

**EFFECT OF INVENTORY MANAGEMENT ON PERFORMANCE
OF COMPANIES IN WAKISO DISTRICT. A CASE STUDY OF
UGACHICK COMPANY (U) LIMITED**

BY

**TUMWEBAZE MAURICE
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**A RESEARCH REPORT SUBMITTED TO THE COLLEGE OF ECONOMICS
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DECLARATION

I, Tumwebaze Maurice hereby declare that, to the best of my knowledge and effort, this is my original work and has never been presented to any other institution for any award.

Signature


(Student)

Date
28/08/2019

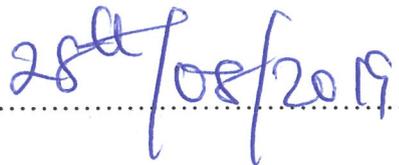
APPROVAL

This is to certify that this research report has been prepared under my supervision and is now ready for submission to the University for Examination.

Signature 

Mrs. Florence Irau

(SUPERVISOR)

Date 

DEDICATION

Whole heartedly, I dedicate this report to my dear parents who have enabled me to succeed through campus; you gave me the best investment in the world.

ACKNOWLEDGEMENT

First and foremost I would like to thank my supervisor Mrs. Irau Florence for her knowledge, eye for detail, and way of pinpointing issues in a minimal time. I also thank you for the explanations and guidance which got me to the level of understanding required for the matter at hand.

I would also like to thank my family whose encouragement, support and pride in me, have been constant not only throughout my degree, but right throughout my life. I believe that the independence and strength that I possess is due to my upbringing and surroundings. You are, and have always been, the central point of this. Thank you for always being there for me.

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LIST OF ACRONYMS

α	Alpha
CVI	Content Validity Index
EOQ	Economic Order Quantity
No.	Number
ROP	Reorder Point

ABSTRACT

This study focuses on the impact of inventory management on organization effectiveness. The study was guided by the following research objectives which are to identify inventory management practices employed by organizations, to examine the problems encountered in the use of Inventory Management Techniques, and to establish the relationship between inventory management and organization effectiveness. The study will use Ugachick Company Ltd as a case study; the study will use 60 respondents from whom data will be collected. The researcher uses questionnaires in collecting primary data. The key findings of this study are that company uses various technique and systems to ensure inventory management, and these have greatly enhanced its effectiveness in a number of ways as earlier mentioned. For instance, economic order quantity system, reorder point and ABC management, facilitates automation in addition to the manual method of handling stock, though the disadvantages are that this method is too slow and exhaustive since it involves double handling of stock.

CHAPTER ONE

1.0 Introduction

This chapter presents the background to the study, statement of the problem, purpose of the study, research objectives, research questions, scope of the study, justification of the study and the conceptual framework.

1.1 Background

1.1.1 Historical perspective

Inventory management efficiency and mass production became the main goals of businesses, along with an improved customer experience at the point of sale. A team at Harvard University designed the first modern check-out system in the early 1930s. It used punch cards that corresponded with catalog items. A computer would read the punch cards and pass the information to the storeroom, which would then bring the item up front to the waiting customer. Because of the automated system, the machines could also generate billing records and manage inventory. The system proved to be too expensive to use, but a version of it is in use today in some stores, where merchants place cards with product information on the aisle for customers to select and bring to the checkout line. This usually applies to items that are expensive or large and to controlled items, such as medicines. (Schneider& Cao, 2001).

Furthermore, By early days, we don't mean the Middle Ages or even before that. No, we're talking more about the period before the Industrial Revolution, when merchants had to write down purchases and keep an eye on how many items were sold that day, and how many of them were left. And since they certainly didn't have a sales forecasting app, merchants had to forecast future needs themselves, which was not always accurate, and could easily slow down the business and cause troubles.

Companies and merchants knew they needed a better system, and researchers created the forerunner of the modern bar-coding system in the late 1940s and early 1950s. It used ultraviolet light-sensitive ink and a reader to mark items for sale. Again, the system was too cumbersome and lacked the computing skilled manpower needed to make it work. Technology had yet to catch up with their ideas and so inventory management practices needed to be adopted. (Skeet Haag Carl J., 2001)

One of the amazing technologies used in today's inventory management is the use of Radio-frequency identification, with microchips that transmit product information that contains everything that's relevant to a business owner and their employees. Together with a mobile inventory app, managing your inventory in the 21st century has never been easier.

The current state of inventory management is nothing short of remarkable. Elegant Software-as-a-Service solutions offer real-time inventory control and reporting. For complex businesses, inventory control allows centralisation by allowing management to keep track of stock across multiple warehouses, in multiple locations, anywhere in the world. Companies such as Toyota have designed the fundamentals of their business models around leveraging inventory management to reduce waste and add unprecedented value.

Although the current state and the future of inventory management are both exciting, the industry's past has a lot to offer. Let's take a quick look back at the development of inventory management – from the broadest conception of counting 'things' to modern, real-time inventory management software.

Today, we can draw a line between ancient counting systems and modern inventory management, that line is very long indeed. Ultimately, ancient inventory management was very basic and entirely manual. In many cases, the difficulty in counting items manually would mean that people would have to make inventory decisions based on a guess or a gut feeling.

Performance of companies

Performance of companies during the mid to late 1990s began when most companies started implementing modern inventory management systems and adopting inventory management system, made possible in large part by advances in computer and software technology, company performance management entails reviewing the overall business performance and determining how the business can better reach its goals.

Furthermore, company performance can also be measured in terms of profitability, accountability and reliability which are all as a result of proper inventory management. The company inventory systems work in a circular process, from purchase tracking to inventory monitoring to re-ordering and back around again. In this arrangement, the vendor is

responsible for keeping its products stocked on a store's shelf. The vendor and retailer work closely together and share proprietary information. Senior management's concern is managing inventory levels because the impact of changing the inventory management procedures on turnover is reflected in turnover growth. There is a lot of research that has been done in this area by developed countries however, for resource poor settings there is hardly any documentation Wawera et al; 2004. There is therefore need for study using company in a resource limited setting as a case study to establish how inventory management practices affect turnover of a company.

This system also has many advantages for vendors. It allows them to ensure their products are properly displayed and available, and it also puts them in close contact with the retailer and its sales data. The feedback the vendor receives can play an important role in its marketing, research and development.(Nasrallah2009)

1.1.2 Theoretical perspective

The inventory theory by Sam Ashe-Edmunds (or more formally the material theory of inventory and production) is the sub-specialty within operations research and operations management that is concerned with the design of production/inventory systems to minimize costs: it studies the decisions faced by firms in connection with manufacturing, warehousing, supply chains and so on and provides the mathematical foundation for logistics.

Large companies use a variety of inventory control theories and mathematical formulas to help them optimise the production and storage of many thousands of units of products and help them optimise costs. Small business owners can use ideas from several inventory control methods to manage their production and storage based on their cost containment and customer service needs.

The inventory control problem is the problem faced by a firm that must decide how much to order in each time period to meet demand for its products. The problem can be modeled using mathematical techniques of optimal control, dynamic programming and network optimization. The study of such models is part of inventory theory. The current market situation could be described as a competitive environment resulting from frequent economic changes and intensive relationship networking within the supply chains. Furthermore, For most companies, entering these supply chains has been becoming a routine, gradually imposed by the market and the conditions of such companies. An essential condition in this context is to use the latest

technologies for a quick information and data interchange between customers and suppliers. Mutual cooperation and collaboration of the supply chain members, including sharing information, are the driving factors ensuring a higher competitiveness in the market as well as a larger scope of activities in the market both for the companies and the whole chains. Due to the continuously growing customers' demands, the limiting and decisive factor is not only the price or quality of the product, but also lead time, services provided by the producer and/or the customers' relationship to the company and the product(s). As a result of these requirements, companies currently engage more in the supply chains and their mutual cooperation can generate far more benefits than their mutual competitiveness. The theory's main objective in relation to supply chain management is to stay one step ahead of the competitors and a great emphasis is also put on the information involving demand (the number of items sold, sellers' expectations, predicting customers' behaviour, various marketing actions, competition). An important role of the inventory theory is to satisfy the demand and determine its further development as well as to ensure an adequate quantity of the goods. In the supply chain, inventory (or stock) has an important role from a commercial point of view. There is a wide range of factors affecting the supply chain, such as the stock level throughout the whole supply chain (and not only in a particular entity), costs related to storing and maintaining the inventory, in particular their minimization in the whole supply chain, and at the same time, the pursuit of maximum demand satisfaction. Inventory management is an important element both in the management of individual companies and the supply chains as such regardless of what type of inventory is in question.

1.1.3 Conceptual perspective

Inventory management

Inventory management refers to the process of ordering, storing, and using a company's inventory. These include the management of raw materials, components, and finished products, as well as warehousing and processing such items.

Performance of companies

Performance of Companies is the concept of how effective a company is in achieving the outcomes the company intends to produce. (Amitia 2004).

Performance of companies is affected by inventory management system practices as are independent variable with its functions directly has a positive or negative impact on the financial performance of a company measured through profitability, reliability and proper accountability. Performance management entails reviewing the overall business performance and determining how the business can better reach its goals. This requires the alignment of strategic and operational objectives and the business' set of activities in order to manage performance.(Cosker, 2002).

1.1.4 Contextual perspective

Inventory management at Ugachick company has become one of the important issues that have to be handled with a lot of care.. Inventory management helps to ensure that the company is supplied with all necessary materials required to run a smooth production process (Lewis, 1998). Inventory management is very essential to firms that invest heavily in materials. Most service and manufacturing companies invest huge sums of money in terms of supplies (Citman, 1997). The relation for most service firms holding high amounts of Inventory is that they enjoy quantity discounts, eliminates stock out, meet customers' demand, ensure company's image and even check price changes (Al-Omiri, M. (2011).

Performance of Ugachick Company basing on the above facts becomes evident that the performance position of the company was largely depend on the firm level of investment in supplies and inventory management (Cosker, 2002).

In Uganda, Ugachick Company Ltd has experienced excessive inventory costs that have greatly constrained its performance (Income statement 2015). The increased cost of production has even made it to phase off certain activities.

Ugachick company has incurred several efforts like keeping proper records of inventory, ensuring that there is stable supply of materials through forming strategic alliances with the suppliers and others, have yielded less in reducing the costs as the biggest constraint into its profitability (Notes to the accounts 2015). In addition, net profits fell from 1782301190 Ugshs in 2015 to 106909146 Ugshs in 2016. This represents a 40% decrease in profitability and according to management was due to increased inventory costs that emerged out of overstocking inventory and other operational challenges at the time.

1.2 Statement of the problem.

Inventory management in a modern company is geared towards improving financial performance. For instance, inventory management strengthens alliances with suppliers leading to production of high quality, reasonably priced goods and services and keeping proper records of inventory among others.

Despite the above efforts, Ugachick Company's performance has not improved. This is evident in the increased costs of inventory from 8% to approximately 20%, from 2017 to 2019 leading to drastic fall in the company performance. This is further reaffirmed by the 2016 net profits fall from 1782301190 Ugshs to 106909146 Ugshs in 2017, which represents a 40% decrease in profitability and according to management was due to increased inventory costs that emerged out of overstocking inventory and other operational challenges. This trend has compelled the researcher to carry out an investigation on the impact of inventory management on company performance case of Ugachick Company Limited. (Ugachick Company Internal Annual Report, 2018).

1.3 Objective of the study

1.3.1 General objective.

The main objective of this study was to establish the effect of inventory management system on performance of a company.

1.3.2 Specific objectives of the study.

The study was guided by the following research objectives.

- i.** To find out the effect of Economic order quantity employed on performance of companies.
- ii.** To establish the effect of reorder point model employed on performance of companies.
- iii.** To establish the effect of ABC system management employed on performance of companies.

1.4 Research questions

The study was aimed at answering the following questions.

- i.** How is economic order quantity employed on performance of companies?
- ii.** What is the effect of reorder point model employed on performance of companies?

- iii. What is the effect of ABC system management employed on performance of companies?

1.5 Scope of the study

The study was confined to inventory management practices in companies, financial performance of companies and factors that affect financial performance in companies.

1.5.1 Geographical scope

The study was conducted at Ugachick Company Limited's headquarters located in Magigye, on Kayunga road, Wakiso District.

1.5.2 Content Scope

A sample of employees currently working in Ugachick Company Limited were sampled as it was difficult to include every member of the company

1.5.3 Time Scope

The research study based on inventory management and company performance and was scheduled to cover a period of 1 year, 2019.

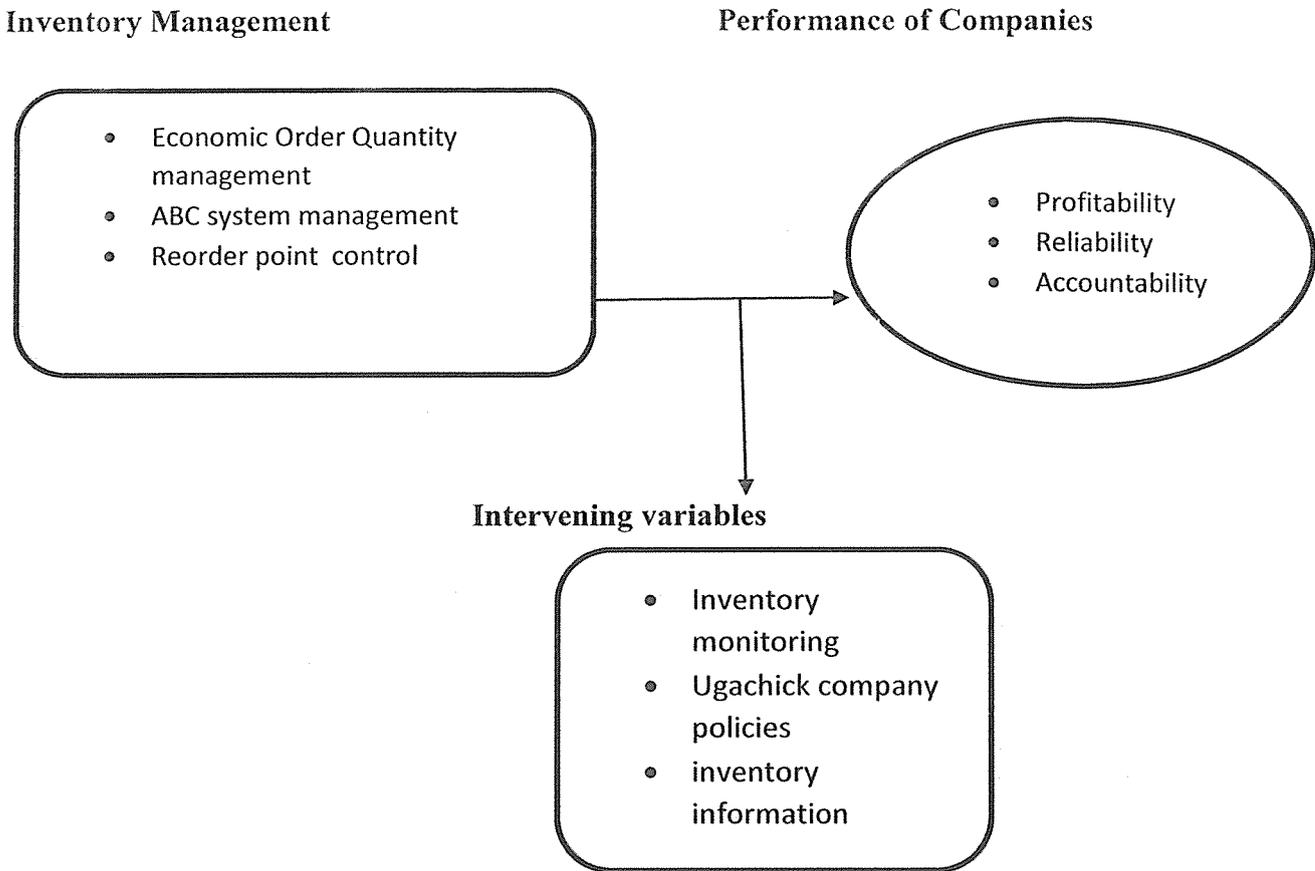
1.6 Justification of the study

The findings of the study are important in the following ways,

- i. To the companies, the result of this study benefits companies that keep huge amount of inventories to hold just what is necessary so as to avoid the carrying costs.
- ii. The study findings enables the management of Ugachick Company Limited to get in-depth insights of the benefits of management strategies, procedures, and practices to avoid making losses. This will stimulate the desire of reviewing company policies.
- iii. The study findings inspire and arouse other researchers' curiosity to conduct further research on inventory management and financial performance.
- iv. To future researchers, they will use the study findings as reference to their work.

1.7 Conceptual Framework

Figure 1: Conceptual Framework



Source:(Adapted and modified by Lewis, 1998)

From the above illustration, it is clear that inventory management system practices are independent variable with its functions directly has a positive or negative impact on the financial performance of a company measured through profitability where this is the dependent variable. In addition to this there also intervening variables for example Ugachick company policies also indirectly affect and influence financial performance.

1.8 Definition of key terms

Inventory management refers to the process of ordering, storing, and using a company's inventory and these include the management of raw materials, components, and finished products, as well as warehousing and processing such items.

Performance of Companies is the concept of how effective a company is in achieving the outcomes the company intends to produce.

Economic order quantity (EOQ) is the order quantity that minimizes the total holding costs and ordering costs.

Reorder point is the level of inventory which triggers an action to replenish that particular inventory stock.

ABC system management is a method of analysis that divides the subject up into three major categories A, B and C.

Profitability refers to the extent to which a company generates a profit from the factors of production: labor, management and capital. Profitability analysis focuses on the relationship between revenues and expenses and on the level of profits relative to the size of investment in the business.

Reliability refers to the extent to which results are consistent over time and the level to which accurate results can be reproduced under similar methodology

Accountability refers to a financial management tool in the company that measure the actual and forecast against the budget throughout the planning process, it also assist in monitoring and controlling of current performance by providing early warning of deviations from the plans and analyses the anticipated versus actual results.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the literature concerning inventory management systems employed in manufacturing companies, factors affecting financial performance and the relationship between activity-based inventory management systems and company effectiveness of manufacturing companies.

2.1 Theoretical review

The Inventory theory by Sam Ashe-Edmunds (or more formally the material theory of inventory and production) is the sub-specialty within operations research and operations management that is concerned with the design of production/inventory systems to minimize costs: it studies the decisions faced by firms in connection with manufacturing, warehousing, supply chains and so on and provides the mathematical foundation for logistics.

Large companies use a variety of inventory control theories and mathematical formulas to help them optimise the production and storage of many thousands of units of products and help them optimise costs. Small business owners can use ideas from several inventory control methods to manage their production and storage based on their cost containment and customer service needs.

The inventory control problem is the problem faced by a firm that must decide how much to order in each time period to meet demand for its products. The problem can be modeled using mathematical techniques of optimal control, dynamic programming and network optimization. The study of such models is part of inventory theory. The current market situation could be described as a competitive environment resulting from frequent economic changes and intensive relationship networking within the supply chains. Furthermore, For most companies, entering these supply chains has been becoming a routine, gradually imposed by the market and the conditions of such companies. An essential condition in this context is to use the latest technologies for a quick information and data interchange between customers and suppliers.

Mutual cooperation and collaboration of the supply chain members, including sharing information, are the driving factors ensuring a higher competitiveness in the market as well as

a larger scope of activities in the market both for the companies and the whole chains. Due to the continuously growing customers' demands, the limiting and decisive factor is not only the price or quality of the product, but also lead time, services provided by the producer and/or the customers' relationship to the company and the product(s). As a result of these requirements, companies currently engage more in the supply chains and their mutual cooperation can generate far more benefits than their mutual competitiveness. The theory's main objective in relation to supply chain management is to stay one step ahead of the competitors and a great emphasis is also put on the information involving demand (the number of items sold, sellers' expectations, predicting customers' behaviour, various marketing actions, competition). An important role of the inventory theory is to satisfy the demand and determine its further development as well as to ensure an adequate quantity of the goods. In the supply chain, inventory (or stock) has an important role from a commercial point of view. There is a wide range of factors affecting the supply chain, such as the stock level throughout the whole supply chain (and not only in a particular entity), costs related to storing and maintaining the inventory, in particular their minimization in the whole supply chain, and at the same time, the pursuit of maximum demand satisfaction. Inventory management is an important element both in the management of individual companies and the supply chains as such. Regardless of whether the inventory refers to raw materials, material, semi-finished or finished products, it is an element which influences the operations of companies and supply chains, and should therefore be given adequate attention.

One issue is infrequent large orders vs. frequent small orders. Large orders will increase the amount of inventory on hand, which is costly, but may benefit from volume discounts. Frequent orders are costly to process, and the resulting small inventory levels may increase the probability of stockouts, leading to loss of customers. In principle all these factors can be calculated mathematically and the optimum found.

A second issue is related to changes in demand (predictable or random) for the product. For example, having the needed merchandise on hand in order to make sales during the appropriate buying season(s) A classic example is a restaurant, where a considerable percentage of the sales are the value-added aspects of food preparation and presentation, and so it is rational to buy and store somewhat more to reduce the chances of running out of key ingredients. The situation often comes down to two key questions: confidence in the merchandise selling, and the benefits accruing if it does?

2.2 Conceptual review

Inventory management

According to Vollmann, T. E. (2011), Inventory management systems are primarily about specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply network to protect the regular and planned course of production against the random disturbance of running out of materials or goods. The scope of inventory management also concerns the fine lines between replenishment lead time, carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventory price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns and defective goods and demand forecasting.

Performance of Companies

Performance of Companies is the concept of how effective a company is in achieving the outcomes the company intends to produce. (Amitia 2004)

The idea of company performance is especially important for non-profit organizations as most people who donate money to non-profit organizations and charities are interested in knowing whether the company is effective in accomplishing its goals.

According to Richard et al. (2009) company performance captures the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that relate to considerations that are broader than those simply associated with economic valuation (either by shareholders, managers, or customers), such as Richard et al. (2009): Measuring company performance:

A company's performance is also dependent on its communicative competence and ethics. The relationship between these three is simultaneous. Ethics is a foundation found within company performance. A company must exemplify respect, honesty, integrity and equity to allow communicative competence with the participating members. Along with ethics and communicative competence, members in that particular group can finally achieve their intended goals.

Charity Foundations and other sources of grant money or other types of funds are interested in company performance of those people who seek funds from the foundations. Foundations always have more requests for funds or funding business proposals and treat funding as an

investment using the same care as a venture capitalist would in picking a company in which to invest.

Company performance is an abstract concept and is basically impossible to measure. Instead of measuring company performance, the company determines proxy measures which were used to represent effectiveness. Proxy measures used may include such things as number of people served, types and sizes of population segments served, and the demand within those segments for the services the company supplies.

2.3 Related literature

This chapter presents literature concerning inventory management practices employed by Ugachick Company limited. These include Economic order quantity, ABC system and Reorder point models of inventory management.

2.3.1 Economic order quantity on performance of companies

In inventory management, economic order quantity (EOQ) is the order quantity that minimizes the total holding costs and ordering costs. It is one of the oldest classical production scheduling models. The model was developed by Ford W. Harris in 1913, but R. H. Wilson, a consultant who applied it extensively, and K. Andler are given credit for their in-depth analysis.

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.

We want to determine the optimal number of units to order so that we 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. 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.

In Economic order quantity (EOQ) when the order is placed, it's instantaneously received. There is no time lag between placing the order and receiving the inventory. The ordering costs per order are known and constant. Carrying cost per inventory is also known and constant. Other assumptions are that lead time is known, stock outs never occur and that there are only two costs (variable costs), ordering and carrying costs.

In determining Economic Order Quantity (EOQ), certain equations have been developed and before that, certain variables need to be defined as below: -

Ordering Quantity, annual demand, ordering cost for order per annum, carrying cost for one item per annum, average stock. The order cost which makes total cost (carrying and ordering cost) at a minimum is obtained by differentiating with respect to Q and equating the derivative to Zero (Muhlemon, D. (2010), Under this approach, to avoid problems of excessive unnecessary costs, a firm must determine the optimal quantity to purchase, each time an order is placed.

Plasecki (2001) defines Economic Order Quantity as an accounting formula that determines the point at which the combination of order costs and inventory costs are the least. Lysons and Gillingham (2003), also defines Economic Order Quantity as the optimal ordering quantity for an item of stock that minimizes cost.

According to Lysons and Gillingham (2003), to calculate the Economic Order Quantity, a mathematical model of reality must be constructed. All mathematical models make assumptions that simplify reality. The model is valid only when the assumptions are true or nearly true. When an assumption is modified or deleted, a new model must be constructed.

Economic Order Quantity approaches have proven to be effective inventory management technique when the demand and lead time are relatively stable, as well as when significant variability and uncertainty exist.

This theory is relevant to this study in that it suggests that the appropriate or optimum level of stock or inventory that a company should keep or store must help to reduce the cost of doing business.

Why EOQ is used at Ugachick Company

The main use of EOQ analysis is to improve your ability to deal with large and complex data sets by breaking them down into three segments. These segments define the priority of the data within whatever area you are using them in.

Once the data is broken down into segments, it is easier to focus on the data and use it in a meaningful way. Breaking down the data into these segments makes specific issues in the data more obvious. It also helps in prioritizing the different segments.

For example, EOQ can be used to analyze suppliers and break down supplier-specific data.

First, you would divide the suppliers into each of the several categories based on the delivery time the customer uses. Then, you would consider how that volume relates to your margin contribution.

If you segment the suppliers successfully, the suppliers with the most value will be allotted the high priority, while the rest of the suppliers would be placed in the bottom category. Suppliers that are somewhere in between will stay in the middle category.

The segmentation allows you to pinpoint your most valuable suppliers. It then allows you to examine them separately so that you can form a plan of action. When you can look at things in three different categories, it is easier to allocate your financial resources in a more strategic way than it is if you're flitting back and forth between charts or just trying to make sense of heaps of raw data. The benefit of taking this extra step is that it makes it easier to analyze the data strategically which in turn makes it easier to minimize inventory costs.

THE EOQ PARETO PRINCIPLE

EOQ analysis is based on what is called the Pareto Principle, an economic principle created by the economist Vilfredo Pareto. Pareto gained notoriety for saying that most economic productivity comes from only a small part of the economy. Essentially, it shows that there is an unequal relationship between your input and your output.

For example, a business might get 80% of its results from only 20% of its staff. This demonstrates that 20% of the staff are more productive than the other 80% of the team.

Another common example of the Pareto Principle suggests that you get 80% of your sales from only 20% of your customers. In this case, these 20% would be your category A customers, hence, those who make the biggest contribution to your revenue. Basically, only 20% of your customers are valuable enough that losing one would significantly hurt the business.

You can bring the Pareto Principle even further into EOQ analysis when you consider lifetime value. The relationship between your input and output plays a major contribution in a customer's lifetime value. It also forms the foundation of EOQ analysis by providing guidelines for breaking down customers into different levels of inventory management

2.3.2 ABC Analysis on performance of companies

The analytical approach tends to measure the significance of each item of inventories in terms of its value (Pandey, 1997). A good ABC analysis leads to a better control over materials, hence a reduction in costs associated with inventories (Jordan, 1997). Materials are classified according to their importance of the space they occupy. Large companies usually stock and keep track of several types of materials. Controlling these materials usually cost a lot of money.

The purpose of ABC Analysis is dividing all the firm's stock items into 3 groups that is A, B and C. The A group items are the big investment items and use over 70% of the funds invested in inventory. They account for almost 10% of all inventory items. An item should get full record keeping treatments. The B group typically represents about 20% of the funds invested in inventory and comprises almost about 20% of items in inventory. The C group items almost 10% of the investment and comprise about 70% of items in inventory thus accounting for the great bulky inventory items (Harris, T. (2007).

This technique assigns items to three groups according to the relative impact or values of the items that makes up the group. Those thought to have the greatest impact, or value, for example, constituted the 'A' group, while those items thought to have a lesser impact or value were contained in the 'B' and 'C' groups respectively (Coyle et al., 2003).

In many ABC analysis, a common mistake is to think of the 'B' and 'C' items as being for less important than the 'A' items and, subsequently, to focus most or all of management's attention on the 'A' items. A decision might be made to assume very high

in-stock levels for the 'A' items and little or no availability for the 'B' and 'C' items. The fallacy here relates the fact that all items in the A, B and C categories are important to some extent and that strategy to assure availability at an appropriate level of cost.

The purpose of this classification is to ensure that purchasing staff use resources to maximum efficiency by concentrating on those items that have the greatest potential savings. Selective control will be more effective than an approach that treats all items identically (Lysons and Gillingham, 2003).

The relevance of this theory to this study is that it suggests that though all categories of inventory is important, inventory must be categorized or classified in accordance to their relative impact or value and treated differently.

ABC ANALYSIS DEFINED

ABC analysis is a method of analysis that divides the subject up into three categories: A, B and C.

Category A represents the most valuable products or customers that you have. These are the products that contribute heavily to your overall profit without eating up too much of your resources. This category will be the smallest category reserved exclusively for your biggest money makers.

For example, a software company might engineer different pieces of software, but one is a niche software that can be sold at a significantly higher price than the others. That's why it accounts for about 60% of the overall revenue, although the company sells far less of these products compared to other software categories. Hence, this specific software is a category A product.

Category B represents your middle of the road customers or products. Many wrongly approach this group as those who contribute to the bottom line but aren't significant enough to receive a lot of attention.

Yet, category B is all about potential. The members of this category can, with some encouragement, be developed into category A items.

Category C is all about the hundreds of tiny transactions that are essential for profit but don't individually contribute much value to the company. This is the category where most of your

products or customers will live. It is also the category where you must try to automate sales as much as possible to drive down overhead costs. (Lewis, 1998)

ABC analysis is based on what is called the Pareto Principle, an economic principle created by the economist Vilfredo Pareto. Pareto gained notoriety for saying that most economic productivity comes from only a small part of the economy. Essentially, it shows that there is an unequal relationship between your input and your output.

For example, a business might get 80% of its results from only 20% of its staff. This demonstrates that 20% of the staff are more productive than the other 80% of the team.

Another common example of the Pareto Principle suggests that you get 80% of your sales from only 20% of your customers. In this case, these 20% would be your category A customers, hence, those who make the biggest contribution to your revenue. Basically, only 20% of your customers are valuable enough that losing one would significantly hurt the business.

You can bring the Pareto Principle even further into ABC analysis when you consider lifetime value. The relationship between your input and output plays a major contribution in a customer's lifetime value. It also forms the foundation of ABC analysis by providing guidelines for breaking down customers into different groups (Vilfredo Pareto 1999).

Application of ABC Analysis

To perform the analysis, you'll need to start by looking at four primary metrics for each of your customers: sales revenue, revenue potential, contribution margin and support costs.

Use these four categories to create four different charts. Rank your customers according to each category and place them on the chart.

Then, compare the charts, specifically the sales revenue and contribution margin charts. With this comparison, you can begin to break down your customers into the three groups: A, B or C.

Your most valuable customers will live in A. These customers will bring in a lot of revenue and make up a significant portion of the contribution margin. Ideally, they'll be close to the limit in terms of revenue potential.

The second tier customers will live in B. These customers will be loyal customers and they will spend a good amount of money with you on a regular basis. However, these customers will not be spending as much as they could be.

Category C is made up of the rest of your customers. Category C includes people who turn up every once in a while and make a purchase. It might also include those consistent customers who make a lot of small purchases. These customers will spend money but won't contribute very much to your overall sales and profit. These customers also tend not to have much potential.

By looking at your customers in terms of profit margin and potential, you're creating a multi-dimensional view of your customers. Sales figures alone can be misleading. Seeing a customer who makes a weekly purchase for a small amount might trick you into thinking they are a valuable customer when they really are not.

This perspective is particularly useful for dealing with the customers who lie in the no man's land that is category B. These are the customers that you know are valuable. But until you analyze their potential, you're not sure how valuable they really are. Using ABC analysis gives you a better idea of not only what they spend but how they spend it. Better yet, it tells you if the customer could be spending more.

Rather than looking at sales figures, you're looking at data that is actionable. Using this data enables you to make real decisions that will increase your revenue.

How to

The first step is to take a look at the potential revenue charts. You will notice that some of the customers in the B category have the potential to be in the A category. This is revenue that you're missing out on, perhaps because you're not allocating enough time or the wrong resources to the customer.

To figure this out, look at your resource allocation chart and look at where you're sending your teams and your money. Start with category C. A lot of companies over-emphasize the

importance of these customers and spend too much time or money servicing their needs. Look at how your sales teams are divided to see who spends time with these C customers.

With this in mind, move into the B category. Look at who is servicing these customers and how often they are being serviced. Could this be improved? Make sure that these customers are not being inadvertently neglected.

Then, look at what B customers are buying and how often they are buying it. Is there another product they need that no one is selling them? Could these customers benefit from an upgraded version of the current product? What could you do to further meet the customers' needs and encourage them to spend more money?

Finally, check out category A. For many companies, category A tends to be top heavy in terms of service. Certainly, these are the customers that demand most of your time and resources. However, are you over-extending your resources here?

The problem with servicing category A customers is that you desperately want to keep them happy. However, if they're spending that much money with you, there is a good chance that they are not going to leave you just because you aren't smothering them with attention.

Take a hard look at the resources you allocate to category A customers. Determine whether there's opportunity to share those resources with category B customers and transform them into A-level customers.

2.3.3 Reorder point on performance of companies

In an examination of the re-order point, Pandey (2003) argues that the problem of how much to order is solved by determining the economic orders quantity yet the answer should be sought to the second problem of when to order. The re-order point, is that inventory level to which an order should be placed for inventory level of which an order should be place for replenish the inventory. In order to determine the re-order under certainty, the lead-time, average usage and the economic order quantity must be known. Normally, lead-time is the time taken in replenishing inventory after the order has been placed.

By certainty, use means that usage and lead-time do not fluctuate. The re-order point under such a situation is simply the inventory leave, which will be maintained for consumption during the lead-time. Van Home (2005). Inventory management has been further explained

by the system used in the control of inventories. These systems range from simple ones to extremely complex systems.

Brigham and Gapenski (1997) illustrated one simple control procedure as the re-line method where items are stocked in a bin, a red line drawn around the inside of the bin at the level of the re-order point, and the inventory clerk places an order when the red line shows. Compsey and Brigham (2005) agreed with the point noted and in addition, they pointed out another method, the two-bin method for this method, these authors argued that inventory items are stocked in two bins, and when the working bin is empty, an order is placed and inventory is drawn from the second bin. They also noted that these procedures work well for items such as Bolts in a manufacturing process and for many Terms in retail businesses. Larger companies employ computerized inventory control systems the computer starts with an inventory count in memory. As withdrawals are made, they are recorded by the computer, and the inventory balance is revised. When the recorder in point is reached, the computer automatically places an order, and when the order is received, the recorded balance is increased body 2005 and eugene2007. ROP is essentially the normal consumption of inventory during average lead time plus some safety stock if the lead time or inventory usage are variable.

The reorder point (ROP) is the level of inventory which triggers an action to replenish that particular inventory stock. It is a minimum amount of an item which a firm holds in stock, such that, when stock falls to this amount, the item must be reordered. It is normally calculated as the forecast usage during the replenishment lead time plus safety stock. In the EOQ (Economic Order Quantity) model, it was assumed that there is no time lag between ordering and procuring of materials. Therefore the reorder point for replenishing the stocks occurs at that level when the inventory level drops to zero and because instant delivery by suppliers, the stock level bounce back.

The reorder point for replenishment of stock occurs when the level of inventory drops down to zero. In view of instantaneous replenishment of stock the level of inventory jumps to the original level from zero level.

In real life situations one never encounters a zero lead time. There is always a time lag from the date of placing an order for material and the date on which materials are received. As a result the reorder point is always higher than zero, and if the firm places the order when the inventory reaches the reorder point, the new goods will arrive before the firm runs out of

goods to sell. The decision on how much stock to hold is generally referred to as the order point problem, that is, how low should the inventory be depleted before it is reordered.

The two factors that determine the appropriate order point are the delivery time stock which is the Inventory needed during the lead time (i.e., the difference between the order date and the receipt of the inventory ordered) and the safety stock which is the minimum level of inventory that is held as a protection against shortages due to fluctuations in demand.

Therefore: $\text{Reorder Point} = \text{Normal consumption during lead-time} + \text{Safety Stock}$

Several factors determine how much delivery time stock and safety stock should be held. In summary, the efficiency of a replenishment system affects how much delivery time is needed. Since the delivery time stock is the expected inventory usage between ordering and receiving inventory, efficient replenishment of inventory would reduce the need for delivery time stock. And the determination of level of safety stock involves a basic trade-off between the risk of stock out, resulting in possible customer dissatisfaction and lost sales, and the increased costs associated with carrying additional inventory.

Another method of calculating reorder level involves the calculation of usage rate per day, lead time which is the amount of time between placing an order and receiving the goods and the safety stock level expressed in terms of several days' sales.

The reorder point analysis provides a mechanism for identifying items that will have a significant impact on overall inventory cost, while also providing a mechanism for identifying different categories of stock that will require different management and controls. In materials management on the other hand, the ABC analysis is an inventory categorization technique. ABC analysis divides an inventory into three categories—"A items" with very tight control and accurate records, "B items" with less tightly controlled and good records, and "C items" with the simplest controls possible and minimal records.

If lead time and inventory usage are constant there will be no stock-outs and hence no need for maintaining a safety stock to guard against the risk. If however either lead time or inventory

usage are variable, which is usually the case, ROP is calculated as follows the degree of variability of lead time and inventory usage will affect the level of safety stock that will be required to minimize the risk of running out of inventory

2.4 Importance of Inventory Control

Stock piling a quantity of goods now in anticipation of future use requires an investment in organizations capital resources. It would be ideal if supply and demand could always be so coordinated that no inventories would be needed (Ballou, 1987). Because it is either impractical or impossible to know future demand with certainty and because the availability of supplies can be quarantined at any given moment, inventories are accumulated to ensure availability of goods and to minimize the overall cost of producing and distributing the goods. Therefore, a well-managed inventory yields the following importances (Ballou, 1987).

(i) **Encourage production economics**

Products of mines, agricultural products, crude oil are examples of such goods. Purchase may be made in advance of need because of anticipated price increase. This creates an inventory that the logistician must manage

(ii) **Protect against demand and lead – time uncertainties**

In most cases, the level of demand on a logistics system and the time required for re-supply cannot be known for sure. To assure product availability additional amount of stock (safety stock) are maintained. Safety stock is in addition to the regular stock to meet production and market place needs.

(iii) **Hedge against contingencies**

Labor strike, fire and floods are just a few of the contingencies that can befall a company. Maintain back up inventories is one way in which normal supplies can be maintained for a period of time. It is clear that maintaining inventories offers a number of benefits, but the costs are high and have risen dramatically with interest rates on money. For the logistician, the challenge is one of the minimizing the investment in inventories while balancing the efficiency needs of production and logistics with promotional needs of marketing. The high cost of capital has made this a vital business problem.

2.5 Importance of analyzing investments in inventories

Inventories are necessary for operations, while operations are necessary for performance, so the goal in here becomes finding the right level of inventories, investment for a given firm, a proper balance between the costs associated with too much inventories and those incurred when the firm has too little

The manner in which a firm inventory is managed can have a direct effect on the value of a firm. Bodit, Compsey and Eugene (2005) argue that any procedures that allow a firm to achieve a given efficiency level with a lower inventory investment will increase the rate of operation, and, hence increase the firm's value. These scholars however add that, actions to reduce inventory investment can also lead to costs because of stock-outs and costly slowdowns from suppliers. Managers, therefore, need to maintain inventories at specific levels so as to balance the benefits of reducing the level of investment against the cost associated with lowering inventories.

According to Puxty (2003), an analysis of inventories is very important for any organization, such that in the event of liquidity, problems especially during recessions, and periods of high interests, these inventories can be reduced. This is because high stock levels are a frequent cause of business failure.

Daft (2004), illustrates that there is a big relationship between inventory management and the organization's efficiency. He further adds that inventory cost and therefore money is a very recognized productive asset. Most businesses strive to keep inventories at relatively low levels, and this is a sign of management effectiveness, since it releases funds, which would otherwise have been tied up in inventory stock, to be used in other ventures.

2.6 Problems encountered in the use of Inventory Management Techniques.

According to Lyson (2003), high indirect expenses may lead to low profitability hence leading to low operating efficiency in the company.

According to M.C Cosker, (2000), high levels of investment in inventories could lead to high liquidity position at the expense of profitability.

Kraljic, (1999) asserts that, the profit impact of a given supply / demand item can affect; the volume purchased; percentage of total purchase cost and the impact on product quality or business growth. Kraljic suggests that an evaluation of such impacts can enable managers at the appropriate level to prioritize what materials and allied supply considerations require immediate attention

High Taxes:

According to Ross (2003), the government imposes high taxes on companies without consulting from the stakeholders of which the tax after taxes is significantly reduced. These taxes significantly negatively affect the performance of these businesses when using profitability to measure effectiveness

Failure to use external advice

External advisors are people who can assist the business in times of difficulty unfortunately their services are never at use or being used. These external consultants are lawyers, business consultants and other professional people who would offer technical advice based on objective analysis rather than feelings. (Monczka et al 2005)

Inadequate funding:

According to Balunywa (2006) many business fail due to poor financial activities. They fail to keep a tight reign between debtors. These businesses do not have trained personnel to properly control the business, no proper reports are produced and there is no cash flow planning. Even when there are profits, the business can remain cash poor yet control and reporting are very crucial for management of funds in and out of the business.

Lack of adequate business plan:

Murphy (2002) asserts that business lack clear attainable goals, even those with plans there is the failure to share communicate and enforce the business plan. As a result, many businesses are managed on a profitability principle thus making it had to assess the business process.

Inability to change with the changing business needs:

There is a tendency of most business owners to copy other people's businesses since they have been successful. However, in the long run the market becomes congested and the returns of the business reduce because the business owners lack the creativity to study the market and produce according to the needs of the society (Balunywa 2006).

Costs of inventories

Given the need for inventory management there will always be cost associated with supplies. The challenge will always be how to minimize these costs.

Ordering costs

Pandey (1997) describes ordering costs as those costs that are incurred in acquiring raw material. They are costs involved in placing and receiving an order, bill paying, clerical and administrative costs and they decrease as the size increases due to economics of scale (Kakuru, 2000).

According to Lucey (1986), the four decision systems for inventory management can be classified with the help of two criteria. The resulting classification, comprising four classes as will be indicated.

The first criteria is inventory focus, divided into two classes; - local or integral systems as well as MRP systems both manage local supplies levels, i.e. the supplies on hand (and on order) in a stock point. In contrast, BSC systems and LRP systems manage integral inventory levels i.e. inventory on hand (and on order) in a stock point plus the entire inventory present in downstream stock points and processes.

The second criterion is time focus, also divided into two classes; - instantaneous or time-phased. In SIC and BSC systems the time focus is instantaneous that is to say only the current inventory levels are managed. However, in both MRP systems and LRP systems the planning is time-phased. These systems deal with management of current and future inventory levels. (Render, 1998).

Freeman, (1990) describes profitability as the ability of a business entity to generate net income. Potential investors closely analyze a firm's current and prospective profitability since they affect dividends and earnings.

Paul. D. Larson, (2001) wrote that profit is the most important measure of the firm's performance. In the free market economy, profit is the guide for allocating resources efficiently.

Profitability in relation to investment

According to Lyson (2003), high indirect expenses may lead to low profitability hence leading to low operating efficiency while M.C. Cosker, (2000), observes that high levels of investment in inventories could lead to high liquidity position at the expenses of profitability.

2.7 The relationship between activity-based inventory management systems and company performance.

Distressed inventory is inventory whose potential to be sold at a normal cost has or will soon pass. In certain industries it could also mean that the stock is or will soon be impossible to sell. Examples of distressed inventory include products that have reached their expiry date, or have reached a date in advance of expiry at which the planned market will no longer purchase it, faulty incubators or out of fashion, and old incubators. It also includes products or consumer-electronic equipment that are obsolescent or discontinued and whose manufacturer is unable to support. Distressed inventory poses a big cost to a company and more than often eats into the company's profits, thus grossly affecting the company's financial performance (Lyson , 2003),.

A policy decision to increase inventory can harm a manufacturing managers' performance evaluation. Increasing inventory requires increased production, which means that processes must operate at higher rates. When (not if) something goes wrong, the process takes longer and uses more than the standard labor time. The manager appears responsible for the excess, even though s/he has no control over the production requirement or the problem. In adverse economic times, firms use the same efficiencies to downsize, right size, or otherwise reduce their labor force. Workers laid off under those circumstances have even less control over excess inventory and cost efficiencies than their managers. This therefore implies that inventory management decisions held up by companies greatly influence their level of financial efficiency (Forgh et al, 1993).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology against which the study was to be conducted. The chapter begins with the research design, type of data, sources of data, data collection methods, data analysis method, data presentation and the limitations of the whole study.

3.1 Research Design.

This study employed a descriptive research design. Descriptive research includes surveys and fact-finding enquiries of different kinds and the major purpose of descriptive research is description of the state of affairs as it exists at present. This was because under some instances the researcher was involved in analyzing and describing different views of different authors in the literature. This was done in order to extract meaningful information from the study. In analytical research, on the other hand, the researcher had to use facts or information already available, and analyze these to make a critical evaluation of the material.

3.2 Study Population

The study covered a total population of 60 people from Ugachick Company Ltd who comprised of production department, supervisor management and company directors respectively. All these understood issues regarding the study.

The population of the study had three distinct categories therefore purposive and simple random sampling were used to select the final respondents from each category. The total sample population was sixty (60) respondents.

According to Ngechu (2004), a study population is a well-defined or specified set of people, group of things, households, firms, services, elements or events which were being investigated.

3.3 Determination of Sample size and Procedure

According to Mugenda and Mugenda (2003), it's impossible to study the whole targeted population therefore the researcher used a specific method to scientifically arrive on an appropriate sample size to be used in the study. The sample size of the study was determined using Slovin's Formula to select respondents because the researcher knew nothing at all about the study population. For this this reason, Slovin's formula was be used to figure out what sample size is needed to be taken, and the formula is written as $n = N / (1 + Ne^2)$ where n = Sample size, N = Total population and e = Significant error (level).

For example to come up with the sample size in the production department example, the researcher used a 95 percent confidence level (implying an alpha level of 0.05) with a population size of 60.

$$n = \frac{N}{1 + Ne^2}$$

$$\frac{60}{(1 + 60 * 0.05)^2}$$

$$60$$

$$n = \frac{60}{(1 + 60 * 0.05)^2}$$

$$60$$

$$n = \frac{60}{(1 + 60 * 0.00025)}$$

$$n = \frac{60}{1.15}$$

$$1.15$$

$$n = 52 \text{ Respondents}$$

Table 1: Sample size

Population category	Population	Sample size	Sampling technique
Production Department	32	29	Simple random
Supervisor department	20	17	Purposive
Company directors	8	06	Purposive
Total	60	52	

3.4 Data Sources and Collection methods.

The research applied proportionate stratification that is based on the stratum's share of the total population to come up with the sample in each stratum.

3.4.1 Sources of Data

Primary data was obtained from Ugachick Company Limited's headquarters located in Magigye, on Kayunga road, Wakiso District. Secondary data was got from sources like, text books, journals, articles, internet magazines, newspapers, presentations, concerning the subject matter of the study and these are consulted at length, to extract the information required in answering the research questions.

3.4.2 Data Collection Method

Data was collected through the use of the questionnaire, the interview schedule and the documentary review method. The researcher reviews different document with an objective of capturing data concerning the study objectives.

3.4.3 Data collection instruments

The researcher used the following data collection instruments.

3.4.4 Questionnaires

The researcher used self-administered questionnaires. The questions are objective and a few unstructured types. This tool targeted some of the employees of Ugachick Company Limited. The questionnaire was designed in line with the topic and research objectives. This tool was

advantageous in that, it collected detailed and accurate information compared to other tools. It was also cheaper to administer.

3.4.5 Interview schedule

The researcher interviewed top management of Ugachick Company Ltd using the interview schedule. All the questions there were unstructured. This was used to tap some vital information unsolicited from the questionnaire so that comprehensive data is collected.

3.5 Type of Data

The study uses both primary and secondary data.

3.5.1 Primary Data

This data was obtained from Ugachick Company Ltd staff. The information was obtained by use of self-administered questionnaires and interviews schedule.

3.5.2 Secondary Data

This is already existing data and is obtained from secondary data sources like journals, textbooks magazines, internal reports and newspapers, minutes, internal and external suppliers' reports. These help to disclose information, which the interviews and questionnaires miss.

3.6 Data Analysis

Data analysis was carried out through comparing and contrasting of views of different authors on the subject matter and analysis of data from the field. From that the researcher makes conclusions concerning the study objectives.

3.7 Data Presentation

Data was be presented by use of Microsoft Word, Excel. The findings are presented according to what is revealed from secondary data analysis complemented by field findings.

3.8 Validity and reliability of the instrument

3.8.1 Testing validity of the research instrument

Validity refers to the extent to which questions in an instrument accurately measure the variables therein (Hair et al., 2003). In other words, validity is the accuracy and meaningfulness of inferences, which are based on the research results (Mugenda and Mugenda, 1999).

This pilot testing was conducted using the questionnaire on 6 employees of Ugachick Company. The pilot group was selected through random sampling after which discovering the effect of inventory management on performance of companies was done.

The motivation behind the pilot test was to set up the legitimacy and unwavering quality of the exploration instruments and thus upgrade confronts legitimacy (Cooper & Schilder, 2011). The proposed pilot test was within the recommendation thereafter.

The study utilized both face and substance legitimacy to find out the legitimacy of the surveys. Content validity draws a derivation from test scores to a vast space of things like those on the test. Content validity is concerned with test populace representativeness. Response options were given to the majority of the inquiries to guarantee that the answers given are were accordance with the examination questions they were intended to gauge. Then a content validity index (CVI) was obtained using the following formula

$$CVI = \frac{\text{No. of questionnaires declared valid}}{\text{Total no. questions in the questionnaire}}$$

A minimum of 0.8 of CVI was used to test validity

3.9 Reliability of the instrument

Reliability refers to the degree to which a set of variables are consistent with what they are intended to measure (Amin, 2005) Reliability is based with the subject of whether the after effects of a study are repeatable. The researcher used the most widely recognized interior consistency measure known as Cronbach's alpha (α). It demonstrates the degree to which an arrangement of test things can be dealt with as measuring a solitary dormant variable. The pilot testing was re-run until the researcher was satisfied with the data collection instruments.

3.10 Ethical considerations

Ethical considerations in research are critical. Ethics are the norms or standards for conduct that distinguish between right and wrong. They help to determine the difference between acceptable and unacceptable behaviors.

The company wanted to be assured that researchers are to follow the appropriate guidelines for issues such as human rights, company policy, compliance with the law, conflicts of interest, safety, health standards and so on. The handling of these ethical issues greatly impact the integrity of the research project and can affect whether or not the project receives funding.

Because ethical considerations are so important in research, many professional associations and agencies have adopted codes and policies that outline ethical behavior and guide researchers. These codes address issues such as honesty, objectivity, respect for intellectual property, social responsibility, confidentiality, non-discrimination and many others. These codes and policies provide basic guidelines, but researchers are still faced with additional issues that are not specifically addressed and this required decision-making on the part of the researcher in order to avoid misconduct. The resources on this page address many of those issues and the case studies used in these resources provide excellent examples of these types of issues.

3.11 Expected Limitations of the Study.

The researcher faced the following constraints

Limited Source of Information,

There was scarcity of data as this area of the study is not widely researched. However, the researcher used the internet to get enough information.

Limited Time

Since this study was conducted at the same time when lectures were going on, there was limited time, however, the researcher budgeted his time properly to see that he finishes in time.

Limited Financial Resources

The study required financial resources to carryout typing, printing and moving looking for information, these resources are not readily available, since the researcher is a student. However, the researcher solicited for funds from relatives and friends to enable him finish the work in time

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF THE FINDINGS

4.0 Introduction

This chapter presents the findings on inventory management and organizational effectiveness. The data was obtained from Ugachick Company Ltd. The objectives of the study were; to identify inventory management practices employed by organizations, to examine problems encountered in the use of Inventory Management Techniques and to establish the relationship between inventory management and financial performance. The presentation follows the order of the objectives.

4.1 Background Information

In a bid to come up with the background information of the respondents, the respondents were presented with different options pertaining to key issues like the response rate, sex, marital status, duration in organizational service, educational level and the time the organization had spent in existence. The respondents were asked to tick the most appropriate option. The results are presented in the tables below;

4.1.1 Response Rate.

Out of a total number of 60 respondents that received the self-administered questionnaires, 52 respondents answered and returned the questionnaire to the researcher. This gave a positive response rate of 86.7% and a non-response rate of 13.3%. This was a good representative sample of the targeted population and helped the researcher to arrive at the right conclusions.

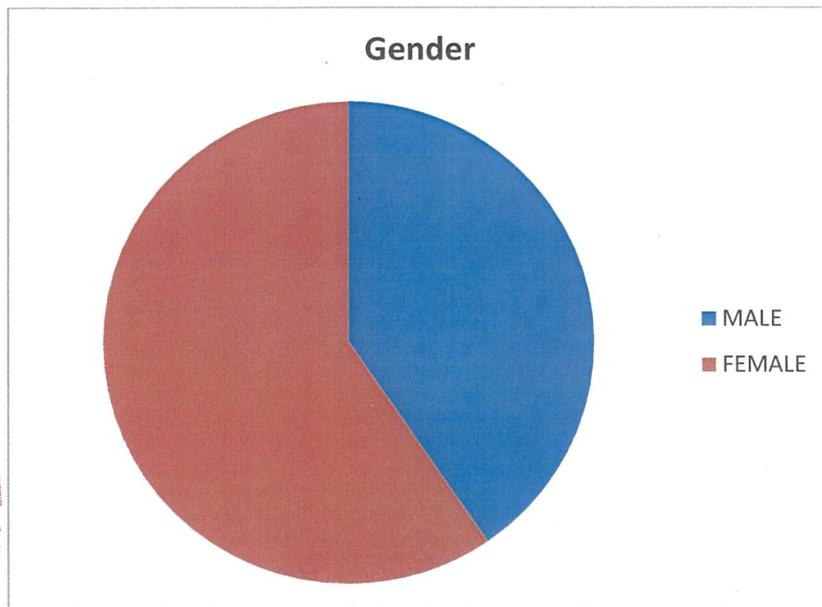
4.1.2 Sex of the Respondent.

Table 2: Showing the sex of respondents

Sex	Frequency	Percentage
Male	21	40.4
Female	31	59.6
Total	52	100

Source: Primary Data 2019

Figure 2: Showing the sex of respondents



Source: Primary Data 2019

The table and chart above indicates that,40.4% of the respondents were males while 59.6% of the respondents were females. This implies that majority of the respondents were females and hence the organization had more committed staff as ladies tend to show more commitment than men.

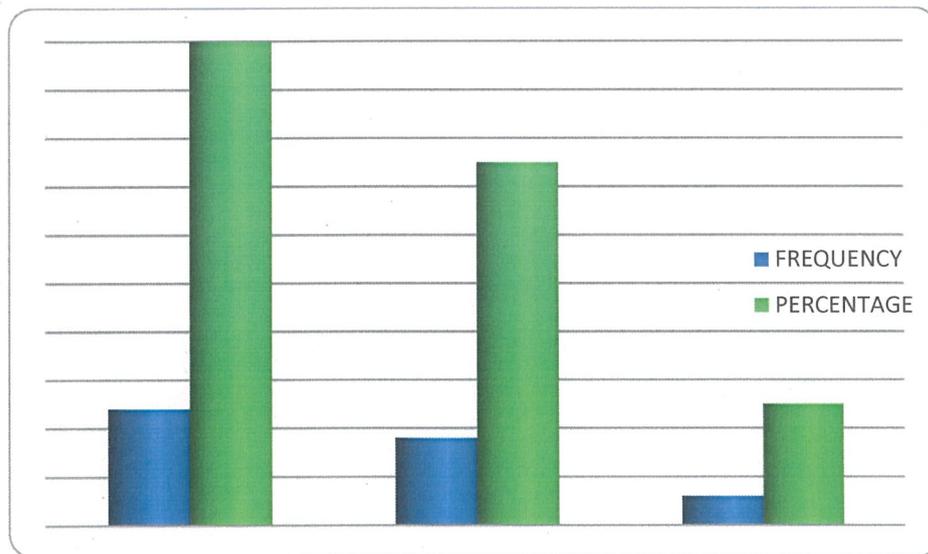
4.1.3 Marital Status

Table 3: Showing marital status

Marital status	Frequency	Percentage
Singles	27	48.2
Married	16	40.3
Divorced	7	11.5
Total	52	100

Source: Primary Data 2019

Figure 3: Showing the marital status of respondents



Source: Primary Data 2019

From the graph above, 48.2% of the respondents were singles; 40.3% of the respondents were married and 11.5% of the respondents were divorced. This implies that majority of the respondents were singles hence fresh graduates from school while a considerable proportion of the respondents were responsible long serving staff, thus this category comprised of the married people.

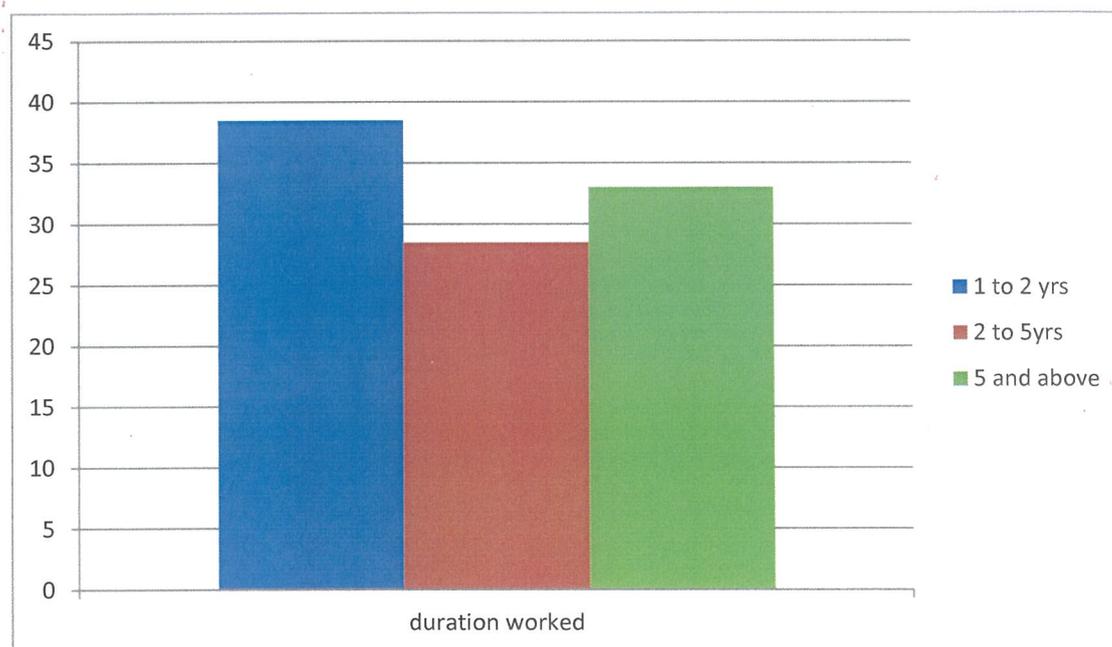
4.1.4 Duration in Organizational service

Table 4: Showing the duration in Organizational service of respondents

Response	Frequency	Percentage
1-2 years	20	38.5
2-5 years	15	28.5
5 and above	17	33
Total	52	100

Source: Primary Data 2019

Figure 4: Showing the duration in Organizational service of respondents



Source: Primary Data 2019

From the table and graph above, 38.5% of the respondents had spent 1-2 years in the service of the organization, 28.5% of the respondents had spent in the organization 3-5 years; 33% of the respondents had spent in the organization 6 years. This implies that majority of the respondents had spent some considerable period of time with the organization and hence their responses could be relied upon.

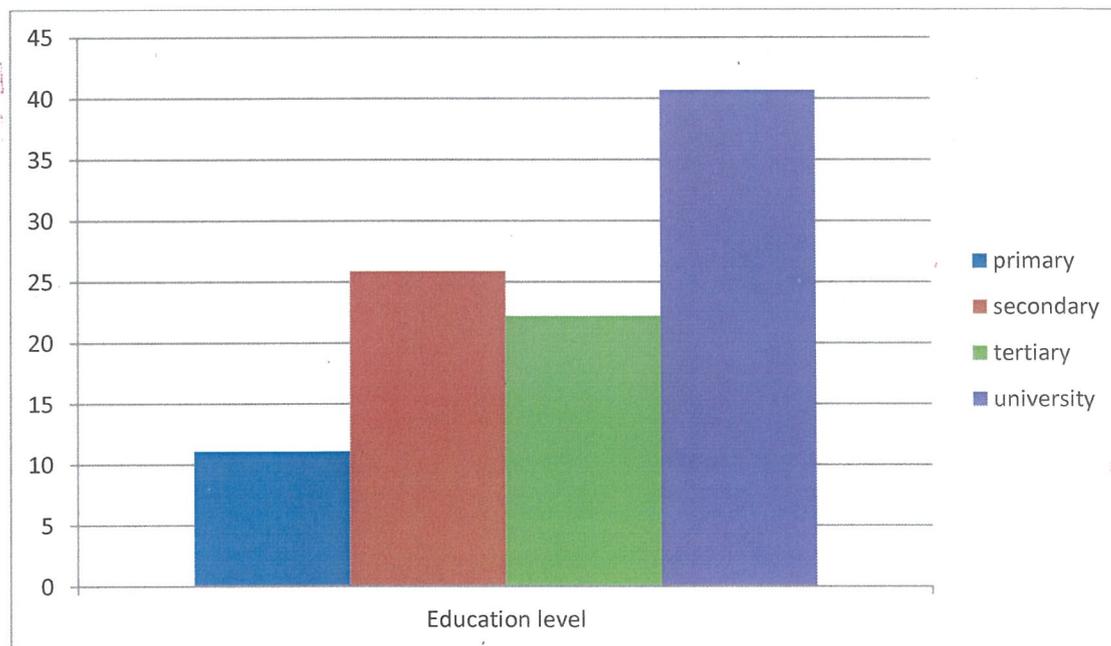
4.1.5 Educational level of the respondents

Table 5: Showing the duration in Organizational service of respondents

Educational level	Frequency	Percentages
Primary	3	11.1
Secondary	7	25.9
Tertiary	6	22.2
University	11	40.7
Total	52	100

Source: Primary Data 2019

Figure 5: Showing the duration in Organizational service of respondents



Source: Primary Data 2019

From the table above and graph, 11.1% of the respondents were primary leavers; 25.9% of the respondents were secondary leavers; 22.2% of the respondents were graduates from tertiary institutions and 40.7% of the respondents were university graduates. This implies that Ugachick Company Ltd employed a cross section of people from all walks of life.

4.2 Economic order quantity and performance of companies

The respondents indicated their opinions as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline. 5= Strongly Agree 2- Agree, 3= Neutral, 4 =Disagree, 1= Strongly Disagree

Table 6: Showing Economic order quantity and performance of companies

EOQ	Strongly disagree		Disagree		Neutral		agree		Strongly agree		TOTALS	
	F	%	F	%	F	%	F	%	F	%	F	%
Using EOQ model has an effect on inventory costs	10	20	8	15	3	5	10	20	21	40	52	100
Use of EOQ has increased accountability for resources at Ugachick company Ltd	-	-	5	10	5	10	10	20	32	60	52	100
Backordering costs and multiple items has enhanced usage reliability of EOQ at Ugachick company Ltd	4	8	7	13	6	11	15	29	20	38	52	100
Getting inventory procurement discounts has an effect on profitability the at Ugachick company Ltd using EOQ model	-	-	-	-	7	13	20	40	25	47	52	100
Forecasting helps in controlling inventory using EOQ at Ugachick company Ltd	-	-	3	5	8	16	28	53	13	26	52	100
There is need to recompute stocking costs for the EOQ level for increased accuracy and profitability	01	2	08	15	07	13	18	35	18	35	52	100
Timely delivery of inventory of has reduced inventory costs and increased reliability	-	-	2	4	15	29	20	38	15	29	52	100
Management is ultimately accountable for effective inventory management under EOQ	01	02	07	14	14	27	20	38	10	19	52	100
TOTALS	16	32	40	76	65	126	141	273	154	294	52	100
AVERAGE TOTALS	2	4	5	9.5	8.1	16	18	34	19	37	52	100

Source: Primary Data 2019

According to the data collected from the company in relation to Economic order quantity and performance of companies, 21 of the respondents were in agreement that Using EOQ model has an strongly has an effect on inventory costs and this made the largest percentage of 40%, the second largest member of 10 respondents agreed with this statement. Majority of the respondebts,32 in number strongly agreed that the Use of EOQ has increased accountability for resources at Ugachick company Ltd and these made a percentage of 60%. However 5 respondents disagreed with this statement.

In regard to backordering costs and multiple items has enhanced usage reliability of EOQ at Ugachick company Ltd, 38% of the respondents strongly agreed with this statement and these were 20 in number. 25 respondents conferred with the statement that getting inventory procurement discounts has an effect on profitability the at Ugachick company Ltd using EOQ model, thsesse made a majority 25% of the total respondents. In addition to the preceding findings, forecasting was viewed as key in helping in controlling inventory using EOQ at Ugachick company Ltd evidenced by a majority 28 in number all agreeing with a 53% percentage as illustrated in the above table. There is need to recompute stocking costs for the EOQ level for increased accuracy and profitability evidenced by similar number of employees, 18 in number all agreeing with a 35% Timely delivery of inventory of has reduced inventory costs and increased reliability was regarded by 20 respondents who made a majority 38% in this category.

Management was ultimately accountable for effective inventory management under EOQ as they were given this liability by 38% of the respondents who agreed with this statement, they were 20 in number.

4.3 Reorder point and performance of companies

The respondents indicated their opinions as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline. 5= Strongly Agree 2- Agree, 3= Neutral, 4 =Disagree, 1= Strongly Disagree

Table 7: Showing reorder point and performance of companies

REORDER POINT	Strongly Disagree		Disagree		Neutral		Agree		Strongly agree		TOTALS	
	F	%	F	%	F	%	F	%	F	%	F	%
Reorder point inventory management impacts inventory management costs	2	4	3	6	10	19	25	48	12	23	52	100
Use of reorder point of inventory management has increased profitability at Ugachick company Ltd	-	-	3	6	01	2	15	29	33	63	52	100
Inventory technologies could improve performance of Reorder point model at Ugachick company Limited	-	-	4	8	8	15	13	25	27	51	52	100
Order picking procedures helps replenish particular inventory stock for cost reducing purposes	2	4	2	4	5	10	24	46	19	36	52	100
Proper determining of the order point has a positive influence on company performance.	4	8	6	11	05	10	10	20	27	51	52	100
Use of direct ordering procedures at Ugachick company Ltd through the procurement team reduces lag time	-	-	-	-	2	4	6	11	44	84	52	100
Reorder point reduces lead time resulting into safety stock and proper accountability	-	-	-	-	4	9	20	38	28	53	52	100
Ugachick company Ltd uses reorder point to reduce stock depletion hence increased profitability					3	6	13	26	36	68	52	100
TOTALS	8	16	18	35	38	75	126	243	226	429	52	100
AVERAGE TOTALS	0	2	2	4	5	9	16	30	28	54	52	100

Source: Primary Data 2019

According to the data collected from the company in relation to Economic order quantity and performance of companies, 48% of the respondents were in agreement Reorder point inventory management impacts inventory management costs and this made these were 25 in number the second largest member of 12 respondents strongly agreed with this statement. Majority of the respondents, 33 in number strongly agreed that use of reorder point of inventory management has increased profitability at Ugachick Company Ltd and these made a percentage of 63%. However, none of the respondents disagreed with this statement to my surprise.

In regard to Inventory technologies could improve performance of Reorder point model at Ugachick company Limited, 27% of the respondents strongly agreed with this statement and these were 51 in number. 24 respondents conferred with mere agreeing that Order picking procedures helps replenish particular inventory stock for cost reducing purposes at Ugachick Company Limited, these made a majority 46% of the total respondents. In addition to the preceding findings, proper determining of the order point has a positive influence on company performance Ugachick company Ltd as a majority 27 in number strongly agreeing with a 51% percentage as illustrated in the above table.

Use of direct ordering procedures at Ugachick company Ltd through the procurement team reduces lag time was viewed as a very positive measure as a majority 44 respondents strongly agreed with option of such measures, these made a 84% majority.

28 respondents strongly agreed that Reorder point reduces lead time resulting into safety stock and proper accountability making a 53% of total respondents, and finally 68% of the respondents agreed that Ugachick company Ltd uses reorder point to reduce stock depletion hence increased profitability, they were 36 in number.

4.4 ABC analysis and performance of companies

The respondents indicated their opinions as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline. 5= Strongly Agree 2- Agree, 3= Neutral, 4 =Disagree, 1= Strongly Disagree

Table 8: Showing ABC analysis and performance of companies

ABC ANALYSIS	Strongly Disagree		Disagree		Neutral		Agee		Strongly agree		TOTALS	
	F	%	F	%	F	%	F	%	F	%	F	%
ABC analysis influences inventory management	-	-	-	-	6	11	27	51	19	36	52	100
ABC segmentation allows you to pinpoint your most valuable customers at Ugachick	-	-	-	-	10	19	17	32	25	48	52	100
ABC analysis has increased accountability at Ugachick company Ltd in relation to inventory management	-	-	1	2	11	21	12	23	28	53	52	100
Use of ABC analysis helps identify items that have significant impact on overall costs	-	-	-	-	8	15	11	21	33	63	52	100
ABC analysis deals with large and complex data sets by breaking them down into three segments enhancing	-	-	-	-	13	25	20	38	19	36	52	100
excess or obsolete inventory are easily identified using ABC analysis leading cost	-	-	-	-	09	17	26	49	17	32	52	100
education and resultant profitability	-	-	-	-	02	04	14	27	36	68	52	100
storage facilities in adequacy at Ugachick company Ltd help improve stock	-	-	-	-	03	06	10	19	39	74	52	100
segmentation leading to better accountability	-	-	-	-	03	06	10	19	39	74	52	100
ABC analysis results into safety stock and proper accountability at Ugachick company Ltd	-	-	-	-	03	06	10	19	39	74	52	100
TOTALS	-	-	01	02	62	118	13	260	216	410	52	100
AVERAGE TOTALS	-	-	0.1	0.25	8	15	17	33	27	51	52	100

Source: Primary Data 2019

According to the data collected from the company in relation to ABC analysis and performance of companies, 27 of the respondents were in agreement that Using EOQ model has agreed that ABC analysis has an influences inventory management and this made the largest percentage of 51%, the second largest member of 19 respondents strongly agreed with this statement. Majority of the respondents, 32 in number strongly agreed that ABC segmentation allows you to pinpoint your most valuable customers at Ugachick company Ltd and these made a percentage of 48%.

In regard to the fact that ABC analysis has increased accountability at Ugachick Company Ltd in relation to inventory management at Ugachick Company Ltd, 53% of the respondents strongly agreed with this statement and these were 28 in number. 33 respondents conferred with the statement that the use of ABC analysis helps identify items that have significant impact on overall costs at Ugachick company Ltd using EOQ model, these made a majority 63% of the total respondents. In addition to the preceding findings, ABC analysis was viewed as a model that deals with large and complex data sets by breaking them down into three segments enhancing profitability at Ugachick company Ltd evidenced by a majority 20 respondents who agreed with this statement making a 38% percentage as illustrated in the above table Excess or obsolete inventory are easily identified using ABC analysis leading cost reduction and resultant profitability was a statement that 49% of the respondents agreed with making a majority 26 in number. 36 respondents who made a 69% strongly agreed that storage facilities in adequacy at Ugachick company Ltd helped improve stock segmentation leading to better accountability and finally 74% of the respondents strongly agreed that ABC analysis results into safety stock and proper accountability at Ugachick company Ltd, the respondents were 39 in number.

CHAPTER FIVE

CONCLUSIONS, SUMMARY, RECOMMENDATIONS AND SUGGESTIONS.

5.0 Introduction

This chapter seeks to come up with a clear stand on the purpose and objectives of the study. This chapter provides the summary of findings, conclusions, recommendations and suggestions on the study inventory management and financial performance.

5.1 Summary of findings

The research was conducted to investigate the relationship between inventory management and organization effectiveness in Uganda. The study was conducted at Ugachick Company Limited's headquarters located in Magigye, on Kayunga road, Wakiso District.

The company used various techniques and systems namely EOQ, reorder point and ABC analysis and all ensured inventory management, these have also greatly enhanced its performance in a number of ways as earlier mentioned. The inventory management techniques used by the company have also facilitated and enhanced the possibility of automating the company operations especially in the stores and ware house operations as elaborated below;

Economic Order Quantity

Economic order quantity system has facilitated automation in addition to the manual method of handling stock though the disadvantages of it was that this method was too slow and exhaustive since it involved double handling of stock.

The company also faced the problem of variances in stock levels, these slowed down company financial performance. The company's procurement and accounting employees also complained that they were faced with problems in accounting for stock as an important way of ensuring effective inventory management. However, the company's employees agreed that the following factors amongst the procurement staff and company departments in general, if at all implemented by the company would result to effective inventory management which in the long run enhanced financial performance. These amongst others included customer loyalty minimizes costs avoiding stock out quantity discount. Management was ultimately

accountable for effective inventory management under EOQ as they were given this liability by 38% of the respondents who agreed with this statement, they were 20 in number.

In summary of the research findings about EOQ and its applicability at Ugachick Company Limited, the average highest number of respondents, 19 in number strongly agreed with EOQ questionnaire statements, these made the biggest 37%. on the contrary, 2 disagreed made a majority percentage of 4% and these strongly disagreed with the statements in the EOQ questionnaire.

Reorder point

From the findings therefore, the researcher proved that control has the following impacts on company financial performance, added value to the company's products and enhanced company's making.

The company was able to support its production system by effecting objectives such as reliability, speed ,flexibility as well as minimum costs ensured real control of company resources, helped the company to determine the point at which the combination of order costs and stock carrying costs were at least leveled, helped the company to safe guard itself against uncertainties, facilities automation of its store, purchasing and warehouse operations, provides faster feedback information on products within the company and between the company and its suppliers' ensures reduced setup costs to the point that economic order quantity equals zero, in addition to just-in time system which involves a relentless process of improvements especially in the company's production process thereby efficiently enhancing company financial performance.

In summary of the research findings about Reorder point and its applicability at Ugachick Company Limited, the average highest number of respondents, 28 in number strongly agreed with reorder point questionnaire statements while none of them disagreed, these made a majority percentage of 54% and 2% of the total respondents at Ugachick company respectively.

ABC Analysis

According to the data collected from the company in relation to ABC analysis and performance of companies, 27 of the respondents were in agreement that Using EOQ model has agreed that ABC analysis has an influences inventory management and this made the largest percentage of 51%, the second largest member of 19 respondents strongly agreed with this statement. Majority of the respondents,32 in number strongly agreed that ABC

segmentation allows you to pinpoint your most valuable customers at Ugachick company Ltd and these made a percentage of 48%.

In summary of the research findings about Reorder point and its applicability at Ugachick Company Limited, the highest number of respondents, 28 in number strongly agreed with reorder point questionnaire statements while none of them disagreed, these made a majority percentage of 54% a, the lowest average number of respondents made minority frequency of 2 and these disagreed with the statements in the Reorder point questionnaire

In summary of the above the highest number of respondents made a majority percentage of 51 % and these strongly agreed with the statements in the ABC questionnaire

5.2 Conclusion

Economic Order Quantity

Inventory management is increasingly being employed by many organizations in the entire world and it's growing at an increasing rate which delivers benefits that may be desired or targeted if proper choice of techniques is made, however there are many challenges associated with Inventory management which firms need to consider before taking up the Inventory management decision.

Reorder point

The results in regard to reorder point indicate that adoption of this model of inventory control a positive relationship between the two variables under question that is sales performance and performance of companies. The review and analysis also shows that Inventory management alone cannot lead to organization effectiveness, other factors like production control, selling and distribution, storage of the stock should also be considered.

ABC Analysis

In light of the above, the study concluded that Inventory management using ABC analysis leads to improved profitability in firms since data segmentation enhances profitability in addition to increasing accountability

5.3 Recommendations

Basing on the findings from the field, the literature review and the conclusion, the following recommendations are made;

Economic Order Quantity

Companies ought to use EOQ to realize significant reduction in inventory costs as this will also increase accountability for allotted resources. Furthermore, companies should go an

extra mile and deliver inventory in time to increase reliability in addition to should invest in training of their employees so as to develop their skills and provide them with the basic knowledge pertaining to inventory management so as to avoid poor quality delivery and damages arising from court cases.

Reorder point

Employees should be given specific duties to perform for instance in the order picking procedures aimed at replenishing particular inventory in stores, the persons concerned with the receipt of stock should be different from the stock issuer in the company.

The company procurement personnel using reorder point inventory technique should also put more emphasis on drafting better stock specifications such that wrong and late deliveries are avoided or minimized as this helps reduce lag time that may result into safety of stock and proper accountability. Most of the inventory replenishment system for the low value class such as C items should be automated with computer programs. On the other hand, class A items that require the attention of a responsible executive since decisions about them are crucial and significance to the success of the company.

ABC Analysis

Firms should use ABC analysis as a stock control technique because it will facilitate the firm in analyzing each stock, pin point valuable customers and also identify depleted stock through segmentation according to cost and frequency of usage. This technique is flexible and offers the highest degree of control on those items that are valued highest, thus it helps minimize costs and maintains high profit margin.

For purposes of effective Inventory management, there is need to emphasize and implement customer loyalty since it minimizes cost, avoids stock out, a quantity discount and continuous monitoring of processes for compliance with the set company goals and objectives.

5.4 Areas for further research

Reflecting on the findings of the study and the conclusions, further research may be carried out in any one of the following areas below;

Inventory management and Service delivery

Inventory management and organizational performance

Inventory management and cost reduction

Inventory management and customer satisfaction

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APPENDIX I: QUESTIONNAIRE

I'm Tumwebaze Maurice student of Kampala International University pursuing a Bachelors degree of Business Administration and carrying out a study entitled "Impact of Inventory management and companies' performance, a Case study of Ugachick Company Limited". You are kindly requested to answer the following questions as you have been selected to be part of the sample that is going to participate in this research study. Please answer accurately by filling in /ticking the appropriate answer in the space provided. The information obtained will be used purely for academic purposes and treated with utmost confidentiality.

Thank you.

PERSONAL DATA

1.1 Gender

Male

Female

1.2 Marital status

Single

Married

Divorced

1.3 How long have you served in the company?

1-2 years

2-5 years

5 and above

1.4 Educational level

Primary

Secondary

Tertiary

University

SECTION B: ECONOMIC ORDER QUANTITY AND PERFORMANCE OF COMPANIES

Please indicate your opinion as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline. 5= Strongly Agree 2- Agree, 3= Neutral,

4 =Disagree, 1= Strongly Disagree

	EOQ	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Using EOQ model has an effect on inventory costs					
2	Use of EOQ has increased accountability for resources at Ugachick company Ltd					
3	Backordering costs and multiple items has enhanced usage reliability of EOQ at Ugachick company Ltd					
4	Getting inventory procurement discounts has an effect on profitability the at Ugachick company Ltd using EOQ model					
5	Forecasting helps in controlling inventory using EOQ at Ugachick company Ltd					
6	There is need to recompute stocking costs for the EOQ level for increased accuracy and profitability					
7	Timely delivery of inventory of has reduced inventory costs and increased reliability					
8	Management is ultimately accountable for effective inventory management under EOQ					

SECTION C: REORDER POINT AND PERFORMANCE OF COMPANIES

Please indicate your opinion as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline. 5= Strongly Agree 2- Agree, 3= Neutral, 4 =Disagree, 1= Strongly Disagree

	REORDER POINT	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Reorder point inventory management impacts inventory management costs					
2	Use of reorder point of inventory management has increased profitability at Ugachick company Ltd					
3	Inventory technologies could improve performance of Reorder point model at Ugachick company Limited					
4	Order picking procedures helps replenish particular inventory stock for cost reducing purposes					
5	Proper determining of the order point has a positive influence on company performance.					
6	Use of direct ordering procedures at Ugachick company Ltd through the procurement team reduces lag time					
7	Reorder point reduces lead time resulting into safety stock and proper accountability					
8	Ugachick company Ltd uses reorder point to reduce stock depletion hence increased profitability					

SECTION D: ABC ANALYSIS AND PERFORMANCE OF COMPANIES

Please indicate your opinion as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guideline. 5= Strongly Agree 2- Agree, 3= Neutral, 4 =Disagree, 1= Strongly Disagree

	ABC ANALYSIS	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	ABC analysis influences inventory management					
2	ABC segmentation allows you to pinpoint your most valuable customers at Ugachick company Ltd increasing profitability					
3	ABC analysis has increased accountability at Ugachick company Ltd in relation to inventory management					
4	Use of ABC analysis helps identify items that have significant impact on overall costs					
5	ABC analysis deals with large and complex data sets by breaking them down into three segments enhancing profitability					
6	Excess or obsolete inventory are easily identified using ABC analysis leading cost reduction and resultant profitability					
7	Storage facilities in adequacy at Ugachick company Ltd help improve stock segmentation leading to better accountability					
8	ABC analysis results into safety stock and proper accountability at Ugachick company Ltd					

SECTION E: RELATIONSHIP BETWEEN INVENTORY MANAGEMENT AND COMPANY PERFORMANCES

4.1 How has inventory management enhanced company Financial Performance?

Customer loyalty

Minimizes costs

Avoids stock outs

Quantity discount

Effective service delivery

4.2 What strategies has your company taken to ensure sound Financial Performance?

Adoption of Total Quality Management

Trained staff in cost reduction techniques

Resorted to Just in Time procedure

Outsourcing of some services

APPENDIX II: TIME AND BUDGET FRAME;

Activity	1	2	3	4	5	6	7	8	9	10	11	12
Proposal development												
Doing library and internet research												
Analysis												
Compiling data												
Submission of the report												
Review and editing the report												
Submission of the final report.												

APENDIX III: ESTIMATED BUDGET;

Activity	Cost/amount(UGX)
Stationary, typing and printing	150,000
Internet bundles and air time	100,000
Transport	100,000
Others	30,000
Total amount	380,000