents the responses on the extent that ABC had been adopted on the commercial state corporations.

Service	Frequency	Percent
Neutral	4	12.9
Agree	13	41.9
strongly agree	14	45.2
Total	31	100.0

(Source: Researcher, 2017)

The findings indicated 45.2% of the respondents strongly agree, 12.9% of the respondents were neutral, 41.9% of the respondents agreed that commercial state corporations adopted ABC analysis as a practice. This is based on the many responses agree to a large extent that the firm uses IT to assess the status of the items in the stock

Table 4.9: The firm uses it to determine the specific attention required by each group of stocks

The table below represents the responses on the extent that ABC had been adopted in the commercial state corporations.

Service	Frequency	Percent
disagree	1	3.2
neutral	3	9.7
agree	15	48.4
strongly agree	12	38.7
Total	31	100.0

(Source: Researcher, 2017)

The findings indicated 48.7% of the respondents strongly agree, 9.7% of the respondents were neutral, 48.4% of the respondents agreed that commercial state corporations adopted ABC analysis as a practice. This is based on the many responses agree to a large extent that: The firm uses it to determine the specific attention required by each group of stocks

Table 4.10: The firm divides stocks in the warehouse into different classification of A, B and C

The table below represents responses on the aspects to what extent, the respondents agreed that ABC had been adopted by commercial state corporations.

Service	Frequency	Percent
neutral	1	3.2
agree	13	41.9
strongly agree	17	54.8
Total	31	100.0

(Source: Researcher, 2017)

The findings indicated 54.8% of the respondents strongly agree, 3.2% of the respondents were neutral, 41.9% of the respondents agreed that commercial state corporations adopted ABC analysis as a practice. This is based on the many responses agree to a large extent that: the firm divides stocks in the warehouse into different classification of A, B and C. Hence ABC as a practice has been adopted by the state corporations.

4.3.3 Economic order quantity practices

Respondents were required to rate on what extent their organization has used economic order quantity Practices to manage stocks in an effort to improve on operational performance by indicating the agreeable level with them in accordance to the likert 5point scale where: 5= strongly agree, 4 = Agree ,3= Neutral ,2= Disagree and 1= Strongly Disagree.

Table 4.11: Statistics

The table below represents the statistics on the extent to which use of Economic order quantity had been adapted by the state corporations

		The firm only orders the actual amount being required for production hence minimizes the cost of holding stock	The firm uses it to know how much of the stock is being required for production	It ensures there is efficient and effective levels of stocks in the firm	It helps the company to determine the exact time the firm needs to make an order
N	Valid	31	31	31	31
	Missing	0	0	0	0
Mean		4.0000	4.1935	4.1613	4.3871
Std. Deviation		.96609	.94585	.77875	.76059

(Source: Researcher, 2017)

The findings indicated that a mean value of 4.000 was attained for the fact that the firm orders the actual amount being required for production hence minimizes the cost of holding stock besides a mean value of 4.1935 was attained for the fact that the firm uses EOQ to know how much of the stock is being required for production, 4.1613 mean value as attained for the fact that EOQ ensures there is efficient and effective levels of stock in the firm and a mean value of 4.3871 was attained for the fact that it helps the firm to determine the exact time the firm needs to make an order. This indicates that to a; agree extent EOQ has been adopted as a practice in commercial state corporations.

Table 4.12: The firm only orders the actual amount being required for production hence minimizes the cost of holding stock

The table below represents the responses on the levels to which EOQ has been adopted.

Service	Frequency	Percent
strongly disagree	1	3.2
neutral	8	25.8
agree	11	35.5
strongly agree	11	35.5
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 35.5% of the respondents strongly agree, 25.8% of the respondents were neutral, 35.5 % of the respondents agreed that commercial state corporations adopted EOQ analysis as a practice. This is based on the many responses agree to a large extent that: The firm only orders the actual amount being required for production hence minimizes the cost of holding stock. Hence EOQ as a practice has been adopted by the state corporations.

Table 4.13: The firm uses it to know how much of the stock is being required for production

The table below represents responses on the extent to which EOQ had been adopted.

Service	Frequency	Percent
strongly disagree	1	3.2
Neutral	5	16.1
Agree	11	35.5
strongly agree	14	45.2
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 45.5% of the respondents strongly agree, 16.1% of the respondents were neutral, 35.5 % of the respondents agreed that commercial state corporations adopted EOQ analysis as a practice. This is based on the many responses agree to a large extent that: the firm uses it to know how much of the stock is being required for production. Hence EOQ as a practice has been adopted by the state corporations.

Table 4.14: It ensures there are efficient and effective levels of stock in the firm

The table below represents the responses to the extent of adopting EOQ in firms.

Service	Frequency	Percent
neutral	7	22.6
agree	12	38.7
strongly agree	12	38.7
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 38.7% of the respondents strongly agree, 22.6% of the respondents were neutral, 38.7% of the respondents agreed that commercial state corporations adopted EOQ analysis as a practice. This is based on the many responses agree to a large extent that: EOQ ensures there is an efficient and effective level of stock in the firm. Hence EOQ as a practice has been adopted by the state corporations.

Table 4.15: It helps the company to determine the exact needs to make and order

The table below represents the responses to the extent of adopting EOQ in firms.

Service	Frequency	Percent
Neutral	5	16.1
Agree	9	29.0
strongly agree	17	54.8
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 54.8% of the respondents strongly agree 29% of the respondents were neutral, 16.1% of the respondents agreed that commercial state corporations adopted EOQ analysis as a practice. This is based on the many responses agree to a large extent that: EOQ helps the company to determine the exact needs to make and order. Hence EOQ as a practice has been adopted by the state corporations in Kenya.

4.3.4 Materials requirement planning practice

Respondents were required to rate on what extent their organization has used material requirement planning Practices to manage stocks in an effort to improve on operational performance by indicating the agreeable level with them in accordance to the likert 5point scale where: 5= strongly agree, 4 = Agree ,3= Neutral ,2= Disagree and 1= Strongly Disagree.

Twenty four respondents out of thirty one respondents translating to 77.4%% of the firm uses MRP to control the flow of supplies to meet planned requirement while a few participants 3.2% strongly disagrees with this method and 3.2% refused to answer this question , 70.1% respondents agrees that the firm uses it to determine what is required before the next stage of production and delivery while also a considerable being number of respondents 9.7% strongly disagrees and 6.5% refused to answer this question, 80.7% of the respondent agrees about the way the firm uses it to track orders throughout the entire

production process while 6.5% strongly disagree and 6.5% refused to answer, and 83.8% respondents agreed that this practice assists firms in detailed planning of production and stock management while 3.2% strongly disagrees and 6.5% refused to answer it. The mean is approximately 4 and the standard deviation is approximately 1 which means the data is normally distributed with a small variation. Below are bar charts.

4.3.5 Vendor managed inventory

Respondents were required to rate on what extent their organization has used vendor managed inventory Practices to manage stocks in an effort to improve on operational performance by indicating the agreeable level with them in accordance to the likert 5point scale where: 5= strongly agree, 4 = Agree ,3= Neutral ,2= Disagree and 1= Strongly Disagree

Majority of the participants (83.9%) agrees that the firm purchases specified items from distributors thus no holding the stock in the company while 3.2% strongly disagree, 87% of the participant agrees that it helps to reduce the damages due to the long time storage of stocks in the company while only 6.5% of the participants disagrees,93.5% of the participant agrees that it helps to reduce the damages due to the long time storage of stocks in the company, and twenty seven of thirty one respondent (87.1%) agrees that the practice allows the flexibility of the customers demand in the market. The mean is approximately 4 and the standard deviation is approximately 1 which means the data is normally distributed with a small variation. Below are the frequency tables

Table 4.15: The firm uses MRP to control the flow of supplies to meet planned requirement

Service	Frequency	Percent
.00	1	3.2
strongly disagree	1	3.2
Neutral	5	16.1
Agree	13	41.9
strongly agree	11	35.5
Total	31	100.0

(Source: Researcher, 2017)

Table 4.16: Statistics

The table below represents responses on the VMI adoption in the commercial state corporation

	The firm purchases specified items from distributors thus no holding the stock in the company	It helps to reduce the damages due to the long-time storage of stocks in the company	The assists the firm to eliminate the need to reorder and avoid stock outs being experienced in the firm	The practice allows the flexibility of the customers demand in the market
N	31	31	31	31
Missing	0	0	0	0
Mean	4.0645	4.4194	4.2258	4.4516
Std. Deviation	.92864	.88597	.56034	.72290

(Source: Researcher, 2017)

The responses indicated that a mean value of 4.06 was established on responses whereby the firm purchases specific items from distributors hence no holding stock for the firm. A mean value of 4.41 was attained for a statement indicating that VMI helps reduce the long-time storage of stock in the company. A mean value of 4.22 was attained to the fact that VMI help in the reduction of damages due to long term storage of stocks in the firm. Hence VMI as a practice has been adopted by the state corporations in Kenya.

Table 4.17: The firm purchases specified items from distributors thus no holding the stock in the company

Service	Frequency	Percent
strongly disagree	1	3.2
Disagree	1	3.2
Neutral	3	9.7
Agree	16	51.6
strongly agree	10	32.3
Total	31	100.0

The table below represents responses on the extent to which VMI has been adopted in the commercial state corporations.

(Source: Researcher, 2017)

The responses indicated that 3.2%strongly disagree, 32.3% of the respondents strongly agree 9.7% of the respondents were neutral, 51.6% of the respondents agreed that commercial state corporations adopted VMI as a practice. This is based on the fact many responses agree to a large extent that VMI helps the firm purchases specified items from distributors thus no holding the stock in the company. Hence VMI as a practice has been adopted by the state corporations in Kenya.

Table 4.17: It helps to reduce the damages due to the long-time storage of stocks in the company

The table below represents the extent to which VMI had been adopted in the commercial state corporations.

Service	Frequency	Percent
disagree	2	6.5
neutral	2	6.5
Agree	8	25.8
strongly agree	19	61.3
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 6.5% of the respondents disagreed. 61.3% of the respondents strongly agree. 6.5% of the respondents were neutral, 25.8% of the respondents agreed that commercial state corporations adopted VMI as a practice. This is based on the fact many responses agree to a large extent that VMI helps to reduce the damages due to the long-time storage of stocks in the company. Hence VMI as a practice has been adopted by the state corporations in Kenya.

Table 4.18: It assists the firm to eliminate the need to reorder and avoid stock outs being experienced in the firm

The table below represents responses on the extent to which VMI as practice had been adopted by commercial state corporations.

Service	Frequency	Percent
neutral	2	6.5
Agree	20	64.5
strongly agree	9	29.0
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 29% of the respondents strongly agree 6.5 % of the respondents were neutral, 64.5% of the respondents agreed that commercial state corporations adopted VMI as a practice. This is based on the fact many responses agree to a large extent that VMI helps assists the firm to eliminate the need to reorder and avoid stock outs being experienced in the firm. Hence VMI as a practice has been adopted by the state corporations in Kenya.

Table 4.19: The practice allows the flexibility of the customers demand in the market

The table below represents the responses n\based on the adoption of VMI as a practice in the inventory management

Service	Frequency	Percent
Neutral	4	12.9
Agree	9	29.0
strongly agree	18	58.1
Total	31	100.0

(Source: Researcher, 2017)

The responses indicated that 58.1% of the respondents strongly agree 12.9 % of the respondents were neutral, 29% of the respondents agreed that commercial state corporations adopted VMI as a practice. This is based on the fact many responses agree to a large extent that VMI helps in the flexibility of the customers demand in the market. Hence VMI as a practice has been adopted by the state corporations in Kenya.

4.3.6 Measurement of Operational Performance

Respondents were required to rate on what extent do they concur with the following statements of measurement of operational performance by kindly indicating the level to which they concur with them in accordance to the likert 5-point scale where: 5= strongly agree, 4 = Agree, 3= Neutral, 2= Disagree and 1= Strongly Disagree.

Majority of the respondents(87%) agrees that the firm has a proper customer feedback mechanism used for improvement while 6.5% strongly disagrees, also a lot of the respondents strongly agrees the firm has taken keen interest to the customer complaints and address them while a few participants 3.2% strongly disagrees,48.4% strongly agrees that every employee in the organizations is given clear work instructions to avoid providing

substandard service to customers while a being number of the respondent 16.1% strongly disagrees,41.9% strongly agrees that the firm has enough capacity to meet the demand of the customers at all time while a large number 6.5% refusal to answer. A lot of respondents 77.4%agree that management takes upper hand in ensuring that products meet the customer's specifications while only a small number of 3.2% disagrees. A lot of the respondent 41.9% strongly agrees that the firm management ensures continuous supply of raw material to avoid shortage of products in the market hence meeting but a few 3.2% disagrees but a big number of 6.5% refused to answer this question. A lot of the respondent 83.8% agrees that the firm continuously improves the system through evaluation and measurement while only a few of them tended to be neutral (16.1%).80.9% of the participants strongly agrees that the availability of external financing depends on various factors, which are in part related to the general economic situation and your specific situations while only 3.2% strongly disagrees and 6.5% refused to answer. Approximately a third of the respondents translating to 35.5% strongly agrees the service quality offered by the firm to their customers solely depends on their financial income level while a few (6.5%) participants strongly disagrees and 3.2% of the respondents refused to answer it.

4.4 Stock control practices in commercial state corporations

The second objective of this study was to establish the relationship between stock control practices and performance of commercial state corporations in Kenya. To ascertain this regression analysis was carried out between stock control practices and operational performance of commercial state corporations in Kenya and the findings are as indicated below: The results presented in table 4.20 present the fitness of model used of the regression model in explaining the study phenomena.

Table 4.20: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.665 ^a	.442	.330	1.02201

Dependent operational performance

Independent: Constant (vendor managed inventory, ABC, Just in Time, Materials requirement planning and EOQ)

(Source: Researcher, 2017)

The adjusted R square shows that 44.2% of the total variability of the operational performance can be explained by the stock control practices (Vendor managed inventory, just in time practice, Materials requirement planning practices, Economic order quantity practices, ABC analysis practices). These results also imply that the model applied to link the relationship of the variables was satisfactory. Besides the significance levels of 0.009 indicated that the variables have a significant effect on performance since it is lower than the significance level of 0.05 at 95% confidence level.

Table 4.21: Anova

The table below represents the results of the analysis of Variance.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.662	5	4.132	3.956	.009 ^b
	Residual	26.113	25	1.045		
	Total	46.774	30			

(Source: Researcher, 2017)

Dependent operational performance

Independent: Constant (vendor managed inventory, ABC, Just in Time, Materials requirement planning and EOQ)

Analysis of variance was conducted to establish the significance of the regression model. The results in the table above indicated that the model was significant. $F(5,25)=3.956, p<0.009$

The p value is less than 0.05 thus we can conclude that the independent variable (stock control practices) can reliably predict the dependent variable (operational performance). The independent variable shows a significant relation with the dependent variable. The table shows that the independent variables (stock control) statistically is significant in predicting the dependent variable $(5, 25) = 3.958, p < .009$ (The regression model is a good fit).

Table 4.22: Coefficients

Model		Unstandardized		Standardized		
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.593	1.241		5.315	.000
	Just in time practices	.016	.044	.067	.365	.718
	Abc analysis practices	.016	.317	.015	.049	.961
	Economic order quantity practices	.136	.342	.117	.398	.694
	Materials requirements planning practices	-.755	.180	-.658	-4.201	.000
	Vendor managed inventory	-.154	.225	-.109	-.684	.500

(Source: Researcher, 2017)

Estimates model Coefficients.

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

$$\begin{aligned} \text{Operational performance} = & 6.593 + (0.016 * \text{Justin Time}) + (0.016 * \text{ABC Analysis}) \\ & + (0.136 * \text{Economic order quantity}) + (-0.755 * \text{MRP}) + (-0.154 * \text{Vendor Managed Inventory}) \\ & + \varepsilon \end{aligned}$$

Regression of coefficients results in Table 4.22 above shows that Just In Time practice and operational performance are positively and not significantly related ($r=0.016$, $p=0.718$). An increase in the unit change in Just In Time practice would lead to an increase in operational performance by 0.016 units. This implies that Just In time practice is not statistically significant at 95% confidence level since the p-value of 0.718 is more than 0.05. The results further indicate that in ABC analysis and operational performance were positively and not significantly related ($r=0.794$, $p=0.961$). These results imply that an increase in the unit change in in ABC analysis would lead to an increase in the operational performance by 0.716 units. Besides a p-value of 0.961 indicates that ABC analysis is not statistically significant at 95% confidence level since it is more than the critical value of 0.05. It was further established that MRP and operational performance were positively and insignificantly related ($r=0.136$, $p=0.694$). This meant that a unit change in EOQ would lead to 0.136 units in operational performance; since the p-value was more than 0.05 at 95% confidence level this indicates that EOQ is not statistically significant. Moreover, MRP attributes and operational performance were also negatively and significantly related ($r=-0.755$, $p=0.000$) an indication that an increase in the MRP by one unit results in an increase in the operational performance by -0.755. Besides that, p-value of 0.000 indicates that MRP is statistically significant at 95% confidence level. VMI and operational performance were negatively and insignificantly correlated ($r=-0.154$, $p=0.500$). This shows that an increase in the unit change in, supplier information technology would lead to an increase in supply chain performance by -0.154. In addition the p-value of 0.500 indicates that VMI is not statistically significant at 95% confidence level since it is more than 0.05 critical values

4.5 Discussion

To a great extent stock control practices have been implemented in commercial state corporations in Kenya as indicated by the responses where more than 50 percent of the respondent indicated that it has adopted to a large extent. The findings establish that stock control practice affect performance as indicated by R square value of 44.2 percent an indication that operational performance is explain by stock control practices to an extent of 44.2 percent.

These findings are in line to studies done previously by other researchers: Juan and Martinez (2002) on a group of small and medium sized Spanish firms revealed a correlation between stock control practice and performance of small and medium sized Spanish firms. The study which incorporated 8872 firms showed that effective inventory management processes helps increase firms' operational efficiency.

A study conducted by Rajeeve (2008) on 91 Indian machine Tool enterprises to establish the relationship between inventory management practices and operational performance is positive. The result form this study showed that inventory performance has a positive correlation with inventory control practices. The findings concluded that the higher the level of stocks in the firm, the lower the financial performance due to increase cost associated with holding a lot of stock in the firm. Rajeev (2010) argues that stock control practices are a way of acquiring competitiveness and increase operational performance.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the study findings and draws the necessary conclusion. The findings provide very important insight of stock control practices and operational performance on commercial state corporations in Kenya and give a recommendation on what should be done to improve operational performance on commercial state corporations.

5.2 Summary of the Study

The two major objectives of this study were; to establish the stock control practices used by commercial state corporations in Kenya and the relationship between the stock control practices and operational performance of the commercial state corporations in Kenya. Stock control plays a major role in any business organization. To achieve these objectives, it became essential to gather data on commercial state corporations through administering structured questionnaire then analyzing it and presenting the findings. The study considered thirty-one commercial state corporations in Kenya as presented by Kenya inspectorate of state corporations. The findings of this study point out that performance of commercial state corporations in Kenya are influenced by stock control practices.

5.3 Conclusions

From the analysis of the study, it is clear that stock control practices have influence on the operational performance of commercial state corporations. Specifically, the research found out that Just in time practice was highly acceptable to firms which were producing what customers needed to the cost associated storage costs. ABC Analysis practices was also found to be acceptable to companies that use stock classification system to allocate time and finances on stock control practice.

Materials requirement planning practice was also found to be acceptable to firms to control the flow of supplies to meet planned requirement and to make available assemblies just before they are required by the next stage of production.

It was also observed that Vendor managed inventory practice is widely acceptable to firms which purchase specified items from distributors thus no holding the stock in the company. It was thus concluded that there is a significant relationship between the stock control practices and operational performance on commercial state corporations in Kenya.

5.4 Suggestions for future research

A study should be conducted to investigate stock control practices and operational performance on the private sector in Kenya.

5.5 Limitations of the study

The study experienced challenges in terms of time and finance. Furthermore, most of the main respondents were not available hence the questionnaires had to be filled by other officers in the procurement department which also did not want to give out the information as they are confidential to the organization.

5.6 Weakness of the study

The main weakness experienced in carrying out the research is the alignment of the appropriate stock control practice which limited the strength of the measurements used in carrying out the analysis. The study limited the comparability of the results obtained with the control groups leading to unstable assumption of the results. Considerably, being a qualitative study, the participants had more control of the data collected creating a weakness in verifiability.

5.7 Recommendations

In regard to this study, recommendations were made to the state corporations to choose the appropriate stock control practice that goes in line with the nature of their business. For instance, manufacturing industry should adopt just in time practice and economic order quantity practice; regional development authorities should adopt materials requirement planning practice whereas service delivery can adopt vendor managed inventory practice and ABC Analysis practices.

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APPENDICES

Appendix I: Research Questionnaire

The structured questionnaire presented is exclusively for data collection on the stock control practices commonly used by Commercial State Corporation in Kenya. Data collected shall be treated with utmost confidentiality and the general purpose is for academic continuance.

SECTION A: DEMOGRAPHIC INFORMATION

1. Position Held: Please tick where appropriate

Operation Manager Warehouse Manager Supply Chain Manager

Others? (Specify)

1b. Do you participate in stock control in your company? [Yes] [No]

2. How long have you worked in this position? Please tick where appropriate

Below 2 years Between 2-5 years Between 6-10 years

Between 11-15 years between 16-20 years Above 20 years

3. How long has the organization been in operation? Please tick where appropriate

Below 5 years Between 6-10 years Between 11-15 years

Between 16-20 years Between 21-25 years Above 25 years

SECTION B: Stock Control Practices adopted by Commercial State Corporation.

4. To what extent has your organization used Just-In-Time Practices to manage stocks in an effort to improve on operational performance? Kindly indicate the level to which you agree with them in accordance to the scale of 5-1: 5= strongly agree 4 = Agree 3= Neutral 2= Disagree 1= Strongly Disagree.

Just-In-Time Practices	1	2	3	4	5
The firm produces what is being needed by the customers.					
The firm only stores what is being required in the production process.					
It reduces the stock and the carrying cost associated in the firm.					
It leads to zero defects products.					

5. To what extent has your company used ABC Analysis Practices to manage stock in an effort to improve operation performance. Kindly indicate the level to which you agree with them in accordance to the scale of 5-1: 5= strongly agree 4 = Agree 3= Neutral 2= Disagree 1= Strongly Disagree

ABC Analysis Practices	1	2	3	4	5
The firm uses it as a stock classification system to allocate time and finances in stock practices.					
The firm uses it to assess the status of the items in the stocks					
The firm uses it practices to determine the specific attention required by each group of stocks.					
The firm divides stocks in the warehouse into different classification of A, B and C.					

6. To what extent has your firm used Economic Order Quantity Practices to manage and control stocks in order to improve operational performance? Kindly indicate the level to which you agree with them in accordance to the scale of 5-1: 5= strongly agree 4 = Agree 3= Neutral 2= Disagree 1= Strongly Disagree.

Economic Order Quantity Practices	1	2	3	4	5
The firm only orders the actual amount being required for production hence minimizes the cost of holding stock.					
The firm uses it to know how much of the stock is being required for production.					
It ensures there is efficient and effective levels of stocks in the firm.					
It helps the company to determine the exact time the firm needs to make an order.					

7. To what extent has your organization used Material Requirements Planning Practices to manage stock to improve operational performance? Kindly indicate the level to which you agree with them in accordance to the scale of 5-1: 5= strongly agree 4 = Agree 3= Neutral 2= Disagree 1= Strongly Disagree.

Materials Requirements Planning Practices	1	2	3	4	5
The firm uses Materials Requirement Planning to control the flow of supplies to meet planned requirement.					
The firm makes available assemblies just before they are requirement by the next stage of production or for delivery.					
The firm uses it to track orders throughout the entire production process.					
It assists the firm in the detailed planning of production and stock management.					

8. To what extent has your firm used Vendor Managed Inventory Practice to manage stock to improve operational performance? Kindly indicate the level to which you agree with them in accordance to the scale of 5-1: 5= strongly agree 4 = Agree 3= Neutral 2= Disagree 1= Strongly Disagree.

Vendor Managed Inventory	1	2	3	4	5
The firm purchases specified items from distributors thus no holding the stock in the company.					
It helps to reduce the damages due to the long-time storage of stocks in the company.					
It assists the firm to eliminate the need to reorder and avoid stock-outs being experienced in the firm.					
The practice allows the flexibility of the customers demand in the market.					

9. Kindly mention other stock control practices, if any, implemented in your organization?

.....

SECTION C: Measurement of Operational Performance

10. To what extent do you concur with the following statements? Kindly indicate the level to which you concur with them in accordance to the scale of 5-1: 5= strongly agree 4 = Agree 3= Neutral 2= Disagree 1= Strongly Disagree.

		1	2	3	4	5
1	The firm has a proper customer feedback mechanism used for improvement.					
2	The firm takes in keen interest to the customers' complaints and addresses them.					

3	Every employee in the organizations is given clear work instructions to avoid providing substandard service to customers					
4	Firm has enough capacity to meet the demand of the customers at all time.					
5	Management takes upper hand in ensuring that products meet the customer's specification.					
6	The firm management ensures continuous supply of raw material to avoid shortage of products in the market hence meeting customer demand.					
7	The firm continuously improves the system through evaluation and measurement.					
8	The availability of external financing depends on various factors, which are in part related to the general economic situation and your firm-specific situation.					
9	The service quality offered by the firm to their customers solely depends on their financial income level.					

Thank you for your contribution