

**IMPACT OF INVENTORY MANAGEMENT ON CUSTOMER
SATISFACTION: A CASE STUDY OF
TORORO CEMENT**

BY

ASIO MIRIAM

BSP/31164/102/DU

**A RESEARCH REPORT SUBMITTED TO THE COLLEGE OF ECONOMICS AND
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OF THE DEGREE OF BACHELORS OF SUPPLIES AND
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DECLARATION

I ASIO MIRIAM here by declare that this is my original work and has never been presented to any other educational institution for the award of any degree or certificate.

Signature  DATE 19/03/2013

NAME ASIO MIRIAM

REG.NO BSP/31164/102/DU

APPROVAL

This is to certify that the research of ASIO MIRIAM has been under my supervision and is now ready for submission to the College of economics and management sciences for the award of the degree of Supplies and procurement management of Kampala international university.

Signature 

Date 19/3/2013

NAME: MR.BARASA HENRY

(SUPERVISOR)

DEDICATION

I dedicate my book to my father Malinga Hussein, my brother opus Justine and my Aunt Nambi who have been fundamental to my education life

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A number of people have contributed both directly and indirectly at different stages of this study .it is impossible to mention them all. However special consideration goes to the following

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CHAPTER ONE

INTRODUCTION

1.0 Introduction.

This chapter looks at the background of the study, statement of the problem, purpose of the study, specific objectives, research questions, scope of the study, significance of the study, and the conceptual frame work.

1.1 Background of the study.

Inventory management goes back further than writing there were simpler inscriptions in Egyptian and Babylonian warehouses and granaries, with pictures that represented the inventory owner and numbers representing amounts in stock and taxes due. The tomb labels of Abydos and the granary cuneiforms of Babylon, were primal versions of the humble SKU, which then inspired the development of methods of tracking and inventory information disbursement. The progression of inventory records shows a drive for greater and greater durability, accuracy, and level of convenience. The desire for reliable, accurate, and fast inventory accounting has led to the development of inventory accounting software, a mechanized version of the ancient record-keeping scribe who once scratched IDs into bits of bone to assist with a task human memory was unable to handle.

inventory refers to the materials in stock Robert .E mark land et-al 1995 defines inventory as stock of an item or resource used by an organisation . Roberta .s Russel et-al (2003) define inventory as a stock of items kept by an organisation to meet internal and external demand .management of inventory is a planned approach of determining what to order, when to order and how much order and how much stock so that costs associated with buying and stocking are optimal with out interrupting production and sales.

Charle T Horhgren et-al (2000) has defined inventory management as the planning coordinating and controlling activities related to the flow of inventory into, through and from the organisation

According to Gordon D carson inventory management is the process where by investment in materials and parts carried in stock is regulated with in predetermined limits set in accordance with inventory policies established by management. These policies are important enough that production, marketing and financial managers work together to reach agreement on this policies.

The conflicting views concerning inventory policies underscore the balance that must be struck among conflicting goals- reduce production costs, reduce inventory investment and increase customer responsiveness. The objective of inventory management has been to keep enough inventories to meet customer demand and also be cost effective.

However, inventory has not always been perceived as an area to control costs. Traditionally, companies maintained inventory levels to meet long term customer demand because there were few competitors and products in a generally sheltered market environment. In the current international business environment with more competitors and highly diverse market in which new products and new product features are rapidly and continually introduced, the cost of inventory has increased. At the same time companies are continually seeking to reduce costs so that they can provide a better product at a lower price and this makes inventory an obvious issue for cost reduction. Inventory management is probably one of the discussed and debated topics in manufacturing today, zero inventory become the common phrase and the overriding goal of the manufacturers in 1980s. Achieving this goal requires reduction in inventory levels through out the production process, reducing amounts of raw materials and purchased parts and assembling by having suppliers deliver them directly, reducing the amount of work in progress by using just in time production and reducing the amount of finished goods by shipping to markets as quickly as possible.

Inventory represents an important decision variable at all stages of product manufacturing, distribution and sales, in addition to being a major portion of total current assets of many businesses. Inventory often represents as much as 40% of total capital of industrial organizations (Moore et al., 1993). It may represent 33% of company assets and as much as 90% of working capital (Sawaya Jr. and Giauque 1986). Since inventory constitutes a major segment of total investment, it is crucial that good inventory management be practiced to ensure growth and profitability.

Historically, however companies have ignored the potential savings from proper inventory management, treating inventory as a necessary evil and not as an asset requiring management. As a result, many inventory systems are based on arbitrary rules. Unfortunately, it is not unusual for some. Companies to have more funds invested in inventory than necessary and still not be able to meet.

The scope of inventory management 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. Balancing these competing requirements leads to optimal inventory levels, which is an on-going process as the business needs shift and react to the wider environment.

Inventory management involves a retailer seeking to acquire and maintain a proper merchandise assortment while ordering, shipping, handling, and related costs are kept in check. It also involves systems and processes that identify inventory requirements, set targets, provide replenishment techniques, report actual and projected inventory status and handle all functions related to the tracking and management of material.

Customer demand because of poor distribution of investment among inventory items. African Explosives (Ghana) Limited is an explosives manufacturing and supply company, which supplies explosives products to a number of mines and quarries in Ghana and the West Africa Sub-region. It has two manufacturing sites which carry a significant inventory in order to maintain a 100 percent service level of supply to all customers in the sub-region. Currently, product forecasts presented by customers are used to calculate monthly demand rate and the monthly cover of the products. Products are then ordered according to the lead time of delivery and the monthly cover obtained. This system is supposed to ensure that monthly cover is always greater than the sum of on order stock so as to achieve a 100% service level of supply to the customers.

Customer satisfaction is the way the customer thinks about the company and deals with the meeting or exceeding of expectation over the lifetime of the products and/or services. A company's loyalty and product repurchase comes from achieving customer satisfaction. The measurement of customer satisfaction is not an exact science because of its subjectivity. Because customer satisfaction is non-quantitative in nature, it requires sampling and statistical analysis. There is a gap between customer expectations and performance perceptions when measuring customer satisfaction. As a result of this, it is important to establish a linkage between customer satisfaction and bottom-line results. The term "satisfaction" refers to the quality of products and services, ongoing business relationships, price-performance ratios with respect to products and services, and meeting and exceeding the customer's expectations. Satisfaction is identified by

different industries in different ways depending on the customer's relationships and the nature of the business. Manufacturers may look at the desire of on-time delivery and meeting the requirement of certain specifications. When measuring customer satisfaction, there should be critical variables involved.

1.2 Problem Statement.

Inventory management has issues that affect customer satisfaction levels. Many large retailers are expecting manufacturers to provide them with perfect order deliveries. This study examines the relationship between effective inventory management and customer satisfaction with the goal of having complete orders and on time deliveries. This research's purpose is to find ways to improve inventory management, thereby increasing customer satisfaction. Lee and Kleiner (2001) stated that in order to manage inventory management successfully, "retailers should understand customer needs, vendor partnerships, technology, data integrity, and performance measurements. The researcher in the very perspective set out to conduct a research on the variables inventory management and customer satisfaction so as to provide mechanisms in improving its operations.

1.3 Objective of the study

The purpose of the study was to investigate the effect of inventory management on customer satisfaction in Tororo cement.

1.4 Specific objectives

- i. To examine the benefits that accrue from effective inventory management .
- ii. To establish the challenges encountered in inventory management and solutions to the challenges
- iii. To establish the relationship between inventory management and customer satisfaction in Tororo cement.

1.5 Research questions

- i. What benefits accrue from effective inventory management by Tororo cement?
- ii. What are the challenges encountered in inventory management and their solutions?
- iii. How does inventory management relate to customer satisfaction at Tororo cement?

1.6 Scope of the study

1.6.1 Time scope

The research was carried out for the period of three months. This time period was chosen because of the consistent decline in its performance.

1.6.2 Geographical scope.

The research was confined to Tororo cement company limited due to its accessibility by the researcher.

1.6.3 Subject scope

The investigation was limited to inventory management and customer satisfaction and so the research centred on attaining relevant data and information about this subject.

1.7 Significance of the study.

The study will be significant to.

The research will help the researcher to full fill the requirement for the award of Bachelors of supplies and procurement management of Kampala international university.

Other business organisations help them keep down capital in investments in inventories, inventory carrying cost and obsolesce losses and also help them minimise idle time caused of or non availability of required inventories

The research will help organisations on how to improve customer satisfaction through effective inventory management.

Other academic researchers will use the data collected to come up with better inventory management system than the one developed so as to remedy the situation.

1.8 Conceptual diagram

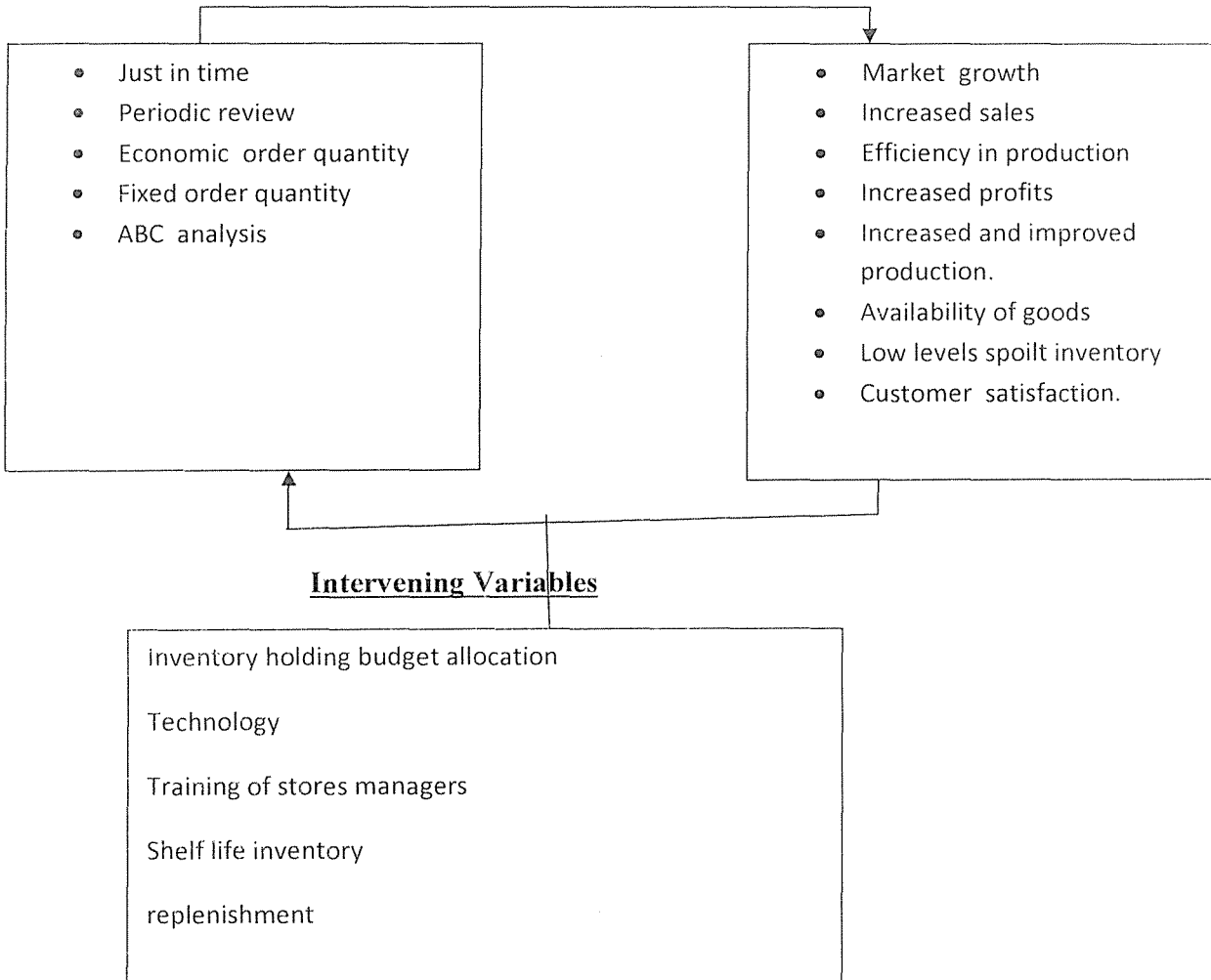
Inventory management is the planning, coordinating and controlling of activities related to the flow of inventory into ,through and from the organisation. It reduces investment in inventory results to high quality products, raw material handling costs, it is economical in purchasing and ensures smooth and un interrupted production in an organisation, hence resulting to improved productivity in the organisation.

Independent Variable

Dependent variable

Inventory management

organisational performance.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Literature review involves looking at what other authors and scholars have written about a subject .it is the secondary analysis of available information that has already published

Inventory management refers to a planned method of purchasing and storing the materials at the lowest possible cost without affecting the production and distribution schedule while inventory refers to a stock of items or a resource used in an organisation.

Inventories which comprise of raw materials, consumable stores, machinery and equipment ,general stores, work in progress and finished goods are purchased and stored.N.A salami (1996) points out that inventory management is a scientific method of determining what, when,and how much to purchase and how much to have in stock for a given period of time

Management of any institution, in manufacturing or service sector has a responsibility to come up with policies minimising operation costs to the organisation, such policies can make significant contribution to procurement efficiency. According to Harold E Fearon et al(1993) it is important in making inventory or purchase order size decision to understand why inventories exists and what the relevant tradeoffs are in making different lot sizing and inventory quantity decisions. He continues to say that inventory management is complicated by the rapidly changing environment within which inventory and purchasing planning is carried out. Inventories always seem too large of the wrong time, wrong place. With the changing economic conditions, what is too little in one period may easily become too much in the next period

2.1 inventory costs and inventory management systems

2.2.1 inventory costs

In making decisions about inventory level companies must consider a variety of costs associated with holding of inventory. According to T Lucey,1996,for every item carried in inventory the costs of having it must be less than those of not having it. This is the primary reason for the existence of inventory. Inventory costs are real but are often not easy to quantify accurately. Many costs remain fixed even when the order size of only one item is doubled but the same costs may well become variable when 6000nitems are in consideration. The main type of costs are discussed below

Acquisition costs

There are many of the costs incurred in placing an order, irrespective of the order size e.g. the cost of order will be the same irrespective of 1 or 1,000 tonnes are ordered (**schonberger, R.J and Ansari 2004**). Ordering costs include;

Preliminary costs (e.g. preparing requisition, vendor selection, and negotiation), placement costs, (e.g. order preparation, stationery and postage)

Post-placement costs (processing receipts of goods, materials). (**Lysons 2003**) adds that in practice total costs of purchasing department or function over a given period is divided by the number of orders placed in that time. This gives a completely fallacious figure since the average cost per order reduces as the number of orders placed increases, which may be indicative of inefficiency rather than the contrary.

Holding costs

These costs are divided into two types that is to say;

Cost proportional to value of inventories, financial costs (interest on capital tied up), costs of insurance, and losses in value through deterioration, obsolescence and pilfering.

Cost proportional to the physical characteristics of inventory e.g. labour costs relating to handling and inspection, storage costs(space, rates, light, heat and power), and clerical costs relating to stores records and documentation.

Costs of stock outs

Shan rajagopal and Bernard (2004) say that the costs of stock out include; loss of production output, costs of idle time and fixed overheads spread over a reduced output, loss of good will because of inability to supply or late delivery.

Summary

The objective of inventory management is to employ an inventory control system that will indicate how much should be ordered and where orders should take place and help to establish their lot sizes submitted to the firm 's productivity facilities so that these costs as well as their combined effects minimised

2.2.2 Inventory management systems

Mark M Davis et al(2003) defines an inventory management system as an integrated package of soft ware and hard ware used in ware house operations and else where, to monitor the quantity, location and status of inventory as well as the related shipping, receiving, picking and put away processes in common usage. The term may also refer to just the soft ware components

Inventory systems control the level of inventory by determining how much to order that is the level replenishment and when to order(Roberta S Russel et al 2003) They provide the organisational structure and the operating policies for maintaining and controlling goods to be stocked. The systems are responsible for ordering and receipt of goods, timing the order, placement and keeping track of what has been ordered, how much and from who. The system must also follow up to answer such questions as how has the vendor received the order, has it been shipped are the dates correct are the procedures established for reordering or returning undesirable merchandise(Richard B.Chase et al1995).

There are several inventory management systems discussed below

2.2.3 Fixed order quantity system it is also referred to as perpetual system. Roberta S.Russel refers to it as a continuous inventory system where a continual record of the inventory level for every item is maintained. When ever the inventory on hand decreases to a predetermined level, referred to as the reorder point a new order is placed to replenish the stock of inventory.

According to Robert E Markland (1995) the most elementary type of the continuous review system is the two bin system, which sets aside two containers or bins to hold the two inventory of an item. Items are withdrawn from the first bin until it is empty at which point it is time to reoder the quantity that will again fill the bin. The second bin contains enough stock to satisfy demand until the order comes in plus an extra amount to provide a cuisine against a stock out. The continuous review system is also called reorder point system.

2.2.4 Periodic review system

RICHARD B CHASE ET AL. 1995 refers to it as the fixed time period models and Robert E markland et al 1995 refers to the system as either fixed time period system or fixed order interval system. according to hamdy A.Taha 2001 an operations manager who uses this system checks on

the inventory position only at particular times such as every week or every month where after the inventory in stock is determined and an order is placed for an amount that will bring inventory back up to the desired level. The manager places a new order at the end of each review and the time between orders is fixed. The managers orders varying quantities at this fixed time intervals because demand is a random variable that varies between reviews in this system the inventory level is not monitored at all during the time interval between orders so it has the advantage of little or no required record keeping

2.2.5 Economic order quantity (EOQ)

The economic order quantity is the most common and widely used model and could be said to be the basis for both the fixed order quantity system and the periodical review system. (Harold E. Fearon, 1996).

It's valuable tool for management for it provides a logic and systematic procedure of establishing a guideline for management and control of stocks. He also refers the economic order quantity model as economic lot-size model and according to Jesse T. Barfield et al, 1998; its a decision model that calculates the optimum quantity of inventory to order under a restrictive set of assumptions. The simplest version of this model incorporates only ordering costs and carrying costs i.e. determine the optimum order size that minimises the sum of the carrying costs and ordering costs.

According to Ray H. Garrison 1991, companies making purchasing (rather than production) decisions often compute the economic order quantity which represents the least costly number of units to order. The economic order quantity indicates the optimum balance between ordering costs and carrying costs mathematically by equating total ordering costs to total carrying costs.

Purchasing managers should first determine which supplier can offer the appropriate quantity of goods at the best price in the most reliable manner. After which the most economical inventory quantity to order – at a single time- is determined.

2.2.6 ABC classification system

The ABC system is a method for classifying inventory according to several criteria, including the dollar value to the firm. Typically thousands of independent demand items are held in inventory by a company especially in manufacturing but a small percentage is of such high value to warrant close inventory control.

In general about 5% to 15% of all inventory items account for 70% to 80% of the total value of inventory and these are classified as A or class A items. B items represent approximately 30% of total inventory units but only about 15% of the total inventory value. C items generally account for 50% to 60% of all inventory units but represent only 5% to 10% total value.

In ABC analysis, each class of inventory requires different levels of inventory Control- the higher the value of inventory the higher the control. Class A items should experience tight inventory control; B and C require more relaxed (perhaps minimal) attention.

2.2.7 How the ABC system work

The first step is to classify all inventory items as either A, B or C. Each item is assigned a value which is computed by multiplying the cost of one unit by annual demand for that item. These items are then ranked according to their annual value for example the top 10% classified as A items, the next 30% as B items and the last 60% as C items.

The next step is to determine the level of control for each classification. Class A items require tight control because they represent such a large percentage of the total value of inventory.

These inventories should be as low as possible and safety stocks minimised.

This require accurate demand forecasts, detailed record keeping, application of the appropriate inventory management system and inventory modelling procedures to determine the order quantity, and close attention to purchasing policies and procedures if inventory items are acquired from outside.

B and C require less stringent inventory control. Since carrying costs are usually lower for C items, higher inventory levels can sometimes be maintained with larger safety stocks.

In general A items frequently require a continuous control system, where the inventory level is continuously monitored; a period review system with less monitoring will suffice for C items.

2.2.8 Just in time (J I T) system

Competitive pressures on large batch, high set up cost firms, to increase both quantity and product diversity reducing total costs, brought on by factors such as increase in competitive world markets, advances in technology contributing to simultaneously shorter life cycles for products and product diversity, foreign forms offering higher quality, low cost products with specialised features among

others have made these firms abandon the economic order quantity model in favour of just in time approach to manufacturing and purchasing. This is in an effort by managers through careful planning to keep inventories to a normal and in some cases even eliminate them there by reducing costs hence the use of just in time inventory systems is increasing.

Just in time is an integrated set of activities designed to achieve high volume production using minimal inventories of raw materials, work in process and finished goods (Mark M. Davis et al. 2003).

2.3.Importance of inventory management

Inventory proportionality is the goal of demand-driven inventory management. The primary optimal outcome is to have the same number of days' (or hours', etc.) worth of inventory on hand across all products so that the time of runout of all products would be simultaneous. In such a case, there is no "excess inventory," that is, inventory that would be left over of another product when the first product runs out. Excess inventory is sub-optimal because the money spent to obtain it could have been utilized better elsewhere, i.e. to the product that just ran out.

The secondary goal of inventory proportionality is inventory minimization. By integrating accurate demand forecasting with inventory management, replenishment inventories can be scheduled to arrive just in time to replenish the product destined to run out first, while at the same time balancing out the inventory supply of all products to make their inventories more proportional, and thereby closer to achieving the primary goal. Accurate demand forecasting also allows the desired inventory proportions to be dynamic by determining expected sales out into the future; this allows for inventory to be in proportion to expected short-term sales or consumption rather than to past averages, a much more accurate and optimal outcome. Integrating demand forecasting into inventory management in this way also allows for the prediction of the "can fit" point when inventory storage is limited on a per-product basis.

Inventory management involves a retailer seeking to acquire and maintain a proper merchandise assortment while ordering, shipping, handling, and related costs are kept in check. It also involves systems and processes that identify inventory requirements, set targets, provide replenishment techniques, report actual and projected inventory status and handle all functions related to the tracking and management of material.

smooth and un interrupted production – this leads to minimal or no work stoppage and idle time. also the organisation is able to fill customer demands and there are no delivery delays. economy in purchasing minimised costs of purchasing stock hence more savings to the company

higher profit margin effective management of inventory may result into higher profit margins since it reduces operational and inventory costs resulting in reduction of production costs, more competitive capacity and increased productivity. on the other hand poor inventory management may lead to adverse effect on the productivity of the organisations and the effects can be seen through various indicators of poor productivity in an organisation.

To maintain independence of operation –the successive stages in the production and distribution system require a supply of material(buffer of inventories) at a work between them, thus allowing that centre flexibility in operation and maintaining the centres independence of operations .for example the raw materials inventory buffers the manufacture r from problems with in the suppliers .similarly the finished goods inventory buffers offer factory operations from problems in the distribution system (Robert Mark et al 1995).

Coordinating variation in product demand . if the demand for the product is known it may possible (through not necessary economical) to produce the product to exactly meet the demand. Usually how ever demand is not completely known and a safety or buffer stock must be maintained to observe variation (Richard B chase etal 1995).

Taking advantage of economic purchase order size. They are costs to places order , labour, phone call, typing, postage etc . therefore the large size of each order, the fewer the number of orders that need to be written . also shipping costs favour larger favours large orders: the larger the shipment the lower the unit costs. For this, companies use cycle stock to produce or buy in large quantities than their immediate needs . the quantity order is called the economic order quantity (Richard chase et al 1995)

provides a safe guard for variation in raw material delivery time- when a material is order from the vendor, delays can occur for the variety of reasons; a normal variation in shipping time, a shortage of materials at the vendors plant causing backlogs and unexpected struck at the vendors [plant or at one of the shipping companies, a lost order or a shipment of incorrect or defective materials, hence manufacturer keep and use safety stock to protect against such uncertainties hence it provides

assurance that the company can meet expected customer demand without backlogging orders (Richard E. Chase et al 1995).

Start up quality costs. when a company is fast begins a production lot ,the risk of defective is great. Workers may be learning, materials may not feed properly machine setting may need adjusting and a few products may need to be produced before conditions stabilize. large lot sizes means few changeover per year and less scrap(Norman Gaitheir,1996

To meet expected customer demand. Companies use anticipation to certify expected demand and it is particularly important for products that exhibit marked seasonal demands but are produced at uniform rates. Lawn mower and children's toy manufacturer built as anticipation stock which is depleted during peak demand periods(Robert E Markland et al 1995)

Time - The time lags present in the supply chain, from supplier to user at every stage. requires that you maintain certain amounts of inventory to use in this lead time. However, in practice, inventory is to be maintained for consumption during 'variations in lead time'. Lead time itself can be addressed by ordering that many days in advance.

(Zenz 2004) Uncertainty - Inventories are maintained as buffers to meet uncertainties in demand. supply and movements of goods. Economies of scale - Ideal condition of "one unit at a time at a place where a user needs it, when he needs it" principle tends to incur lots of costs in terms of logistics. So bulk buying, movement and storing brings in economies of scale, thus inventory

2.4 Challenges encountered in inventory management.

Inventory management challenges are a vexing problem for manufacturers, affecting operational efficiency, customer satisfaction and revenue. And, simply implementing inventory management software isn't necessarily a silver bullet for overcoming challenges. While today's inventory management software has more computational power than ever -- segmenting inventory by profitability, calculating safety stocks down to the SKU level and other sophisticated features -- there are other inventory management challenges that need to be addressed. Experts agree that effective inventory management goes hand in glove with demand forecasting, requiring a symbiosis of the people and systems in traditionally separate demand planning and inventory management organizations (Dobler 2003)

Integrating demand planning and inventory planning .People, systems and databases must all talk to each other. A formal sales and operations planning (S&OP) strategy with support software such as dashboards can help. You might also have to create a demand and supply planning organization overseen by someone in the executive suite. Integrating specialized demand and inventory planning software together, and to related systems such as ERP, is both an opportunity and a need not adequately addressed by the industry. Vendors admit they spend significant time integrating their software into existing supply chain management (SCM) systems. Harold E. Fearon & Michiel R Leeders, 1993,

(Cecilya A. Raiborn 2002)Training users of demand planning and inventory management software .For some people, forecasting will be an entirely new discipline. Companies that have successfully implemented inventory management software stress the importance of teaching the underlying methodologies before handing out the software. Webinars, slide shows, and classroom instruction can spread the gospel about your company's new planning processes. A train-the-trainer approach is one of the quickest, least-expensive ways to make people comfortable with inventory management software. Ease of use should be high on your list of criteria when deciding among vendors, but don't ask people to take on too much at once. Let them start with basic functions and build from there.

(Hamdy A. Taha, 2001) argues that Dumping those old spreadsheets and paper .Inventory managers can be reluctant to give up their familiar ways. You might have to forbid the use of spreadsheets, for example, to get people to switch to new inventory management software. To ease the transition and build trust, sit down with users and demonstrate the benefits. Ironically, it might help to simulate the software in Microsoft Excel for those who have never made the transition from paper. Executive champions in the IT and business sides and easy-to-use software can also further buy-in that enables cultural change.

(Aquilano &Richard B. Chase, 2003) argues that Standardizing data .Some companies have been tripped up by having too many definitions for the same data, such as purchase orders and product categories. Standardizing data definitions is a necessary step in building an architecture that works across departments and locations. You might also need to clean up the sales and inventory data coming into the system, perhaps by reformatting legacy data or writing an application that collects the information you need **and** Choosing just the demand planning and inventory management

modules that suit your business .The unique nature of your demand will determine which components you need. Goods can be expensive to ship overseas and delays can squash revenue gains, so a well-honed demand planning tool updated with real-time sales numbers is essential. But if your sales typically come from large deals, inventory management software merits more attention

2.5 Solutions to the challenges encountered in inventory management.

Despite what many data processing salespeople will tell you, computers do not provide solutions to inventory management problems. Computers are tools. They must be used in the proper business environment in order to work effectively. This environment is comprised of several elements. All of them must be present in order for your new inventory management system to live up to its potential. If your system is not performing up to this potential, be sure you have implemented each of the following characteristics of good inventory management:

When using a customer satisfaction survey, there has to be a clear objective. The company should have an understanding of the customer's expectations and their requirements. Then they can determine how the company and its competitors are satisfying these expectations and requirements. Based on the findings of the survey, there should be development of products or standards. The company should look at trends to be able to take action in a timely manner. It is also important to establish standards and priorities to be able to rate these goals. Before the customer survey can be designed, there has to be a determination of how the information will be gathered. How will the information be able to help the organization? In what way can the organization use the information to keep the present customers and to gain new ones (Cacioppo, 2000)?

Use storage facilities efficiently. Assign space to each item in stock. Arrange the storage area to permit the handling of stock with the least amount of effort and in such a way that stock can be easily found, the quantity determined and recorded, and the stock removed if necessary. Arrange the warehouse and sales area so the items that sell rapidly can be most easily picked up by the customer or restocked in the display area readily by the employees. Use mechanical means to handle and move supplies whenever the volume warrants it. This will reduce the amount of labor used in handling stock. Plan to use space interchangeably with seasonal items and thus reduce the cost of storage space.

Establish an approved stock list for each warehouse – Most dead inventory is "D.O.A" (dead on arrival). Order only the amount of non-stock or special order items that your customer has committed to buy. Before adding an item to inventory, try to get a purchase commitment from your customer. If this is not possible, inform the salesperson who requests the item that he or she is personally responsible for half the carrying cost of any part of the initial shipment that isn't sold within nine months. (Michiel R.Kinney,1998,)

Assign and use bin locations – Assign primary and surplus bin locations for every stocked item. All picking and receiving documents should list the primary bin location (in either characters or a bar code). With correct bin locations on documents, order picking is probably the least complicated job in your warehouse. Assign inexperienced people to this task and your most experienced warehouse workers to receiving inventory and stock management. There should be appropriate paperwork for every type of stock withdrawal. Under no circumstances should material leave the warehouse without being entered in the computer. Eliminate "no charge/no paperwork" material swaps. Product samples should be charged to a salesperson's account until they are either returned to stock or charged to the customer.

Process paperwork in a timely manner All printed picking documents should be filled by the end of the day. Stock receipts should be put away and entered in the computer system within 24 hours of arrival. Set appropriate objectives for your buyers – Buyers should be judged and rewarded based on the customer service level, inventory turns, and return on investment for the product lines for which they are responsible.(jesse T.Barfield,)

Make inventory management considerations part of corporate strategic planning. Implementing an information management system is a lot like painting a house. When you paint a house, the success of the job is dependent on the preparation of the surface before the paint is applied. Even if you use the most expensive paint available, if the surface has not been scraped and sanded, the paint will peel off. Likewise, the most expensive system will not deliver the results expected by a distributor unless it is operating in a business environment that ensures inventory accuracy.

2.6 Customer satisfaction

Customer satisfaction is the way the customer thinks about the company and deals with the meeting or exceeding of expectation over the lifetime of the products and/or services. A company's loyalty and product repurchase comes from achieving customer satisfaction. The

measurement of customer satisfaction is not an exact science because of its subjectivity. Because customer satisfaction is non-quantitative in nature, it requires sampling and statistical analysis.

The term “satisfaction” refers to the quality of products and services, ongoing business relationships, price-performance ratios with respect to products and services, and meeting and exceeding the customer’s expectations. Satisfaction is identified by different industries in different ways depending on the customer’s relationships and the nature of the business. Manufacturers may look at the desire of on-time delivery and meeting the requirement of certain specifications. When measuring customer satisfaction,

2.7 The relationship between inventory management and customer satisfaction.

The study of customer satisfaction has shown that there could be a disproportional relationship between cause and effect, or between a factor and its consequence on the organization. For instance, a five percent increase in loyalty can increase profits by 25 to 85 percent (Cacioappo, 2000). Loyal customers are six times more likely to repurchase or recommend the purchase of the product or service to someone else. Studies have shown that on average, four percent of the customers will be dissatisfied or complain about the product and/or service. The various studies have also shown that a dissatisfied customer is likely to tell nine other people, while a satisfied customer will tell five people about the good treatment (Cacioappo). Edward Marien, director of supply chain management at the University of Wisconsin, defines “perfect order” as when a customer finds the right product, destination, condition, documentation, and cost.

Good inventory control means that your time to fulfill orders stays low. If you use your inventory management system to analyze product sales, you can have your popular items in stock and ready to instantly fulfill any customer's order. You also know which special orders sell on occasion and have those products available in a limited quantity to keep your inventory costs down and to develop a positive reputation for quickly filling special orders

Inventory management helps you maintain customer satisfaction when it comes to product returns. When product is returned because it is damaged or dead on arrival, and it is still under warranty, you can arrange with the manufacturer to do an instant swap of the product to keep the customer happy. If you are the manufacturer, then you should maintain extra inventory levels that mirror your return rates to help maintain customer satisfaction

When you have a well-designed inventory management system, you are able to reduce the amount of time that products sit on your shelves. When you don't carry extra inventory for extended periods of time, your inventory costs decrease. This is a savings that you can pass on to clients in the form of lower pricing. In stock. A good inventory management system means that you have an up to date inventory count at all times. Part of giving good customer service is giving accurate information even if the customer does not plan on making a purchase that day. By being able to give clients accurate inventory information, you improve the image of your company and add one more element to customer retention.

Customer satisfaction is partially driven by inventory availability, when shoppers actually find what they are looking for on the store shelf. "It seems trivial, but product availability -- in-stock and out-of-stock and on the shelf conditions -- is a much more complicated issue than previously thought," says Netessine. "Customer perception of out-of-stocks can differ greatly from retailers' own estimates." When it comes to solving the problem of inventory stock outs, less can be more. In other words, the conventional wisdom that more inventory leads to less stock outs does not hold true. Rather, inventory appears to reach a critical mass; when there is too much inventory and too large a "back room," stock outs actually begin to escalate because employees literally can't find products or often misplace the products they need to restock the shelves. Interestingly enough, the longer a store manager has been with the store, the lower the out-of-stocks.

Satisfied customers reflect satisfied retail employees who are knowledgeable about the store and its contents, and able to pass along their insights and information to shoppers. As simple as this may sound, the Wharton experts noted that it is a difficult task to find, keep and motivate knowledgeable employees in retail positions that typically pay only minimum wages. One way to deal with this problem is to develop fool-proof policies that are easy to implement and explain.

Satisfied customers not only enhance retail customer retention and drive up purchases but also attract new customers through word of mouth. Together, retention and expansion drive the financial performance of the retailer. Consequently, measuring customer satisfaction through regular surveys is as important in retailing as in many service industries.

"It seems like there is a threshold of performance that is acceptable," says Fisher, referring in part to some previous Wharton studies on a computer manufacturer that linked customer satisfaction scores to subsequent product recommendations. "As long as you are above that, it doesn't really

matter if you are very good or excellent. In either case, your customers are satisfied and that's enough."

For each retailing segment, finding that optimal level of performance is often difficult, Fisher acknowledges. "Basically, how do you know what the threshold is? You need to correlate customer satisfaction numbers with the business result you are interested in, and with customer retention. For example, research on retention rates for customers of a major telecommunications firm found that they flattened out at 75% -- even as customer satisfaction continued to increase. So you should think of customer satisfaction as a threshold."

In order to examine what drives customer satisfaction, the four experts have adopted two different but complementary approaches. Fisher, Netessine and Krishnan are in the process of recruiting major retailers for a research project designed to find out what store operating policies drive outstanding store execution, customer experience and financial performance.

(Ceilya.A. Raiborn 1999) Research on store operating policies will focus on payroll, square footage, size of back room, assortment breadth, management tenure, employee retention and training. Store execution concerns include in stock, out of stock and inventory record accuracy ("You can't improve what you can't measure," says Fisher), along with customer-friendly layouts, integration of add-on services and accuracy of signage and price. Questions about the customer experience will examine the benefits of a helpful, friendly staff, a well organized store and a hassle-free check out, but will primarily focus on one simple question.

"There is an anonymous quote -- Retail is Detail," says Krishnan, who recently spent several days working in a major convenience chain store to gather information about customer satisfaction. "Which details contribute most to revenues, and which contribute more to cost? At (the convenience chain), profit depended more upon the minimum wage employee doing things correctly in the store. The employee is the revenue center and the cost center. Anecdotally, we have evidence that shrink (store theft) is most often caused by employees, not customers. And employee morale does affect shrink at a store."

(Mark. M. davis 2003) In a separate but parallel study, Corsten is working with retailers to focus on out-of-stock (OOS) issues and how they influence shoppers' experiences. "Intuitively, you would argue that this has an impact on customer satisfaction," says Corsten. "But we also have

hard evidence across more than a dozen categories that almost half of customers respond to out of stocks by substituting with another brand or size, and a third of customers respond by walking out of the stores. Quoting earlier studies, Corsten notes that the average out of stock for retail stores is 8.3%, a significant number. In his 2002 report to the Grocery Manufacturers of America, Corsten suggested that "retailers can boost earnings per share up to 5% by addressing their out of stock issues."

The causes for the stock outs turned out not to be supply chain management errors, purchasing or external distribution factors, says Corsten. The majority of out of stock causes could be found right in the store -- through wrong forecasting, lost or misplaced inventory, poor shelving or storage systems, and inadequate or erroneous stock measurement.

"When we looked into the reasons why out of stock was such an issue, we learned that 72% of the root causes could be found in the store," he notes. "So it doesn't take long to figure out that the best place to start to correct the problem should be within the store. While it's important to focus on all sorts of other things -- managing distribution systems, expanding internationally, going into Internet retailing -- it just seems that some of the retailers haven't done their best in their own back yard or, rather, front yard, first. It's amazing how long retailing has been around and you think about how poor the performance is. You wonder why someone hasn't tackled this before. That's why we are currently recruiting retailers for a follow-up study on how out of stocks can be lowered sustainably."

Through his group's research, Fisher notes some interesting findings about how companies audit their inventory for stock outs. One major consumer electronics retailer, for instance, actually hired an outside company to "shoot the holes" -- retail jargon for walking the aisles at the end of the day, looking for stock outs and scanning the bar tags on any item that was out of stock. The finding was quite a surprise. "Nearly 30% of the time, the computer said there was a positive inventory but somehow the store couldn't find that inventory," says Fisher. "There was a clear store execution problem." And how do the out of stocks affect customers? When he reviewed a worldwide study of more than 71,000 consumers in 20 countries, Corsten found five major responses: Customers buy the item at another store (store switch); delay purchase (buy later at the same store); substitute a different size or type but buy the same brand; substitute a different brand; or do not purchase the item (lost sale). And while consumers will tolerate some degree of stock outs, their toleration level

depends on just how immediately they need to use the product, and how attached the consumer is to a particular brand. (Harold E. Fearon 2006)

As Corsten writes: "When the opportunity cost of not being able to immediately consume the product is high (for example, when one runs out of diapers) the consumer will either substitute or find the item at another store. Alternatively, a low-opportunity cost will lead to either purchase delay or cancellation. When the substitution cost of using a less preferred brand is high (for example in the case of feminine hygiene and laundry), the consumer will take any action except to substitute another brand. When the transaction cost is high, i.e., involving time and effort to purchase later or elsewhere, the consumer will either substitute or cancel purchase. This perspective shows that consumers switch more in some categories than others.(Charles .T. Horngre 2000)

CHAPTER THREE

METHODOLOGY

3.0 Introduction.

This section provides details about research design used in the area of study, study population, sample population, sample population. It also spells out the data collection methods, data collection tools, limitations of the study, data analysis and ethical considerations.

3.1 Study Design

The study used qualitative and quantitative approaches in collection of data. Qualitative data is non arithmetic and not quantifiable but capture feelings, perceptions, attitudes that otherwise not be depicted by the quantitative that is numerical. Quantitative was numerical with associated percentages for discussion and analysis.

3.2 Study Area

The study was carried out at Tororo cement limited located at Tororo and holds reasonable inventories that creates an ample ground for the researcher to investigate the variables of study . It is for this reason that the area was selected as study area, reasonable inventory and accessibility by the researcher.

3.3 Study Population

The Procurement, stores, transport and distributors will be the study population. The departments hold a number of above 200 employees in the above mentioned departments and. This population is selected because it consists of respondents that interact with inventory and have a direct access to customers

3.5 Sample Size

The study sample comprised of 50 respondents from the various departments . Such as stores , transport, procurement and distribution.

3.5 Sampling method

Simple random sampling and Judgmental sampling will be the sampling techniques to be employed by the researcher in conducting the study. This is because this study requires some respondents to have knowledge about aspects of purchasing especially inventory management.

3.6 Sources of Data

This involved both the collection of primary and secondary data from various sources

3.6.1 Primary data

This is the first information and for the purpose of the study the researcher will use techniques such as interviews to obtain this data. The researcher will administer the questionnaires to the sample population.

3.6.2 Secondary Data

This is second hand information that is information that is already available in the company presented to her upon request concerning, most especially documentation reports on inventory and any other materials necessary for this study. This can be obtained from reports written on inventory and the subsequent perception by buyers of the Tororo company operation.

3.7 Data collection methods

The appropriateness, applicability and focus of the data collection instrument is to ensure that the right, accurate and adequate data is accessed and collected is crucial. Information triangulation principle is to be used to ensure crosschecking and eliminations of bias and error.

3.7.1 Questionnaire

Data was collected through reading Public entity data, questionnaires and key informants guide. The questionnaires are to use both open and closed ended questions to be administered to the respondents in relation to the topic under investigation.

3.8 Data process Analysis

Questionnaires were coded entered into Microsoft Excel to generate pie charts, bargraphs and histograms.

3.9 Ethical considerations

The questionnaires did not include the names of the respondents for issue of privacy and confidentiality of information attained.

Information was attained on free will without compulsion of forcing of respondents

After the collection of data questionnaires was destroyed so that collected information is not leaked.

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND ANALYSIS OF FINDINGS

4.0 Introduction

This chapter comprises of the findings that were gathered by the researcher from the employees of Tororo cement in relation to the topic (The impact of inventory management on customer satisfaction).

The data is presented and interpreted in view of the objectives mentioned in chapter one of this research. The interpretation also seeks to answer the research questions that were raised in chapter one.

Presentation and interpretation of data in this chapter has been done with the aid of quantitative and qualitative methods for example the use of tables, graphs, percentages and personal analysis and interpretation presented in essay form.

Questionnaires were provided to 50 respondents who filled them to the best of their knowledge.

4.1.1 Demographic Characteristics.

Table (I) Showing Gender respondents

Respondents	Frequency	Percentage
Male	40	80
Female	10	20
Total	50	100

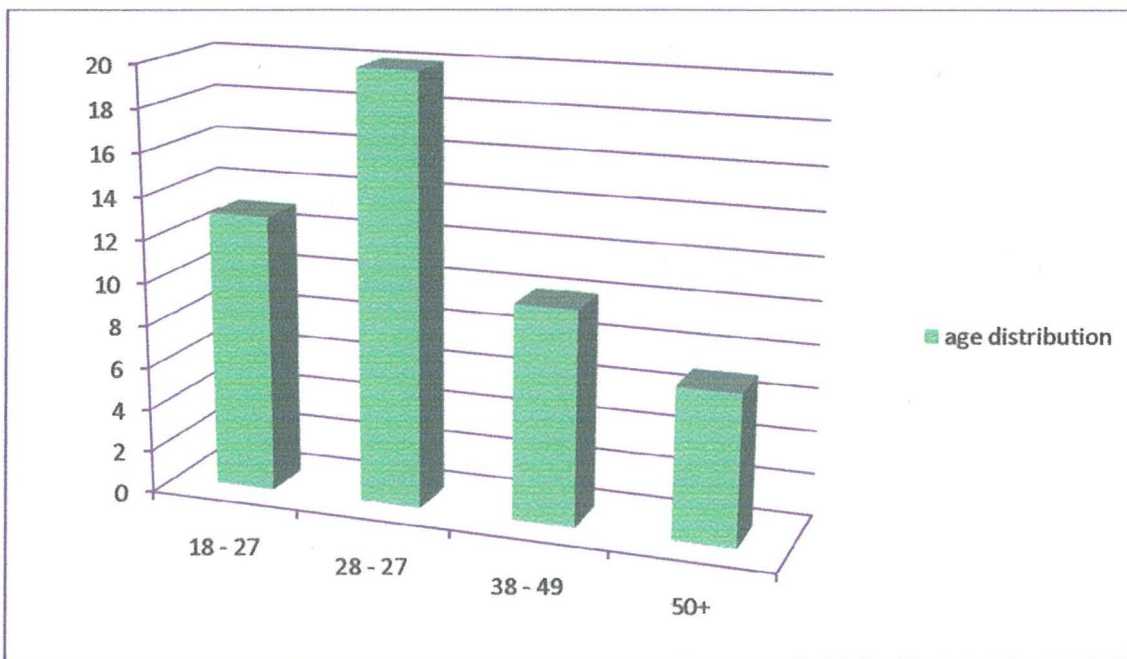
Source: primary data

From the table above, it can be seen that the majority of respondents are male that is 40 respondents representing 80% of the total respondents and 10 respondents are female representing 20% of the respondents.

This indicates clearly that the people involved in inventory management are majorly men, this however does not give any bias in the findings in terms of gender sensitivity because inventory in its nature can effectively be handled by the male gender.

4.1.2 Age distribution of respondents

Figure i: The bar graph showing age distribution of respondents



Source: primary data

From the figure above, it can be seen that the majority of the respondents are aged between 28-37 years representing 40%, followed by 18-27 years representing 26%, 38-49 represented by 20% and above 50+ represented by 14%.

from the above analysis, it can be construed that the majority of the employees in Tororo cement are young people and therefore they have an active memory and are strong to handle the bulk

4.1.3 Qualification of respondents

Table (ii) showing academic qualifications of the respondents.

Academic qualifications	Frequency	Percentage
Certificate	10	20
Diploma	12	24
Degree	15	30
Masters	5	10
postgraduate	8	16
Total	50	100

Source: primary data

From the above table it is seen that the employees with qualifications of certificates 10 respondents representing 20% ,12 diploma representing 24% , degree 15 representing 30% of the total respondents, masters 5representing 10% of the respondents and finally postgraduate representing 16% of the respondents.

From the expression, it is clear that degree constitute the majority in terms of qualifications and the least is masters with10% of the respondents. This means that there is an experienced human resource to handle inventory at Tororo cement so customer satisfaction can be easily achieved

4.1.4 Duration of working in the organisation.

Table iii showing the duration respondents have worked in Tororo cement

Duration	Frequency	Percentage
Less 1 – 3 years	10	20
4 – 7 years	7	14
8 – 11 years	18	36
12 – 15 years	6	12
16 years and above	9	18
Total	50	100

From the above illustration, it is clear that most respondents have served in Tororo cement for a period of 8 – 11 years (36%) of the entire respondents, 1 – 3 years constituted 20% of the respondents, 16 years and above had 18% of the respondents 4 -7 years had 14% and 12 -15 had 12% of the respondents ,

The manifestation of the longest time that respondents have served in Tororo cement calls for data accuracy because information received is from people who have interacted with inventory systems in Tororo cement for a long period of time hence can be relied upon.

4.2 To examine the benefits of inventory management to the Tororo cement.

The first objective of the study was to find out the importance of inventory management to the operation of Tororo cement.

4.2.1 Whether inventory management is beneficial to Tororo cement ?

The responses that were gathered from the respondents are shown in the table below:

Table iv: Showing response to whether inventory management is beneficial to Tororo cement.

Response	Frequency	Percentage
Yes	45	90%
No	2	4%
Not Sure	3	6%
TOTAL	50	100%

Source: Primary Data

From the table above , in regard to respondents view on the importance of inventory management at Tororo cement 45 respondents (90%) of the respondents agreed that it is important, 2respondents (4% of the respondents argued it is not important while 3(6% of the respondents are not sure.

From the above tabulation, it is clear to say that inventory management is a crucial and important aspect of Tororo cement and there fore a prior indication that it is streamlines customer satisfaction hence the justification for the researc.

Table V : showing responses to the importance of inventory management at Tororo cement

Weight	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Total	
	F	%	f	%	F	%	f	%	f	%	f	%
Tracking inventory turnover	35	70	5	10	3	6	6	12	1	2	50	100
Determination of quantities facilitating in ordering	30	60	5	10	3	6	10	20	2	4	50	100
Ensures stock availability	42	84	0	0	2	4	5	10	1	2	50	100
customer satisfaction	46	92	2	4	1	2	1	2	0	0	50	100
mininises damages and spoilage	36	72	0	0	5	10	5	10	4	8	50	100
caters for emmergency requirements by customers	35	70	7	14	3	6	4	8	1	2	50	100

Smooth and uninterrupted production	30	60	10	20	0	0	5	10	5	10	50	100
Enhances effective delivery	25	50	13	26	2	4	5	10	5	10	50	100

Source: Primary Data

From the table above, 70% of the respondents strongly agreed that inventory management is beneficial to Tororo cement , 10% of the respondents agreed, 6% were not sure, 12% disagreed and 2% of the respondents strongly disagreed.

The benefit of Determination of quantities facilitating in ordering’ had 60% of the respondents who strongly agreed and also 10% who agreed,4% of the respondents strongly agreed, 20% disagreed and 6% were not sure.

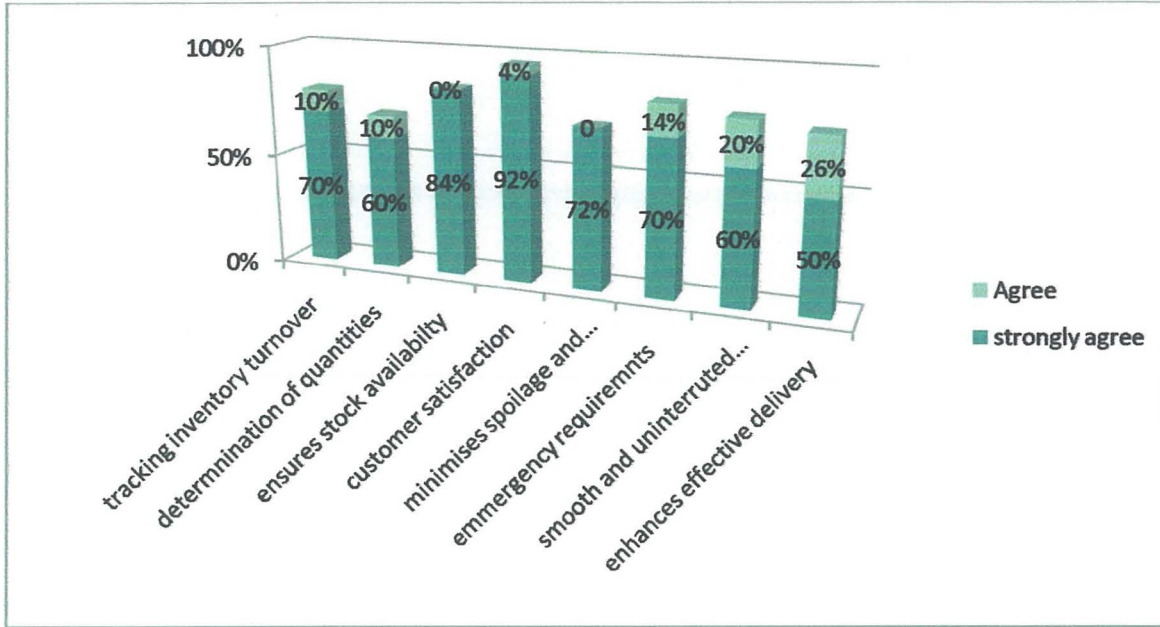
Ensures stock availability’ had 84% of the respondents who strongly agreed, non agreed, 4% were not sure, 10% disagreed and 2% strongly disagreed.

‘customer satisfaction’ had 92% of the respondents who strongly agreed, 4% agreed, 2% who disagreed and 2% who strongly disagreed and non were not sure. This was the importance which had the highest number of respondents who agreed and disagreed

Minimises damages and spoilage had 72% of the respondents who agreed.nonagreed,10% were Not sure, 10% strongly disagreed and 8% disagreed.

Caters for emergency customer requirements had 70% of the respondents who strongly agreed,14% agreed ,6% were not sure,8% strongly agreed and 2% disagreed in regard to catering for emergency needs.

The chart below shows the number of respondents who responded to the benefits of inventory management (Those who strongly agreed and Agreed in percentages.



As seen in the graph above, the main way in which inventory management is important to the operation of Tororo cement is through customer satisfaction with 96% of the respondents who strongly agree and agreed, this is followed by smooth and uninterrupted production, ensures availability of stock and emergency requirements with an average of 82% of the respondents who strongly agreed and agreed

4.2 Challenges encountered in the management of inventory.

The second objective of the study was to determine the challenges faced in the management of inventory at Tororo cement.

Table vi : Showing response the challenges encounter in the management of inventory.

Challenges	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Total	
	F	%	f	%	f	%	f	%	f	%	F	%

4.2 Challenges encountered in the management of inventory.

The second objective of the study was to determine the challenges faced in the management of inventory at Tororo cement.

Table vi: Showing response the challenges encounter in the management of inventory.

Challenges	Strongly Agree		Agree		Not Sure		Disagree			Strongly Disagree		Total	
	F	%	f	%	f	%	f	%	f	%	F	%	
Limited storage space	30	60	10	10	4	8	5	10	6	12	50	100	
Poor needs assessment	39	78	2	4	4	8	2	4	2	4	50	100	
Limited facilities	32	60	6	12	5	10	4	8	3	6	50	100	
Escalating costs due to overstocking	25	50	14	28	5	10	4	8	2	4	50	100	
Perishability of some inventory	29	58	12	24	2	4	3	6	4	8	50	100	
Limited capacity	35	70	3	6	2	4	5	10	5	10	50	100	
Obsolete stocks	30	60	7	14	3	6	10	20	3	6	50	100	

Source: Primary Data

The data collected above shows that: the challenges encountered in inventory management are as follows.

The challenge of limited storage facilities had 60% of the respondents who strongly agreed, 10% agreed, 8% disagreed, 10% respondents were not sure and 12%strongly disagreed.

78% of the respondents strongly agreed with poor needs assessment as a challenge to the management of inventory, 4% agreed, 4% disagreed, 6% of the respondents strongly disagreed and 8% were not sure.

limited facilities had 60% of the respondents who strongly agreed, 12% agreed, 10% disagreed, 8% of the respondents were not sure and 4% strongly disagreed.

50% of the respondents strongly agreed with escalating costs due to overstocking 28% agreed, 8% disagreed and 4% of the respondents strongly disagreed and 10% of the respondent were not sure. This advantage was the one where most respondents strongly agreed.

The challenge of perishability of stock had 58% of the respondents who strongly agreed, 24% agreed, 4% were not sure, 6% disagreed and 8% of the respondents strongly disagreed

Limited capacity as a challenge to the holding of inventory had 70% respondents who strongly agree,6% agree, 4% were not sure, 10% of respondents strongly agreed and 10% of the respondents disagreed.

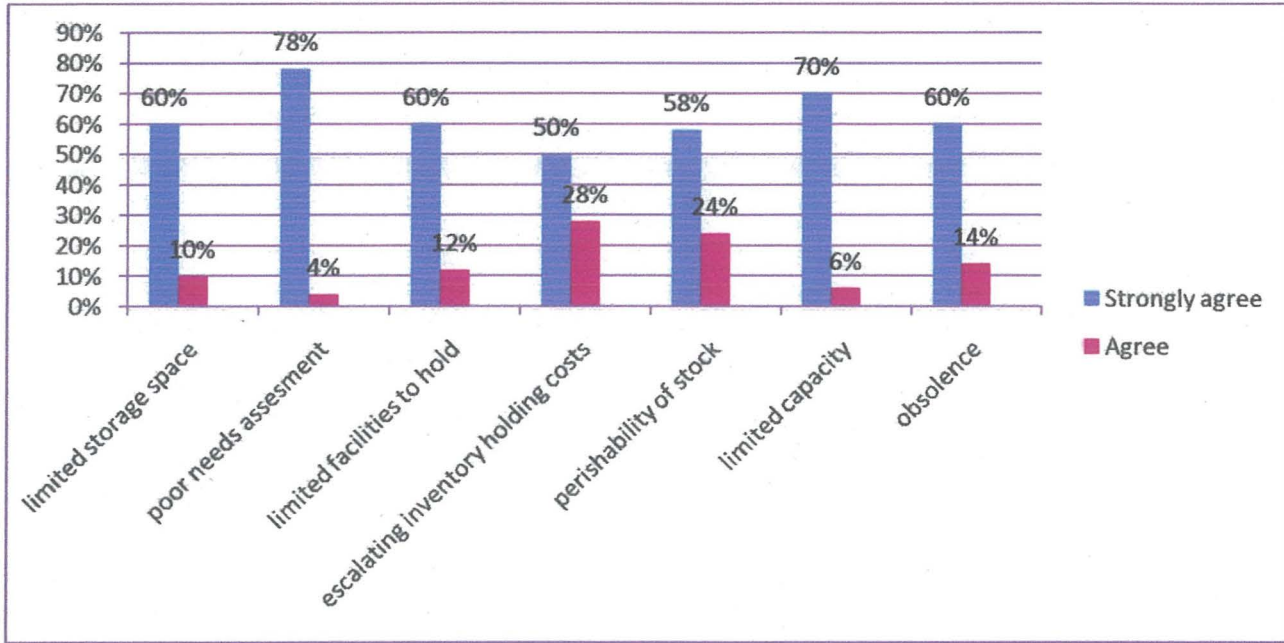
Obsolesce of stock had 60% of the respondents who strongly agreed. 14% agreed 6% were not sure,20% disagreed and 6% strongly disagreed.

The following were brought in light of the employees as potential challenges to the management of inventory

- Poor order making and process
- Escalating administration costs
- Poor market analysis
- Outdated inventory regulating mechanisms.

Figure 3

Graph showing the challenges encountered in the management of inventory showing those who Strongly agree and Agree in percentage.



According to the responses from the respondents concerning the challenges encountered ; as shown in the graph above, of the respondents who Strongly agreed and agreed, it's evident that all the challenges that the researcher suggested in table above were being faced

Poor needs assessment had a highest number of respondents who strongly agreed and agreed(82%) of the total respondents, this was followed by perishability of stock and escalating costs of inventory such as ordering costs and holding costs

4.2.2 Solutions to the challenges encountered in the management of inventory management of inventory in Tororo cement.

WAYS	STRONGLY AGREE		AGREE		NOT SURE		DISAGREE			STRONGLY DISAGREE		TOTAL
	F	%	F	%	F	%	F	%	f	%	F	
Determine inventory costs	15	30	20	40	0	0	15	30	0	0	50	100
Tracking inventory levels to avoid stock outs	20	40	15	30	5	10	5	10	5	10	50	100
Proper needs assessment	15	30	25	50	3	6	5	10	2	4	50	100
Use storage facilities efficiently	40	80	5	10	0	0	4	8	1	2	50	100
Customer search and market analysis	28	56	10	20	3	6	4	8	3	6	50	100

Table (vi) Table showing responses to the solutions to the challenges faced in the

Source : primary data

From the table above, 30% and 40% of the respondents strongly agreed and agreed respectively with effectively determining the inventory costs as a solution to the challenges encountered in the management of inventory and none of the respondents were not sure, and disagreed 30% strongly disagreed.

40% strongly agreed that tracking of inventory levels can aid in reducing stock out challenges and their associated effects with 30% agreeing as well, while 10% respondents were recorded for not being sure, 10% disagreed and 10% strongly in disagreed

30% of the respondents Agreed in respect with proper needs assessment 50% agreed, 6% of the respondents were not sure, 10% disagreed and 4% strongly disagreed.

“use of storage facilities efficiently ” as a solution to the challenges encountered in the control of inventory was strongly agreed upon 80% of the respondents,10% agreed, none of the respondents were not sure, 8% strongly disagreed and 2% disagreed.

Customer search and proper needs assessment was strongly agreed upon by 56% of respondents,20% agreed, 6% were not sure,8% strongly disagreed and 6% disagreed.

4.3 The relationship between inventory management and customer satisfaction

The third objective of the researcher was to find out the relationship between inventory management and customer satisfaction. The following were the responses that were gathered from the employees and beneficiaries:

4.3.1 Inventory management and customer satisfaction.

Table vii: Showing response to whether inventory management has a relationship with customer satisfaction.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	35	70%
No	10	20%
Not Sure	5	10%
TOTAL	50	100%

Source: Primary Data

From the above table , 35 respondents constituting 70% of the respondents agreed that inventory management is related to customer satisfaction, 10 representing 20% of the respondents said has no relationship, 5 (10%) were not sure .

From the above, it is prudent that and clear to prior analysis of mechanisms say, inventory management is directly related to customer satisfaction because of the 70% of the respondents who agreed .However this argument is not so convincing because of the substantial percentage of disagreements and those who are not sure, that is 20% and 10% respectively which totals to half of the percentage in agreements therefore before drawing any conclusions on this objective other parameters need to be seriously considered and addressed as well.

4.3.2 Ways in which inventory management is related to customer satisfaction.

Table viii: Showing response to the ways in which inventory management is related to customer satisfaction.

WAYS	STRONGLY AGREE		AGREE		NOT SURE		DISAGREE		STRONGLY DISAGREE		TOTAL	
	F	%	F	%	F	%	F	%	f	%	F	%
Timely deliveries	15	30	17	34	5	10	10	20	3	6	50	100
Quality provision	30	60	5	10	8	16	7	14	0	0	50	100
Enhancing order making and processing.	15	30	25	50	3	6	5	10	2	4	50	100
Economy in purchasing	28	56	7	14	5	10	10	20	0	0	50	100
Provision of customers in emergencies	25	50	10	20	8	16	2	4	5	10	50	100

Source: Primary Data

From the table above, timely delivery as a point of relationship between inventory management and customer satisfaction had 30% respondents who strongly agreed, 34% agreed, 10% were not sure, 20% disagreed and 6% strongly disagreed.

Quality provisions had 60% of the respondents who strongly agreed, 10% agreed, 16% were not sure, 14 % disagreed while none of the respondents strongly disagreed.

Enhancing order making because of provided space had 30% of the respondents who strongly agreed, 50% agreed 6% were not sure, 10% disagreed and 4% strongly agreed.

Economy in purchasing had 56% of the respondents who strongly agreed, 14% agreed, 10% were not sure, 20% disagreed while non strongly disagreed

In relation to the ways in which inventory management is related to customer satisfaction 50% of the respondents strongly agreed with provision to customers as a point of relationship between holding inventory because customers can access them at will, 20% agreed, 16% were not sure ,4% disagreed and 10% strongly disagreed.

CHAPTER FIVE

DISCUSSION, SUMMARY, CONCLUSION, RECOMMENDATIONS AND SUGGESTIONS

5.0 Introduction

This chapter is concerned with discussion, summary, conclusion, recommendations and suggestions about the findings that were gathered from the case study.

5.1 Discussion of findings

5.1.1 Benefits of inventory management to Tororo cement.

In view of the first objective which sought to find out the importance of inventory management at Tororo cement limited, the researcher found out that inventory management is very important in the operation of Tororo cement. Further more, it was found out by the researcher that the main way in which inventory management is important to Tororo cement is through customer satisfaction with 96% of the respondents who strongly agree and agreed.

(Robert E Markland et al 1995) The argument of the respondents is in line with to meet expected customer demand. Companies use anticipation to certify expected demand and it is particularly important for products that exhibit marked seasonal demands but are produced at uniform rates. Lawn mower and children's toy manufacturer built as anticipation stock which is depleted during peak demand periods.

This is followed by smooth and uninterrupted production that had 80% of the respondents who strongly agreed and agreed this argument is in line with Norman Gaitheir, 1996 who argues that inventory management provides for smooth and UN interrupted production – this leads to minimal or no work stoppage and idle time. Also the organisation is able to fill customer demands and there are no delivery delays. Economy in purchasing minimised costs of purchasing stock hence more savings to the company.

The researcher found out that inventory management ensures availability of stock and emergency requirements with an average of 82% of the respondents who strongly agreed and agreed

5.1.2 Challenges encountered in the management of inventory

Considering the second objective which was to find out the challenges that are encountered in the management of inventory, the researcher found out that Poor needs assessment had a highest number of respondents who strongly agreed and agreed (82%) of the total respondents, this was followed by perish ability of stock and escalating costs of inventory such as ordering costs and holding costs

These arguments are in line with Harold E. Fearon & Michiel R Leeders. 1993, who contends that Integrating demand planning and inventory planning .People, systems and databases must all talk to each other. A formal sales and operations planning (S&OP) strategy with support software such as dashboards can help. You might also have to create a demand and supply planning organization overseen by someone in the executive suite. Integrating specialized demand and inventory planning software together, and to related systems such as ERP, is both an opportunity and a need not adequately addressed by the industry. Vendors admit they spend significant time integrating their software into existing supply chain management (SCM) systems.

5.1.3 Solutions to the challenges encountered in inventory management.

In relation to the second objective which thought to establish the solutions to the challenges encountered in the management of inventory, the researcher generated a range of the following solutions to the respondents such as Tracking inventory levels to avoid stock outs , determining inventory, Use storage facilities efficiently, customer search and market analysis and proper needs assessment.

The range of solutions provided is in line with (Cacioppo, 2000), (Michiel R.Kinney,1998,) who recommends that the Use storage facilities efficiently. Assign space to each item in stock. Arrange the storage area to permit the handling of stock with the least amount of effort and in such a way that stock can be easily found, the quantity determined and recorded, and the stock removed if necessary. Arrange the warehouse and sales area so the items that sell rapidly can be most easily picked up by the customer or restocked in the display area readily by the employees. Use mechanical means to handle and move supplies whenever the volume warrants it. This will reduce the amount of labor used in handling stock. Plan to use space interchangeably with seasonal items and thus reduce the cost of storage space.

Establish an approved stock list for each warehouse – Most dead inventory is "D.O.A" (dead on arrival). Order only the amount of non-stock or special order items that your customer has committed to buy. Before adding an item to inventory, try to get a purchase commitment from your customer. If this is not possible, inform the salesperson who requests the item that he or she is personally responsible for half the carrying cost of any part of the initial shipment that isn't sold within nine months.

5.1.3 The relationship between inventory management and customer satisfaction.

In relation the third objective of the study which sought to establish the relationship between inventory management and customer satisfaction , the researcher found out that 70 % of the respondents agreed with the statement that inventory management is directly linked to customer satisfaction the researcher identified a series of points of relationship between inventory and customer satisfaction Timely delivery , Enhancing order making and processing, economy in purchasing, Provision of customers in emergencies and quality provisions. The relationships are viewed in the way inventory enhances the above attributes.

5.2 Summary of the findings.

The key findings of the study include the following:

The researcher found out that 90% of the respondents agreed that inventory management is important

The findings were that inventory management is important through the following ways customer satisfaction, ensures availability of stock, tracking inventory turnover , quantity determination , minimises damage and spoilage , provision of emergent requirements, smooth and un interrupted production with an average of 76% of the respondents who agreed and strongly agreed.

The researcher found out that the challenges encountered in the control of inventory are enormous, the researcher cites challenges such as limited storage space, poor needs assessment, limited facilities , escalating cost due to overstocking, perishability of stock and stock obsolesce.

In relation to the challenges, the researcher had exposure to a range of solutions that was brought to the researcher they included prior forecast of inventory costs, proper needs assessment, use storage facilities efficiently, and customer search and thorough market analysis.

70% of the respondents agreed that inventory management has a relationship with customer satisfaction at Tororo cement.

The relationship between customer satisfaction and inventory management can be viewed in Timely delivery, Enhancing order making and processing, economy in purchasing, Provision of customers in emergencies and quality provisions

5.3 Conclusion

According to the objectives set out in this research, the researcher observes that inventory management is very important for organisational operation especially in enhancing customer satisfaction, the fact that there exist challenges to inventory managements such as perish ability, high costs of storage, poor planning and the like, the benefits are paramount that the absence of effective inventory management has a negative repercussions on the life of any organisation including Tororo cement, this therefore calls for the consolidation of the benefits realised and application of strategies such as effective needs assessment so as to streamline effectiveness in service delivery through customer satisfaction.

5.4 Recommendations

Inventory management systems at Tororo cement seems to be working well, so should be strengthened so as to strengthen its operation and improve customer satisfaction.

In relation to the challenges faced in the management of inventory the researcher recommends the adoption of the strategies in form of solutions suggested such as as Tracking inventory levels to avoid stock outs, determining inventory, Use storage facilities efficiently, customer search and market analysis and proper needs assessment so as to overcome the challenges encountered in inventory management.

The researcher recommends the adoption of effective methods of inventory control in Tororo cement so as to match the demand with the requirement, this will ensure effective order processing and making that will enhance customer satisfaction in the organisation

There should be an effective and efficient in house management by Tororo cement so as to ensure appropriate use of the warehouse so as to maximise space and reduce the costs of operation to stimulate its productivity.

5.5 Areas of further research

The researcher suggests the following as possible areas for further research on inventory management

- An examination of the role of inventory in performance of organizations.
- An assessment of the impact of vendor managed inventory on customer service
- The impact of inventory management on profit maximization in organizations.

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Appendices: Appendix I Research Instrument, Questionnaire

QUESTINNAIRE

Dear sir/Madam

I ASIO MIRIAM a third year student of Kampala international University pursuing a Bachelors degree of supplies and procurement Management.

I am carrying out a research with the topic: **The Impact of inventory management on customer satisfaction case study of Tororo cement**

This questionnaire is purely for academic purposes and the information will be kept confidential.

PART A; GENERAL INFORMATION

Job Designation (title)..... Optional

1. Sex

Male Female

2. In which age bracket are you?

18-27 38-49

28-37 50+

3. Education level

Diploma Degree

post graduate Masters

Others PhD

4. For how long have you been working in the above-mentioned position?

Less 1 – 3 years 4 -7 8 -11 12 - 15

16 and above

PART B

5. Does the management of inventory render any benefits to your organisation

Yes

No

If yes, inventory management is essential and important in the following ways

Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree

Importance inventory management	1	2	3	4	5
Customer satisfaction					
Ensures availability of stock					
Tracking inventory turnover					
Minimises damages and spoilage					
Cater for emergencies like reduction in supply					
Smooth and un interrupted production					

If there are any other ways in which inventory management is important to your organisation, please mention them.

.....

6. These are some of the likely challenges encountered in inventory management in your company.

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree) **Tick the appropriate box.**

Challenges to inventory management	1	2	3	4	5
Limited storage space					
Poor needs assessment					
Limited handling facilities					
Escalating costs due overstocking					
Perishability of stock					
Limited capacity to handle inventory.					

If there are some other challenges, please mention them

.....

7- The following can be the possible solutions to the challenges encountered in inventory management.

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree) **Tick the appropriate box.**

Solutions to the challenges faced.	1	2	3	4	5
Determine inventory costs					
Be a ware of turnover					
Use storage facilities efficiently					
Customer search and market analysis					
Choose appropriate storage mechanisms					

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PART D

8. Does inventory management have an effect on the customer satisfaction at Tororo cement?

Yes

No

Not sure

If yes, does it impact on customer satisfaction through the following ways?

(1-Strongly Agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree) **Tick the appropriate box.**

How inventory management impact on customer satisfaction	1	2	3	4	5
Timely deliveries					
Quality provisions					
Enhances order making and processing					
Economy in purchasing because of availability					
Provision of emergency demands.					

If there are any other ways how inventory management impact on customer satisfaction, please mention them.

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THANKS FOR YOUR COOPERATION.

Appendix: II Actual Research Budget

This is the estimate cost and expenses that the research expects to meet during the course of research study.

Items	QTY	UNIT COST	AMOUNT
Stationery			
Ream of rule paper	2	10,000	20,000=
Box files	1	4,000	4,000=
Note books	4	1,000	6,000=
Transport			90,000=
Preparing questionnaires interview guide			20,000=
Editing data, printing and binding		150,000	100,000=
Airtime		50,000	50,000=
Umbrella	1	5,000	5,000
Miscellaneous		50,000	100,000=
TOTAL			405,000=