

FACTORS AFFECTING THE MANAGEMENT ON THE APPLICATION OF  
ENTERPRISE RESOURCE PLANNING SYSTEM.A CASE OF NATIONAL  
CEREALS AND PRODUCE BOARD IN KENYA.

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## DECLARATION

The research report entitled Factors Affecting Management on the Application of ERP system. A case of National Cereals and Produce Board in Kenya is my own original work and has not been presented for any study programme in Kenyatta University or elsewhere for marking or otherwise.

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This research has been submitted for examination with my Approval as the Supervisor

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Date.....

## **DEDICATION**

This research report is dedicated to my beloved wife Mrs Maryline Chirchir, children Kevin Kiptoo, Diana Chepkirui, Emmanuel Kibet, Purity Chepngetich and Superiors at place of work Mr Josphat Githuku and Aziz Musa Ngare.

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## DEFINITION OF OPERATIONAL TERMS

**Enterprise Resource Planning:** Enterprise Resource Planning System is a system that captures information across all functional units of an enterprise like Manufacturing, Sale, Purchases and Inventory. It allows the sharing of an enterprise data which assist in making decisions in the whole firm.

**Customization:** It is a process of writing programs of particular software to suit operations of a given firm. Business policies, procedures and systems differ from one organization to another thus software customization is necessary.

**Integration:** It is ability of all programs in a system to communicate and work as a single unit with an aim of achieving firm's mission, aims, objectives and vision.

**Software:** It a computer program or a group of programs that perform specific functions like processing invoices, receipts, payment vouchers and bank in slips.

## **ACRONYMS AND ABBREVIATIONS**

**ERP:** Enterprise Resource Planning

**NCPB:** National Cereals and Produce Board

**MRP:** Material Requirement Planning

**TOC:** Theory of Constraint

**CCR:** Capacity Constraint Resource

**GOK:** Government of Kenya

**SGR:** Strategic Grain Reserve

**FRS:** Famine Relief Stocks

**AFC:** Agricultural Finance Corporation

**SPM:** Sales Performance Management

**JIT:** Just In Time

**GDP:** Gross Domestic Products

**KPLC:** Kenya Power and Lighting Co Ltd

**SAP:** Systems Application Products

**IT:** Information Technology

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## **ABSTRACT**

The title of the study is Factors Affecting the management on the Application of ERP system. A case of National Cereals and Produce Board in Kenya. ERP system is an integrated system that handles the majority of system requirements in all function units of an enterprise. The benefits that accrue as a result of using ERP system are sharing of data in a centralized location, improved customer service and competitive advantage through increased market share. Organisations in Kenya using ERP systems are in sectors like banks, energy and water. NCPB is a parastatal under Ministry of Agriculture formed under an act of parliament of 1985 whose mandate is to buy, store and market cereals. ERP is used in NCPB to do selling transport, budget, purchase, Cashbook, debt and revenue collection. The specific objectives were to determine how effective inventory management influences application of ERP system, to find out how sales management influences application of ERP system and to determine to what extent to which distribution management affect application of ERP system in NCPB. The study adopted a descriptive research design which is a method of collecting information by interviewing or administering questionnaires to a sample. The study targeted a population of 511 employees of National Cereals and Produce Board all from 5 Regional Offices namely Nairobi, Kisumu, Nakuru, Eldoret, Mombasa. A stratified random sampling method was used to represent the population and to pick a sample of 51 respondents which was 10% of the target population of 511 employees who were provided with questionnaires. Validity is the degree to which results obtained from analysis of data actually represents the phenomenon under study. For validity reasons the questionnaire was tested on some staff who were not included in the final study. Reliability is a measure of the degree to which research instruments gives consistent results after repeated trials. To confirm reliability, instruments were pretested in a small sample which was used in the final survey and a repeat is done again soon. Data analysis was done through quantitative and qualitative techniques. Quantitative technique was applied because the nature of data to be collected was descriptive thus statistics in application here includes measures of central tendency like mean and measures of dispersion like standard deviation. The qualitative technique was used because some data in questionnaire is in narrative form thus prose format was used to analyze and present the results. The study findings were presented by use of tables and charts. The study will benefit policy makers like NCPB, Government and researchers. The findings concluded that with effective inventory management, there is a need to have optimum inventory level to reduce operating cost and through sales management, NCPB get more information to improve on service delivery by doing customer/employee survey. Finally with distribution management, there is accurate information on logistics thus NCPB was able to make quick decision on stock availability and transfers.









## **CHAPTER ONE INTRODUCTION**

### **1.1 Background to the study**

Enterprise Resource Planning (ERP) system is an integrated, customized, packaged software based system that handles the majority of system requirements in all functional areas such as finance, logistics, sales and marketing , and is being used widely all around the world (V.B. Genoulaz, P.A. Millet, 2006).National Cereals And Produce Board(NCPB) is a parastatal under Ministry of Agriculture formed under NCPB Act CAP 338 of 1985.This gives NCPB mandate to purchase, store and market cereals in Kenya.ERP(Navision) is used in NCPB to sell,transport,purchase,manage inventory,properties,Budget,Fixed Assets, Contracts and Cashbook. This study investigated user factors affecting ERP usage in sales activity of NCPB because some companies have adopted the system but they still make losses. The specific objectives of the study were to determine how effective inventory management influences application of ERP system of NCPB,to find out how sales management influences application of ERP system of NCPB and to determine the extent to which distribution management affect application of ERP system of NCPB.The research findings benefits policy makers like NCPB,government and researchers. This study was done at NCPB in five regional offices and simple, stratified and purposive sampling was applied. The data collection instruments used was questionnaire and structured interviews; whereby they were pilot tested for validity and reliability before actual administration. The data collected was descriptive in nature and statistics used in analyzing include measures of central tendency and dispersion.

#### **1.1.0 Enterprise Resource Planning System**

Enterprise Resource Planning system replace complex and manual interfaces between different systems with standardized, cross functional transaction automation. Order cycle times can be reduced, customer response times, and delivery speeds (Cotteleer and Bendoly, 2006; McAfee, 2005).Automated financial transactions can reduce cash-to cash cycle times and the time needed to settle financial data at the end of the year (Mabert et al., 2003, 2007;Stratman, 2001). Another benefit of ERP systems is that all enterprise

data are collected once during the initial transaction, stored, and updated in real time. This ensures that all levels of planning are based on the same data and that the result reflects the prevailing operating conditions of the firm. The standardized firm-wide transactions and stored enterprise data facilitate the governance of the firm (Scott and Vessey, 2002). ERP reports provide managers with a clear view of the relative performance of the various parts of the enterprise, which can be used to identify and take advantage of market opportunities (Kearney, 2004; Boston Consulting Group, 2005).

Enterprise Resource Planning systems have become the core platform for both internal and cross-company business processes. By integrating business functions, data and interfaces, they can bring many benefits, process efficiencies, improve customer service and if coupled with the right business strategy; amplify business advantage. The main reasons to use ERP, and the main reasons ERP is so visible in a company, are really business drivers, and include such motivations as: Compliance with industry standards or regulations, Customer mandates (avoiding chargeback and minimizing returns), Supply chain economies and opportunities and Competitive pressures (customer retention, rapid response).

They see their customers participating in business networking, and apply more emphasis on implementation monitoring and management of business processes across enterprise boundaries, and on partner-specific business processes. Achieving that vision requires a much higher level of customization, and also much greater emphasis on integration (James O'Leary, 2008). ERP system also has features to track lost orders and identify the reasons for losing those orders. Business partners and franchises are a common phenomenon in today's world. Latest ERP software will associate marketing personnel to their business partners and franchises and allow them to track and monitor their performance. ERP Software will allow the preparation of reports to track sales trends over different periods, drill down for the consolidated data, allow for sales forecast and give a bird's eye view of the sales and marketing activities of the company. A good sales and marketing ERP module is an essential feature of ERP software (Mr Frazer Boyd, 2008)

### **1.1.1 National Cereals and Produce Board**

NCPB was formed by merging of the Maize and Produce Board and the Wheat Board of Kenya in 1979. The aim of this merger was to streamline the management, handling and marketing of all grains. In 1985, parliament enacted the National Cereals and Produce Board (NCPB) Act Cap 338 formally making NCPB a corporate body. Under the Act, the Board was given monopoly powers to purchase, store and market all cereals and grains in Kenya. The grain sector was fully liberalized in 1993, in effect removing all government regulatory roles, but in all reducing its participation in the grain market. In reaction to its changed status, the NCPB was transformed in 1996 into a commercial entity, free to make independent commercial decisions and removing its dependence on the exchequer. Under this new mandate, the NCPB was mandated to carry out the following functions: maintain strategic grain reserve stocks, distribute Famine Relief food for the government, Commercial trading in cereals, pulses and Farm input, Shipping services and offer post harvest services in grain intake.

### **1.1.2 ERP System as used in NCPB**

ERP (Navision) as used in NCPB has the following modules Cash Management, Fixed Assets, Sales and marketing, Purchases Management, Transport Management, Budget and Budgetary Control and Property Management. Sales management module registers customers with customer account, name, address, Tel no, Customer Account running balance and type of customer. Sales are done through the module where sales order is used as a source document, which specify the customer, depot selling, store within the depot, receiving cash book if sales are prepaid, Sales order date, cost centre, product code, quantity sold, and amount receipt. Dispatches against a sales order is done through a customer dispatch advice specifying the quantity to be dispatched which can be fully or partially dispatched. Sales return order can be raised in case some goods sold are returned by a customer. Customer statements are produced and given to customers periodically on request. From Sales manual system, compilation of Customer information like names, contacts is cumbersome. Categorization of customer with a view to knowing customer strength in terms of periodic sales volume is hard to determine; with an aim to assist concentrating in researching on a particular market segment. Inventory management

module monitors the inventory levels at any given period. It combines transactions from purchases, Transfers, Adjustment and sales and gives both summary and detailed reports for a particular product per store, function, depot and cost centre. This information is of paramount importance to sales team before making any sales or placing an order. It takes a length of time to compile manual records to produce inventory level of commodities at any given time in a particular region, depot and store. This information gives sales team able time to decide what to sell from which store in the whole network. Transport Management module moves commodities from one depot to another depot or store to another store in the same depot. This is done to enable sales team to have enough quantities of commodities to sell. Transfer order is raised to commit stock from source store to virtual store call transit. A dispatch Advice is raised to do actual dispatch from source store to destination store. Within the dispatch Advice, Transporter account number, Truck no/Trailer no is specified. Route code is also indicated, having distance between any two depots; number of bags and weight is also contained. With manual system, it is hard to know goods in transit, Transporters and vehicles carrying commodities at any given time. It also takes time to process transporters invoices because with manual system information is always not readily available for example quantities actually dispatched and received. Sales team then plans to receive orders for commodities due for receipt (Goods in transit).

## **1.2 Statement of the Problem**

Enterprise resource planning (ERP) systems are becoming mature technologies to support inter and intra company business processes. Popular press and trade journals have documented both successes (Johnston, 2002), and failures (Voordijk *et al.*, 2005) but with very little explanation on the underlying causes. However, one of the factors frequently cited as an indicator of the failure of ERP system in post implementation is profitability. ERP implementation does not finish after Go-Live, instead the real test of system starts when user begins using the system. Despite the advantages associated with ERP systems, their application is often problematic; approximately 50% of all ERP application fails to meet organizations' expectations (Hartmann, 2009).

In Kenya ERP has been a mixture of success and failure in equal measure. Many companies have used the system but seldom does one hear of a corresponding number of companies registering profitability especially those that are obligated to publish their performance in the print media. One would still come across many companies that have long used ERPs still grappling with low profits because they have not made any impact in the increasingly competitive market share of which Kenya power and lighting company limited (KPLC) is not an exception from the annual and financial statement of 2011-2012, there was increase loss of 16.2% that is from 1.1% to 17.3% even though there is usage of System Application Product (SAP). Many agricultural institutions are still faced with the same challenge where NCPB is included after reporting a loss of Sh 478,227,000 in the financial year 2010/2011 (Saturday Nation, 2013). This study, therefore investigated factors that affect management on the application of ERP system. A case of NCPB.

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

The main objective of this research was to investigate factors affecting the management on the application of ERP System. A case of NCPB

#### **1.3.2 Specific Objectives**

The researcher was also interested in offering recommendation on how to improve performance based on research findings. However the specific objectives are three fold.

1. To determine how effective inventory management influences application of ERP System of NCPB.
2. To find out how Sales management influences application of ERP system of NCPB.
3. To determine the extent to which distribution management affect application of ERP system of NCPB.

#### **1.4 Research Questions**

The researcher used the following questions to guide his research

1. How does effective Inventory management influences application of ERP system of NCPB?
2. How sales management does influences application of ERP system of NCPB?
3. How does distribution management affect application of ERP system of NCPB?

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

The study benefits the policy makers like NCPB, government and researchers. NCPB management through sales management can tell daily, monthly and yearly retail sales quantity and value for all products across all the cost centres in the whole network. By having this information can tell the performance of each product thus which areas to improve on through development. Researchers through the use of secondary data can tell trend of overall consumer spending on both goods and services and this can guide in computing economic indicators of the country like gross domestic product (GDP) and inflation. Government benefits from distribution management by being able to account for all products under FRS and SGR, able to reduce supply imbalances (excess and shortages) in the warehouses and able to have efficient, cost effective logistics. Without these data these decision makers do not know if products will be available when and where the customer need them.

#### **1.6 Scope and limitations of the study**

This study was done in NCPB at five Regional offices namely Nairobi, Eldoret, Kisumu, Nakuru and Mombasa and to include a population of five hundred eleven employees. These employees consisted of four hundred eighty four in operations and twenty seven in management.

The researcher met financial constraint while travelling, printing, paying allowances for research assistant; the researcher took a cooperative loan to meet all these expenses. The

researcher found time limited because of busy official schedules and plans to overcome by taking annual leave to undertake the study. Respondents were not willing to cooperate because they were not sure of the outcome of the study whether the report will be used against them. In the letter of introduction, it came out explicitly that the study is meant for academic purposes only but not any other reason and the researcher was not suppose to reveal source of information.

### **1.7 Assumption of the Study**

This study assumed that NCPB staffs have basic skills in ERP system because for them to use it, they must have received training for full benefits to be realized in achieving business goals. Furthermore the respondents gave honest and truthful response to the research items. Again it is hard to pinpoint the exact benefit of ERP systems cutting across all functional units. Even though efficiency is improved in service delivery with the use of the system, it is intangible thus hard to measure.

## **CHAPTER TWO LITERATURE REVIEW**

### **2.1 Introduction**

This chapter provides a review of existing literature in the area of ERP Systems. This review involves examination of documents such as draft policy framework on ERP, newspapers, journals, magazines and books that have a bearing on this study. The review will provide the researcher with insight into what has already been done pinpointing its strength and weaknesses. Hopefully the review will help the researcher to know the kind of additional data needed in the study as it will provide what has already been done and what is useful to focus on in the current study in order to provide more knowledge. This chapter covers the following sections that is theoretical, empirical and conceptual frameworks.

#### **2.1.1 Theoretical Framework**

Goldratt's theory of constraint is about a firm making profit as a sole purpose of being in business and Customer Asset management states that it is cheaper to retain and maintain an old customer than acquiring a new one.

##### **2.1.1.0 Theory of Constraint**

This is based on E.M Goldratt's theory of constraint (TOC) in an attempt to explain factors that may contribute to the Application of ERP in organisation. The theory has become popular as a problem solving approach that can be applied to many business areas. Underlying Goldratt's work is the notion of working in harmony of all processes to achieve a profit goal of a firm. Goldratt has a very straight forward idea of a firm and the goal of a firm is to make money. He argues that although an organization may have many purposes like providing jobs, consuming raw materials, increasing sales, increasing market share, developing technology or producing high quality products to those do not guarantee long term survival of the firm. They are means to achieve the goal, not the goal itself. If the firm makes money and only then it will prosper. When a firm has money, it can place more emphasis on the other objectives. The operational goal of a firm is to increase throughput while reducing inventory and other operating expense (Zhao,

2005). After automation, the inventory reduces through a technique such as just in time (JIT), Material Resource Planning (MRP) and Kanban.

The study attempts to find out whether the goal of the firm has any influence on ERP System Application. This is mainly because although the goal is to make money, applying ERP will increase the amount of money made through inventory reduction and decrease in operating expense. The study therefore attempts to find out to what extent the theory of constraint is applicable in indicating facts that contribute to application of ERP in organization. Based on this theory, solutions have been suggested. This according to Goldratt is simply because firms can guarantee themselves long term survival by making money. Therefore by applying ERP System, a firm will achieve an operating goal of the firm which is to increase throughput while reducing inventory and operating expenses.

#### **2.1.1.1 Theory of Customer Asset Management**

Marketing scientists and practitioners are increasingly interested in managing customer relationships, customer equity, or the “customer asset” (Gupta and Lehmann 2003; Hogan, Lemon, and Rust 2002). Service organizations now recognize the value of current customers and seek to increase revenues and profits through targeted marketing expenditures. To do so, they need an in-depth understanding of the underlying sources of value derived from current customers and how to increase the revenue streams to enhance firm performance (Hogan, Lehmann, et al. 2002; Zeithaml 2007). In the past decade, marketers have primarily focused on customer retention as a critical source of customer value (Grant and Schlesinger 2005). For example, Reichheld and Sasser (2006) argued that acquiring new customers is typically more costly than keeping current customers and that long-tenure customer are more profitable. This argument has stimulated marketers’ long-standing interest in the antecedents of customer loyalty (Crosby and Stephens 2007; Dick and Basu 2008) and purchase intentions ( Anderson and Sullivan 2009). It has also stimulated the development of strategic models that balance an organization’s investments in customer acquisition and retention (Blattberg and Deighton 2006).

## **2.2.0 Empirical Study**

### **2.2.1 Effective Inventory management influence on application of ERP System of NCPB.**

According to Moskowitz (2005), Inventory control - in whatever sense it applies to your business can be done manually, of course but you can almost certainly do it faster, cheaper, and better by automating some or all of the inventory control process. Moskowitz (2005), found that the four aspects of inventory control that is counting and monitoring the items actually in inventory; recording and retrieving the precise locations of items in inventory; recording changes to inventory frequently and precisely enough so you make possible accurate inventory control; and anticipating inventory needs well enough to re-order just in time and to plan for inventory handling requirements. Computerizing your inventory system brings you the potential for improving sales and profits through better analysis of inventory trends, including patterns of delivery and demand.

It will almost certainly pay a significant return on your investment. This really spells why the automation of inventory is apparently very much needed and not only computerization but also with the appropriate software.

A truly effective inventory management system will minimize 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. 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 is a lot of management emphasis on keeping inventories down so they do not consume too much cash. The objectives of inventory reduction and minimization are more easily accomplished with modern inventory management processes that are working effectively.

### **2.2.1.0 Inventory Management Challenges**

In actual practice the vast majority of manufacturing and distribution companies suffer from lower customer service, higher costs and excessive inventories than are necessary. Inventory control problems are usually the result of using poor processes, practices and antiquated support systems.

The inventory management process is much more complex than the uninitiated understand. In fact, in many companies the inventory control department is perceived as little more than a clerical function. When this is the case, the fact is the function is probably not very effective. The likely result of this approach to inventory management is lots of material shortages, excessive inventories, high costs and poor customer service. For example, if a customer orders a product that requires a manufacturer to acquire 20 part numbers to assemble a product and then, only 19 of the 20 part numbers are available, you have nineteen part numbers which are excess inventory. Worse, the product can't be shipped to create revenue and the customer is not serviced. Think for a moment about the complexities of making products that require hundreds and maybe thousands of part numbers to be available in the right quantity, at the right place and at the right time to make products to satisfy customer orders. It is a complex network to control and a set of inventory management tasks that must be performed with precision.

#### **2.2.1.1 Remedy**

Too much inventory and not high enough customer service is very common, but unnecessary. There are proven methods that can help you accurately project customer demand and to calculate the inventory you will need to meet your defined level of customer service. Using the right techniques for sales forecasting and inventory management will allow you 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, no matter how complex your network is. Modern inventory management processes utilize new and more refined techniques that provide for dynamic optimization 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 favourably impact market share and profits.

#### **2.2.1.2 Understanding the Process**

The overall process of effective inventory management crosses a number of functions. The inventory management process can be divided into the following general categories: Demand management which covers the processes for sales and operations planning, sales forecasting and finished goods inventory deployment planning. Inventory planning and ordering which is often accomplished with material requirements planning, often referred to by its acronym MRP or in a lean manufacturing environment kanban ordering is used to effect deliveries of material. Inventory optimization systems are being advocated by some as the supply chain management mechanism that should be used to mathematically calculate where inventory should be deployed to satisfy predetermined supply chain management objectives. Inventory management is a vital function to help insure the success of manufacturing and distribution companies. The effectiveness of inventory management is directly measurable by how successful a company is in providing high levels of customer service, low inventory investment, maximum throughput and low costs. Certainly, an area where management should apply a philosophy of aggressive improvement. Physical inventory control is a phrase that describes the receiving, movement, stocking and overall physical control of inventories(R Michael Dovovan and Company, 2007)

#### **2.2.2 Sales management influence on application of ERP system of NCPB**

Over the next few months and years, many organizations will be asking what they can do to improve the bottom line. When we talk about sales performance management (SPM), we are talking about compensation management, quota management, territory management, reporting and analytics. NCPB has five regions where this SPM monitoring can be done. There are a number of automated solutions on the market that can assist an organization in all of these areas and an example is an ERP system. With the need to

understand and manage the impact of sales on the bottom line, many organizations will need to review their processes and policies. Part of the processes review will trigger the discussion about an automated system or the need to expand the current system. Automated solutions provide for the ability to manage data, manage calculations, automate reporting and, in today's world of financial analysis, create a reporting environment that allows for key metric reporting without a long wait. SPM reporting metrics may include reports such as sales performance to quota, sales compensation to total sales by region, sales compensation to net sales by region, growth reporting (sales increase/decrease across periods), and other metric reporting to determine the true effect of sales and compensation on the organization's financial status. A company needs to carefully consider those metrics that will help them determine the true impact of their sales to the bottom line. Companies must review compensation plans and determine how to compensate personnel fairly, accurately and in such a way that the plans are clear and the intent is understood. The data involved in the calculation needs to be clear and should prevent any "personal" interpretations from taking precedence over the corporate intent and interpretation. If there are a number of personal interpretations that are currently driving compensation, then the organization should review these and start a process of moving everyone to a "global" interpretation. The company may also make a determination to compensate on margin instead of sales-based numbers. The SPM process should allow for some flexibility, but there also needs to be a clear process for exception; and the compensation analyst should have the ability to say no to anything outside of the compensation plan or question any part of a compensation plan that is not handled as part of this exception process. A company will need to invest in an automated SPM process that gives them transparency into sales data, compensation related to sales, management activities in sales processes and processing, as well as reporting of key metrics that will allow management to clearly determine the impacts of sales activities to the viability of the company(Susan Major ,2009)

### **2.2.3 Distribution management influence on application of ERP system of NCPB**

#### **2.2.3.0 Logistics**

Logistics is the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements." Note that this definition includes inbound, outbound, internal, and external movements, and return of materials for environmental purposes. - (Reference: Council of Logistics Management, <http://www.clm1.org/mission.html>, 12/02/98)

If logistics is simply about delivering goods from one point to another, then logistics is nothing new. The idea is simple to understand yet difficult to execute. There are many factors, both controllable and uncontrollable, that can affect logistics performance, but most of all, it is the increasing customer demands for quality, delivery and speed that makes it difficult for the enterprise to meet customer expectations.

#### **2.2.3.1 Logistics and Customer Satisfaction**

Customer satisfaction occurs when service meets or exceeds expectations. From the customer's perspective, all service requests are to be met, and they care less about how the enterprise plans and allocates the resources. If expectations aren't met, then complaint is the usual result. Most of the time, filing a complaint does not really solve the problem. Customers do not understand this, and believe that complaint is the most powerful tool to get what they want. Even if the problem is not settled, someone in the enterprise is going to be blamed or punished, and to the customer, this is better than nothing. What the customers really want is their voices being heard. Reasonable customers opt for the appropriate method, and this usually will result in positive touch point experience not only for the complained customers but also all other customers because the problem will be solved once-and-for-all. Unreasonable customers usually prefer the inappropriate approach, and this will usually end up with continuous negative touch point experience, until one day the enterprise is willing to take action to review complaint strategy, and follow up on all long due cases.

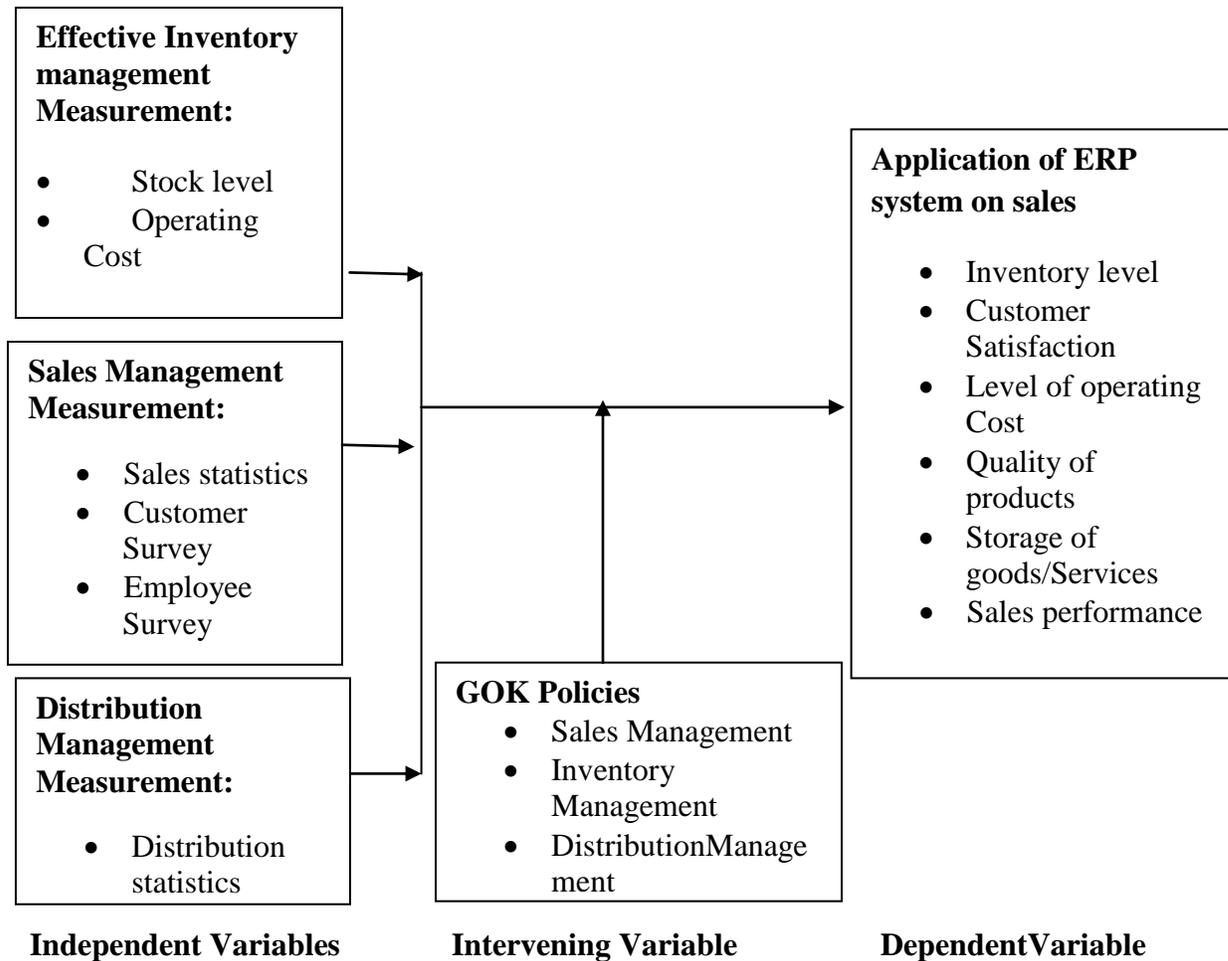
The days when "the customer is always right" has too often been replaced today with an attitude that the "customer is always annoying." After all, it is all about "attitude". When complaints come, positive enterprise may treat them as an opportunity to improve and a chance to strengthen the competitive advantage. Negative enterprise may see it differently. However, when resources are limited, any profit-making enterprise will choose to entertain requests that are reasonable and require less additional resources. This may seem not customer-oriented enough. But what exactly is the definition of customer-oriented? If the enterprise creates a customer-oriented culture for the sake of being customer-oriented, without really a true understanding of the meaning of customer-oriented, then the result is equally disastrous (Mr Daryl Choy,2007)

### **2.3 Gap Analysis**

In Information technology, gap analysis is an assessment tool to help identify the differences between information systems or application. Gap analysis helps bridges the spaces by highlighting which requirement are being met and which are not. Trade journals have documented ERP implementation successes with little explanation on the causes (Johnstone, 2002). Study of issues affecting ERP implementation in SMEs was found to be commitment of top management to commit resources, Infrastructural support and training (Arshish, 2011).

In the study, a lot of researches have been done on the implementation of ERP systems in various sectors of economy like supermarkets and oil. At the moment no researches have been done on the application of ERP systems in cereals sector.

**Figure 2.1: Conceptual Framework**



Source: Researcher (2014)

**Conceptual Framework**

The major outcome of management on application of an ERP system is cost reduction leading to increased profitability, customer satisfaction, efficient and effective operation and these boils down to a number of benefits. All these however occur after an organization has come up with a proper, practical and working ERP system. This means that the support must come from strategic managers of the firm. The study seeks to investigate factors affecting management on the application of ERP System a case of NCPB, Kenya. The key words are Inventory management, sales management and distribution management. Under proper inventory management, cost of operation is reduced and optimum stock level is maintained not to hold a lot of cash. Automated sales

operations provide efficient reporting to assist when compensating fairly and accurately. NCPB policies is a moderating variable because some policies are bureaucratic in nature like seeking approval for credit limit to customers affects sales, when and who to purchase from affects inventory. When it comes to transporting commodities, transporter have to be registered first with NCPB before carrying any commodities from one location to another thus affecting distribution management. GOK policies is an intervening variable because under sales management, any sale to be done by NCPB incase of FRS, GOK has to approve. In case of Credit sales to county commissioners in drought stricken areas of Kenya, office of the president must approve. The approval is on the product, quantity, price, depot to release and customer to sell to. Under inventory management, any replenishment of SGR, GOK has to decide what and where to purchase with a view to cushioning farmers from low producer prices through market intervention. In distribution management, any stock under SGR and FRS, GOK has to approve transfers and adjustment from stock surplus to stock deficit depots; this is done to avail stock for selling to satisfy the orders already made. GOK do this because it is the custodian of the stock and also budget centre controller. In conceptualizing, the researcher attempts to point out how the outcomes affect the application of ERP system.

**Table 2.1: Operationalization of Variables**

<b>Objectives</b>	<b>Identifiable variable</b>	<b>Key indicator</b>	<b>Measure</b>
Asses the influence of effective inventory management on application of ERP system.	<u>Independent variable</u> Effective inventory management	Operating cost Inventory level	Stock level
Asses the influence of sales management on application of ERP system.	Sales management	Sales volume Sales revenues Numbers of customers	Sales statistics
Asses the effects of distribution management on application of ERP system.	Distribution management	Goods in transit Stock position in stores in the whole network	distribution statistics
Factors affecting application of ERP System.	<u>Dependent variable</u> Application of ERP system.	Inventory Management Sales Management Distribution Management	Stock level Sales statistics Distribution statistics
Assess role of GOK policies on application of ERP system.	<u>Intervening variable</u> GOK policies	Number of ministries involved in NCPB operations.	Level of stocks and finance under the custody of NCPB.

## **CHAPTER THREE RESEARCH METHODOLOGY**

### **3.1 Introduction**

Research methodology provides the various steps that are generally adopted in studying the research problem along with the logic behind them (Kothari, 2008). This chapter provides an account of research methodology to be used. It provides a description of the methods that will be applied in carrying out the research. It will discuss the research design, target population, sample size, data collection methods and instruments and data analysis.

### **3.2 Research Design**

A research design can be regarded as an arrangement of conditions of collection and analysis of data in a manner that aims to combine relevance with research purpose (Kombo and Tromp, 2006). A survey research design and evaluation was adopted in this report. This is because it is an attempt to collect data from members of the population in order to determine the current status of that population with respect to one or more variables in a particular study (Mugenda and Mugenda 2013). This type of study is also useful in this study because apart from just describing, survey can be used for explaining and exploring the existing status of two or more variables at a given point in time (Mugenda and Mugenda 2013).

This study relied on descriptive survey which is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. It can be used when collecting information about people's attitudes, opinions, habits or social issues, (Orodho and Kombo, 2002). Survey method is the most appropriate because it focused on a specific population and hence got quick and immediate information.

### **3.3 Target Population**

A population is an entire group of individuals, objects or items from which samples are taken for measurement (Kombo and Tromp, 2006).The population targeted in the study

was five hundred and eleven consisting of eighty five from Eldoret, fifty seven from Kisumu, seventy one from Nakuru, thirty nine from Mombasa and two hundred and fifty nine from Nairobi.

Source: NCPB Establishment (November, 2013)

### **3.4 Location of the Study**

This study was carried out in NCPB and has 5 Regional offices. These various regions here provided diversity that helps to make more conclusive observations. All Managers were interviewed because they are and are still the drivers of change in their stations. The operation staffs were issued with questionnaires because they are the actual users of the ERP system. The research intends to look at the status of Application of ERP Systems so as to be able to determine and do an evaluation study.

### **3.5 Sampling and Sampling Procedure**

This study used probability sampling approaches that utilize some form of random selection. A combination of simple random sampling and stratified random sampling was applied. In addition purposive sampling (non-probability sampling approach) especially in selecting obvious respondents such as senior managers was applied. These officials provide a general overview of application of ERP system within their stations in terms of effective inventory management, sales management, distribution management and policy issues. Constraints and Challenges associated with application of ERP system in stations were explained by chosen respondents with ease. According to Mugenda and Mugenda (2013), purposive sampling is used when information required can duly be obtained from a specific source.

#### **3.5.1 Sample Size**

Reference is drawn to Orodho and Kombo 2006, defining sampling as a process of selecting a number of individuals or objects from a certain population which when selected will contain all the representative elements bearing the entire representative characteristic in the group. A sample on the other hand is defined as a finite portion of the

statistical population with properties that will be studied to have information of the whole (Webster, 2005).

In this study, five regions were selected each department has an equal allocation. Each stratum contributed to the sample an equal number of respondents regardless of its size in the population.

### Sampling Frame

**Table 3.1: Sample Frame for Eldoret**

<b>Department</b>	<b>Target population</b>	<b>Sample size 10% population</b>	<b>Head of Department</b>
Sales and Marketing	19	2	1
Finance	32	3	1
Operations	31	3	1
<b>Total</b>	<b>85</b>	<b>8</b>	<b>3</b>

**Table 3.2: Sample Frame for Kisumu**

<b>Department</b>	<b>Target population</b>	<b>Sample size 10% population</b>	<b>Head of Department</b>
Sales and Marketing	12	1	1
Finance	19	2	1
Operations	23	3	1
<b>Total</b>	<b>57</b>	<b>6</b>	<b>3</b>

**Table 3.3: Sample frame for Nakuru**

<b>Department</b>	<b>Target population</b>	<b>Sample size 10% population</b>	<b>Head of Department</b>
<b>Sales and Marketing</b>	<b>20</b>	<b>2</b>	<b>1</b>
<b>Finance</b>	<b>27</b>	<b>3</b>	<b>1</b>
<b>Operations</b>	<b>21</b>	<b>3</b>	<b>1</b>
<b>Total</b>	<b>71</b>	<b>8</b>	<b>3</b>

**Table 3.4: Sample Frame for Mombasa**

<b>Department</b>	<b>Target population</b>	<b>Sample size 10% of population</b>	<b>Head of Department</b>
Sales and Marketing	11	1	1
Finance	10	1	1
Operations	15	2	1
<b>Total</b>	<b>39</b>	<b>4</b>	<b>3</b>

**Table 3.5: Sample frame for Nairobi**

<b>Department</b>	<b>Target population</b>	<b>Sample size 10% population</b>	<b>Head of Department</b>
Sales and Marketing	63	6	3
Finance	92	9	7
Operations	89	9	5
<b>Total</b>	<b>259</b>	<b>24</b>	<b>15</b>

Source: NCPB Staff Establishment (September, 2013)

According to Mugenda and Mugenda (2013) a sample of 10% is sufficient to represent an entire population. 10% of the all cadres of staff were sampled and a sample of 51 respondents represents 10% of the total population of 511 staff.

### **3.6 Research Instruments**

#### **3.6.1 Questionnaires**

The researcher used questionnaires which were delivered to the selected stations through the Regional's office and picked after 3 days. Matrix types of questions were used so as to ensure that the same sets of questions were asked to all respondents. This was easy to complete and also to analyze. The respondents are expected to record their responses in the questionnaires. The questionnaires are structured according to the objectives of the study. A questionnaire was appropriate because it was self administered and a wide coverage is therefore possible. Information was collected on a very wide area within a short period. It was cost effective as the researcher's presence is not necessary and it ensures the confidentiality of information as it is an impersonal document.

#### **3.6.2 Structured Interview**

This instrument was applied on the senior managers of NCPB because they were the change management agents when ERP was being used.

### **3.7 Validity**

Mugenda and Mugenda (2013) defines validity as the accuracy and meaningfulness of inferences which were based on the research results ; validity is the degree to which results obtained from the analysis of data actually represent the phenomenon under study.

To ensure validity the researcher used universally accepted sampling methodology with emphasis on proper sampling for unbiased representation and proper data management techniques and also ensures that the research instruments are accurate by making the necessary adjustments after piloting the instrument and ensuring that the questions are in logical format and right responses to measure what the researcher intends. A few

questionnaires were given to operation staff in Embu region sample not from selected sample just to test validity.

### **3.8 Reliability**

Mugenda and Mugenda (2003), defines reliability as a measure of the degree to which a research instrument fields consistent results after repeated trials. To ensure reliability the instrument were pretested (piloted) in a small sample to determine soundness, accuracy, clarity and suitability of the research instruments before final field survey is carried out. Necessary adjustments were made for the final survey process to further ensure data reliability. Questionnaires were given to 2 operation staff from Embu regions not included in the study sample. The same questionnaires were administered again after 1 week to the same operation staff.

### **3.9 Data Collection Procedures**

According to Kombo and Tromp (2006), data collection refers to gathering of specific information aimed at providing or refuting some facts. In this study the data collection instruments includes questionnaires and structured interviews. The researcher ensured that the questionnaires were personally hand delivered from regions.

### **3.10 Ethical Consideration**

Ethics has been defined as that branch of philosophy which deals with one's conduct and serves as a guide to one's behaviour. During the study the researcher observed the following ethical standard. The researcher conformed to the principle of voluntary consent where the respondent willingly agreed to respond to questionnaire on free will without any coercion by researcher disclosing the real purpose of research. NCPB protected respondents by keeping the information given confidential, especially where confidentiality has been compromised. The researcher revealed research findings after completion of research and all the citations was done by the researcher to acknowledging other Authors' work.

### **3.11 Data Analysis and Presentation**

Data analysis means categorizing, ordering, manipulating and summarizing of data to obtain answers to research questions. It aims to reduce data to intelligible and interpretable form using statistics. The researcher administers questionnaires to the respondents. Similar questionnaires are given in each region through the office of the Assistant Manager Operations head office. Since the data collected was descriptive in nature, qualitative and quantitative technique was used to analyze.

The main statistics in application in analyzing data includes measures of central tendency like mean and measure of dispersion like standard deviation. Some questions in the questionnaire takes narrative form thus prose format was used to analyse. The results were presented using APA tables as was widely recommended at the school of business. The data processing includes editing. Editing involves a careful scrutiny of the completed questionnaires to ensure that the data is accurate, consistent with other facts, uniformly entered as complete as possible and that the data is well arranged to facilitate coding and tabulation, elimination of unusable data; interpretation of ambiguous answers and contradictory data from related questions.

### **3.12 Expected Output**

Effective inventory management enables cutting on operating cost by keeping optimum inventory levels. Proper sales management helps NCPB to understand customer needs better with a view to improving services and finally, distribution management gives what inventory is available where at any given time.

**CHAPTER FOUR**  
**DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS**

**4.1 Introduction**

The chapter gives the analysis of the study findings which were collected and evaluated by the researcher by use of quantitative and qualitative method to enable better understanding of study findings.

**4.2 Presentations of Findings**

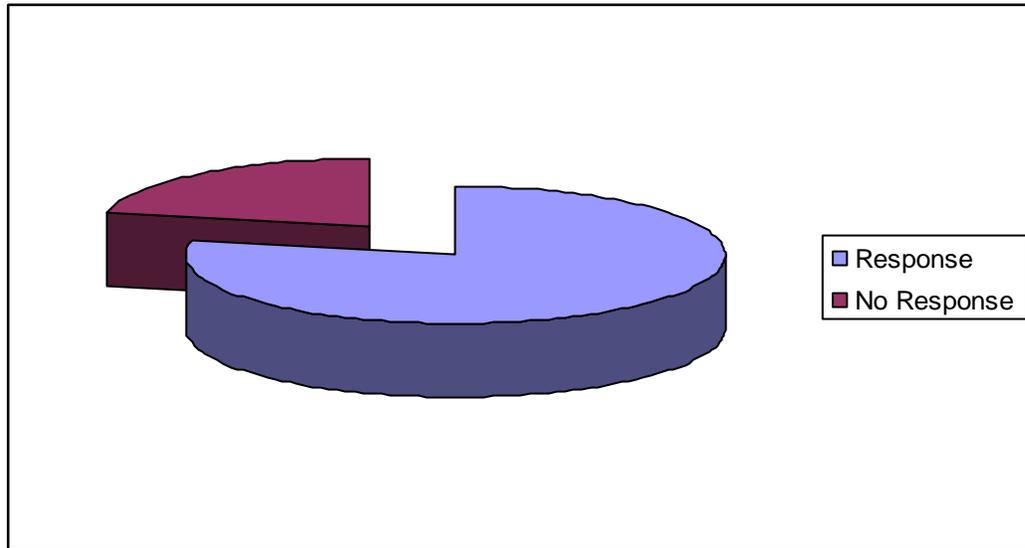
**4.2.1 Response Analysis**

**Table 4.1 Response Rate**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Response	40	78
No Response	11	22
<b>Total</b>	<b>51</b>	<b>100</b>

**Source: Author (2014)**

**Figure 4.1 Response Analysis**



**Source: Author (2014)**

The table 4.1 and the figure 4.1 indicate the response that was gotten from NCPB. The 78% responded to the questionnaires while 22% did not respond to the questionnaires. This indicates that from the 51 questionnaires given to respondents at NCPB, the majority responded.

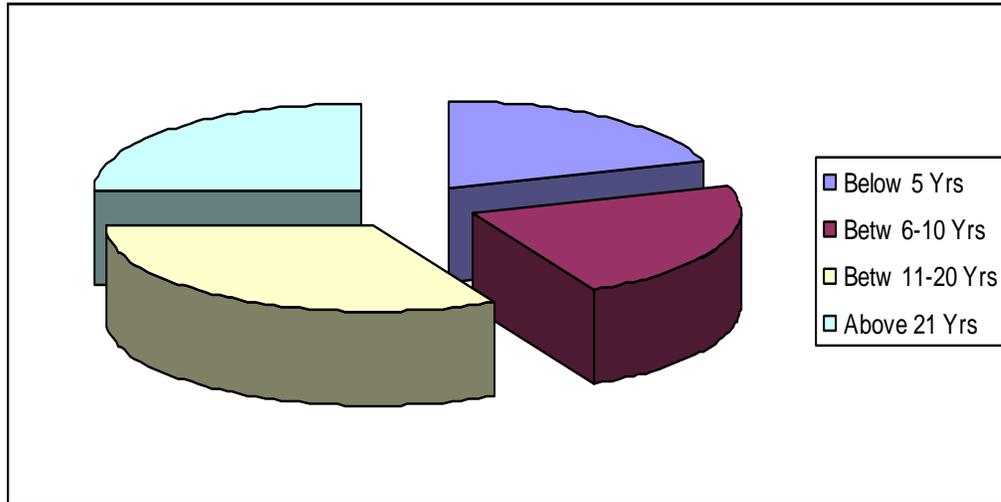
#### **4.2.2 Work Experience**

**Table 4.2 Work Experience**

<b>Experience</b>	<b>Frequency</b>	<b>Percentage</b>
Below 5 Yrs	8	20.0
Betw 6-10 Yrs	9	22.5
Betw 11-20 Yrs	13	32.5
Above 21 Yrs	10	25.0
Total	40	100.0

**Source: Author (2014)**

**Figure 4.2 Work Experience**



**Source:**

**Author (2014)**

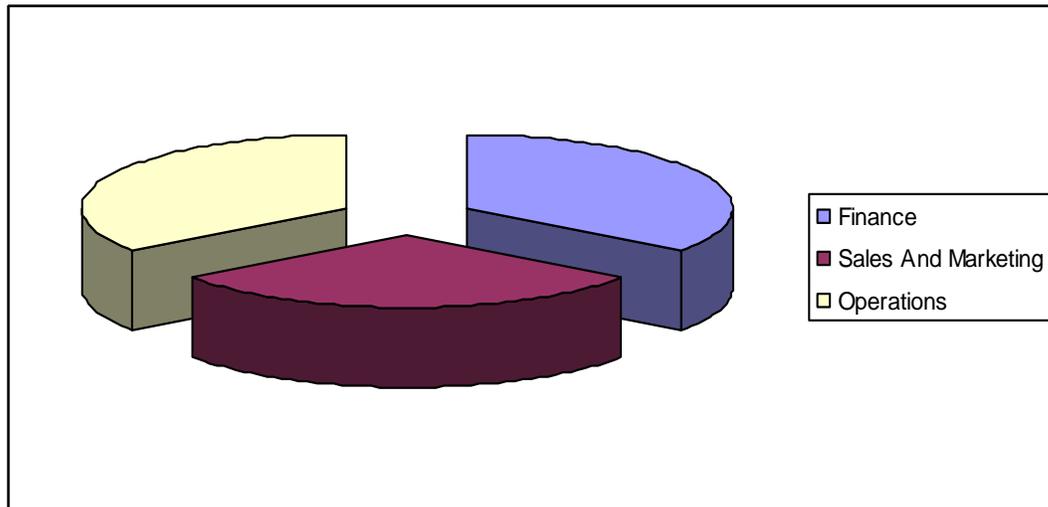
The table 4.2 and the figure 4.2 indicate the response that was gotten on the work experience of the employees. There was a response of 20% which indicated the experience of less than five years. There was a response of those who have worked in the organization between 6-10 years who responded by 22.5%. There was a response of those who have worked for the duration ranging from 11-20 year who gave a response of 32.5%. Finally there was a response of those who have worked for the organization for the duration exceeding 21 years and was 25% of the total response. This indicates that there were good experienced workers in the organization who could be able to bring about proper management of ERP application process.

### 4.2.3 Departmental Response

Table 4.3 Departmental Response

Department	Response	Percentage on Response	Sample Size
Finance	14	35.0	18
Sales And Marketing	12	30.0	12
Operations	14	35.0	21
<b>Total</b>	<b>40</b>	<b>100.0</b>	<b>51</b>

Figure 4.3 Departmental Response



**Source: Author (2014)**

The table 4.3 and the figure 4.3 indicate the response from departments. There was a response of 35% from the finance department. There was a response of 30% which represented the sales and marketing department and finally there was a response of 35% response which indicated the response from operations department.

### 4.2.4 Effect of effective inventory management on Managing ERP System

The study findings indicated that the organization's effective inventory management affects managing application of ERP system in NCPB.

#### 4.2.5 Rating aspects of effective inventory management aspects on Managing ERP System (Inventory Level)

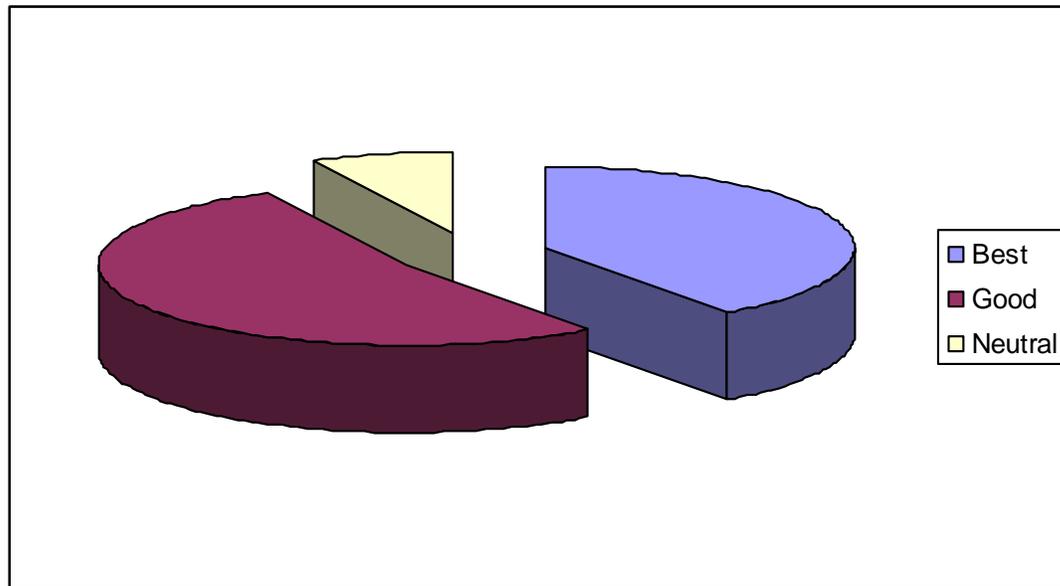
**Table 4.5 Rating aspect of effective inventory management on Managing ERP System (Inventory Level)**

Mean	1.675
Std. Deviation	0.615504796

Rating	Frequency	Percentage
Best	16	40
Good	21	52.5
Neutral	3	7.5
Total	40	100

**Source: Author (2014)**

**Figure 4.5 Rating aspect of effective inventory management on Managing ERP System (Inventory Level)**



**Source: Author (2014)**

The table 4.5 and the figure 4.5 indicate the response on the extent to which the effect of effective inventory management affects managing application of ERP system. In this matter it was indicated by the response of 40% which was the majority response that

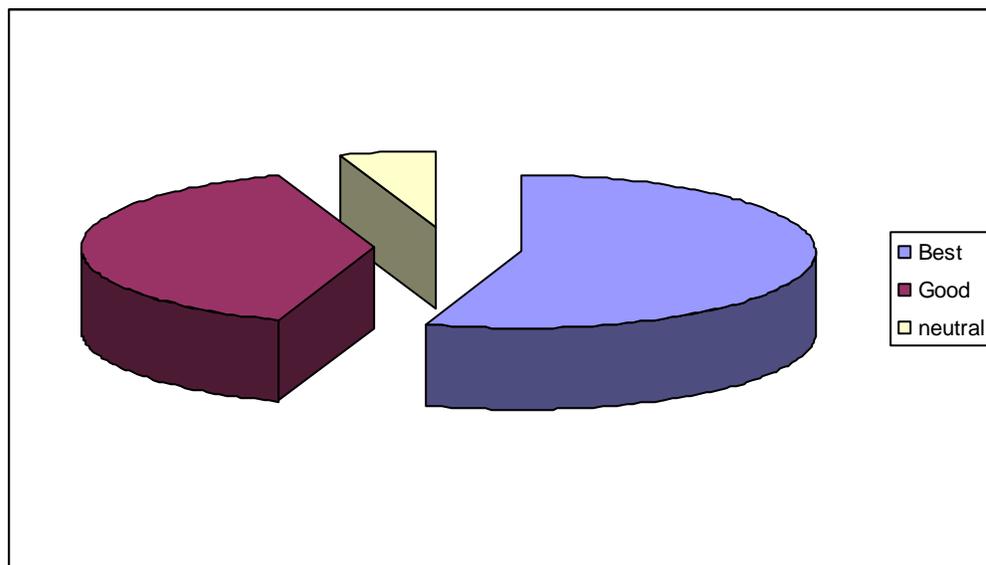
inventory level has Best effect on managing application of ERP system process. There was a response of rating of effect as good which gave a response of 52.5%. The response of effect as neutral was 7.5%. On the category of poor and poorest effect there was no response. This indicated that it must have great impact since the majority response rated the effect as Best and good with 92.5%. Also with mean of 1.67 and standard deviation of 0.615 means rating is less than 2 and there is high degree of uniformity of observations respectively.

#### 4.2.6 Rating aspect of effective inventory management on Managing ERP System (Product Quality)

**Table 4.6 Rating aspect of effective inventory management on Managing ERP System (Product Quality)**

Rating	Frequency	Percentage
Best	21	55.2
Good	15	39.5
Neutral	2	5.3
Total	38	100

**Figure 4.6 Rating aspect of effective inventory management on Managing ERP System (Product Quality)**



The table 4.6 and the figure 4.6 indicate the response on the extent to which the effect of effective inventory management affects managing application of ERP system. A total of 38 responses were received on this question. In this matter it was indicated by the response of 55.2% which was the majority response that product quality has Best effect on managing application of ERP system process. There was a response of rating of effect as good which gave a response of 39.5%. The response of effect as neutral was 5.3%. On the category of poor and on poorest effect, there was no response. This indicated that it must have great impact since the majority response rated the effect as good and best with a 94.5% thus product quality is an aspect affecting application of ERP system as far as effective inventory management is concern.

**Source: Author (2014)**

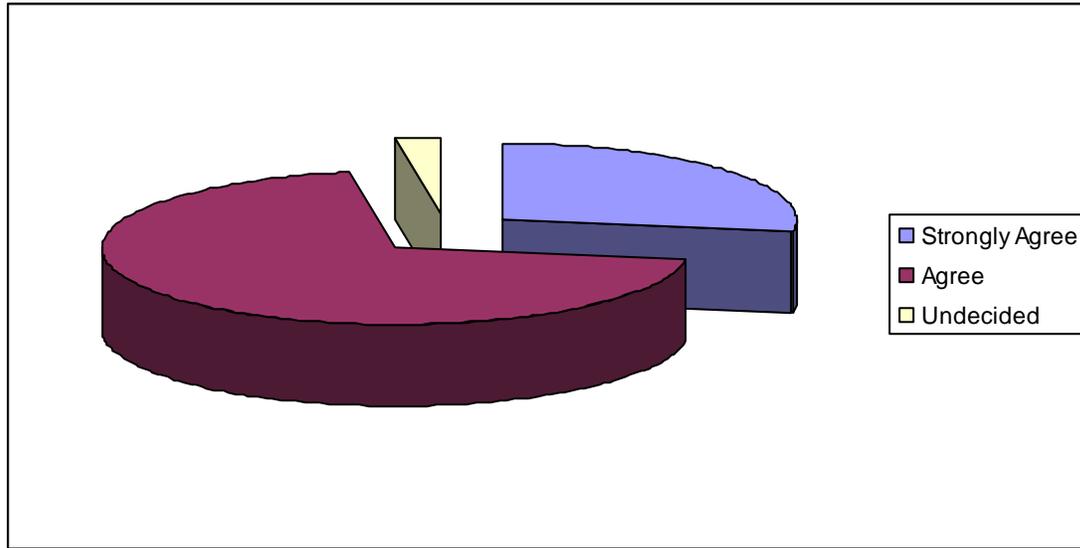
**4.2.7 NCPB performance in ensuring that depots are stocked with adequate inventories when applying ERP System.**

**Table 4.7a Facilitating Availability of stocks in the Region**

<b>Mean</b>	1.8
<b>Std. Deviation</b>	0.686873257

<b>Rating</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Strongly Agree</b>	11	27.5
<b>Agree</b>	28	70
<b>Undecided</b>	1	2.5
<b>Total</b>	40	100

**Figure 4.7a Facilitating Availability of stocks in the Region**



**Source: Author (2014)**

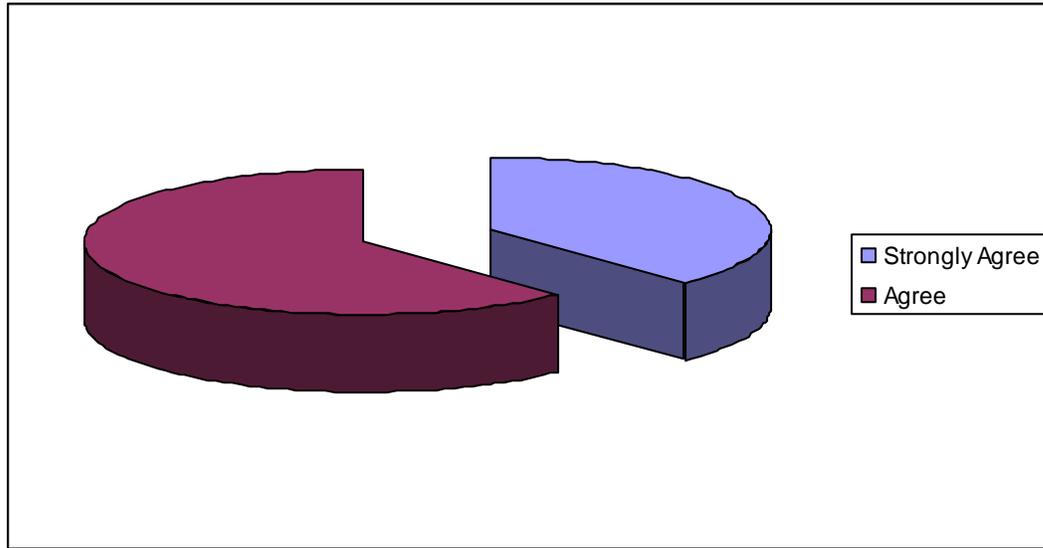
The table 4.7a and the figure 4.7a indicate the response on the NCPB performance as far as ensuring that depots are stocked with adequate inventories as far as application of ERP system is concern. In this matter it was indicated by the response of 27.5% which strongly agree that there NCPB facilitates availability of stock in the regions when there is demand. 70% agreed and 2.5% undecided that NCPB facilitates availability of stocks in the regions. This indicated majority agreed with 97.5% thus NCPB has a process of facilitating availability of stocks in regions when there is demand. Also with mean of 1.8 and standard deviation of 0.686 means rating is less than 2 and there is high degree of uniformity of observations respectively.

**Table 4.7b Staff Access to stocks in the Region**

Rating	Frequency	Percentage
Strongly Agree	14	38
Agree	23	62
<b>Total</b>	<b>37</b>	<b>100</b>

**Source: Author (2014)**

**Figure 4.7b Staff Access to stocks in the Region**



**Source: Author (2014)**

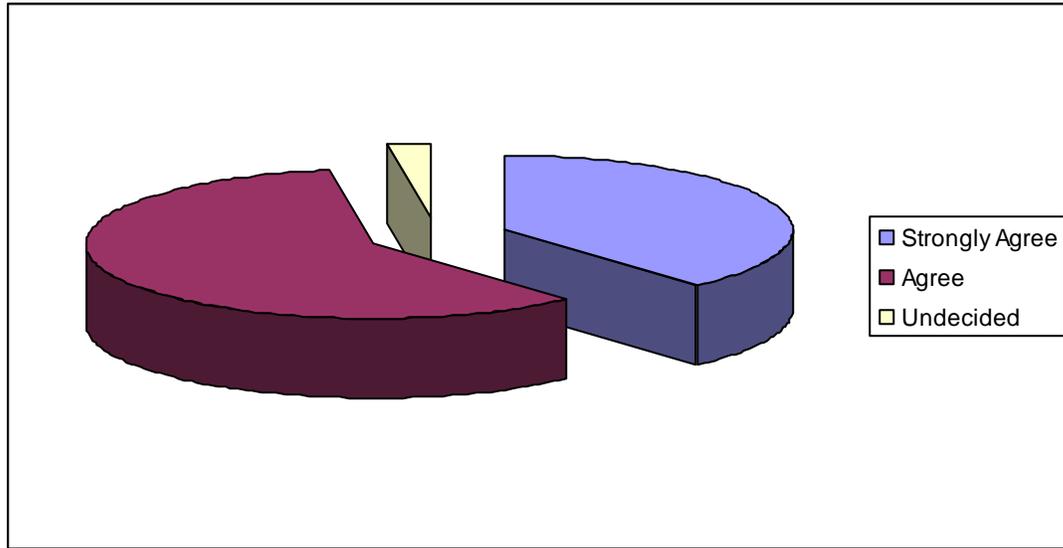
The table 4.7b and the figure 4.7b indicate the response on the NCPB performance as far as ensuring that depots are stocked with adequate inventories as far as application of ERP system is concern. In this matter it was indicated by the response of 38% which strongly agreed that there NCPB facilitates availability of stock in the regions when there is demand whereas 62% agreed. This indicated majority agreed with 100% thus staff has access to the stock available in their depots on demand by customers

**Table 4.7c Depot strategic plan has Inventory Management plan**

Rating	Frequency	Percentage
Strongly Agree	15	38.5
Agree	23	59
Undecided	1	2.5
<b>Total</b>	<b>39</b>	<b>100</b>

**Source: Author (2014)**

**Figure 4.7c Depot strategic plan has Inventory Management plan**



**Source: Author (2014)**

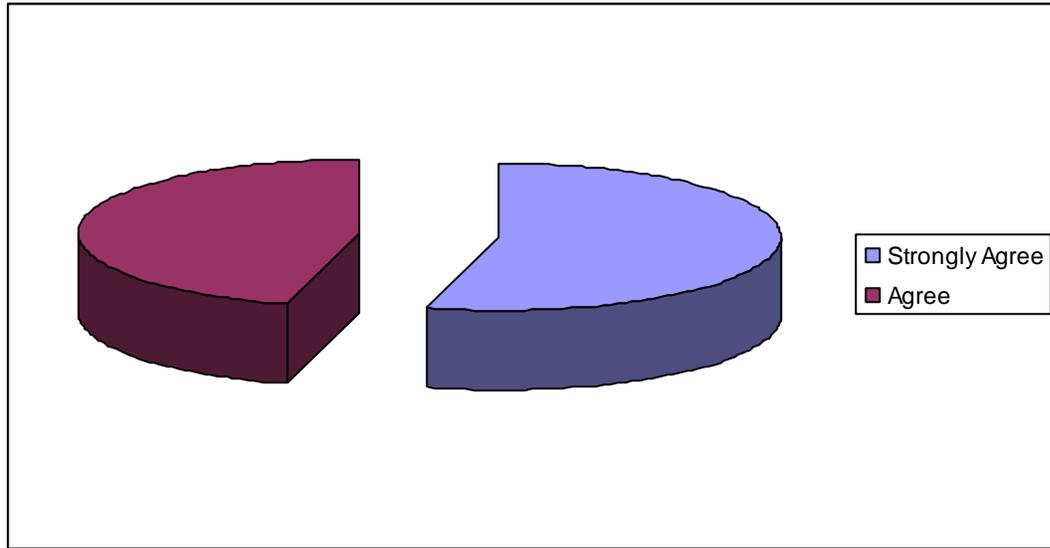
The table 4.7c and the figure 4.7c indicate the response on the NCPB performance as far as ensuring that depots are stocked with adequate inventories as far as application of ERP system is concern. A total of 39 responses answered the question and In this matter it was indicated by the response of 38.5% which strongly agreed that depot strategic plan has inventory management plan. 59% agreed and 2.5% undecided that depot strategic plan has inventory management plan. This indicated majority agreed with 97.5% thus staff has access to the stock available in their depots on demand by customers.

**Table 4.7d Government contribution to Inventory Management**

Rating	Frequency	Percentage
Strongly Agree	20	54
Agree	17	46
<b>Total</b>	<b>37</b>	<b>100</b>

**Source: Author (2014)**

**Figure 4.7d Government contribution to Inventory Management**



**Source: Author (2014)**

The table 4.7d and the figure 4.7d indicate the response on the NCPB performance as far as ensuring that depots are stocked with adequate inventories as far as application of ERP system is concern. In this matter it was indicated by the response of 54% which strongly agree that Government have contributed into inventory management in depot and 42.5% agreed. This indicated majority agreed with 100% thus Government have contributed into inventory management in depot.

**4.2.8 Effect of Sales management on application of ERP System.**

The study findings indicated that the organization’s sales management affects managing application of ERP system in NCPB.

**Source: Author (2014)**

**4.2.9 Rating Sales management aspects on Managing ERP System**

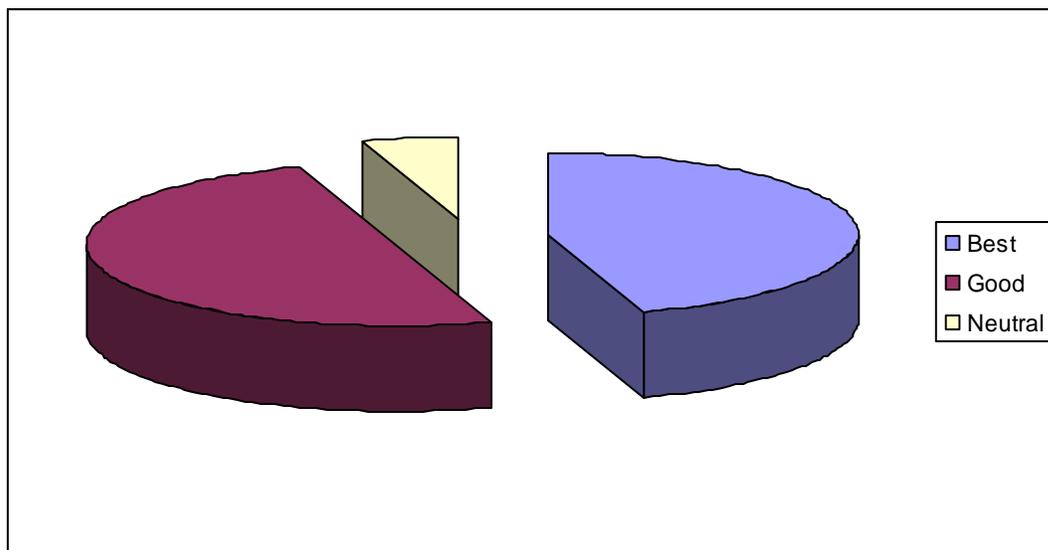
**Table 4.9a Rating Sales management aspects on Managing ERP System (Sales Performance)**

<b>Mean</b>	1.6
<b>Std. Deviation</b>	0.590523

Rating	Frequency	Percentage
Best	18	45
Good	20	50
Neutral	2	5
Total	40	100

Source: Author (2014)

Figure 4.9a Rating Sales management aspects on Managing ERP System (Sales Performance)



Source: Author (2014)

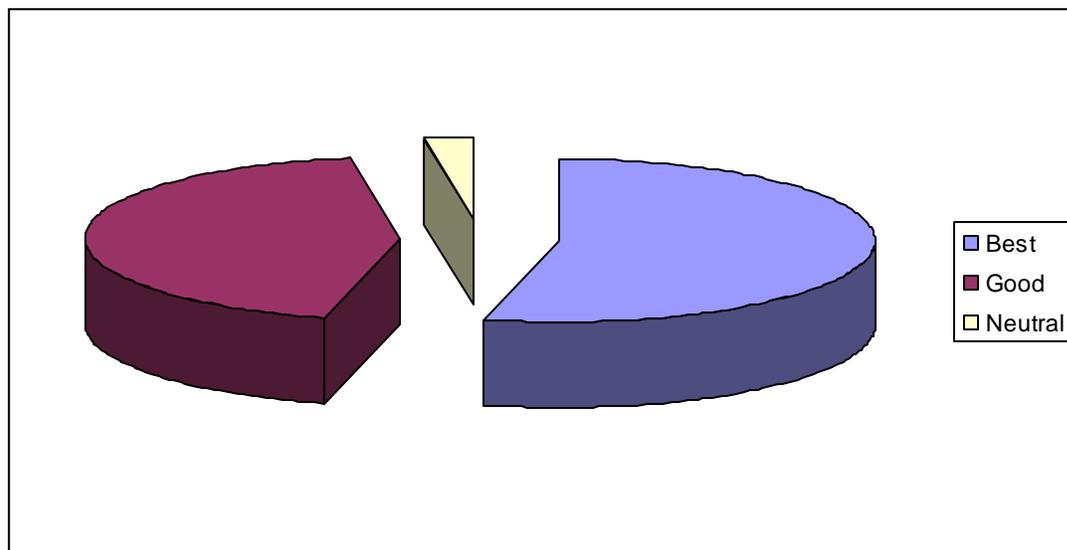
The table 4.9a and the figure 4.9a indicate the response on the extent to which the effect of sales management affects managing application of ERP system. In this matter it was indicated by the response of 45% which was the majority response that sales performance has Best effect on managing application of ERP system process. There was a response of good which gave a rating of 50%. The response of effect as neutral was 5%. On the category of poor and poorest ratings, there was no response. This indicated that it must have great impact since the majority response rated the effect as Best and good with a rating of 95%. Also with mean of 1.60 and standard deviation of 0.590 means rating is less than 2 and there is high degree of uniformity of observations respectively.

**Table 4.9b Rating Sales management aspects on Managing ERP System (Customer Retention)**

Rating	Frequency	Percentage
Best	21	54
Good	17	44
Neutral	1	2
<b>Total</b>	<b>39</b>	<b>100</b>

Source: Author (2014)

**Figure 4.9b Rating Sales management aspects on Managing ERP System (Customer Retention)**



Source: Author (2014)

The table 4.9b and the figure 4.9b indicate the response on the extent to which the effect of sales management affects managing application of ERP system. In this matter it was indicated by the response of 54% which was the majority response that customer retention has Best effect on managing application of ERP system process. There was a rating of good which gave a response of 44%. The response of effect as neutral was 2%. On the category of poor and poorest effect there was no response. This indicated that it must have great impact since the majority response rated the effect as Best and good with a rating of 98%.

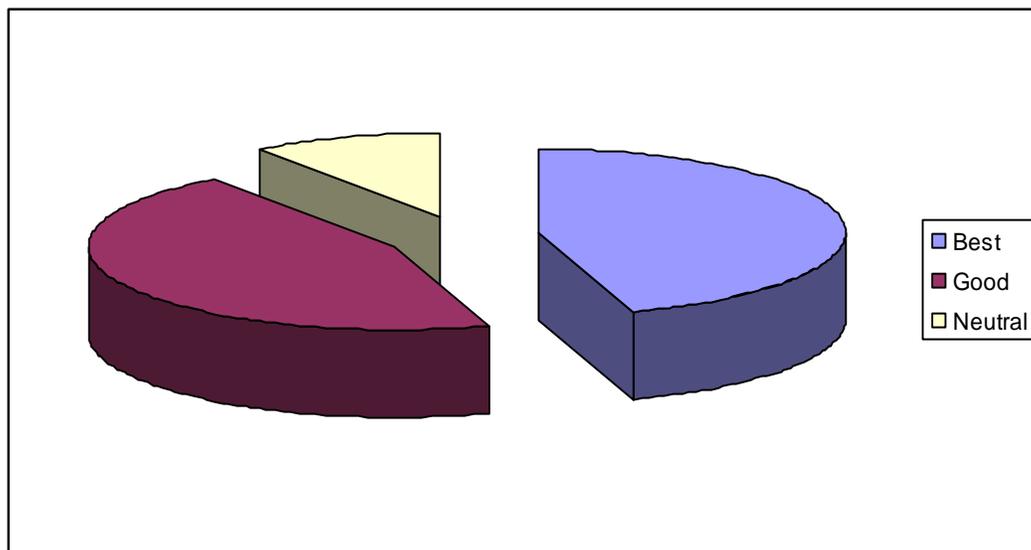
**Table 4.9c Rating Sales management aspects on Managing ERP System (Customer Satisfaction)**

<b>Mean</b>	1.65
<b>Std. Deviation</b>	0.662164284

<b>Rating</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Best</b>	18	45
<b>Good</b>	18	45
<b>Neutral</b>	4	10
<b>Total</b>	40	100

**Source: Author (2014)**

**Figure 4.9c Rating Sales management aspects on Managing ERP System (Customer Satisfaction)**



**Source: Author (2014)**

The table 4.9c and the figure 4.9c indicate the response on the extent to which the effect of sales management affects managing application of ERP system. In this matter it was indicated by the response of 45% which was the majority response that customer satisfaction has Best effect on managing application of ERP system process. There was a rating of good which gave a response of 45%. The response of effect as neutral was 10%. On the category of poor and poorest effect there was no response. This indicated that it must have great impact since the majority response rated the effect as Best and good with

a rating of 90%. Also with mean of 1.65 and standard deviation of 0.662 means rating is less than 2 and there is high degree of uniformity of observations respectively.

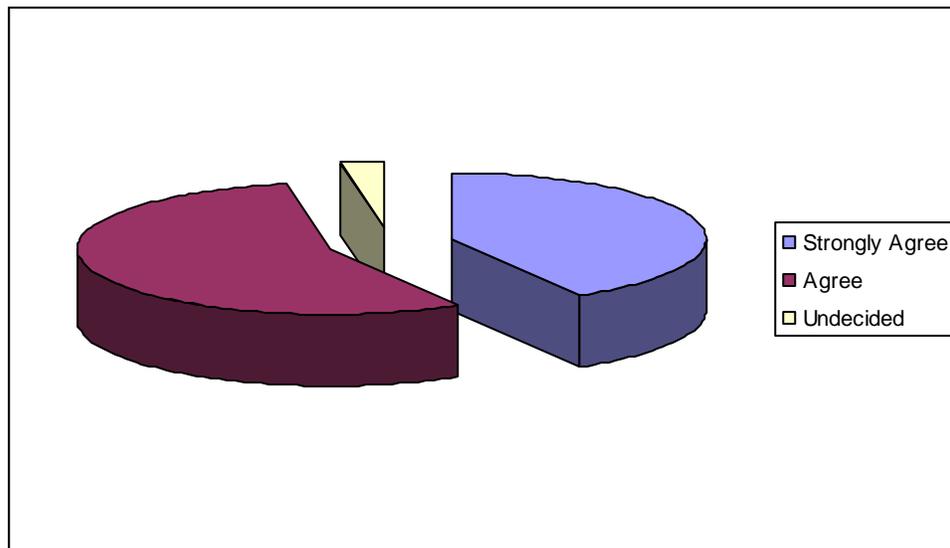
**4.2.10 NCPB Policy in dealing with the issue of provision of Sales management support in depots.**

**Table 4.10a No sales performance support available in the region**

Rating	Frequency	Percentage
Strongly Agree	15	42
Agree	20	55.5
Undecided	1	2.5
<b>Total</b>	<b>36</b>	<b>100</b>

Source: Author (2014)

**Figure 4.10a No sales performance support available in the region**



Source: Author (2014)

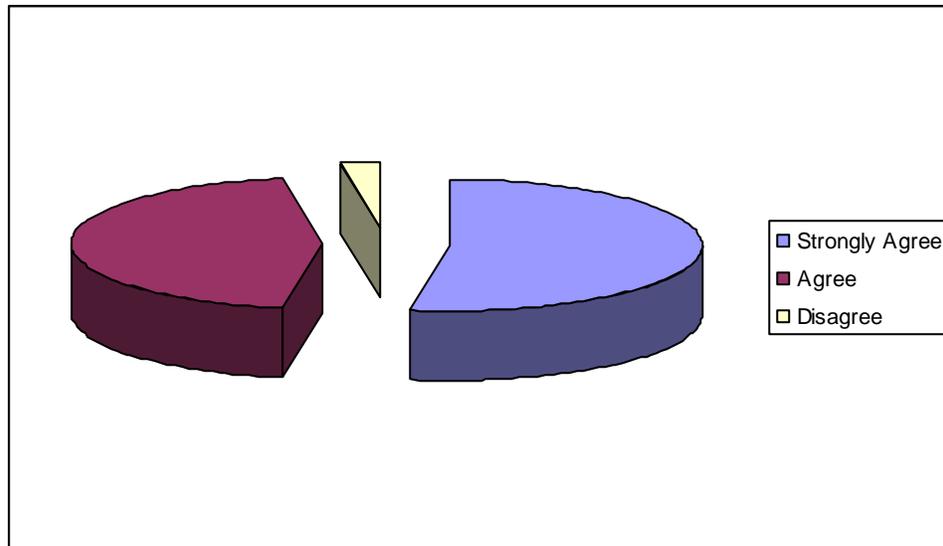
The table 4.10a and the figure 4.10a indicate the response on how NCPB policy is dealing with the issue of provision of sales management supporting depots as far as application of ERP system is concern. In this matter it was indicated by the response of 42% which strongly agreed that there is no sales performance support available in the region to compensate staff accurately. 55.5% agreed and 2.5% undecided. This indicated majority agreed with 97.5% thus there is no sales performance support in the region.

**Table 4.10b No customer retention program available in the region**

Rating	Frequency	Percentage
Strongly Agree	20	53
Agree	17	44.5
Disagree	1	2.5
Total	38	100

Source: Author (2014)

**Figure 4.10b No customer retention program available in the region**



Source: Author (2014)

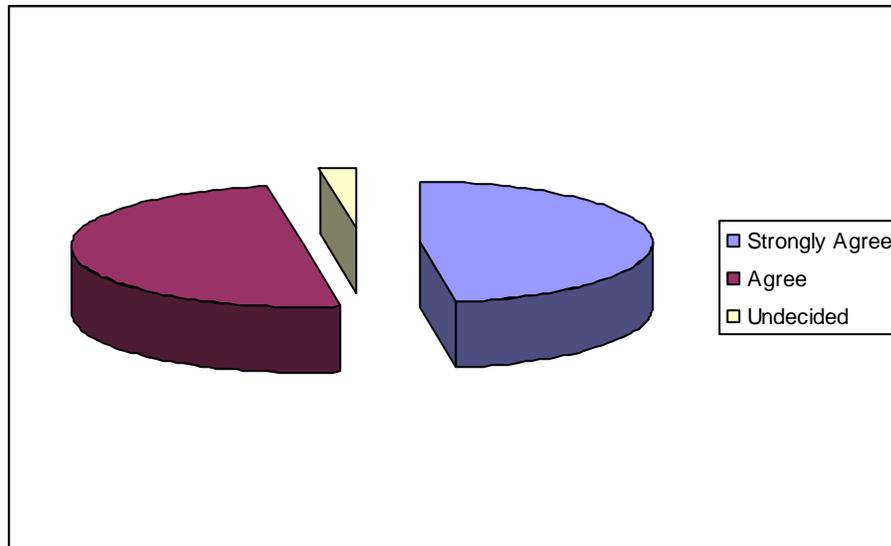
The table 4.10b and the figure 4.10b indicate the response on how NCPB policy is dealing with the issue of provision of sales management supporting depots as far as application of ERP system is concern. In this matter it was indicated by the response of 53% which strongly agreed that there is no customer retention program in the region. 44.5% agreed and 2.5% strongly disagreed. This indicated majority agreed with 97.5.5% thus there is no customer retention program in the region.

**Table 4.10c Staff has basic selling skills to overcome sales problem**

Rating	Frequency	Percentage
Strongly Agree	19	47.5
Agree	20	50
Undecided	1	2.5
Total	40	100

Source: Author (2014)

**Figure 4.10c Staff has basic selling skills to overcome sales problem**



Source: Author (2014)

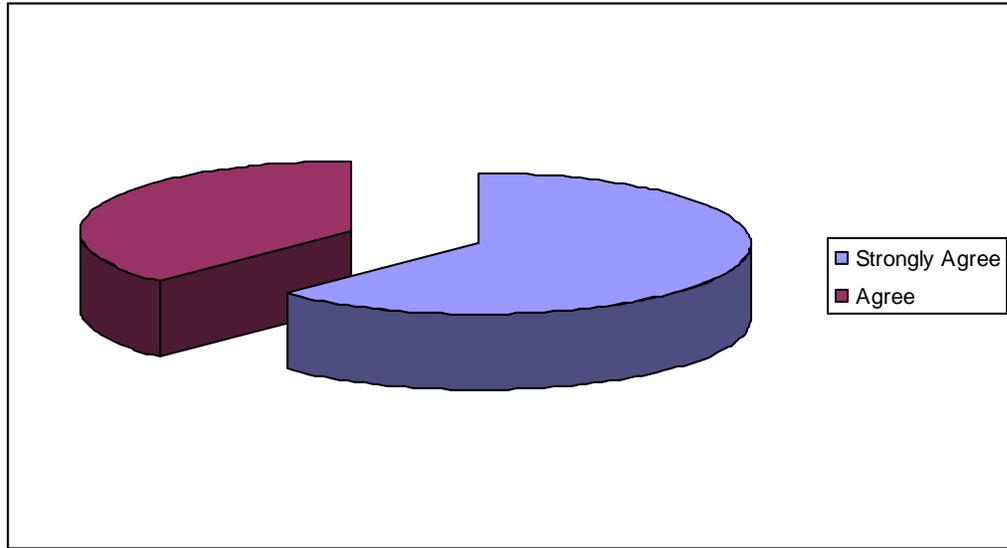
The table 4.10c and the figure 4.10c indicate the response on how NCPB policy is dealing with the issue of provision of sales management supporting depots as far as application of ERP system is concern. In this matter it was indicated by the response of 47.5% which strongly agreed that staff have basic selling skills to overcome sales problems. 50% agreed and 2.5% undecided. This indicated majority agreed with 97.5.5% thus staff has basic skills to overcome sales problems.

**Table 4.10d No customer survey being done to understand the customer needs**

Rating	Frequency	Percentage
Strongly Agree	25	62.5
Agree	15	37.5
Total	40	100

Source: Author (2014)

**Figure 4.10d No customer survey being done to understand the customer needs**



**Source: Author (2014)**

The table 4.10d and the figure 4.10d indicate the response on how NCPB policy is dealing with the issue of provision of sales management supporting depots as far as application of ERP system is concern. In this matter it was indicated by the response of 62.5% which strongly agreed that no customer survey being done to understand customer needs and 37.5% agreed. This indicated all agreed that no customer survey being done to understand customer needs.

#### **4.2.11 Effect of distribution management on application of ERP System.**

. The study findings indicated that NCPB distribution management affects the managing application of ERP system in NCPB.

**Source: Author (2014)**

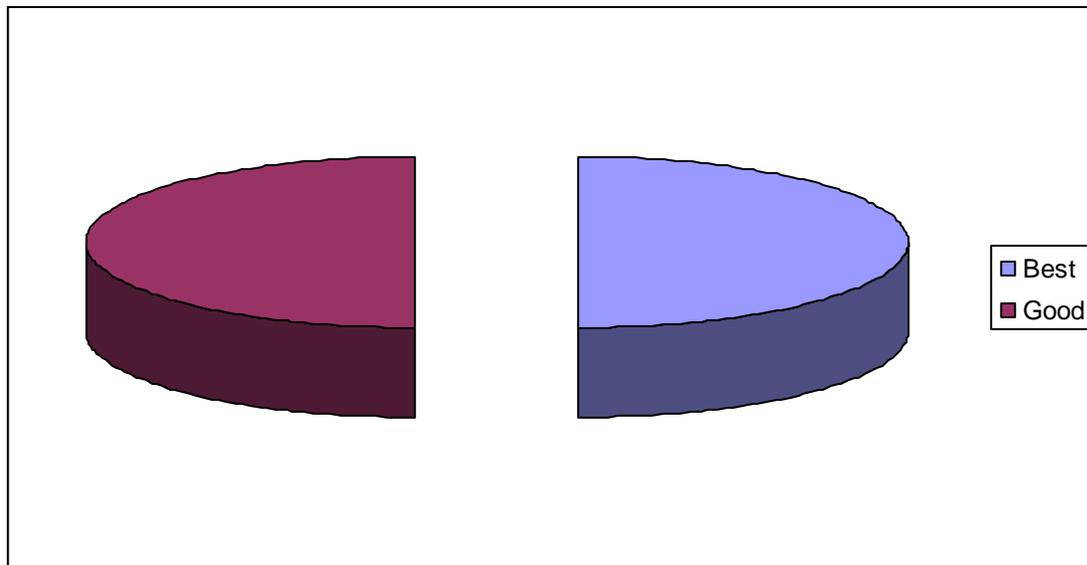
#### 4.2.12 Rating distribution management aspects on Managing ERP system

**Table 4.12a Rating distribution management aspects on Managing ERP system (Effective planning and flow of goods)**

Rating	Frequency	Percentage
Best	20	50
Good	20	50
Total	40	100

Source: Author (2014)

**Figure 4.12a Rating distribution management aspects on Managing ERP System (Effective Planning and flow of goods)**



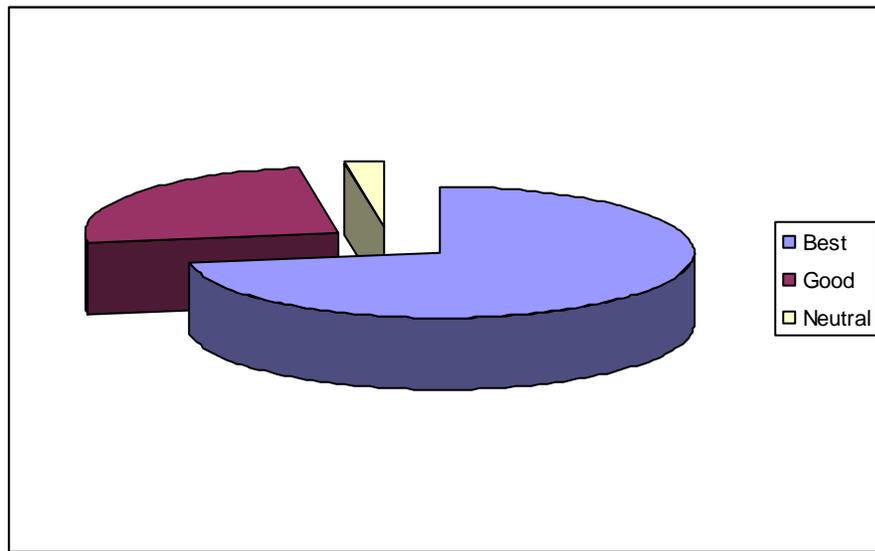
Source: Author (2014)

The table 4.12a and the figure 4.12a indicate the response on the extent to which the effect of distribution management affects managing application of ERP system. In this matter it was indicated by the response of 100% which was the majority response that effective planning and flow of goods has best and good effect on managing application of ERP system process.

**Table 4.12b Rating distribution management aspects on Managing ERP system  
(Storage of goods in the regions)**

Rating	Frequency	Percentage
Best	29	72.5
Good	10	25
Neutral	1	2.5
<b>Total</b>	<b>40</b>	<b>100</b>

**Figure 4.12b Rating distribution management aspects on Managing ERP System  
(Storage of goods in the regions)**



**Source: Author (2014)**

The table 4.12b and the figure 4.12b indicate the response on the extent to which the effect of distribution management affects managing application of ERP system. In this matter it was indicated by the response of 72.5% which was the majority response that storage of goods in the regions has Best effect on managing application of ERP system process. There was a response of rating of effect as Good which gave a response of 25%. The response of effect as neutral was 2.5%. On the category of poor and poorest effect there was no response. This indicated that it must have great impact since the majority response rated the effect as Best and good at 97.5%.

**4.2.13 How NCPB'S vision is using ERP as a flagship of the NCPB'S distribution strategy**

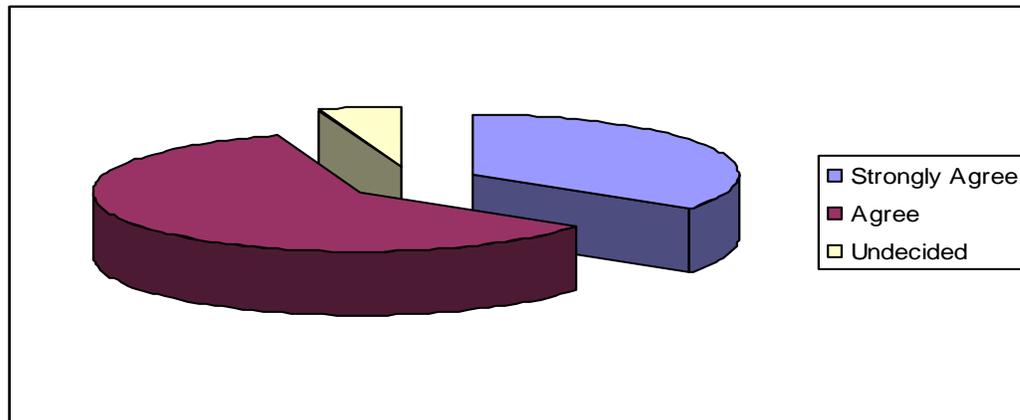
**Table 4.13a Operations department has promoted the use of ERP system**

<b>Mean</b>	1.7
<b>Std. Deviation</b>	0.563869416

Source: Author (2014)

<b>Rating</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Strongly Agree</b>	15	37.5
<b>Agree</b>	24	60
<b>Undecided</b>	1	2.5
<b>Total</b>	40	100

**Figure 4.13a Operations department has promoted the use of ERP system**



Source: Author (2014)

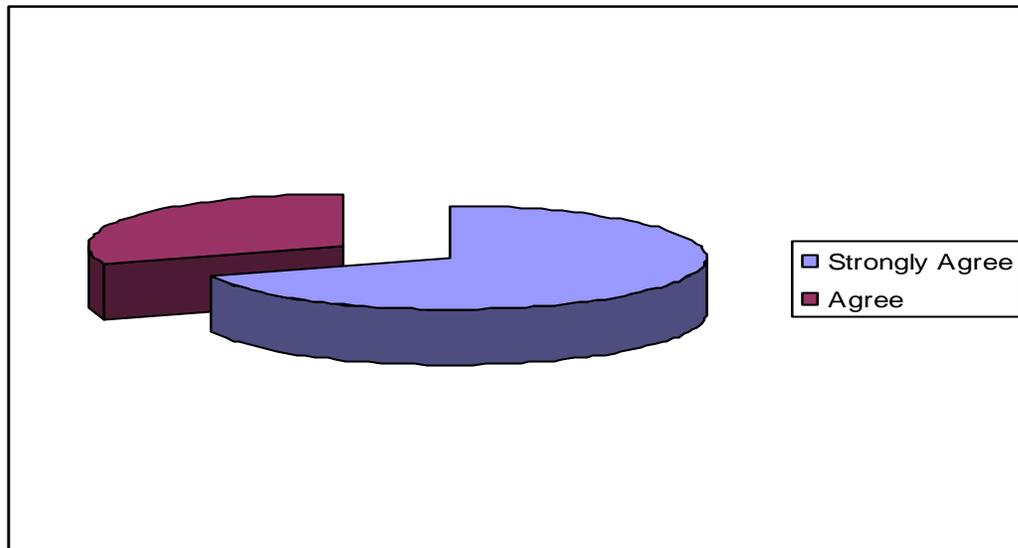
The table 4.13a and the figure 4.13a indicate the response on how NCPB vision is using ERP a flagship of the NCPB distribution strategy policy when operations department avail stock to promote application of ERP system. In this matter it was indicated by the response of 37.5% which strongly agreed that operations department promotes application of ERP system to overcome distribution problems. 60% agreed and 2.5% undecided. This indicated majority agreed with 97.5% that operations promote the application ERP system. Also with mean of 1.70 and standard deviation of 0.564 means rating is less than 2 and there is high degree of uniformity of observations respectively.

**Table 4.13b NCPB and GOK has equipped depots with required infrastructure**

Rating	Frequency	Percentage
Strongly Agree	27	69.2
Agree	12	30.8
<b>Total</b>	<b>39</b>	<b>100</b>

Source: Author (2014)

**Figure 4.13b NCPB and GOK has equipped depots with required infrastructure**



Source: Author (2014)

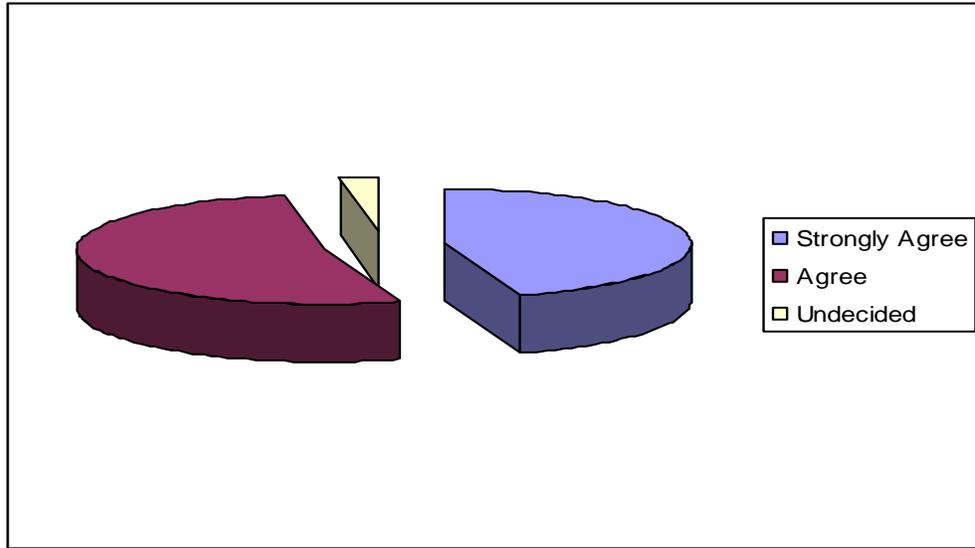
The table 4.13b and the figure 4.13b indicate the response on how NCPB vision is using ERP a flagship of the NCPB distribution strategy policy when NCPB and GOK equip depots with required infrastructure to ease application of ERP system. In this matter it was indicated by the response of 69.2% which strongly agreed that NCPB and GOK equip depots with required infrastructure to assist in the application of ERP system to overcome distribution problems and 30.8% agreed. This indicated all agreed that NCPB and GOK equip depots with required infrastructure to promote the application ERP system.

**Table 4.13c NCPB's integration of ERP into staff through training**

Rating	Frequency	Percentage
Strongly Agree	18	45
Agree	21	52.5
Undecided	1	2.5
<b>Total</b>	<b>40</b>	<b>100</b>

Source: Author (2014)

**Figure 4.13c NCPB’s integration of ERP into staff through training**



**Source: Author (2014)**

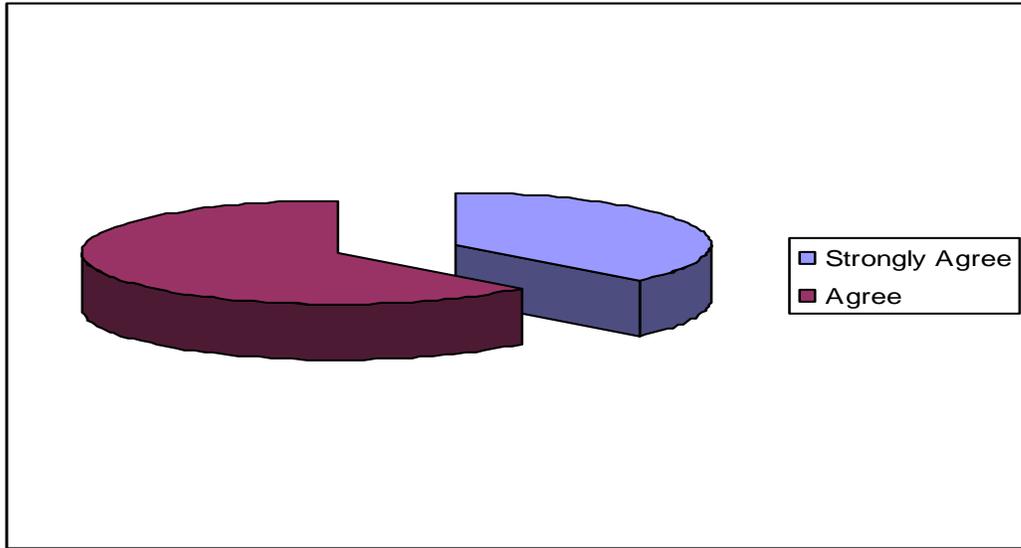
The table 4.13c and the figure 4.13c indicate the response on how NCPB vision is using ERP a flagship of the NCPB distribution strategy policy by NCPB integrating ERP into staff through training ease application of ERP system. In this matter it was indicated by the response of 45% which strongly agreed that NCPB integrate ERP into staff through training to assist in the application of ERP system to overcome distribution problems;52.5% agreed and 2.5% undecided. This indicated majority agreed with 97.5% that NCPB integrate ERP into staff through training to promote the application ERP system.

**Table 4.13d ERP helpdesk available at NCPB headquarters**

Rating	Frequency	Percentage
Strongly Agree	13	37.1
Agree	22	62.9
<b>Total</b>	<b>35</b>	<b>100</b>

**Source: Author (2014)**

**Figure 4.13d ERP helpdesk available at NCPB headquarters**



**Source: Author (2014)**

The table 4.13d and the figure 4.13d indicate the response on how NCPB vision is using ERP as a flagship of the NCPB distribution strategy policy by NCPB availing helpdesk to ERP users when seeking assistance during application of ERP system. In this matter it was indicated by the response of 37.1% which strongly agreed that NCPB avails helpdesk to ERP users when seeking assistance during the application of ERP system to overcome distribution problems and 62.9% agreed. This indicated that all agreed that NCPB avails helpdesk to ERP users to promote the application ERP system

### **4.3 Summary of Data Analysis**

#### **4.3.1 Effective Inventory Management**

Quantitatively, the response indicated that effective inventory management affects managing application of ERP system. Qualitatively, effective inventory management on managing Application of ERP system affects managing application of ERP system to a great extent. In this study the respondents indicated that the organization which has effective inventory management in managing application of ERP system keep optimum inventory level and high customer service by improving the quality of the products. It's advisable that the management should at all times get NCPB; practice effective inventory management in regard to managing application of ERP system.

#### **4.3.2 Sales Management**

Quantitatively, the response indicated that sales management affects managing application of ERP system. Qualitatively, study conducted indicated that the proper sales management practices like compensation, quota and territory management are some of the vital factors in determining the effectiveness of managing application of ERP system in NCPB, which was said to be done through proper sales management practices like customer retention and employee survey.

#### **4.3.3 Distribution Management**

Quantitatively, the response indicated that distribution management affects managing application of ERP. Qualitatively, the distribution management was said to be among the factors which affect the managing application of ERP system in NCPB. In this case the respondents indicated that the organization that has good distribution management is able to carry ERP application management process with ease since goods in transit can easily be traced and which products are stored where at any given time within the network.

## **CHAPTER FIVE**

### **5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1. Introduction**

The chapter presents the summary of the findings, conclusion and the recommendation of what need to be done to improve the situation in NCPB, finally the suggestion for further research has been given in order to shed light on the key areas regarding managing application of ERP system.

#### **5.2 Summary of study**

The title of the study was Factors Affecting the management on the Application of ERP system. A case of National Cereals and Produce Board in Kenya.ERP system is an integrated system that handles the majority of system requirements in all function units of an enterprise. The specific objectives were to determine how effective inventory management influences application of ERP system, to find out how sales management influences application of ERP system and to determine to what extent to which distribution management affect application of ERP system of NCPB. The study adopted a descriptive research design which is a method of collecting information by interviewing or administering questionnaires to a sample. The study targeted a population of 511 employees of National Cereals and Produce Board all from 5 Regional Offices namely Nairobi,Kisumu,Nakuru,Eldoret,Mombasa.A stratified random sampling method was used to represent the population and to pick a sample of 51 respondents which is 10% of the target population of 511 employees who were provided with questionnaires. For validity reasons the questionnaire was tested on some staff that were not included in the final study and to confirm reliability, instruments were pretested in a small sample which will not be used in the final survey and a repeat is done again soon. Data analysis was done through quantitative and qualitative techniques. Quantitative technique was applied because the nature of data to be collected was descriptive thus statistics in application here includes measures of central tendency like mean and measures of dispersion like standard deviation. The qualitative technique was used because some data in questionnaire is in narrative form thus prose format is used to analyze and present the results. The study findings were presented by use of tables and charts. The findings

concluded that with effective inventory management, there is a need to have optimum inventory level to reduce operating cost and through sales management, NCPB get more information to improve on service delivery by doing customer/employee survey. Finally with distribution management, there is accurate information on logistics thus NCPB was able to make quick decision on stock availability and transfers

Effective inventory management was seen by the big number of respondents who were totaling over 95% that, effective inventory management is one of the key factors in enabling successful managing application of ERP system in NCPB. In this regard the respondents indicated that by practicing effective inventory management, the employees and other key participants enables them to have an understanding of the need to have optimum inventory level with a view to reducing operating cost. High customer service is maintained through improving the quality of the products. This will make it easy for the management of application of ERP system to take place.

The greatest number of respondents representing 95% said that the issue of proper sales management is very important in the managing application of ERP system because through customer survey, NCPB management is able to get feedback from customers as far as the quality of service delivery is concern. Through Employee survey, sales staffs are understood so that they are compensated fairly and accurately depending on their sales volumes.

The majority respondents representing 97% said that distribution management was a factor affecting the managing application of ERP system in NCPB very much. In this case the respondents indicated that the organization that has goods distribution management is able to undertake managing application of ERP system process with precision because of availability of accurate information on logistics. This enables initiating the transfer of goods from one location to another where there is a need.

### **5.3 Conclusion**

In regard to effective inventory management in managing application of ERP system, it was concluded that NCPB should take effective inventory management as one of the main procedures of managing application of ERP system in so as to cut on operating cost and keep optimum inventory level. This was said that, if the participants are aware of improved customer service, quality of product is also improved.

The conclusion in regard to sales management is that, it is the blood stream of the whole process since it was noted that there is nothing that can take place in the managing application of ERP system process without the sales management support. In this regard it was noted that sales management is used for understanding customer and employees needs with a view to improving quality of service.

The distribution management was concluded by the researcher as the driver of the process of managing application of ERP system since the respondents indicated that distribution management in NCPB at all times determines the performance since it provides the distribution statistics on where goods are stored in the whole NCPB network.

### **5.4 Policy Recommendations**

The GOK can make use these research findings to give policy guidelines when it to come to managing the application of ERP in other parastatals especially under ministry of Agriculture so that maximum benefits can be gotten from the systems. Furthermore, decisions on FRS and SGR can be accurate when stock imbalances are being addressed if proper distribution management is practised. NCPB management can use the findings as a reference point when managing the application of ERP system in future incase another type of ERP will be put in place.

### **5.5 Suggestion for Further Study**

The study need to be carried out on this particular area of the factors affecting managing application of ERP system since the researcher concentrated on some factors and did not tackle others. The study should be carried out on the effects of debt and cash management on managing application of ERP system of NCPB in Kenya.

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**APPENDICES**  
**Appendix I**  
**Research plan**

<b>Activity</b>	<b>February 2013</b>	<b>March 2013</b>	<b>April 2013</b>	<b>May 2013</b>	<b>June 2013</b>	<b>July 2013</b>	<b>August 2013</b>
<b>Proposal Writing</b>							
<b>Questionnaire Testing</b>							
<b>Data Collection</b>							
<b>Data Analysis</b>							
<b>Report Writing</b>							

**Appendix II  
Research Budget**

<b>Item</b>	<b>No of units</b>	<b>Cost per unit(Ksh)</b>	<b>Total(Ksh)</b>
Stationery	5 reams of Photocopy 1 dozen pens	500 120	2,500 120
Research Assistants	7 persons-Salary 7 persons-Night outs	6,000 1,500	42,000 10,500
Data Analysis	1 Analyst	15,000	15,000
Report writing &Print	4 copies	3,000	12,000
Emergencies			2880
	<b>Total</b>		<b>85,000</b>

**Appendix III**  
**Letter of Introduction**

To whom it may concern,

Ref: Academic research within National Cereals and Produce Board

My name is Dominic K Cheruiyot. I am a student at KenyattaUniversity doing an academic research about “Investigating Factors affecting Managing the Application of ERP System .A case of NCPB in Kenya.

The study is in partial fulfillment for the award of Masters Degree in Masters of Business Administration (MIS) option.

The purpose of this letter is therefore to request that you kindly fill the attached questionnaire that provides necessary information relating to the research. Such information provided in the questionnaire will solely be used for academic purposes and will be treated in strict confidence.

Your assistance will be highly appreciated.

Yours Sincerely,

Dominic K Cheruiyot

Registration NO: D53/CTY/PT/23266/2011

**Appendix IV  
Survey Questionnaire**

**Questionnaire for Operations staff**

**Please insert a tick for each question answered in every section**

A. General information.

1. What is your working experience?

Below 5 years	
Between 6-10	
Between 11-20 years	
Above 21 years	

2. Indicate your department

Finance	
Sales and Marketing	
Operations	

3. What does your work entail? (Mention roles).

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**B.Effective Inventory Management:** Inventory here refers to the physical stock that enables a business to operate. This is important in that it supports application of ERP system by giving out adequate information on what is available to be sold. Availability is the net effect after various transactions have taken place like sales, transfer, adjustments and purchases.

5. Does effective Inventory Management affect application of ERP systems?

Yes [ ]

No [ ]

6. If yes, How?

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7. To what extent have the following aspects of effective inventory management affected application of ERP System in the scale of **1-5** where **1** is the **best**, **2** is **good**, **3** is **Neutral**, **4** is **poor** and **5** is the **poorest**.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Inventory level					
Product quality					

8. Are there other aspects of effective inventory management that are important to application of ERP system?

Yes [ ]

No [ ]

9. If yes above, name them

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10. What kind of effective inventory management would you recommend to support application of ERP system?

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1. This section is designed to gain insight into the NCPB performance as far as ensuring that depots are stocked with adequate inventories as far as application of ERP system is concern.

**Please tick in the box, which in your opinion correctly represent your view about each statement.**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
NCPB has a process of facilitating availability of stocks in your region when there is demand.					
The staff has access to the stock available in their depot on demand by					

customers.					
The depot strategic plan has inventory management plan					
Government have contributed into the inventory management in your depot					

**C. Sales Management:** Sales management is one part of application of ERP system. Without proper sales management, sales staff may not be able to be adequately and accurately compensated according to their output in relation to targets at given period. Sales management range from understanding the customer needs with a view to improving quality of service and interacting with inventory to know what is available to sell.

12. Does Sales management affect application of ERP system?

Yes [ ]

No [ ]

13. If yes above, how?

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14. To what extent have the following aspects of sales management affected application of ERP system in the scale of 1-5 where **1** is the **best**, **2** is **good**, **3** is **neutral**, **4** is **poor** and **5** is the **poorest**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Sales performance					
Customer retention					
Customer Satisfaction					

15. Are there other aspects of proper sales management that are important to application of ERP system?

Yes [ ]

No [ ]

16. If yes above, name them

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17. What kind of sales management practices would you recommend to support application of ERP system?

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18. This section is designed to gain insights into how NCPB policy is dealing with the issue of provision of Sales management support in depots as it is vital in ensuring smooth and successful application of ERP system.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
There is no sales performance support available in the region to compensate sales staff accurately.					
There is no customer retention program in the region.					
Staff has basic selling skills to overcome sales problems when applying ERP system.					
There is no customer survey being done to understand the customer needs and improve on the products					

**D. Distribution Management:** Distribution management is transfer of goods from one depot to another depot or one store to another store in the same depot. This is important in that it supports application of ERP by giving information on goods in transit so that sales staff, cashiers and depot record clerks can start receiving orders from customers.

19. Does distribution management affect application of ERP system?

Yes [ ]

No [ ]

20. If yes above, how?

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21. To what extent have the following aspects of distribution management affects application of ERP system in the scale of 1-5 where **1** is the **best**,**2** is **good**,**3** is **neutral**,**4** is **poor** and **5** is the **poorest**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Effective planning and flow of goods					
Storage of goods in the regions					

22. This section is designed to gain insights into how the National Cereals and Produce Board's vision of [Be the leading agricultural commodity management and trading organization) is using ERP as a flagship of the NCPB's distribution strategy. It seeks to check how the NCPB'S operations team facilitates and mainstream the provision and management of distribution requirements at the regional level.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Operations department has done a lot to promote application of ERP system in region through availing of adequate stocks.					
NCPB in collaboration with GOK has equipped depots with required infrastructure.					
The NCPB managed to integrate ERP into the staff to cope with tomorrows' NCPB to enhance the ERP skills.					
The ERP helpdesk at NCPB headquarters is available for all ERP users with ease.					



