

**EFFECT OF INVENTORY MANAGEMENT ON FINANCIAL PERFORMANCE OF  
HOSPITALITY INDUSTRY IN KISUMU COUNTY, KENYA**

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**BY**

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## ABSTRACT

Inventory refers to the value or quantity of raw materials, supplies, work in progress and finished stock that are kept or stored for use as need arises. Inventory management is the art and science of maintaining stock levels of items incurring the least cost. Poor financial performance in medium sized hospitality establishments may be due to lack of proper inventory management. This has resulted to low profitability and financial instability of these establishments. Numerous research have attempted to explain various issues surrounding inventory management methods but none has successfully managed to investigate the effect of inventory management on financial performance of hospitality industry in Kisumu county, Kenya. This study intended to establish effect of inventory management on financial performance of hospitality industry in Kisumu County, Kenya. The specific objectives of this research were: to examine the effect of economic order quantity on financial performance of hospitality industry; to find out the effect of material management on financial performance of hospitality industry and to determine the effect of stock control on financial performance of hospitality industry in Kisumu County, Kenya. This study was guided by a conceptual framework in which inventory management was independent variable while financial performance of hospitality industry was dependent variable. Descriptive survey research design was used to gather information for the study. The target population was 354 staff from ten medium sized hospitality establishments in Kisumu County. The sample size constituted 30% of the target population of the study. Stratified random sampling was used to sample 106 staff. Primary data was collected by use of questionnaires and interview schedule. Secondary data was collected from existing literatures. The data obtained was analyzed using descriptive statistics and Pearson correlation, described using percentages and presented using tables. The research instruments were tested for reliability using test-retest and validity using peer consultation. The study findings showed that inventory management methods have not been widely used in hospitality industry in Kisumu County as given by 51.3% response level. Majority (52.5%) of the respondents agreed that optimum stock levels affect financial performance while partly (3.8%) were not sure that increased stock improves financial performance. The study results indicated that 77.6% of the respondents asserted that depreciation of stock affects financial performance of hospitality industry. The study showed that majority of the establishments lack stock control system as given by 53.8% response level. The findings of this study could be instrumental in improving inventory management in hospitality industry and providing information to the academic fraternity. The study recommended that inventory management methods should be widely adopted in the hospitality industry. The research suggested that a similar study should be done in a different sector apart from the hospitality industry.

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## CHAPTER ONE: INTRODUCTION

This chapter describes the background of the study, statement of the problem, objectives of the study, the research questions and the justification of the study. It also discusses the scope of the study and the conceptual framework.

### 1.1 Background of the Study

Inventory refers to the value or quantity of raw materials, supplies, work in progress (WIP) and finished stock that are kept or stored for use as need arises (Lyons and Gillingham, 2003). Raw materials are commodities that go into the final product. Supplies include items such as maintenance, repair and operating (MRO) inventory that do not go into the final product.

Effective integration of information communication technology with inventory functions using inventory management systems such as Electronic Data Interchange and Material Requirement Planning Systems could play a major influence in supporting effective implementation of Economic Order Quantity in many organizations. Economic order quantity is the optimum size of the order that minimizes the cost of ordering and holding cost. Concern has been raised that hospitality industry management lacked to apply the EOQ as the inventory systems used to minimize the cost of ordering and holding stock (Mugo, 2008)

Drury (2004) asserted that inventory costs include holding costs, ordering costs and shortage costs. Holding costs relate to costs of having physical items in stock. These include insurance, obsolescence and opportunity costs associated with having funds which could be elsewhere but are tied up in inventory.

In the earlier years, materials management was treated as a cost centre since purchasing department was spending money on materials, while store was holding huge inventory of materials, blocking money and space (Ramakrishna, 2005).

In Kenya for instance, materials constitute a major cost component for any industry. Sturkhart (2007) states that the total cost of installed materials or value of materials may be 60% or more. In many cases, the cost of materials exceeds 50% of the total cost of goods produced.

According to Navon and Berkovich (2006) the main logistic responsibility in any organization is to formulate master programme for the timely provision of materials, components and work- in-

progress. The goal of inventory management therefore is to provide the inventories required to sustain operations at minimum costs (Berling, 2011).

Inventories are the stock of raw materials, work in progress, finished goods and supplies held by a business organization to facilitate operations in the production process, (Pandey, 2010). A business's inventory is one of its major assets and represents an investment that is tied up until the item is sold or used in the production of an item that is sold. It also costs money to store, track and insure inventory. Inventories that are mismanaged can create significant financial problems for a business, whether the mismanagement results in an inventory glut or an inventory shortage (Drury, 2004).

Successful inventory management involves creating a purchasing plan that will ensure that items are available when they are needed (but that neither too much nor too little is purchased) and keeping track of existing inventory and its use (Berling, 2011). Two common inventory-management strategies are the just-in-time method, where establishments plan to receive items as they are needed rather than maintaining high inventory levels, and materials requirement planning, which schedules materials deliveries based on sales forecasts. Proper inventory management requires an organization to undertake stocking and use appropriate method to value stock so as not to under or over state profits (Kotabo, 2002).

According to Kotabo (2002) though there are many systems for control of stock, both manual and automatic, there are two basic approaches in which these systems are based. Recording method which may take place either when stocks fall to a pre-determined level or according to the situation discovered when levels are received on a periodic regular basis.

The action method of controlling stock does not allow more than two items to be ordered at once. Therefore, the study in this section does not bring out clarity on how to go about placing an order of two groups of items which have equal demands

The use of various inventory management methods can help hospitality industry improve their financial performance. Inventory management methods such as Material Requirements Planning (MRP), Just-In- Time (JIT), Master Production Scheduling (MPS), ABC analysis, Economic



Order Quantity and Demand Forecasting can help increase financial performance of hospitality industry (Koh, Demirbag, Tatoglu and Zaim, 2007). There has been little attempt on how these inventory management methods are being used in the hospitality industry. Therefore this research seeks to address how the hospitality industry manages their inventory through the use of these inventory methods.

There are numerous studies that have been carried out on the effects of inventory on the financial performance of companies. All these attempts concentrate on different explanatory variables. In the US, Sanghal (2005) studied the effect of excess inventory on long term stock price performance. The study estimated the long-run price effects of excess inventory using 900 excess inventory announcements made by publicly traded firms during 1990-2002. He found evidence suggesting that stock market partially anticipates excess inventory situations and that the firms do not recover quickly from negative effects of excess inventory. He further noted that the negative effect of excess inventory is economically and statistically significant.

In Malaysia, Agus and Noor (2006) examined the relationship between inventory management practices and financial performance. The study measured the manager's perceptions of inventory and supply chain management practices and the level of performance in the industry.

In Uganda, Namusoke (2011) studied the effects of inventory control on the performance of construction companies. She found out that there is strong positive relationship between approaches of Inventory Control and Financial Performance. Eckert (2007) examined inventory management and the role it plays in improving customer satisfaction. He found a positive relationship between customer satisfaction and supplier partnerships, education and training of employees, and technology.

All the above studies concentrated on one variable to measure the financial performance of these companies. In Uganda, Namusoke (2011) used inventory control to measure financial performance of a construction company while in Malaysia, Agus and Noor (2006) used material management in examining the relationship between inventory management practices and financial performance. One variable could not be relied on to establish the effect of inventory management on financial performance as there are other variables which jointly impact on financial performance. Therefore, there is need to consider the effect of inventory management on financial performance by considering all possible variables of inventory management. This is the gap that this study aims to fill.



Firms in Kenya have been accused of poor inventory management techniques and this has greatly affected their ability to improve on their financial performance (Mutua, 2010). He further noted that there are various inventory management techniques that can be used but most firms especially the small sized firms have not adopted these techniques. The study therefore sought to establish effect of inventory management on financial performance of hospitality industry in Kisumu County.

Several attempts have been made to study effects of inventory management on performance of hospitality industry. Agus and Noor (2006) studied the impact of inventory management practices on financial performance of manufacturing firms in Malaysia. However, circumstances in Malaysia may be different from those in Kenya. More so, the study was not carried out in hospitality industry thus there is need to fill this knowledge gap.

### **1.2 Statement of the Problem**

Inventory refers to the value or quantity of raw materials, supplies, work in progress and finished stock that are kept or stored for use as need arises. Inventory management is the art and science of maintaining stock levels of items incurring the least cost. It is important that managers in the hospitality industry have in mind the objective of satisfying customers' needs and keeping inventory costs at minimum level with the aim of improving the financial performance of these establishments. Managing assets of the hospitality establishments can be viewed as part of inventory problem. Inventory if properly managed improve financial performance in the hospitality industry. Proper inventory management contributes to effective control of stocks in hospitality industry and enhances profitability. However, inventory management tools have not yet been widely embraced by many medium size hospitality establishments and this has made these establishments to experience poor financial performance. Poor financial performance have been due to lack of proper inventory management methods and systems such as just in time, material requirement planning, economic order quantity, electronic data interchange, electronic point of sale, and bar coding system. This has lead to more customer complaints, low profitability and financial instability. Consequently, this has also resulted into employees losing their jobs because the establishment cannot meet its financial obligations. Based on the above it is not clear how inventory management can impact on financial performance of the hospitality



industry in Kisumu County. Therefore, there is need to establish effect of inventory management on financial performance of hospitality industry in Kisumu County.

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

The general objective of this research was to establish the effect of inventory management on financial performance of hospitality industry in Kisumu County.

The Specific Objectives of the study includes;

1. To examine the effect of economic order quantity on financial performance of hospitality industry in Kisumu County.
2. To find out the effect of material management on financial performance of hospitality industry in Kisumu County.
3. To determine the effect of stock control on financial performance of hospitality industry in Kisumu County.

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### **1.4 Research Questions**

1. What is the effect of economic order quantity on financial performance of hospitality industry in Kisumu County?
2. What is the effect of material management on financial performance of hospitality industry in Kisumu County?
3. What is the effect of stock control on financial performance of hospitality industry in Kisumu County?

### **1.5 Scope of the Study**

This research was conducted in ten randomly selected medium sized hospitality establishments in Kisumu County. The researcher categorized the hospitality establishments in Kisumu County into small sized hotels, medium sized hotels and large sized hotels. The research was carried out between April and August 2015. This county has many medium sized hospitality establishments which represented all medium sized hospitality establishments in the country. Kisumu County was chosen by the researcher because it is easily accessible to the researcher. The researcher is also well conversant with this county. These establishments were purposively considered because of their medium sizes.

## **1.6 Justification of the Study**

Inventory management ensures that there is effective control of the resources in hospitality industry. In this current world of competition, hospitality industry being a service industry, have to use their inventory as a tool to gain competitive edge hence the need to look into the inventory management. This study would help the stakeholders in hospitality industry to manage their stock by adopting inventory management tools which helps in increasing financial performance.

This study is significant to the management of the establishments in which the research was carried out by equipping them with the deeper understanding of inventory management and its application in the hospitality industry. It may be significant to the tourism sector in that it may help the tourists to know which establishment provides quality services which would lead to their satisfaction. Investors in hospitality industry would be enlightened on how they can effectively manage their inventory through this research which can result into profitability.

The scholars would read this research study and expand their knowledge on the effect of inventory management on performance of hospitality industry and apply this practically in the hospitality industry. This research study would provide information to academicians in the field of procurement and thus help them to find out some related problems in the hotel industry to research on, thus solving some problems in the industry.



## 1.7 Conceptual Framework

### Independent Variable

### Dependent Variable

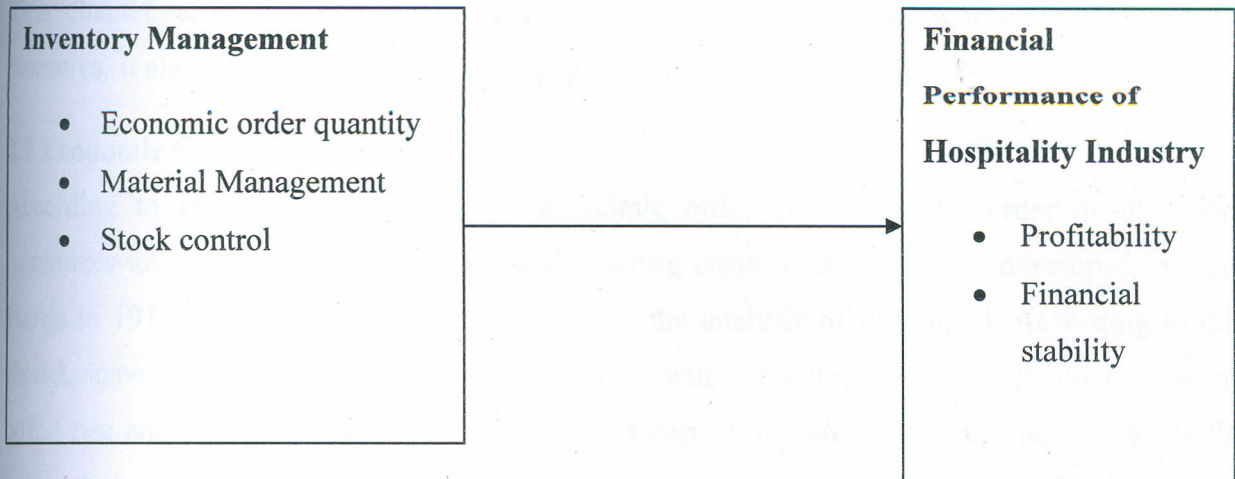


Figure 1.1: Relationship between inventory management and performance of hospitality industry

Source: Self-Conceptualization (2015)

This research examines some dimensions of inventory management. For the financial performance of the establishments to be attained, the management should properly manage its materials; there should be effective inventory control and minimization of all possible costs associated with the stocks. These dimensions of inventory management namely material management, stock control and economic order quantity were independent variables while performance of hospitality industry which can be measured in terms of profitability and financial stability were dependent variables. These dimensions of inventory management and performance were considered and analyzed. Proper inventory management practices in hospitality industry such as effective material management, effective stock control and cost minimization may result to profitability and financial stability in the hospitality industry. This is evidenced by study carried out by Rosenfield and Simchi-levi (2010) which shows that inventory management has a huge implication on financial performance of an enterprise.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

This chapter examines economic order quantity, material management and stock control measures. It also examines the knowledge gap that the study tends to fill.

### 2.2 Economic Order Quantity

According to Hax and Candea (1984) economic order quantity is the order quantity that minimizes total inventory holding costs and ordering costs. This model was developed by Ford Harris in 1913. But Wilson explored into details the analysis of the model. According to this model, some costs (ordering costs) decline with inventory holdings costs, while others (holding costs) rise and that the total inventory associated cost curve has a minimum point. This is the point where total inventory costs are minimized. The function of the EOQ model is to determine the optimal order size that minimizes total inventory costs. There are several variations of the EOQ model, depending on the assumptions made about the inventory system (Koumanakos, 2008)

The basic EOQ model is a formula for determining the optimal order size that minimizes the sum of carrying costs and ordering costs. EOQ assumes that, the ordering cost is constant, the rate of demand is constant, the lead time is fixed, the purchase price of the item is constant i.e. no discount is available, the replenishment is made instantaneously, the whole batch is delivered at once. EOQ is the quantity to order, so that ordering cost plus carrying cost is at its minimum (Arsham, 2006).

The EOQ describe the continuous-inventory order cycle system inherent in the EOQ model. An order quantity is received and is used up over time at a constant rate. When the inventory level decreases to the reorder point, a new order is placed; a period of time, referred to as the lead time, is required for delivery. The order is received all at once just at the moment when demand depletes the entire stock of inventory, the inventory level reaches zero so there will be no shortages. This cycle is repeated continuously for the same order quantity, reorder point, and lead time (Arsham, 2006)

Economic order quantity is the level of inventory that minimizes total inventory holding costs and ordering costs. EOQ is used to determine the optimal number of units of the product to order



so as to minimize the total cost associated with the purchase, delivery and storage of the product. The required parameters to the solution are the total demand for the year, the purchase cost for each item, the fixed cost to place the order and the storage cost for each item per year. The number of times an order is placed will also affect the total cost (Saxena, 2009).

The economic order-quantity model considers the tradeoff between ordering cost and storage cost in choosing the quantity to use in replenishing item inventories. A larger order-quantity reduces ordering frequency, and, hence ordering cost, but requires holding a larger average inventory, which increases holding cost. On the other hand, a smaller order-quantity reduces average inventory but requires more frequent ordering and higher ordering cost. Therefore, it becomes difficult to balance between the holding costs and carrying costs (Zipkin, 2000).

The economic order quantity is the order size that minimizes the sum of carrying costs and ordering costs. These two costs react inversely to each other. As the order size increases, fewer orders are required, causing the ordering cost to decline, whereas the average amount of inventory on hand will increase, resulting in an increase in carrying costs. Thus, in effect, the optimal order quantity represents a compromise between these two inversely related costs. Therefore, it is of great importance to balance between these costs associated with inventory and to find out what determines the amount of stocks to be held by these establishments (Saxena, 2009).

Effective integration of information communication technology with inventory functions using inventory management systems such as Electronic Data Interchange and Material Requirement Planning Systems could play a major influence in supporting effective implementation of Economic Order Quantity in many organizations. Economic order quantity is the optimum size of the order that minimizes the cost of ordering and holding cost. Concern has been raised that hospitality industry management lacked to apply the EOQ as the inventory systems used to minimize the cost of ordering and holding stock (Mugo, 2008)

In summing up this section, literature review of the study indicates that economic order quantity minimizes holding cost and hence affects financial performance. However, demand may not be constant throughout the year and this makes economic order quantity inappropriate as measure of



financial performance in hospitality industry. The use of EOQ without other dimensions of inventory management could not be relied upon to give the desired result. This study therefore considers not only EOQ but also other dimension of inventory management and their effect on financial performance in hospitality industry. This has hence influenced development of major knowledge gaps in this research.

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### 2.3 Material Management

In the earlier years, materials management was treated as a cost centre since purchasing department was spending money on materials, while store was holding huge inventory of materials, blocking money and space (Ramakrishna, 2005). However with the opening up of global economy, there has been a drastic change in the business environment, resulting in manufacturing organizations exposed to intense competition in market place.

In Kenya for instance, materials constitute a major cost component for any industry. Sturkhart (2007) states that the total cost of installed materials or value of materials may be 60% or more. In many cases, the cost of materials exceeds 50% of the total cost of goods produced. Such a large investment requires considerable planning and control so as to minimize wastage which invariably affects the performance of the organization (Ramakrishna, 2005).

Effective management of materials can lead to a reduction in cost, resulting in a significant saving. The various types of materials to be managed in any organization include purchased materials, work-in-progress (WIP) and finished goods (Banjoko, 2009). Ogbadu (2009) identified basic price, purchasing cost, marketing cost, obsolescence and wastages as the various costs involved in these materials. Thus, the management of these materials so as to reduce the costs associated with the materials is what is referred to as material management. Previous researches (Ramakrishna, 2005; Stukhart, 2007; Ogbadu, 2009; Ondiek, 2009) have shown that materials account for more than 50% of the annual turnover in manufacturing firms. This shows clearly that priority should be given to management of materials in organizations to avoid unnecessary costs.

Materials are the lifeblood and heart of any manufacturing system and no organization can operate without them. They must be made available at the right price, at the right quantity, in the right quality, in the right place and at the right time in order to co-ordinate and schedule the production activity in an integrative way for an industrial undertaking. A manufacturing firm will



remain shaky if materials are under stocked, overstocked, or in any way poorly managed (Banjoko, 2000).

According to Navon and Berkovich (2006) the main logistic responsibility in any organization is to formulate master programme for the timely provision of materials, components and work-in-progress. They further noted that logistics, including materials and goods flowing in and out of a production facility as well as its internal handling has become very important to an organization to acquire competitive advantage, as the company struggle to deliver the right product at the correct place and time. The main aim is to actually promote, with low cost, a flow whose velocity allows the execution of manufacturing process with expected satisfaction level.

Bowersox and Closs (2002) articulated that improvement in continuity of supplies with reduced lead times, will lead to improvement in cooperation and communications with reduced duplication of efforts, reduction in material costs and improvement in quality control, which are the main benefits of materials management.

In summarizing this section, material management plays a critical role in improving financial performance. Therefore, materials management should be viewed as a necessary means of enhancing financial performance of organizations. It is evident from the studies in this section that hospitality industry can remain unstable if it under stock or overstock its materials (Banjoko, 2000). However, this literature fails to examine how optimum stock level can be achieved through material management. Therefore this study attempts to fill this knowledge gap.

## **2.4 Stock Control Measures**

Brackus (2000) argued that stock control is concerned with two parts of accounting; physical property and value of the property. He further noted that stock control as one of the policy procedures employed in the management of stocks and these include internal checks and efficient material management procedure. Stock control includes various aspects such as determining the amount of stock on shelves and in stockroom and how reordering happens. Other measures of stock control include ensuring high security of the stores and stock yard, good custody of keys, limiting access to premises and coding of stocks to minimize theft.

Pandey (2010) describes accounting as the use of statistical and accounting measures to maintain knowledge of the quantities of items present in a facility. He further noted that stock control is a method of determining what quantity of items to store so that purchasing and storage

cost are minimum without affecting production or sales. Without proper control, stocks have a tendency to grow beyond economic limits. Funds are tied up unnecessarily in surplus stock. Stock control also includes the use of physical inventories and materials balances to verify the presence of materials or to detect the loss of material after it occurs, in particular, through theft by one or more insiders.

Brackus (2000) noted that accounting material control is concerned with the safe guarding the enterprises property in form of materials by properly recording the receipts, consumption of materials and the balance in storage. He further mentioned that in any organization, materials constitute an important factor of production. It is an important element of cost and covering between 60-70 percent of the total cost of the production. The objectives of material control is to ensure regular supply of materials, reduce overstocking and under stocking, minimum wastage, getting material at reasonable prices, availability of up-to-date information and adoption of internal check system

According to Kotabo (2002) though there are many systems for control of stock, both manual and automatic, there are two basic approaches in which these systems are based. Recording method which may take place either when stocks fall to a pre-determined level or according to the situation discovered when levels are received on a periodic regular basis. The action level method of controlling stock by quality which involves fixing stock levels for each commodity which is recorded in the stock system . Under the action level methods of provision, commodities are ordered at unspecified intervals as and when ordering levels are related. This means that orders can only be placed usually for one item at a time.

Nyanga (2006) asserted that in any efficient business stock levels are established with as much care as production levels, a careless choice of the stock level can easily precipitate production slow down caused by lack of badly needed materials. He continues that as a result of tighter controls over stocks, items and meticulous records keeping, the cost of maintaining adequate levels of stock is reduced with adverse effects on the continuity of operations.

Ondiek (2009) noted that there is great need for stocktaking to keep track of physical stock and to cross check the accuracy of stock records. Stocktaking is the complete process of verifying the physical quantity of the entire range of stocks held at a given point in time. He further noted that the reason for physical stocktaking is to verify the accuracy of stock records



that support the value shown in the balance sheet by physical verification of the item. This may even disclose frauds, theft or loss and any weakness in the system of custody and control of stock.

Van (2004) asserted that the size and number of surpluses and deficiencies revealed by stock taking is a good criteria to assess the efficiency of store keeping methods and material control procedures. He noted that the stock is valued at cost value and is then used to generate margin and profit reports for the business. Stock taking is required to complete the balance sheet at the end of accounting period. The proprietors of hospitality establishments will be able to see how the business is performing and know how profit margins are being achieved. Reports from stock taking can therefore be used to measure the financial performance of a business.

Maintaining optimum levels of inventory is important in an organization because excess inventory results in stock holding costs (rental charges, opportunity costs, obsolescence costs, breakages, pilferage) and inadequate inventory (stock outs) is also costly as customers may leave to competitors (Berling, 2011). For each sale that an organization does loose as a result of stock outs, the company loses profits (Knights, 2008). When inventory management (maintaining adequate inventory levels) is carried out efficiently, it ensures that the materials needed in an organization are available in the right quality, quantity thus avoiding issues of overstocking and under stocking and ultimately increased profits (Ewuola, *et al*, 2005).

The procurement of stocks used within the establishment involves various procedures. They are requisitions, bids and quotations, purchase order and sub-contracts, shipping and documentation, invoicing and payment. Under ordinary circumstances, the procurement department follows the procurement procedures to obtain the stocks with the best prices and quality. The procurement procedure is to ensure timely delivery of stocks and in good condition (Ansari, 2009).

In summary, the literature in this section reveals that financial performance of firms is affected by stock control techniques. The action method of controlling stock does not allow more than two items to be ordered at once. Therefore, the study in this section does not bring out clarity on how to go about placing an order of two groups of items which have equal demands. This is the knowledge gap that this study intended to fill.

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Introduction

This chapter covers research design, study area, target population, sampling procedure, sample size and sampling technique. It discusses data collection methods, procedures, validity and reliability of data collection instruments. Finally it describes how data was analyzed, presented and the ethical issues in research.

### 3.2 Research Design

Research design is the conceptual structure within which research is conducted. It constitutes the blue print for the collection, measurement and analysis of data (Kothari 2004). Descriptive survey research design was used in this study. In order to attain the objectives of this study, data was collected from managers and junior staff of randomly selected hotels in Kisumu County. The researcher used close and open ended questions to gather information; personal interviews were also employed so as to achieve the objectives of the study.

### 3.3 Study Area

This research was carried out in ten randomly selected hospitality establishments in Kisumu County. This study area was selected because it is easily accessible to the researcher. It also has medium sized hospitality establishments which will be a representative to the entire hospitality industry in the Country. Kisumu city is the third largest city in Kenya found in western region of Kenya. It lies within a longitude of  $33^{\circ} 20'$  E and  $35^{\circ} 20'$  E, latitude of  $0^{\circ}, 20'$  south and  $0^{\circ}, 50'$  south. Rachuonyo District borders it to the southwest, Kisii to the South, Nandi to the Northeast, Siaya to the West and Bondo to northwest. Kisumu District lies along the shores of Lake Victoria and covers a total area of 2,660 square kilometers. It has a population of 394,684 (Kenya National Bureau of Statistics, 2009 census). The main economic activities in Kisumu city involve fishing in Lake Victoria, agriculture and livestock farming. The majority of farming in the lake basin region is subsistence driven leading to relatively low production volumes.



### **3.4 Target Population**

The population in this study comprised of 354 staff drawn from ten randomly selected medium sized hospitality establishments in Kisumu County, Kenya. They comprised of staff from accounts, finance, cashiers, stores and managers. They included Whirlspring hotel, Palmers hotel, Shalom Hotel, Tipple Trojan hotel, Mamba hotel, Deuxe of breeze hotel, Perch hotel, Victoria hotel, Good Samaritan hotel and St. Anna Guest House. Though the research was limited to these selected establishments, the results from the study were applicable to other hospitality establishments.

### **3.5 Sampling Procedure**

A sample is a small proportion obtained from accessible population. The sample was carefully selected so as to be a representative of the whole population with the relevant characteristics (Kothari, 2004). The researcher used stratified random sampling method to draw the sample size. This is because this sampling technique ensured that each member of the target population had an equal and independent chance of being included in the sample (Oso & Onen, 2009). Mugenda and Mugenda, (2008) adds that for accurate information a researchable large sample size is necessary for the study.

### **3.6 Sample Size and Sampling Technique**

The sample size consisted of 106 respondents selected from 354 respondents from ten medium size hospitality establishments in Kisumu County. Mugenda and Mugenda (2008) noted that in a social science research, at least 10% to 30% of the accessible population is acceptable when a targeted population is less than 10,000. A sample size of 106 was drawn from a population size of 354 which was obtained from the ten hospitality establishments as illustrated in table 3.1

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**Table 3.1: Target Population and Sample Size**

<b>Name of Establishment</b>	<b>Population Size</b>	<b>Percent</b>	<b>Sample Size</b>
Whirlspring Hotel	42	30	13
Palmers Hotel	41	30	12
Shalom Hotel	35	30	11
Tipple Trojan Hotel	25	30	7
Mamba Hotel	40	30	12
Deuxe of Breeze Hotel	30	30	9
Perch Hotel	39	30	12
Victoria Hotel	40	30	12
Good Samaritan Hotel	32	30	9
St. Anna Guest House	30	30	9
<b>Total</b>	<b>354</b>	<b>30</b>	<b>106</b>

**Source:** Ministry of Tourism Regional Office, Kisumu (2013)

### **3.7 Data Collection Methods**

Both the primary and secondary collection methods were employed to collect data.

#### **3.7.1 Primary Data and Sources**

Primary data included actual raw information that was obtained from the staff in the three selected establishments in Kisumu County. Primary data was obtained from the respondents through the administration of questionnaires and personal interviews.

#### **3.7.2 Secondary Data and Sources**

This was collected from both published and unpublished materials such as books, statistical abstracts, journals, annual reports, research papers, magazines, internet and study results was used.

#### **3.7.3 Data Collection Procedure**

The researcher sought letter of introduction from Maseno University before proceeding to the field to collect the data from the selected hotels in Kisumu County. Questionnaires were distributed to respondents to fill in accordingly. The respondents were given one week after



which the researcher collected the filled questionnaires. The managers were interviewed by the researcher to obtain the required information.

### **3.7.4 Data Collection Instruments**

The researcher used the following data collection instruments to collect the data.

#### **3.7.4.1 Questionnaires**

Questionnaires were used to obtain important information from the respondents. The questionnaires contained simple questions systematically compiled. These questionnaires were used to obtain information from the general staff since these staff were many and all would not be interviewed. The respondents were requested to read and understand the questions thoroughly before filling them. They were given a maximum of one week to fill the forms after which the forms were collected by the researcher.

#### **3.7.4.2 Interview Schedules**

Interview schedules contain questions that were asked by the interviewer while interviewing the respondents. The managers were interviewed since the managers were few and it was possible to obtain information through interview.

#### **3.7.4.3 Reliability Tests for Data Collection Instruments**

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Kothari, 2004). The pre-testing of the instruments for collecting data was done to ensure that items in the instruments were stated clearly and have the same meaning to all respondents. The instruments were given to five respondents to fill in after which they were collected back. The respondents on which the instruments were pre-tested were not part of the selected sample for the study. The pre-testing helped to assess the clarity of the instruments and the ease of the instrument. Questionnaires and interview schedules were pre-tested to test the consistency of the responses. Those with varied responses were reconstructed to give acceptable response. This ensured the reliability of the instruments as a measurement tool yields data that was used for generalization of the study findings.

#### **3.7.4.4 Validity Test for Data Collection Instruments**

Validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study (Kothari, 2004). To establish the validity, data collection instruments were appraised by Maseno University lecturers in school of business and economics who crossed-checked and assessed the relevance of the content.

#### **3.8 Data Analysis**

The information from the questionnaires were coded and fed into the computer in order to facilitate analysis of the data. The data obtained was analyzed using descriptive statistics and Pearson correlation.

#### **3.9 Data Presentation**

After the data analysis, the results obtained were presented using tables. They were described using percentages.

#### **3.10 Research Ethics**

During the research, the respondents were not required to give their identifications. The information that was collected was treated with lot of confidentiality hence the respondents could give the correct information without fear of being victimized. No photograph was used during data collection. The information that was given was used for research purposes only.



## CHAPTER FOUR: RESULTS AND DISCUSSION

### 4.1 Introduction

This chapter is concerned with presentation, analysis and interpretation of data gathered during the research.

### 4.2 Presentation of Findings

The researcher distributed 106 questionnaires to the respondents and only 80 filled questionnaires were returned. This accounted for 75% response rate.

#### 4.2.1 Personal Information

**Table 4. 1: Gender Distribution of the Respondents**

Gender	Frequency	Percent
Male	37	46.3
Female	43	53.7
<b>Total</b>	<b>80</b>	<b>100</b>

Source: Research data (2015)

Table 4.1 shows that the majority (53.7%) of the respondents were female while the 46.3% were male. The finding of the study indicated that female staff dominates the male staff in the hospitality industry.

**Table 4. 2 : Age distribution of the Respondents**

	<b>Frequency</b>	<b>Percent</b>
Below 20 years	9	11.3
21-30 years	41	51.3
31-40 years	24	30.0
Above 40 years	6	7.5
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

The finding in Table 4.2 revealed that 9(11.3%) of the respondents were of age below 20 years, 41(51.3%) of them were aged between 21 - 30 years, 24(30.0%) of the respondents were between 31 - 40 years and 6(7.5%) of them were above 40 years old. The study results indicated that 92.6% of the respondents were of age 40 years and below. This implied that the staff population in a hospitality industry is a youthful one.

**Table 4. 3 : Education Level of the Respondents**

	<b>Frequency</b>	<b>Percent</b>
Primary	9	11.3
Secondary	25	31.3
College	33	41.3
University	13	16.3
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

Table 4.3 revealed that majority (41.3%) of the respondents had college level of education, 25(31.3%) of them had secondary education, 9(11.3%) of them had primary education and 13(16.3%) of them had university education. The findings implied that the majority of the



respondents were literate and capable of handling the questionnaires with minimal assistance from the researcher.

**Table 4. 4: Work Experience of the respondents**

	<b>Frequency</b>	<b>Percent</b>
Less than a year	18	22.5
1-2 years	32	40.0
3-5 years	24	30.0
6-10 years	3	3.8
Above 10 years	3	3.8
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

The study findings in Table 4.4 showed that 18(22.5%) of the respondents had worked within the hospitality industry for less than a year, 32(40.0%) of them had 1-2 years work experience, 24(30.0%) of them had 3-5 years of work experience, 3(3.8%) of them had 6-10 years of work experience and those with above 10 years experience were also 3(3.8%). The results indicates that 37.6% were having work experience for 3 years and above while more than half had less than 3 years work experience within the hospitality industry. It could be concluded that the respondents are experienced workers.

#### 4.2.2 Effects of Economic Order Quantity on Financial Performance

The first objective of the study was to examine the effect of economic order quantity on financial performance of hospitality industry in Kisumu County.

**Table 4.5: Stock quantity affects financial performance of establishment**

	<b>Frequency</b>	<b>Percent</b>
Yes	64	80.0
No	16	20.0
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

Table 4.5 shows 64(80.0%) of the respondent felt that stock quantity affects the financial performance of an establishment and 16(20.0%) disagree. This findings concur with Saxen (2009) who noted that small and regular orders increase ordering cost while a large stock increases holding costs. He further noted that the number of times an order is placed affect the total cost. Ewuola et al (2005) who stated that when inventory management is carried out efficiently, it ensures that the materials needed in an organization are available in the right quality, quantity thus avoiding issues of overstocking and under stocking and ultimately increases profit.



**Table 4. 6 : Adequate stock quantity**

	<b>Frequency</b>	<b>Percent</b>
Strongly Disagree	13	16.3
Disagree	13	16.3
Not sure	10	12.5
Agree	34	42.5
Strongly Agree	10	12.5
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

Table 4.6 reveals that 10(12.5%) of the respondents strongly agreed that their establishments had enough stock, and 34(42.5%) of them agrees with the statement. On the other hand, 13(16.3%) of the respondents strongly disagrees that their establishments had enough stock and 13(16.3%) of them disagree with the opinion. Only 10(12.5%) of the respondents were not sure that their establishments had enough stock. This findings concur with Ondiek (2009) who noted that there should be regular stocktaking to keep track of physical stock and to cross check the accuracy of stock records and to ensure optimum stock level. The findings of the research indicates that more than half (55%) of the respondents felt that their establishments had enough stock while 32.6% of them denied the statement. This finding also coincides with Banjoko (2000) who stated that a firm will remain shaky if materials are under stocked, overstocked, or poorly managed.

**Table 4. 7 : General Stock level of items in the establishment**

	<b>Frequency</b>	<b>Percent</b>
Highly overstocked	4	5.0
Overstocked	6	7.5
Adequately stocked	26	32.5
Highly under stocked	16	20.0
Understocked	28	35.0
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

Table 4.7 reveals that 4(5.0%) of the respondents felt that their general stock level is highly overstocked and 6(7.5%) of them cited that their establishment was overstocked. Further, the Table 4.9 shows that 26(32.5%) of the respondents felt that their establishments were adequately stocked and 16(20.0%) of them were highly understocked. The study results also shows 28(35.0%) of the respondents felt that their establishments were understocked. The findings imply that 45% of the establishments were well stocked while 55% of them were not. These findings concur with Ondieki (2009) who found out that there is great need for stocktaking to keep track of physical stock and to cross check the accuracy of stock records. This indeed would help in stock control. The research therefore advises the management of the various establishments in hospitality industry within Kisumu City to adopt economic order quantity.

#### 4.2.3 Effects of Material Management on Financial Performance

The second objective of the study sought to find out the effect of material management on financial performance of hospitality industry in Kisumu County. The findings of the study were summarized as below.

**Table 4.8 : Procedure followed in acquiring stock**

	<b>Frequency</b>	<b>Percent</b>
Yes	39	48.8
No	41	51.3
<b>Total</b>	<b>80</b>	<b>100.0</b>

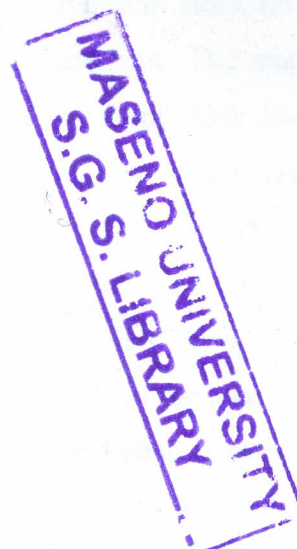
Source: Research data (2015)

Table 4.8 reveals that 41(51.3%) of the respondents cited that procedure was not followed in acquiring stock in the establishments of hospitality industry within Kisumu County and 39(48.8%) of them asserted that procedure was followed in acquiring stock in the establishments. These findings concur with Ansari (2009) who noted that the procurement procedure ensures timely delivery of stocks and in good condition and should be followed. Therefore, the study advises the establishments to follow laid procedures in the acquisition of stock.



**Table 4. 9 : Strategy of Material Management**

	Frequency	Percent
Proper storage	27	33.8
Purchasing few items at a time	21	26.3
Using FIFO-LIFO concept	17	21.3
Not Sure	8	10.0
None	7	8.8
<b>Total</b>	<b>80</b>	<b>100.0</b>



Source: Research data (2015)

The research results in Table 4.9 reveals that 27(33.8%) of the respondents pointed out that proper storage was practiced in managing materials in ensuring optimal stock level, 21(26.3%) of them cited purchasing few items at a time was used to manage materials in ensuring optimal stock level, and 17(21.3%) of the respondents pointed out that FIFO-LIFO concept was used in managing materials in ensuring optimal stock level. Only 8(10.0%) of the respondents not sure on the strategy that is used in managing materials in ensuring optimal stock level and 7(8.8%) of them said none of the strategies were used in managing materials in ensuring optimal stock level. This findings concur with Ewuola, *et al*, (2005) who noted that when inventory management is carried out efficiently, it ensures that the materials needed in an organization are available in the right quality, quantity thus avoiding issues of overstocking and under stocking and ultimately increased profits

**Table 4. 10 : Optimum Stock Level Affects Financial Performance**

	Frequency	Percent
Strongly Disagree	6	7.5
Not sure	3	3.8
Agree	42	52.5
Strongly Agree	29	36.3
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

Table 4.10 shows that 29(36.3%) of the respondents strongly agrees that optimum stock level affects financial performance and 42(52.5%) of them agrees with the statement. The study further revealed that 6(7.5%) of the respondents strongly disagrees that optimum stock level affects financial performance and 3(3.8%) of them were not sure that optimum stock level affects financial performance. The findings of the research indicated that more than two thirds (88.8%) of the respondents felt that optimum stock level affects financial performance. The findings concur with Sturkhart (2007) who stated that the total cost of installed materials or value of materials may be 60% or more. In many cases, the cost of materials exceeds 50% of the total cost of goods produced. Such a large investment requires considerable planning and control so as to minimize wastage which invariably affects the performance of the organization (Ramakrishna, 2005). Therefore, the research advises the owners of the establishments in hospitality industry within Kisumu County to always ensure they maintain optimum stock level for it affects the financial performance of their establishments.

#### 4.2.4 Effects of Stock Control on Financial Performance

The final objective of the study was to determine the effect of stock control on financial performance of hospitality industry in Kisumu County. The results were summarized in Tables below.

**Table 4. 11 : Tight security of stock in the store**

	<b>Frequency</b>	<b>Percent</b>
Yes	37	46.3
No	43	53.7
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

The study findings in Table 4.11 shows that 37(46.3%) of the respondents agrees that there is tight security of stock in the store and 43(53.7%) refutes the opinion. The study results imply that there is a lot of risk on the items that are acquired and used by the establishments of the hospitality industry in Kisumu County. Therefore, there was need for the managements of the hospitality industry in Kisumu County to adopt secure and safety mechanisms to protect the



stocks from theft and other mismanagement by the workers. Brackus (2000) noted that there should be a high security of the stores and stock yard, good custody of keys, limiting access to premises and coding of stocks to minimize theft. The study results also show that 46.3% of the respondents agreed that the establishments in the hospitality industry within Kisumu County had stock control system in place.

**Table 4. 12 : Existence of Stock control system in the establishment**

	<b>Frequency</b>	<b>Percent</b>
Yes	37	46.3
No	43	53.8
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

Table 4.12, shows that 37(46.3%) of the establishments in the hospitality industry within Kisumu County had stock control system in place and 43(53.8%) of them denied the statement. The study finding implies that majority of the establishment in hospitality industry within Kisumu County have no stock control systems in place while less than half (46.3%) noted the existence of the stock control systems. This finding concurs with Mugo (2008) who noted that in Kenya, inventory management systems have not yet been widely embraced by many medium sized hospitality establishments

Hospitality establishment without inventory management system usually incur a lot of loses which result from pilferages, poor portioning of food items which is being served to customers, under or over portioning of raw materials which is being used to produce food item. All these lead to losses and wastages which affect the financial performance of these establishments.

**Table 4. 13 : Depreciating stock affects Financial performance**

	<b>Frequency</b>	<b>Percent</b>
Strongly Disagree	3	3.8
Disagree	4	5.0
Not sure	11	13.8
Agree	33	41.3
Strongly Agree	29	36.3
<b>Total</b>	<b>80</b>	<b>100.0</b>

Source: Research data (2015)

The research findings in Table 4.13 reveals that 29(36.3%) of the respondents strongly agreed that depreciation of stock affects financial performance of the establishments in hospitality industry, and 33(41.3%) of them agreed with the statement. Further, the findings in Table 4.15 showed that 3(3.8%) of the respondents strongly disagree that depreciation of stock affects financial performance of the establishments in hospitality industry, and 4(5.0%) of them disagree with the same opinion. Only 11(13.8%) of the respondents were not sure that depreciation of stock affects financial performance of the establishments in hospitality industry. The study results indicated that more than two third (77.6%) of the respondents asserted that depreciation of stock affects financial performance of the establishments in hospitality industry. The findings imply that stock level control is a significant determinant on the financial performance of an establishment. The research therefore advices the various owners of establishments in the hospitality industry to make effort to ensure that stock level does not depreciate but should always appreciate to ensure better financial performance.

#### **4.3 Correlation Analysis**

The study used correlational analysis to determine the relationship among the study variables. The findings is summarized in Table 4.14



**Table 4. 14 : Correlational analysis**

		Stock Quantity has effect on Financial performance	Optimum stock level affects Financial performance	Depreciating stock affects Financial performance	Effective use of Economic Order Quantity	Efficient material management	Effective stock control
Stock Quantity has effect on Financial performance	Pearson Correlation	1	-.291**	-.282*	-.269*	-.158	-.095
	Sig. (2-tailed)		.009	.011	.016	.163	.400
	N	80	80	80	80	80	80
Optimum stock level affects Financial performance	Pearson Correlation	-.291**	1	.130	.053	.048	-.023
	Sig. (2-tailed)	.009		.252	.640	.673	.839
	N	80	80	80	80	80	80
Depreciating stock affects Financial performance	Pearson Correlation	-.282*	.130	1	.230*	.228*	.016
	Sig. (2-tailed)	.011	.252		.040	.042	.889
	N	80	80	80	80	80	80
Effective use of Economic Order Quantity	Pearson Correlation	-.269*	.053	.230*	1	.481**	.571**
	Sig. (2-tailed)	.016	.640	.040		.000	.000
	N	80	80	80	80	80	80
Efficient material management	Pearson Correlation	-.158	.048	.228*	.481**	1	.518**
	Sig. (2-tailed)	.163	.673	.042	.000		.000
	N	80	80	80	80	80	80
Effective stock control	Pearson Correlation	-.095	-.023	.016	.571**	.518**	1
	Sig. (2-tailed)	.400	.839	.889	.000	.000	
	N	80	80	80	80	80	80

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

In addition, the study findings showed that effective economic quantity and effective material management have moderate relationship with pearson correlation coefficient of 0.481 while with effective stock control is 0.571, implying moderate relationship. Also, the research results reveals that effective material management and effective stock control has moderate relationship with the pearson correlation coefficient of 0.518.



## **CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter describes the summary of findings, followed by conclusion, recommendation and suggestions for further studies.

### **5.2 Summary of Findings**

In summary the research findings has shown effect of inventory management on financial performance of hospitality industry in Kisumu County.

#### **5.2.1 Effect of Economic Order Quantity on Financial Performance of Hospitality Industry in Kisumu County**

The first objective of the study sought to examine the effect of economic order quantity on financial performance of hospitality industry in Kisumu County. The study findings showed that majority (80.0%) of the respondent felt that stock quantity affects the financial performance of an establishment. This concurs with Saxen (2009) who asserted that the number of times an order is placed affect the total cost. Further, the study findings of the research indicated that more than half (55%) of the respondents felt that their establishments had enough stock. Moreover, the findings of the study reveal that 45% of the establishments were well stocked. This agreed with Ewuola et al (2005) who stated that when inventory management is carried out efficiently, it ensures that the materials needed in an organization are available in the right quality, quantity thus avoiding issues of overstocking and under stocking and ultimately increases profit. The research therefore advises the management of the various establishments in hospitality industry within Kisumu City to adopt economic order quantity.

#### **5.2.2 Effect of Material Management on Financial Performance of Hospitality Industry in Kisumu County.**

The second objective of the study was to find out the effect of material management on financial performance of hospitality industry in Kisumu County. The study findings reveals that more than half (51.3%) of the respondents cited that correct procedure was not followed in acquiring stock in the establishments of hospitality industry within Kisumu County. Further, the study results

showed that 26.3% of respondents pointed out that purchasing few items at a time was used to manage materials in ensuring optimal stock level, and 17(21.3%) of the respondents pointed out that FIFO-LIFO concept was used in managing materials in ensuring optimal stock level. Only 8(10.0%) of the respondents were not sure on the strategy that is used in managing materials in ensuring optimal stock level and 7(8.8%) of them said none of the strategies were used in managing materials in ensuring optimal stock level. These findings concur with Ansari (2009) who noted that the procurement department should follow the procurement procedures to obtain the stocks with the best prices and quality. He further asserted that the procurement procedure ensures timely delivery of stocks and in good condition.

In addition, the study results showed that more than two thirds (88.8%) of the respondents felt that optimum stock level affects financial performance. Based on these findings, the research advises the establishments in the hospitality industry to follow correct procedures of acquiring stock, for this will increase efficiency and effectiveness hence improved financial performance. Also, the study advises the management of hospitality establishments to adopt the appropriate strategy of material management because it will affect the finance performance. In addition, the optimum stock level should be looked at by all establishments since it affects financial performance. The decreased stock level can results to poor financial performance and increased stock level will improve financial performance. Therefore, the finding means that material management plays significant role in the financial performance of an establishment. The optimum stock levels can be achieved by constant review and monitoring of reorder level and replenishing the stock before the stock out.

### **5.2.3 Effect of Stock Control on Financial Performance of Hospitality Industry in Kisumu County**

The last objective of the study sought to determine the effect of stock control on financial performance of hospitality industry in Kisumu County. The study findings show that 46.3% of the respondents agreed that there was tight security of stock in the store while 57.3 % disagreed. Brackus (2000) noted that there should be a high security of the stores and stock yard, good custody of keys, limiting access to premises and coding of stocks to minimize theft. The study results also show that 46.3% of the respondents agreed that the establishments in the hospitality



industry within Kisumu County had stock control system in place. Further, the research finding reveals more than two third (77.6%) of the respondents asserted that depreciation of stock affects financial performance of the establishments in hospitality industry. The findings illustrate that stock control plays a very important role in financial performance in any establishment. Therefore, the research advises the management of the establishments in the hospitality industry to make effort to ensure that stock level does not depreciate but should always appreciate to ensure better financial performance.

### **5.3 Conclusions**

The study also concluded that economic order quantity plays a vital role in financial performance. In addition, the study concluded that enough stock quantity was necessary for the financial performance of the establishments. Further, the study concluded that general stock level had significant effect on the financial performance in an establishment. Based on these findings, the study concluded that increased stock level increases financial performance.

Further, the study concluded that material management was an important element in the financial performance. Based on the findings, the study concluded that procedures or guidelines are vital in the acquisition of stock because it provides some order and smooth running of the establishments. Similarly, the study concluded that appropriate strategies on material management are necessary in the influence of the financial performance.

Finally, the study concluded that tight security was necessary for the safety of the stock in the store. In order to reduce theft cases, security mechanism was inevitable by all the establishments. The study also concluded that stock control systems play important functions on the financial performance in establishments. It also concluded that depreciation in stock affects the financial performance.

### **5.4 Recommendations**

Based on the findings of the study, the following were the recommendations:

The optimum stock level should be maintained by the establishments so that they ensure good financial performance. Right material management strategy should be adopted by the establishments in order to improve on the financial performance Security of stock in the store

should be emphasized because this will minimize the rate of item loss through theft. Stock control systems should be adopted in the establishments since it has a significant role in the financial performance.

### **5.5 Suggestions for Further Research**

The study presents the following suggestions:

- i. Similar study should be done in a different sector apart from the hospitality industry.
- ii. Assess Challenges hindering Investors in the hospitality industry in the implementation of inventory management tools.



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