EFFECT OF INVENTORY MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF PRIVATE FIRMS; CASE STUDY OF MILLY GLASS LIMITED

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF MANAGEMENT AND LEADERSHIP IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DIPLOMA OF SUPPLY CHAIN MANAGEMENT OF THE MANAGEMENT UNIVERSITY OF AFRICA

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DECLARATION

Declaration by the student

This project is my original work and has not been presented for a degree in any other University.

SIGNATURE …….. Date……

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Declaration by the supervisor

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

NAME: HILLARY KIPKORIR

SIGNATURE …… Date……

DEDICATION

I am pleased to thank my family members especially my parents for their support offered to me. The proposal is also dedicated to my friends who have been supportive during the time of coming up with the proposal during my course

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ABSTRACT

The study will be focused to determine factors influencing inventory control operations in meat processing firms in Kenya with a case study of Milly Glass Limited. Inventory control operations entails the methods that companies use to organize, store, and replace inventory, to keep an adequate supply of goods at the same time minimizing cost. The objectives of the study were; to find out how product development affect inventory control operation, to establish the extent at which lead time affects inventory control operation, to determine how technology affects inventory control operation and then to assess the effects of inventory shrinkage inventory control operation at Milly Glass Limited . The study will adopt a descriptive design where a quantitative research method will be used to ensure establishment of correlations and cause effect relationship that is important in viability of the constructs. The target population of the study will be 180 employees of Milly Glass Limited where a sample of 54 respondents will be obtained. The data collections instrument for the study will be questionnaire to acquire the data from the respondents. The study will be piloted to ensure the validity and reliability of the research instrument for a credible study. The data obtained will be analyzed using SPSS and then presented on tables and figures for interpretation.

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ACRONYMS AND ABBREVIATIONS

EMF:	Equipment Manufacturing Firms
EOQ:	Economic Order Quantity
ICT:	Information and Communication Technology
JIT:	Just-in-Time manufacturing
KMC:	Milly Glass Limited
ROI:	Return on Investment
SCM:	Supply Chain Management
ToC:	Theory of Constraints
RDT:	Resource Dependence Theory
USDA:	United States Department of Agriculture

OPERATIONAL DEFINITION OF TERMS

Product development: This involves modification of an existing product or its presentation, or formulation of an entirely new product that satisfies a newly defined customer want or market niche (Booz, 2012)

Lead time: This is the time that elapses between the placing of an order (either a purchase order or a production order issued to the shop or the factory floor) and actually receiving the goods ordered (Hanna, 2015).

Technology: Technology allows organizations to respond better to existing challenges and improve the anticipation of future developments. The use of IT in supply chain management (SCM) enables the firm to maintain record of inventory, suppliers and customers (Powell, 2010)

Inventory shrinkage: This refers to the loss of stock between the time it is purchased from a supplier to when it is sold to your customers (Max, 2015)

Inventory control operation: This is a framework employed in firms in controlling its interest in inventory. It includes the recording and observing of stock level, estimating future request, and settling on when and how to arrange (Harris, 2015)

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A research done in Europe by Blanks, (2018) in the concept of management found out that inventory control was not seen to be necessary excess inventories were considered as indication of wealth. Management by then considered over stocking beneficial. But today firms have started to embrace effective inventory control (Susan & Michael, 2019). Managers, now more than ever before, need reliable and effective inventory control in order to reduce costs and remain competitive (Closs, 2017). According to Dobler and Burt (2018), inventory alone account for as much as 30% of the organization invested capital. It's for this reason that the Europe through its Supplies manual, (2019) have instituted procedures and techniques for the purpose of proper inventory control.

Colling, (2019) argue that in the United States of America and other Western countries, improvement in productivity was achieved through reducing the direct manufacturing labour expenses cost per unit of output. This strategy was justifiable because of the high labour content in many manufactured products. However, the ratio of unit cost due to labour has constantly decreased in recent years. Even large manufacturing firms, such as the United States (US) auto assemblers, purchase up to 60 percent of the value of the product. This implies that management of raw materials inventories is an area that shows great promise for productivity improvement

Mangolo, (2016) posited that for many organizations in Africa, there is no doubt that inventory management enhances their operations. Organizations with high levels of finished goods inventory can offer a wide range of products and make quick delivery from their backyards to the customers (Stanton, 2018). There has been a question for management of firms in Africa about the efficiency of inventory management procedures in place resulting from inconsistencies of inventory levels leading to various weaknesses like losses that come as a result of over, under-stocking, expiry inventory, failure to meet targets and low morale of the company members. As a result the company's stores are overcrowded making the work of a store-keeper difficult, late issue of materials to the department and these in turn result into poor inventory service delivery (Wood, 2018).

Local studies by Edwin and Florence (2019) The Effect of Inventory Management on Profitability of Cement Manufacturing Companies in Kenya: the findings of the study provide a negative relationship between inventory turnover, inventory conversion period and storage cost with the profitability of the company. In addition, inventory level was found to be directly related to firm's size and storage cost and recommended that manufacturing firms in Kenya should strive to ensure that the right stock is kept in their warehouses to hedge against excessive holding cost and stock-outs.

According to Stevenson (2015), Inventory Management is defined as a framework employed in firms in controlling its interest in inventory. It includes the recording and observing of stock level, estimating future request and settling on when and how to arrange (Adeyemi& Salami, 2017). The essential objective of Inventory Management, along these lines, is to have satisfactory amounts of brilliant things accessible to serve client needs, while additionally minimizing the expenses of conveying stock (Brigham & Ehrhard, 2015).

An effective management of inventory is a critical operation in various firms specializing in the production of goods and services (Sharma, 2017). Sound administration offers a firm a competitive edge in the market. It thus gets to be crucial to convey front line systems to oversee inventories in order to maintain a strategic distance from lost deals, expenses of changing production rates, additional time costs, sub-contracting costs, superfluous expense of offers and raincheck punishments amid times of pinnacle interest (Chen, 2015).

In majority manufacturing firms, inventory creates some huge piece of existing resources (Song, 2016). Milly Glass being one of them accomplishes huge investment funds from powerful materials administration, which adds up to between half and 70% of aggregate costs (Song, 2016). Manufacturing firms in Kenya are portrayed by lengthened or overextended chains of retailers (purchasers/operators) which, therefore, insinuate long chains of exchanges between chain individuals and customers (Amoro, 2016). Inventory management is critical for business operations in light of the fact that their prosperity and cost decrease of the association's consumption require enhances Organizational Performance and learning to the representatives (Lambert, 2017). These methods are basic and learning in them is profoundly attractive in this way, managers and procurement staff should have the capacity to apply the strategies for the advantage of the organization (Fellows &Rottger, 2015).

As per Miller (2017), Inventory Management includes all exercises set up to guarantee that clients have the required item or service. It organizes the acquisition, assembling and dissemination purposes to accomplish the marketing projections and authoritative necessities of benefiting the item to the clients. Inventory management is principally required with indicating the size and position of loaded merchandise (Ketchen & Hult, 2017).

As indicated by Miller (2017), inventory management includes all exercises set up to guarantee that clients have the required item or service. It arranges the obtaining, assembling and dispersion capacities to meet the showcasing needs and authoritative needs of profiting the item to the clients. A portion of the inventory management procedures being used include: The Just-in-Time (JIT) inventory management method which assists with overseeing income for a retailer. An organization just purchases what they require from a merchant when they get a client deals request. The next IM method is ABC investigation in which there is a pecking order from the most profitable things to the slightest. Since the organization may not esteem your whole stock similarly, this control will have the organization centering their time and assets on things that profit. Economic Order Quantity procedure empowers associations to position their stock restitution on an expedient premise.

For instance, it can be set on a monthly, quarterly, half -yearly or annually. On the other hand, Vendor Managed Inventory strategy is a streamlined way to deal with Inventory Management and request satisfaction whereby the seller is completely in charge of the recharging of stock in view of opportune POS data to the purchasers. The management of inventories has an essential bearing on the budgetary quality and aggressiveness of associations because of the reason that it specifically influences the working capital, creation and client administrations (Vergin, 2017).

1.1.1 Profile of Milly Glass Limited

Milly glass works limited formerly known as Bawazir glass limited is a leading glass container and tableware manufacture in East Africa, based in Nairobi Kenya. Milly Glass was incorporated in 1st Feb 2000 and has a long tradition in Glass Container Industry dating back to 1954. The company presently manufactures Soft Drink Bottles with ACL decorating from 200 ML to 1000 ML capacity. The firm also manufactures 250 ML and 350 ML flasks and 750 ML bottles for the Spirits Industry. We are Exporting Bottles to EAC and COMESA Countries. The glass tumblers, Mugs and Cups are mainly sold in Kenya, Uganda, Tanzania and Ethiopia. Milly Glass Works is

Audited and certified by ISO 9001/22001. This authenticates Milly Glass Works conscious effort to make Milly Glass best Quality Container Glass Manufacturer in Africa.

1.2 Statement of the Problem

The business world is changing dramatically with Companies today facing the challenge of increasing competition, expanding markets and raising customer expectations. This increases the pressure on companies to reduce total cost in the entire supply chain, shorten lead times reduce inventories, expand product choice, provide more reliable dates and better customer service, improve quality and efficient coordinate global demand, supply and production, (Umbel, Haft, & Umbel, 2017). Milly Glass has adopted inventory management practices such as vendor managed inventory and Economic Order Quantity models. However, the costs associated with inventory seem to rise in the last five years (Milly Glass report, 2018).

Globally, majority of the empirical studies addressing the issue of inventory management have focused on large manufacturing firms (Vigtil, 2017; Kauremaa, Smares, & `Holmstrom, 2017). These studies have not related these inventory management practices to small scale manufacturing firm's performance. Akintonye (2017) found that inventory management led to improved performance of German Service firms. Mehra (2017) and Lapide (2016) also concluded that use of technology in inventory management improved efficiency of manufacturing firms and service firms. Locally, extant literature has been carried out on inventory management. For instance, Thogori and Gathenya (2017) examined the role of inventory management on the customer satisfaction and established that most firms in Kenya have poor management of inventory systems, which negatively affects the firm's ability to satisfy their customers. Sitienei and Memba (2015) also explored the effects of inventory management on the profitability of the Cement manufacturing firms. The study established a negative relation between inventory turnover, conversion period of inventory and storage cost with firm's profitability. However, most of the inventory management research globally and in Kenya focus on inventory management of large scale firms thus ignoring inventory management in small scale manufacturing firms in developing economies.

Reviewed studies on the relationship between inventory management practices and performance had produced mixed results. The empirical paucity on the relationship between inventory management practices and performance has necessitated a study to fill the literature gap thus the

current study sought to investigate the effect of inventory management practices on performance of Milly Glass works limited.

1.3 Objectives of the Study

1.3.1 General objective

The general objective of this study was to establish the effect of inventory management practices on organizational performance of Milly Glass works limited.

1.3.2 Specific objectives

1. To establish the effect of inventory replenishment on organizational performance of Milly Glass Limited
2. To identify the effect of stock taking on organizational performance of Milly Glass Limited
3. To determine the effect of inventory record management on organizational performance of Milly Glass Limited

1.4 Research questions

The study will be guided by the following research questions;

1. What is the effect of inventory replenishment on organizational performance of Milly Glass Limited?
2. How does stock taking affect organizational performance of Milly Glass Limited?
3. What is the effect of inventory record management on organizational performance of Milly Glass Limited?

1.5 Significance of the Study

The study findings would offer adequate evidence that manufacturing firms in Kenya can use to improve on their performance by managing inventory adequately. Thus organizational managers would find this research useful for knowledge and operational implementation.

The study would enable policy makers obtain knowledge of manufacturing industry dynamics and the appropriate role of inventory management played in organizational management. It would also provide guidelines for policy makers for designing suitable strategies that will control the industry.

Additionally, the study would help scholars through the formation of bases for further studies in the field of inventory management and organizational performance, especially in the manufacturing industries sector. This would probably generate and develop new knowledge and ideas to narrow the gap in the area of inventory management.

1.6 Scope of the Study

The study evaluated the inventory practices which include inventory replenishment, stock taking and record management on performance of Milly glass limited. This study was specifically conducted within the Milly glass work limited organization in Nairobi County. The respondents of the study comprised of employees from supplies department, finance, operations department and administration department who included the subordinates and the top management. The study was conducted through a period of three months.

1.7 Limitations of the Study

The study was limited to Milly glass limited in Nairobi County; therefore, its findings may not be adequate enough for generalization. The collection of primary data posed a challenge since there were respondents who were reluctant to fill in the questionnaire. The researcher assured them that the research was for academic purpose and the data provided was highly confidential.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter presents a review of other publications connected to the identified research objectives. It provides a thorough assessment of studies and propositions by other scholars concerning the concept of Inventory Management. The content of the chapter comprises: Theoretical Framework, Conceptual Framework, Review of study variables, Empirical Review, Critique of Existing Literature, Research gaps and Summary.

2.2 Theoretical Review

Theories are a formulation regarding the cause and effect relationships between two or more variables which may or may not have been tested (Mugenda & Mugenda, 2016). A good research should be grounded in theory; hence this study was based on the following theories- theory of constraints, stochastic inventory theory and Meta theory. A discussion of these theories follows.

2.2.1 Theory of Constraints

The Theory of Constraints is an administration reasoning that looks to expand manufacturing throughput proficiency evaluated on the bases of recognizable proof of those procedures that are obliging the industrial system. There are various challenges experienced in the application of the Theory of Constraints. For instance, there is a long lead time, significant number of unsatisfied requests, irregular state of meaningless inventories or nonexistence of appropriate inventories, wrong materials request, expansive number of crisis requests and endeavor levels, absence of clients' engagement, nonattendance of control identified with need orders which suggests on timetable clashes of the assets (Goldratt, 2017).

The theory focuses on adequately dealing with the limit and ability of these limitations to enhance efficiency and this can be accomplished by manufacturing firms applying fitting stock taking practices. Theory of constraints is an approach whose proposition is connected to generation aimed at achieving a reduction of the organizational inventory (Cooper, 2016). A

relationship is created between the theory and the objective of study that determined how stock taking affects the organization performance, through this theory the organization is able to control the inventory enabling the stock to operate with the demand without having stock-outs or excess stock.

2.2.2 Stochastic Inventory Theory

As indicated by Zheng (2017), for most request amount/reorder point inventory systems, the stochastic model, which indicates the requests as stochastic procedures, is regularly more exact than its deterministic partner the EOQ model. Nonetheless, the utilization of the stochastic model has been constrained due to the nonappearance of wise scientific results on the model. This paper breaks down the stochastic request amount reorder point model in correlation with a comparing deterministic EOQ model. In light of necessary optimality conditions for the control variables inferred in the paper, and the investigation is done, and various fundamental subjective properties are set up for the ideal control parameters (Ngatia, 2015).

The primary results incorporate the accompanying: (1) as opposed to the deterministic EOQ model, the controllable expenses of the stochastic model because of choice of the requested amount (accepting the reorder point is picked ideally for each requested amount). Also, the aggregate expenses are plainly bigger; the ideal request amount is greater. However, the distinction is little when the amount is substantial; the cost execution is even less touchy to decisions of the required amount. Secondly, the relative increment of the expenses brought about by utilizing the amount dictated by the EOQ rather than the ideal from the stochastic model is close to 1/8 and vanishes when the requesting expenses are critical in respect to other costs (Donaldson, 2017).

The theory creates a relationship with the objective of study which is inventory replenishment. Through this theory, using the EOQ model, inventory replenishment will enable the organization to know when and at what level the inventory needs to be replenished. Inventory replenishment helps the management to keep inventory levels and stocks at the right time and reduces excess or less stocks.

2.2.3 Meta Theory

Initially Meta theory was put in place to enhance understanding of information system within the sociotechnical systems. Gorry and Scott (2017), describe the theory as an integration to explain

many disciplines but this study's main focus will be on how it is related to information systems management. This theory is the integration and the combination of technical alignment, explanation, as well as the comprehensive model related to integrated information systems and explains how they operate (Mugnai, 2017). It also holds that contingency factors, organizational factors and technological factors influence greatly on organizational performance of various tasks.

Meta theory hence helped in the understanding of limitations involved in e-procurement such as failure to recognize the task to which the IT is being applied as well as the adaptive measures (Wainaina, 2017). This theory proposes to the study that in order for the Inventory Records Management practice to have an impact on the organization performance, contingency factors, the organizational factors and technological factor ought to be well coordinated. In addition, it helps in addressing challenges in inventory management and should be accorded a high organizational status and ranking in terms of budgetary allocation, investment in human resource development, records storage space and equipment. It should be viewed as a critical support function. PEs need to strive to appoint procurement records officers with clearly defined record keeping duties.

2.3 Conceptual Framework

Kothari (2017) states that conceptual framework is a structure of variables that the researcher operationalizes so as to accomplish the set objectives. They further define a variable as a measure characteristic that assumes diverse values amongst subjects. The Independent variable in this research is inventory management, and organizational performance is the dependent variable.

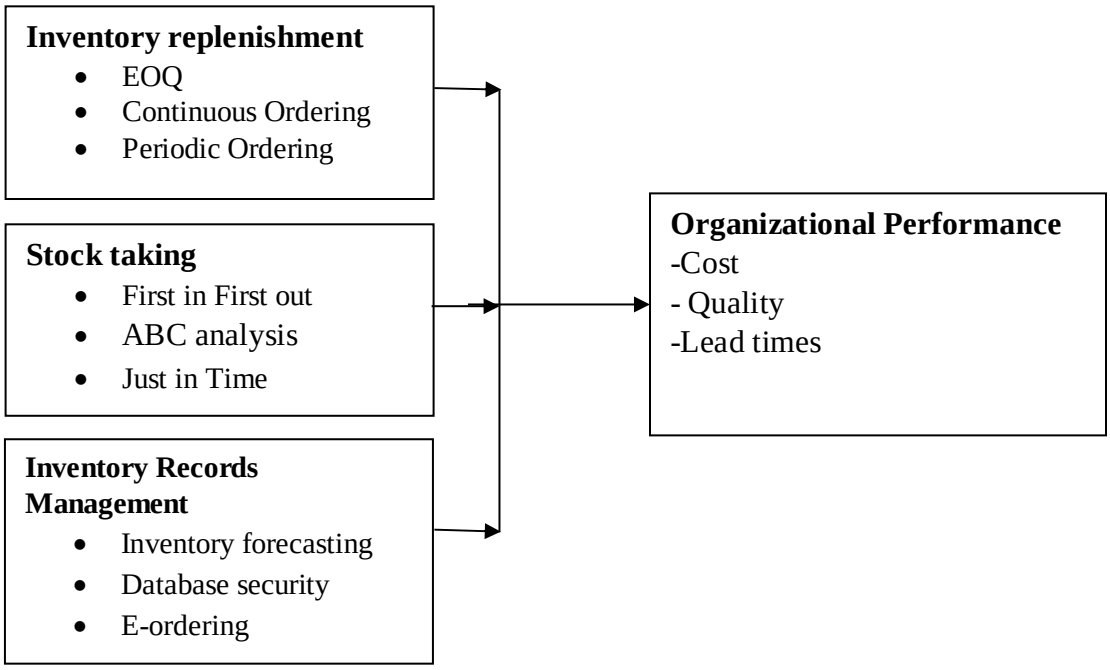

Figure 1 Conceptual Framework

Independent variable **Dependent variable**

2.4 Review of Variables

This section discusses the conceptualized study variables which include inventory replenishment, stock taking, inventory information systems and organizational performance.

2.4.1 Inventory replenishment

It refers to the process that any organization adopts to determine the optimal quantity as well as timing, with the sole aim every organization that is engaged in production, sale or trading of Products holds inventory in one or the other form. While production and manufacturing organizations hold raw material inventories, finished goods and spare parts inventories, trading companies might hold only finished goods inventories depending upon the business model. When in case of raw material inventory management function is essentially dealing with two major functions. First function deals with inventory replenishment and the second being inventory tracking. As inventory planners, their main job consists in analyzing demand and deciding when to order and how much to order new inventories. The following methods are used for inventory replenishment in an organization (Hay, 2015).

EOQ: Economic Order Quantity method determines the optimal order quantity that will minimize the total inventory cost. EOQ is a basic model and further models developed based on this model include production Quantity Model and Quantity Discount Model (Hutchins, 2017). EOQ applies only when demand for a product is constant over the year and each new order is delivered in full when inventory reaches zero. There is a fixed cost for each order placed, regardless of the number of units ordered. There is also a cost for each unit held in storage, commonly known as holding cost, sometimes expressed as a percentage of the purchase cost of the item. 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 (Hay, 2015). Note that the number of times an order is placed will also affect the total cost, though this number can be determined from the other parameters.

Continuous Order Model: works on fixed order quantity basis where a trigger for fixed quantity replenishment is released whenever the inventory level reaches predetermined safety level and triggers re ordering. Continuous inventory keeps a constant track of quantities; as soon as they get below a cutoff level, the store orders more. Periodic inventory has to be done with computers, because it's too difficult and time consuming to constantly track inventory by physical counts unless the number of items is very small (Hay, 2015). A big-box store might be able to track the number of flat screen TVs it has in the store, for example, but not the number of soft-drink cans.

Periodic System Model: This model works on the basis of placing order after a fixed period of time.Periodic inventory uses a very simple method: counting what's in the store or the warehouse by hand. For many businesses, that's still a demanding task. Even a medium-sized drugstore may have hundreds of lipsticks, aspirin bottles and candy bars. Many stores pay a professional inventory company to come in and make the counts (Hutchins, 2017). If the count shows that the store has, say, too few toothpaste tubes for the coming month, the manager orders enough to meet the expected demand.

2.4.2 Stock taking

Stock taking, also known as stock control, involves regulating and maximizing your company's inventory. The goal of stock taking is to maximize profits with minimum inventory investment, without impacting customer satisfaction levels(Wild, 2015). Stock taking is also about knowing where all your stock is and ensuring everything is accounted for at any given time. These initial three techniques help with stock level optimization. But how this stock is organized in the warehouse is also a crucial part of controlling inventory. The following methods are used to control stock taking.

First-in-first-out (FIFO) is simple principle, yet vitally important to mention – especially if dealing with perishable items. For most retailers, the last thing you want is to be always using the newest stock to fulfill orders (Lambert, 2017). This leaves older inventory sitting in the warehouse and susceptible to damage, decay or passing best before dates. It's worth making a rule to store new inventory from the back of shelves and then take from the front – automatically enforcing a FIFO system: Veeqo Toggle Running a slick and seamless retail operation is one of the best ways to blow your competition out the water. Fewer mistakes are made. Orders get out the door faster. Less money is wasted. And you create raving; loyal customers. One of the fundamental parts of achieving this is stock optimization and gaining precision control of your inventory. But with 43% of retailers ranking this as their top challenge, it's clearly proving to be a struggle.

Inventory can also be controlled through the ABC Analysis. ABC Analysis is a great for determining any items that could need prioritizing over others. It works by dividing all on-hand inventory into three groups – A, B and C: A Items: Are of high value with low sales frequency. B Items: Are of moderate value with moderate sales frequency. C Items: Are of low value with

high sales frequency. There's going to be relatively low numbers of on-hand stock for A items – meaning mistakes could cause huge problems and closer attention is needed than C Items Policies based on ABC analysis leverage the sales imbalance outlined by the Pareto principle. This implies that each item should receive a weighed treatment corresponding to its class: A-items should have tight stock taking, more secured storage areas and better sales forecasts. Reorders should be frequent, with weekly or even daily reorder. Avoiding stock-outs on A-items is a priority. Reordering C-items is made less frequently. A typically inventory policy for C-items consist of having only 1 unit on hand, and of reordering only when an actual purchase is made (Hay, 2015) This approach leads to stock-out situation after each purchase which can be an acceptable situation, as the C-items present both low demand and higher risk of excessive inventory costs. For C-items, the question is not so much how many units do we store? but rather do we even keep this item in store, B-items benefit from an intermediate status between A and C. An important aspect of class B is the monitoring of potential evolution toward class A or, in the contrary, toward the class Splitting items in A, B and C classes is relatively arbitrary (Wild, 2017). This grouping only represents a rather straightforward interpretation of the Pareto principle. In practice, sales volume is not the only metric that weighs the importance of an item. Margin but also the impact of a stock-out on the business of the client should also influence the inventory strategy.

The Just in Time Technique is a Japanese philosophy, rationality associated with assembling which comprises having the right things in the right quality and amount in the correct place and at the opportune time. Utilization of Just in time Technique brings about the increment in quality, profitability, and effectiveness, enhanced correspondence and abatements in expenses and squanders. Hutchins (2017) characterizes (JIT) as a process that is prepared for moment response to the request without the necessity for any overstocking, either in the desire of the application being approaching or as a concern of improvident characteristics all the while.

Hutchins, (2017) additionally concentrated on that the prime objective of Just in time Technique is the accomplishment of zero stock, not simply inside the bounds of a single association at the end of the day all through the whole production network. It can be connected to the assembling procedure inside any organization as it is additionally being adjusted inside administration associations (Hay, 2015). The components of Just in time Technique incorporate consistent

change, taking out the seven sorts of squanders among others. The fundamental reason of JIT is to have as of late the proper measure of stock, whether rough materials or finished stock, open to meet the solicitations of your creation strategy and the solicitations of the enterprise's end customers. The less a firm spends to store and pass on the stock, the less obsolete quality it has to markdown. Finally, this all culminates into saving the company's honest to goodness money.

2.4.3 Inventory Records Management

According to (Thurston 2015), Records are critical to the operations of any organization. No entity can operate successfully if it relies on human memory alone to keep trail of her transactions. Procurement records are a vital resource to any organization that strives to conduct operations effectively. Organizations need accurate and accessible records that are tamper-free, original, reliable and able to reveal institutional memory for informed decision making. PEs should strictly comply with documentation, recording, minuting and filing requirements. The documentation should be kept in orderly, accessible and clean conditions.

Sound RMS is a vital aspect of ensuring transparency, accountability and responsibility in the tendering process. It can reduce vulnerability to legal challenge on financial loss and promote efficiency in terms of human and space resources through greater coordination of the information use, maintenance and control. Procurement RM aims at addressing weaknesses and provides guidance and direction for best practices. (David, 2015), opined on the future of managing electronic records, which is complex and goes beyond the procurement of a RMS. He contended that firms need an understanding of current ICT trends and business processes and must accept that records systems are products of the moment. The future lies in electronic systems that are more recent in business logic and more useful in business support. Management of electronic records must not be confused with the procurement of document management systems. For any positive contribution to procurement performance, PEs must ensure that records are available to provide documentary evidence of conformity to the requirements of an effective management system. The records control system should facilitate identification, storage, protection retention and disposition of records. One of the best ways to implement a record management policy is utilizing a business that specializes in it; there are a myriad of companies that offer record management solutions for both paper and electronic documents. (Bolton, 2016) noted that such solutions make it easy to track, retrieve, and securely store important documents. With so many

threats facing entities today, prevention with record management is one vital key to managing a successful business.

(Rembe 2016) observed that RMS should be accorded a high organizational status and ranking in terms of budgetary allocation, investment in human resource development, records storage space and equipment. It should be viewed as a critical support function. PEs need to strive to appoint procurement records officers with clearly defined record keeping duties. Transparency and accountability are promoted through the appropriate recording of procurement procedures. There is need for every PE to maintain records retention and disposal schedule for sound management of procurement transactions. This schedule should specify the length of time each type of record to be retained, and the applicable disposal action which may take the form of preservation in closed records room, transfer to the archives or destruction if it is deemed to be valueless upon the completion of the required retention period (Thurston, 2015).

2.4.4 Organizational Performance

Inventory management process as stated by Halachmi & Bouchart, (2015) is a process in which a firm convenes financially the requirement placed on it by restricting the amount of stock held in various forms. Inventory replenishment and control are functions relating to inventory management. Inventory replenishment includes creating forecasts to determine how much inventory should be on hand to meet consumer demand. Stock taking has several benefits for organizations

Inventory replenishment and control can help companies manage cash flow. Cash flow improvement also come from purchasing the lowest cost inventory available in the business environment and also allows companies to develop a cost advantage in the economic market. Well-defined stock taking policies can reduce the labor cost associated with managing the inventory. Generally, inventory replenishment and control reduces the overall inventory cost since the inventory will balance with the customer demand. Overstocking and under stocking will be handed and thus reducing the inventory holding cost. There is also improvement of quality of inventory and services since the inventory are well managed enabling the inventory to be handled in a well-organized manner (Wisner, Tan and Leong, 2017).

2.5 Empirical Review

Koumanakos (2017) contemplated the impact of Inventory Management on the solid execution of assembling firms working in Greece. The theory that is inclined to the stock management stimulates variations in the business's budgetary implementation. The discoveries recommend that the higher the level of inventories protected by a firm, the lower the rate of return. Eckert (2017) analyzed Inventory Management and the part it plays in enhancing client benefit levels. He found a positive relationship between stock administration practices and consumer loyalty because of decreased number of stock-outs.

However, Alvesson (2015) contended that cycle inventories emerge as a result of administration choice to buy, create or offer in parts rather people units or ceaselessly. Cycle Inventories amass at different focuses in working frameworks. The extent of the parcel is a tradeoff between the cost of taking care of stock and the cost of making more constant requests and set ups. A numerical depiction of this relationship, the monetary request amount is exceptionally imperative. In JIT the requirement for cycle stock is lessened by establishing cost and time diminishment.

Ronald (2016) reveals that inventories constitute unrefined items, supplies and parts that ensure that stock appears in different concentrations all through an organization's creation and computed channel. Possession of accessible inventories can bring about somewhere around 20 and 40 percent of their esteem every year. Along these lines, painstakingly overseeing stock levels bodes well in connection with the execution of the business association. Despite various steps taken to reduce inventories through Just in Time, time pressure, and fast reaction buys.

Sandeep *et al.* (2015) postulate that inventory management can bring unwarranted losses if the organization always has stock outs, lack of proper warehousing plans, delivering the wrong goods to the customers as well as the lack of proper documentation for goods procured. The staff needs to understand and apply the Inventory Management techniques to ensure that the organization gets value for its money. James (2017) highlights that wholesalers convey Ten to Thirty percent (10-30%) of extra stock that is superfluous. These cause unnecessary conveying cost, loss of clients, loss of offers, and loss of benefit because of messy and wasteful stock administration. He encourages up that there is the need to set out methods to control physical stock, to decide the substantial cost of overseeing stock.

2.6 Critique of Existing Literature

Stock availability is the most important aspect of customer service. The goal of stock management is therefore to increase financial returns on inventory while simultaneously increasing customer service levels (Lysons& Farrington, 2017). In this context, the primary goal of inventory is to provide the right location and time, at the lowest cost. To meet this goal, inventory professionals work with two major (sometimes conflicting) objectives on mind: (1) maximize customer service (that is provide materials when the customer need them) and (2) maximize inventory dollars (that is, control the number of dollar invested in parts and materials). Transit agency executives are interested in meeting both of these objectives. Inventory management department must work with purchasing department and customer to reconcile the two conflicting the objective

Existing literature relevant to the study has only focused on EOQ as a way of sock control procedure hence not extending the research on other existing models such as JIT inventory system. Some of the criticism of EOQ assumptions include that demand for a product is known with certainty and that it has a constant rate that each order delivered with zero lead time and that stock outs do not occur.

In his studies, Bailey, (2017) found out that, the vast majority of manufacturing and distributing companies suffer from lower customer service, higher cost and excessive inventories than are unnecessary. Stock taking problems are usually the result 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 stock taking 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.

According to Razi& Tam (2015) though there are many methods of controlling inventory, both manual and automatic, there are really two basic approaches on which of these systems are best. Recording method which may take place either when the materials fall to a predetermine level or according to a situation discovered when level are received on a periodic regular basis. The action level of controlling stock by quality which involves fixing stock levels method of provision, commodities are ordered at unspecified intervals as batch when ordering levels are

related. This means that orders can only be placed usually for specific item at a time; this is not possible in a very busy organization.

2.7 Research Gaps

The gap remains as to how inventory management practices can guarantee organizational performance of an organization. Scholars have suggested procurement managers who turn inventory theory research may find it of little significance. (Krautter, 2017) or it has little to offer in terms of enhancing inventory practices in the procurement function (Wagner, 2016). This has led many to suggest a gap exist between inventory theory and inventory practice as regard to procurement function (Wagner, 2015).

Wauna, (2015) carried out a study on effects of inventory management procedures on performance at KenGen. The specific objectives of the researcher were: inventory classification, storage methods, materials codification and material inspection of how they affect the company under study. The study failed to consider factors like inventory replenishment, stock taking and inventory leadership which are important factors to be considered while managing inventory.

Munyao, Omula, Mwithiga, & Chepkulei, (2015), did a study on the role of inventory management practices on performance of production department. The researchers study was solely based on production department and overlooked the other departments in the organization. Therefore, this study intends to fill the gap by carrying out a research from all departments essential in inventory management. This study is therefore involving all departments hence filling that gap.

2.8 Summary

Researchers of previous studies have brought out both positive relations and weak relations between the inventory management practices and organizational performance of firms. This study is focused on various theories which are relevant to inventory management practices and their effects on organizational performance of the organizations. These theories include: theory of constraints, theory of stochastic and behavioral theory. It is important to have a good inventory system as it helps in preventing stock outs, overstocking, deterioration, obsolescence and high inventory carrying cost. The study shows the element that attracts firms to adopt inventory management practices and benefits they obtain from the inventory management practices. Therefore, inventory replenishment, stock taking and inventory leadership are

important and essential in an organization as they bring about positive results such as cost reduction, improved quality, customer lead times and improved delivery times.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the appropriate research methodology that was used to conduct the study. The main areas of focus in this chapter are research design, the population of the study, sampling technique, sample size, data collection methods, pilot study, and data analysis.

3.2 Research Design

Research design is a systematic plan to study a scientific problem (Kothari, 2017). The design of a study defines the study type, research question, independent and dependent variables, data collection methods and statistical analysis plan. Research design is the framework that has been created to seek answers to researcher's questions (Muaz, 2015).

The study used descriptive approach to gather information from several respondents on the current status of the phenomena under investigation. A descriptive approach describes data and characteristics about the population or phenomena being studied (Mugenda and Mugenda, 2016). According to Mugenda & Mugenda, (2016) the purpose of descriptive research is to determine and report the way things are and its helps in establishing the current status of the population under study.

3.3 Target Population

Gubbins (2016) defines target population as the totality of objectives or individuals' user considerations of which the statistical attributes may be estimated by the study of sample or samples drawn from it. The population was chosen to delimit the research and gather data within the time limit and cost. The target of the study was Milly Glass Limited employees from supplies, finance, operation, administration departments. The targets were chosen mainly because they are directly involved in managing inventory of the organization. The study involved 100 employees from the various departments of Milly Glass Limited.

Table 1 Population size

Department	Target population	Percentage (%)
Purchasing	23	23
Finance	15	15
Operations	45	45
Administration	17	17
Total	**100**	**100**

3.4 Sample and Sampling Technique

Mugenda&Mugenda (2016) define a sampling frame as a list, directory or index of cases from which a sample can be selected. A sample is defined as a smaller group obtained from the accessible population (Mugenda & Mugenda, 2016). Mugenda further explains that the sample should be carefully selected so as to be representative of the whole population with the relevant characteristics.

According to Kothari (2017) stratified random sample increases sample statistical efficiency and provides data for analyzing various populations. Stratified sampling involved the division of a population into smaller groups known as the strata. The study employed stratified and simple random sampling technique to develop the sample components. Determining sample size is a very important issue because samples that are too large may waste time, resources and money, while samples that are too well may lead to inaccurate results.

Stratified random sampling was employed to select a sample for the study. Mugenda & Mugenda (2016) explains that the goal of stratified random sampling is to achieve desired representation from various sub groups in the population. In this sub groups are identified from which the sampling was done: Finance, operations, supplies chain and administration.

The researcher determine the minimum sample size needed to estimate a process parameter through population mean **μ.** The study population is made up to 100 members with 4 stratums hence the population mean is 25. To come up with a precise sample size, the researcher used

Yamane (2016) simplified formula to calculate the size at 95% confidence level and p=0.05. The formula produces an effective method of determining sample size as shown below.

$$n=\frac{N}{1+N(\alpha)^2}=\frac{100}{1+100(0.05)^2}=80$$

Where:

N = Total population

n = Sample population

α = Sampling error which is 0.05 (95% confidence level)

Table 2 Sample size

Department	Population size	Sample size	Percentage (%)
Purchasing	23	18	22.5
Finance	15	12	15
Operations	45	36	45
Administration	17	14	17.5
Total	**100**	**80**	**100**

SOUURCE: HR RECORDS, MILLY GLASS LTD, 2021

3.5 Data Collection Methods

Research instruments are measurement tools which are designed to obtain data on the research topic. Questionnaires were administered on the targeted population within the various departments. This is necessary so as to find out their views at different department. Kothari (2017) defined a questionnaire as consisting of a number of questions printed or typed in a definite order on a form or set of forms. The researcher prefers to use this instruments as it is free from bias, respondents had adequate time to give well thought out feedback large samples can be reached as well.

3.5.1 Primary Methods

It is a method of collecting data where information is collected at first hand and it's in unedited form from a source for specific purpose (Kothari, 2017). The researcher therefore used

questionnaire method to acquire or solicit data. Questionnaires were preferred because they are simple to administer, comprehensive and can be analyzed easily. Questionnaire were also used to collect data tools which are distributed to the respondents and time given to them to complete the questionnaires. Harris and Brown (2016) contend that the use of questionnaires is appropriate because the responses are gathered in a standardized way, so questionnaires are more objective. Generally, it is relatively quick to collect information using a questionnaire; and potentially information can be collected from a large portion of a group within a short period of time. The questionnaire was designed based on the research questions and objectives.

3.5.2 Secondary method

This method is used to obtain data from already existing sources. The sources included library books, documents, company reports, and magazines. The researcher used secondary because they use already existing information which saves time and also provides information making it easier to use (Gauri, 2016).

3.6 Data Collection Procedure

An introductory letter from JKUAT was introduced to the respondents. The researcher then distributed the questionnaires to the respondents. Questionnaires were self-administered to the respondents on the give and take up later basis. The researcher picked the questionnaires after a period of three days from date of issue in order to allow ample time to the respondents to fill them.

3.7 Pilot study

A pilot study is conducted to determine whether potential respondents would have difficulties in understanding or interpreting the questionnaire (Chan& Chan 2016). To establish reliability of the questionnaire the researcher used pre-re-test on the sample. The questionnaire was administered to eight non-samples target population perceived to be knowledgeable in procurement issues, after two weeks the same questions were given to them again and the scores were recorded in each case. The purpose of piloting the instrument was to establish the clarity of meaning and comprehensibility of each item in research questionnaire and also focus on ensuring that validity and reliability was achieved (Durrheim, 2017).

3.7.1 Validity

Validity measure ensures that the research tool is measuring what researcher intends to measure or wants to measure (Mugenda & Mugenda, 2016). The questionnaire used in this study were given to the research supervisor in consultation with a statistician to evaluate it for face and content validity as well as for conceptual clarity and investigative bias. In terms of using the information gathered through the questionnaire, it will be emphasized that no summative scores were used for interpretation purposes but rather the answers to individual items in the questionnaire.

3.7.2 Reliability

Reliability is the degree of consistency and precision in which the measuring of the instrument demonstrates under same circumstances. Same research respondents using the same instrument should generate the same results under identical conditions (Kothari, 2017). In determining reliability of the instrument, the researcher carried out a pretest by issuing 8 questionnaires to the randomly selected respondents and the data obtained was entered into the Statistical Package for Social Science research (SPSS) version 25 to determine the reliability of the tool. Cronbanch's Alpha Coefficient was used to assess the internal consistency, where a score of 0.7 and above implies that the instrument was considered reliable for the study.

3.8 Data Analysis and Presentation

Mugenda & Mugenda (2016) confirms that the main purpose of content analysis is to study existing information in order to determine the factors that explain specific phenomenon. To this extent therefore, the responses to the questions were interpreted and put into different specific and relevant categories. Quantitative information was analyzed through statistical procedures. Statistical analyses cover a broad range of techniques, from simple procedures that were used regularly (e.g., computing an average) to complex and sophisticated methods. Multiple regression analysis was used because it provided estimates of net effects and explanatory power. The statistical package for social sciences, SPSS (version 25.0) was used for data analysis. Data analysis was presented through use of frequency tabulation table's graphs and bar chart for easy interpretation and comparison.

The regression model for the study was:

$Y= \alpha +\beta 1X1 +\beta 2X2 + \beta 3X3 + \varepsilon$ Where:

Y = is the dependent variable; which is Organizational Performance

α = Constant term

ε = Error

$\beta 1$, $\beta 2$ and $\beta 3$ are the coefficients of the predictor variable and

X1= Inventory Replenishment

X2= Stock Taking

X3= Inventory Record Management

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The chapter presents the study results which were obtained from the analysis of the collected data. The analysis of data included the use of both primary and secondary data. Both descriptive and inferential statistics were used in the study and the results are presented in tables where appropriate providing ease of interpretation.

4.2 Response Rate

The study sought to establish the response rate of the respondents in the study. The results are presented in table 4.1.

Table 3 Questionnaire Response Rate

Respondents	**Frequency**	**Percentage %**
Respondents	76	95.0
Non-respondents	4	5.0
Total	**80**	**100**

As indicated by table 4.1, 76 out of the 80 sample respondents filled-in and returned the questionnaires making a response rate of 95%. According to Mugenda and Mugenda (2012) a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent; therefore, this response rate was excellent for analysis and reporting.

4.3 Pilot Results

The questionnaire responses were input into statistical package for social sciences (SPSS) and Cronbach's alpha coefficient generated to assess reliability. The closer Cronbach's alpha coefficient is to 1, the higher the internal consistency reliability (Sekaran, 2008). Kurpius and Stafford (2006) recommend that a Cronbach's alpha reliability correlation coefficient should be around 0.70 for a newly developed tool.

Table 4 Reliability results

Scale	Cronbach's Alpha	N of Items	Decision
Inventory replenishment	0.729	4	Reliable
Stock taking	0.741	4	Reliable
Inventory information system	0.703	4	Reliable
Organizational performance	0.717	4	Reliable

According to Table 4.2 above Cronbach's alpha of well above 0.7 implies that the instruments were sufficiently reliable for the measurement. As most item total correlations were reasonably high, the construct validity of the instruments was considered reasonable (Brown, 2012).

4.4 General Information

The researcher sought to determine the respondents' characteristics in terms of their experience, academic qualification and department they are working.

4.4.1 Work Experience

Table 4.3 clearly shows the number of years the respondents have worked in the institution. Percentages for each year category are as well clearly indicated for proper comparison of different years with the level of respondents.

Table 5 Experience

	Frequency	Percent
Below 2 years	1	1.3
3-5 years	10	13.2
5-10 years	26	34.2
Above 10 years	39	51.3
Total	**76**	**100.0**

From table 4.3 above, majority of the respondents (51.3 per cent) had been working for a period of more than 10 years. 34.2 per cent had worked for a period of between 5-10 years and 13.2 per

cent of the respondents had worked for a period of between 3-5 years while only 1.3 per cent had worked for a period of 2 years and below.

4.4.2 Education level of respondents

Response rate was analyzed in terms of respondent's level of education to determine the academic qualification of the respondents working in the organization.

Table 6 Academic qualification

	Frequency	**Percent**
Secondary level	5	6.6
Tertiary college	25	32.9
Graduate	42	55.3
Post graduate	4	5.3
Total	**76**	**100.0**

Majority of the respondents have a Bachelor's degree with 55.3 per cent followed by bachelor's degree with 55.3 per cent while post graduate and tertiary college were 5.3 per cent and 32.9 per cent respectively.

4.5 Descriptive Analysis

This section presents descriptive analysis for variables used in the model. The section is divided into three sections namely; descriptive analysis for the independent variable and dependent variable.

4.5.1 Effect of Inventory replenishment on Organizational Performance

To establish the effect of inventory replenishment on organizational performance, a Likert scale data was collected rating the extent of agreement in a scale of 1 to 5 where 1 is the strongly disagree whereas 5 is the strongly agree indicator. The results from the collected responses were analyzed based on means and their standard deviations to show the variability of the individual responses from the overall mean of the responses per each aspect. Results are presented in table 4.5.

Table 7 Inventory replenishment

	Mean	Std. Deviation
The firm has adopted EOQ to minimize storage and holding cost	4.23	.997
EOQ Model improves customer lead times as it can be adjusted before stock runs out	4.11	.840
Periodic ordering is less expensive since no permament emloyee is required for physical counting of inventory	4.20	.847
Continuous ordering improves customers services	4.27	.968
Since period orders is done at end of a period the normal activities of organizations are not hampered	4.08	1.236

From table 4.5, the respondents agreed the the firm has adopted EOQ to minimize storage and holding cost(mean = 4.23; std. dev. = 0.997). The respondents moderately agreed that EOQ Model improves customer lead times as it can be adjusted before stock runs out as shown by a mean of 4.11 with a standard deviation of 0.840. Findings also show that, the respondents agreed that periodic ordering is less expensive since no permament emloyee is required for physical counting of inventory(mean = 4.20; std. dev. = 0.847). Continuous ordering improves customers services as reported by the respondents who agreed to this fact which obtained a mean of 4.27 and a standard deviation of 0. 968. The study established that since period orders is done at end of a period the normal activities of organizations are not hampered (mean=4.08).

4.5.2 Effect of Stock taking on Organizational Performance

The findings under this section are also based on the means and standard deviation for the data that was collected through the Likert scale measuring the level of agreement of the respondents with respect to the given aspects of stock taking. The results are presented in table 4.6.

Table 8 Stock taking

	Mean	**Std. Deviation**
The firm has adopted FIFO to save money and time in calculating the exact cost of inventory being sold	4.25	.768
The firm had embraced FIFO since it increases valuation comparability and constistency	4.34	.855
ABC analysis enable effectively forecast demand by spilliting your inventory into catagoner that are based on customer demand	4.18	.971
The firm has adopted JIT to reduce the amount of money tied up in increntory of raw materials and finished goods	4.30	.740

As shown in the table 8, the respondents agreed that the firm has adopted FIFO to save money and time in calculating the exact cost of inventory being sold. This is according to the mean obtained of 4.25 with a standard deviation of 0.768 showing that the respondents had a moderate extent of agreement and there was no much deviation of the responses from the mean value. The respondents also agreed that the firm had embraced FIFO since it increases valuation comparability and constistency as shown by a mean of 4.34 and a standard deviation of 0.855. Further, the respondents agreed that ABC analysis enable effectively forecast demand by spilliting your inventory into catagoner that are based on customer demand. This is shown by a mean of 4.18 with a standard deviation of 0.971 for a strong extent of agreement. Also the respondents agreed that the firm has adopted JIT to reduce the amount of money tied up in

increntory of raw materials and finished goods. This is shown by a mean of 4.30 with a standard deviation of 0.740 for a strong extent of agreement. The findings resonate with Wild, (2013) that the goal of stock taking is to maximize profits with minimum inventory investment, without impacting customer satisfaction levels.

4.5.3 Effect of Inventory record management on Organizational Performance

Table 4.7 presents the study results on the effect of inventory record management on organizational performance. The results are as well based on the means and standard deviation for the Likert scale data collected. The results are presented in table 4.7.

Table 9 Inventory record management

	Mean	**Std. Deviation**
E-odering enables POS systems to br intergrated thoroughly reducing additional bookeeping costs	4.21	.678
E-ordering helps in inventory forecasting and strategic planning reports	4.25	.669
E-sourcing improves compliance and reduuces risk as the processes are controlled	4.27	.790
There is is reduction in transaction costs as a result of E-payment adoption by the firm	3.89	.841

As shown in the table 9, the respondents agreed that E-odering enables POS systems to br intergrated thoroughly reducing additional bookeeping costs. This had a mean of 4.21 with a standard deviation of 0.678. E-ordering helps in inventory forecasting and strategic planning reports. This is as indicated by a mean of 4.25 with a standard deviation of 0.669. E-sourcing improves compliance and reduuces risk as the processes are controlled as indicted by a mean of 4.27 with a standard deviation of 0.790. The respondents agreed that there is is reduction in transaction costs as a result of E-payment adoption by the firm as indicated by a mean of 4.89 with a standard deviation of 0.841. The findings are in line with Lambert, (2014) observation that inventory record management are extremely important for business operations because their success and cost reduction of the firm's expenditure necessitate improved supply chain performance and knowledge to the employees.

4.5.4 Organizational Performance

The study results on organizational performance are as presented in table 4.9. The findings are on means and standard deviation showing the extent of the respondents' agreement on the organizational performance aspects given.

Table 10 Organizational performance

	Mean	Std. Deviation
The lead time has been reduced tremendously over time	4.38	.906
The operations cost of the firm has reduced over time	4.34	.841
The inventory delivery time has been enhanced	4.38	.857

According to the findings in table 10 , the lead time has been reduced tremendously over time. The respondents agreed to this with a mean of 4.38 and a standard deviation of 0.906. The operations cost of the firm has reduced over time. The respondents had a strong extent of agreement to this aspect (mean = 4.34; std. dev. = .841). Further, findings show that the inventory delivery time has been enhanced as indicated by a mean of 4.38 and a standard deviation of 0.857. The findings are in agreement with the proposition by Koumanakos (2014) who contemplated the impact of Inventory Management on the solid execution of assembling firms working in Greece. The theory that is inclined to the stock management stimulates variations in the business's budgetary implementation. The discoveries recommend that the higher the level of inventories protected by a firm, the lower the rate of return.

4.6 Correlation Analysis

A simple bivariate correlation of the variables is exhibited in Table 4.10. This table provides the Pearson's correlation coefficient for the selected variables. The highest correlation coefficient is 0.521 which indicates that multicollinearity between variables does not exist.

Table 11 Correlation analysis

		Inventory replenishment	Stock taking	Inventory record management	Organization performance
Inventory replenishment	Pearson Correlation	1			
	Sig. (1-tailed)				
Stock taking	Pearson Correlation	.309**	1		
	Sig. (1-tailed)	.000			
Inventory record management	Pearson Correlation	.379**	.411**	1	
	Sig. (1-tailed)	.000	.000		
Organization performance	Pearson Correlation	.468**	.327**	.521**	1
	Sig. (1-tailed)	.000	.000	.004	
	N	76	76	76	76

**. Correlation is significant at the 0.01 level (1-tailed).

A correlation analysis was performed to establish the relationship between the independent variables and dependent variable. All the ratings on factors that were used to measure the variables were aggregated for each variable. The average for each independent and dependent variables were used to perform the correlation analysis. Table 4.10 shows there is a moderate positive correlation between inventory replenishment and organizational performance at 0.468. The weakest relationship is between stock taking and organizational performance at 0.327. All the variables had a significance level of 0.05 and below.

4.7 Regression Analysis

In this study, regression analysis was carried to show the relationship between the dependent and the independent variables. The dependent variable was organizational performance whereas the independent variables were inventory replenishment, stock taking and inventory record management.

Findings under this section present the results on the relationship test between the dependent and independent variables. The significance of the regression model was tested at the 5% level of significance through F-statistics which shows the level of reliability of the so developed models in presenting the relationship between the variables.

4.7.1 Model summary

Table 12 **Model summary results**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.631[a]	.398	.352	1.79421

a. Predictors: (Constant), Inventory replenishment, Stock taking, Inventory record management

Table 12 presents the regression model summary for the relationship between inventory management practices and the predictor variables (inventory replenishment, stock taking and inventory record management). According to the findings, the R-coefficient is 0.631 which shows that the predictor variables have a moderate positive association with organizational performance. The coefficient of determination shows that the predictor variables used in the study can be relied to explain 39.8% of the variability in organizational performance. Thus, based on the findings, it is clear that holding other factors constant, inventory replenishment, stock taking and inventory information systems contribute to 39.8% favourability in organizational performance.

4.7.2 Analysis of Variance and F-Test Results

This is a statistical method used to test differences between two or more means.

Table 13 ANOVA

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	215.469	3	71.823	15.848	.000[b]
	Residual	326.275	72	4.532		
	Total	541.744	75			

a. Dependent Variable: Organizational performance

b. Predictors: (Constant), Inventory replenishment, Stock taking, Inventory record management

From table 13 , the significance value in testing the reliability of the model for the relationship between inventory management practices and organizational performance was obtained as 0.00 which is less than 0.05, the critical value at 95% significance level. Therefore, the model is statistically significant in predicting the relationship between inventory management practices and organizational performance. The F value calculated is 15.848 indicating a significant model for the relationship as given by the regression coefficients. This shows that the overall model was statistically significant and reliable in explaining the effect of the predictor variables on organizational performance.

4.7.3 Regression Coefficient

This is an extension of simple linear regression. It is used to predict the value of a variable based on the value of two or more variables. The variable to predict is called the dependent variable or sometimes, the outcome, target or criterion variable.

Table 14 Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	11.540	1.312		8.796	.000
	Inventory replenishment	.365	.096	.476	3.781	.000
	Stock taking	.124	.076	.192	2.632	.006
	Inventory info systems	.327	.086	.439	3.796	.000

a. Dependent Variable: Organizational performance

The estimates of the regression coefficients, t-statistics and the p-values for the relationship between inventory management practices and financial performance are presented in table 4.13. These coefficients answer the regression model relating the dependent and the independent variables. In testing the relationship, inventory replenishment, stock taking and inventory record management were used to run the multiple regression against the organizational performance as the dependent variable. Based on the coefficients, the regression model $Y=\alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3$ therefore becomes;

$Y=11.540+ 0.365X_1 + 0.124X_2 + 0.327X_3$clearly shows a significant positive relationship between the predictor variables and organizational performance.

According to the results as presented in the model, the coefficients also showed a positive relationship between all the variables and organizational performance. This is according to the significance values and the coefficients obtained against each variable.

4.8 Discussion of Key Findings

On inventory replenishment, the study established that it has a positive and significant relationship with the organizational performance ($\beta1 = 0.365$, $t = 3.781$, $P<0.05$). Therefore, this implies that a unit increase in inventory replenishment would lead to an increase in organizational performance by 0.365.

On stock taking, regression test indicated a positive and significant effect on the organizational performance ($\beta1 = 0.124$, $t = 1.632$, $P<0.05$). This gives evidence of a significant relationship between stock taking and organizational performance. It was concluded that a unit increase in stock taking would lead to an increase in organizational performance by 0.124. The findings resonate with Wild, (2013) that the goal of stock taking is to maximize profits with minimum inventory investment, without impacting customer satisfaction levels.

On inventory record management, it was observed that inventory record management had a positive and significant effect on organizational performance ($\beta1 = 0.327$, $t = 3.796$, $P< 0.05$). These findings give evidence of a significant relationship between inventory record management and organizational performance. The study concludes that a unit increase in inventory record management would lead to an increase in organizational performance by 0.327.The findings are in line with Lambert, (2014) observation that inventory record management are extremely

important for business operations because their success and cost reduction of the firm's expenditure necessitate improved supply chain performance and knowledge to the employees.

CHAPTER FIVE

SUMMARY, CONCLUSSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter presents summary of key data findings on the effect of inventory management practices on organizational performance. It gives conclusive findings and recommendations. The chapter is therefore structured into summary of findings, conclusions, recommendations and area for further research.

5.2 Summary of Findings

The objective of this study was to determine the effect of inventory management practices on organizational performance. It was established that there was a strong positive relationship between the study variables. On ANOVA, the processed data had the accepted significance level which indicated that the data is ideal for making a conclusion on the population's parameter.

5.2.1 Effect of Inventory replenishment on Organizational Performance

From the findings it was established that firm has adopted EOQ to minimize storage and holding cost and EOQ Model improves customer lead times as it can be adjusted before stock runs out. The study established thatperiodic ordering is less expensive since no permament emloyee is required for physical counting of inventoryand continuous ordering improves customers services. The study established that since period orders is done at end of a period the normal activities of organizations are not hampered.

5.2.2 Effect of Stock taking on Organizational Performance

In addition, the study established that firm has adopted FIFO to save money and time in calculating the exact cost of inventory being sold and also the firm had embraced FIFO since it increases valuation comparability and constistency. The study established that ABC analysis

enable effectively forecast demand by spilliting your inventory into categories that are based on customer demand and the firm has adopted JIT to reduce the amount of money tied up in increntory of raw materials and finished goods. The findings resonate with Wild, (2013) that the goal of stock taking is to maximize profits with minimum inventory investment, without impacting customer satisfaction levels.

5.2.3 Effect of Inventory record management on Organizational Performance

The study also established that E-odering enables POS systems to br intergrated thoroughly reducing additional bookeeping costs and E-ordering helps in inventory forecasting and strategic planning reports. The study established that E-sourcing improves compliance and reduces risk as the processes are controlled and that there is is reduction in transaction costs as a result of E-payment adoption by the firm. The findings are in line with Lambert, (2014) observation that inventory record management are extremely important for business operations because their success and cost reduction of the firm's expenditure necessitate improved supply chain performance and knowledge to the employees.

5.3 Conclusions

The study concludes that firm has adopted EOQ to minimize storage and holding cost and EOQ Model improves customer lead times as it can be adjusted before stock runs out. The study concludes thatperiodic ordering is less expensive since no permament emloyee is required for physical counting of inventory and continuous ordering improves customers services. The study concludes that since period orders is done at end of a period the normal activities of organizations are not hampered.

The researcher concludes that firm has adopted FIFO to save money and time in calculating the exact cost of inventory being sold and also the firm had embraced FIFO since it increases valuation comparability and constistency. The study concludes that ABC analysis enable effectively forecast demand by spilliting your inventory into categories that are based on customer demand and the firm has adopted JIT to reduce the amount of money tied up in increntory of raw materials and finished goods.

The study further concludes that E-odering enables POS systems to be integrated thoroughly reducing additional bookeeping costs and E-ordering helps in inventory forecasting and strategic planning reports. The study concludes that E-sourcing improves compliance and reduces risk as the processes are controlled and that there is is reduction in transaction costs as a result of E-payment adoption by the firm.

5.4 Recommendations

The study recommends that the management of the company should develop economic order quantity models to minimize storage and holding cost and improve customer lead times. The study recommends that the company should implement periodic ordering since it was established that it is less expensive since no permament emloyee is required for physical counting of inventory and continuous ordering improves customers services and normal company opeartions are not hampered.

The study recommends that the management of the firm should practice FIFO since it was found to save money and time in calculating the exact cost of inventory being sold. The study recommends that the company should implement ABC analysis to enable effective forecasting of demand which is done by spilliting inventory into categories that are based on customer demand. Inaddition, the firm should adopt Just in Time techniques to reduce the amount of money tied up in total inventory.

The study recommends that the company should adopt E-odering since it enables POS systems to be integrated thoroughly reducing additional bookeeping costs. The study recommends that the firm should adopt E-ordering since it helps in inventory forecasting and strategic planning reports. The study recommends that the firm should be E-sourcing since it was established that it improves compliance and reduces risk as the processes are controlled.

5.5 Suggestions for Further Research

The future research study should target other private and public companies and different research design should be used to establish the effect and relationship of inventory management practices with other variables such as vendor managed inventory, manufacturing resource planning and LIFO. Future studies should have a larger sample size compared with this research study.

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APPENDIX II: RESEARCH QUESTIONNAIRE

This questionnaire has been designed for the sole purpose of collecting data on the effects of inventory management practices on organizational performance of an organization. The data collected will be treated with a very high degree of confidentiality and its meant for academic purpose only.

SECTION A:

GENERAL INFORMATION

1. What is your highest level of education qualification? (Tick as applicable)
   a) Past graduate level [ ]
   b) University [ ]
   c) Teliary college [ ]
   d) Secondary [ ]
2. How long have you worked in this organization?
   a) Less than 5 years [ ]
   b) Less than 10years [ ]
   c) More than 10years [ ]

3. Professional Course

   CIPS ( ) KISM ( )

   PSM ( ) MSc ( )

SECTION B

THE EFFECTS OF INVENTORY MANAGEMENT PRACTICES IN MILLY GLASS LIMITED.

3. Has your organization adopted inventory management prctices?

   YES [ ] NO [ ]

Give reasons for your answers

4. Please indicate whether you agree with the following statements concerning the effects of inventory practices.

Use the scale of :

1= Strongly Agree 2= Agree 3 = Strongly Disagree 4 = Disagree

N0.	Statements	1	2	3	4
	INVENTORY REPLENSHMENT				
1	EOQ (Economic Order Quantity minimises storage and holding cost.				
2	EOQ Model improves customer lead times as it can be adjusted before stock runs out.				
3	Continuous ordering reduces stock out.				
4	Continuous ordering improves customers services.				
5	Periodic ordering is less expensive since no permament emloyee is required for physical counting of inventory.				
6	Since period orders is done at end of a period the normal activities of organizations are not hompered.				

	STOCK TAKING				
7	FIFO method sares money and time in calculating the exact cost of inventory being sold because the cost will depend upon the most former cash flows of purchases to be used first.				
8	FIFQ increases valuation comparability and constistency.				
9	Management can ascertain inventories issued and held in warehouse are from which batch as the records each batch of inventory produced with repedant last.				
10	ABC analysis enable effectively foercast demand by spilliting your inventory into catagoner that are based on customer demand.				
11	ABC analysis creatos smarter negotiations with supplies since one is aware of which products to focus on negoctiate to bring prices down.				
12	JIT(Just in time) reduces the amount of money tied up in increntory of raw				

	materials and finished goods.				
13	Just in time system minimizes wastage				
14	Just in time improves labour afficiecy				
	INVENTORY RECORD MANAGEMENT				
15	E-odering enables POS systems to br intergrated thoroughly reducing additional bookeeping costs				
16	Inventory Records Management helps in accurate inventory forecasting and strategic planning reports				
17	Inventory Records Management enhances accebility and reduces customer acquisition cost thus saving time				
19	Inventory Records Management increases, availabilit, speed and convinience				

APPENDIX III: RESEARCH WORK PLAN

Activity / time	March 2021	April – June 2021	July 2021	Aug– Sept 2021	Oct- Nov 2021
Selection of the research topic					
Project writing of chapter 1, 2 and 3					
Project Defense and correction					
Data collection					
Report writing and Submission					

APPENDIX IV: BUDGET

CATEGORY	**PROJECT COST**
Direct cost:	5000
• Transport	2,000
• Laptop	20000
• Project	5000
• Final report cost	7000
Subtotal	**39, 000**
Miscellaneous	2000
Total cost	**41,000**