

**ST. MARY'S UNIVERSITY COLLEGE**

**ASSESSEMENT OF INVENTORY ANAGEMENT  
PRACTICE AND CONTROL OF ADDIS MODJO  
EDIBLE OIL COMPLEX S.C**

**BY  
ATALELECH AYELE**

**July,2010  
Addis Ababa  
Ethiopia**

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**IN PARTIAL FULFILLMENT OF THE  
REQUIREMENT FOR THE DEGREE OF  
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**Ethiopia**

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S.t Mary's university college

An assessment of inventory management and control  
system on Addis Modjo Edible oil complex S.C.

By : Atalelech Ayele

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Faculty of business Department of management approved  
by the committee of examiners

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Department Head

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External Examiner

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Signature

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# **APPENDIX**

**DECLARATION**

I, the undersigned declare that this senior project is my original work, prepared under the guidance of instructor Ato Merga Mekuria. All source of materials used for the manuscript have been duly acknowledge.

Name....Atalelech Ayele

Signature\_\_\_\_\_

Place of submission ...Department of Management

Date of submission .....\_\_\_\_\_

**Submission Approval sheet**

This senior research paper has been submitted for examination with my approval as an advisor.

Name.\_\_\_\_\_

Signature\_\_\_\_\_

Date\_\_\_\_\_



## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND OF THE ORGAIZATION**

Addis Modjo Edible Oil complex share company is the largest and modern edible oil producing company in Ethiopia, which has attainable capacity to produce 13,722 tons of refined edible oil, 5,800 tons of vegetable ghee and 754 tons of margarine per annum. These amounts will cover about 20 % of the country's current effective demand of edible oil and more than 90% of Vegetable ghee and margarine demand. The company has got its name by the merging of the previous Addis Ababa Edible Oil factory and Modjo Edible Oil factory in the year 1996. After the merging of the two factories the complex become operational in October 1998 with the total capital of more than 149 million birr (Broacher of the company).

The main raw material for the company production of RBED(refined, Bleached and Deodorized Edible) oil, vegetable ghee and margarine are cotton seed, Rapeseed and Niegger seed Hydrogen gas and others. The Clients of the company include Governmental and non Governmental Aid Organization, Super markets shops and the public at large.

The factory has sufficient number of silos to store oil seeds, storage tanks for crude and refined edible oil. The silos have pre-cleaning facilities, sieving and

aeration, in addition there are temporary raw material storage silos in the processing lines.

The factory embraces all edible oil production technology process, therefore the complex has **CERTIFIED** in **HACCP** from international food quality system since October,2006. The vision of Addis Edible Oil Complex Company in general and its head office in particular is to be competent locally and globally in edible oil and associated products.

The mission: based on the customer demand, providing the market edible oil, vegetable ghee, margarine and associated products by utilizing the human resources and modern machineries to preserve the owner interest (Brochure of the company).

## **1.2. BACKGROUND OF THE STUDY**

The establishment of a business organization is vital to the society's welfare and the country economy as a whole. The success of an organization depends on the efficient and effective utilization of the given resources. Management role in any organization involves the acquisition, disposition and control of resources that are necessary for attainment of organization objectives. These resources typically include labor, capital, equipment and material or inventories. For many firms inventory is the largest current asset. (Shridhara B., 2003:566)

The term inventory is used to indicate merchandise held for sale and materials in process of production or held for production i.e raw materials, working in process of finished foods. The level of the three elements depends on the

nature of a firm's business. Inventory represents investment of the three elements depends on the nature of a firm's. So, the task of the inventory manager should be to manage the inventory effectively and maximize the value of the firms. The inventory manager should consider costs, profit, risk factors and smooth operation of a business as whole based on inventory theory, procedure and policy of the business.

Generally, inventory needs much attention by managers at all level because effective inventories management is crucial to the performance of any organization. Therefore, one can imagine how inventory is important and need utmost care and needs unreserved follow up by management

### **1.3 Statement of the problem**

Practically, most organization do not give the required level of attention to the importance and relevance of inventory management (source: observation.). However, good and scientific inventory management helps the firm to be strong and highly competitive in an existing market situation. Due to many reasons such as limited skill and poor knowledge and backward technology, less attention given to inventory management. Good inventory management and control system facilitate production; avoid obsolescence, stock out, Production scarcity and production interruption. In contrast to this, even a single item can interrupt the whole operation of the company. Due to such interruption companies, most of the time, decide to have safety stock inventory. This is also resulting in unnecessarily problems such as capital tied up, excessive carrying cost and the likes. In considering of the above problem the researcher trays to answer the following basic question.



## **1.4 Basic Research questions**

- ✚ What does the existing inventory management and control system look like? And what problem does the existing inventory management system has?
- ✚ How will find the company apply the theoretical inventory management techniques to practical?
- ✚ What can be done to up-grade the inventory management system of the company?

## **1.5 .OBJECTIVE OF THE STUDY**

### **1.5.1 General objective**

The general objective of this study is to investigate inventory management and control system, procedures and policies in Addis Modjo Edible Oil complex s.c. and to identify its strength and weakness. To spark a little light on what has to be done to let the organization maintain best possible inventory management practice.

### **1.5.2 Specific objective**

- ✚ To assess the existing inventory management and control system of the company to show and find out the basic problems of Addis Modjo Edible oil complex s.c. in its inventory management.
- ✚ To point-out how the theoretical aspects of inventory management is practically applied in the company.
- ✚ To suggest on how to up grade the existing inventory management system

### **1.6. SIGNIFICANCE OF THE STUDY**

This research paper has some importance for the company to create a well defined and sound inventory management which enables to achieve the over all company goal. The results of this study have the following benefits.

- ✚ It may be used as a source of reference and guideline for other researchers who make further studies in the area
- ✚ . It helps the company to take the necessary action based on the Recommendation that will be given up on the findings of the research.
  
- ✚ It contributed the knowledge of the reader on inventory management and control.
- ✚ It gives way for other researchers who want to make further Investigation in the area to conduct detailed research on problem.

### **1.7. DELIMITATION (SCOPE) OF THE STUDY**

The researcher understand that the problem would have been studied in an extensive manner, however, due to various reason, the researcher is be obliged to continue the study only for the company's inventory activity, even though its activity are interrelated with store, distribution and purchasing. This research time bounded from June 2007 to 2009 June G.c due to the subject matter is very wide and it is unable to investigate more than two years.

### **1.8. LIMITATION OF THE STUDY**

While striving to accomplish this research, the researcher encountered various problems. Among those, lack of adequate information about particular organization, time and money.

### **1.9. DEFINITION OF TERMS**

There are various technical terms which the company uses. Among them some are interpreted as follows.

***Silos:-container for grain***

***Sieving:-Mesh,used to separate solids from liquid***

***Mesh:-Material like net***

***Rapeseed:-.Oilseed plant of mustard family***

### **1.10. RESEARCH DESIGN AND METHODOLOGY**

#### **1.10.1. Research Type**

This research tries to point out and obtain a general picture of factors that can affect the inventory management activity in Addis Modjo Edible Oil complex.s.c. Assessment was made based on the degree of a company inventory activity. Furthermore, the research used descriptive types of research methodology.

#### **1.10.2. Data source and c collection method**

The study is conducted in Addis Modjo edible oil complex s.c . the required information for conducting the study is of primary and secondary data.

Primary data include questioner interview etc. from concerned party with selected employee. Secondary data are deferent references, like reports, manuals, broachers etc.

### **1.10.3 Population and Sample size**

The researcher contacted the administrative dept., finance department, commercial department, production and technique department and other related staff members from total population of 165 employees, the researchers selected 50 employees by using a stratified data sampling method in order to get the right persons who are more concerned to the subject matter.

**Table.1 Human Resource of the company**

<b>Name of department</b>	<b>No of workers</b>	<b>Sample size ( 30 %)</b>
<b>Administrative Dept</b>	40	12
<b>Finance Dept.</b>	18	6
<b>Commercial Dept.</b>	20	6
<b>Production &amp; Technique Dept.</b>	87	26
<b>Total</b>	<b>165</b>	<b>50</b>

### **1.10.4 Methods of data analysis and presentation**

As far as data analysis is concerned, the collected data is analyzed by using a descriptive analysis method of percentage and presenting through tables and figures.

### **1.11. ORGANIZATION OF THE STUDY**

This paper constitutes four chapters. The first chapter comprised Background of the organization, Background of the study, Statement of the problem, Research Question, Objective of the study Significance of the study, Limitation of the study, scope of the study. In the second chapter, Review of related literature is presented. Chapter three deals with Analysis, presentation and interpretation Chapter four deals with Summary of findings, conclusion and recommendation.

## **CHAPTER 2**

### **Review of Related Literature**

#### **2.1 DEFINITION OF INVENTORY**

The ordinary dictionary meaning of inventory is a list of goods an estate contains. In industry, inventory means “stock of good” it may mean raw material, work in-progress maintenance material, processed and semi-processed materials, Oils, Fuels, and lubricant as well as finished and semi-finished goods (Datta A. 1987:99)

Inventories are stock of materials of any kind stored for future use, mainly in the production process. Thus, today’s inventory is tomorrow’s production. However, semi-finished goods awaiting use in the next process or finished goods awaiting release for sale are also included in the broad category of inventories, which are nothing but idle resources. Therefore, inventories are materials or resources of any kind having some economic value, either awaiting conversion or use in future. Apart from these, there are also may indirect materials, such as, maintenance materials, fuels and lubricants etc , which are used in a manufacturing organization. They are also classified as inventories of

materials for future use. But they differ only in their use and classification from raw and other direct materials. All of them earn nothing, but, they are badly required to be stocked and to be used as and when the need arise (Datta A 2003:193)

## **2.2 THE NEED FOR INVENTORY AND ITS CONTROL**

As per Datta A, 1982:82-83, Inventories of materials are needed by all manufacturing organization, big or small. But they tend to be big without some control. Materials and inventories serve some social purpose in industries which stems from some economic motives. Broadly, they may be classified under three groups viz speculation, transaction and precaution. Typically, speculative motive which affords ample scope for holding large amount of inventories is not important for purposes of industrial activity. The other two motives are more important here. Transaction motive results from the desire to match inflow and outflow of materials under certain controlled conditions, precautionary motives arises out of the inability to predict future demands precisely and getting the materials ready in time without incurring some extra costs. Thus there also arises the needed to maintain some safety or buffer stock in order to maintain the smooth flow of material without impairing production. But as more and more stocks of materials are held this is not only entails greater investment, but carrying and other associated costs increase *pari passu*. On the other hand, if minimum inventory is held with the increase in frequency of buying the cost of ordering and processing costs increase and also the cost of stock-out poses economic problem. Thus inventory control is a major **MM** function which requires to reduce materials costs without impairing operational efficiency and

therefore needs careful attention. The analytical approach to inventory control is fundamentally based on cost-study. It is balancing of some opposite costs which is well enunciated in EOQ formulation. But further refreshment necessary as situation dictates. Sometimes there are several costs associated with inventory, but there is always one in one direction. The resolution of the problem generally requires two basic question (1) how often to order and (2) how much and when. Determining these two basic question answers precisely requires some cost information and the solution lies in balancing opposite costs in order to find an optimal solution. Note, however, all inventory problems demand that these questions must be answered. Sometimes, the inventory problem is so complex that it may not be possible to obtain all the information necessary. In either case, we may be satisfied with a sub-optimal solution which seeks to improve the existing condition without concerning ourselves to have the optimal course of action. In practice, it may happen that we may affect large savings without necessarily going through an optimal course of action. Thus while inventory control is a major part of material activity, reducing inventory does not always ensure operational efficiency. This is where we must strike a balance.

### **2.3.TYPES OF INVENTORY**

According to Shridhara B, (2003:567) inventories are classified based on different criteria.. Some are as follows.

#### **A)Based on nature of material**

**i) Production Inventories:** raw materials parts and component which become part of the firm's finished product in the production process.

**ii) MRO Inventories:** Maintenance, repair and operating supplies which are consumed in the production process, but which do not become part of the finished product (e.g. lubricant, grease, cotton waste, spare parts for machine repairs).

**iii) In-process Inventories:** Also known as "work-in-process" or work-in-progress or semi-finished goods inventories. These are parts or sub-assemblies found at various stages in the production process.

**iv) Finished goods inventories:** completed products kept in stores ready for shipment.

#### **B) Classified by how it is created**

**i) Cycle Inventory:** the position of total inventory which varies directly with lot size. (i.e. quantity ordered) for example, if  $Q$  is the order quantity or the lot size and supply is received exactly when the stock is nil, then the minimum inventory is nil, maximum inventory is  $Q$  and the average cycle inventory is half of quantity ordered.

**ii) Safety stock inventory:** safety stock inventories are held to avoid stock out condition which cause production stoppages and to protect against **uncertainties** in demand, lead time, supply and consumption rates.

**iii) Anticipation Inventory:** Inventory material purchased in bulk quantities in anticipation of price rise and products having seasonal demand produced in quantities more than the demand during off-Seasons and held in



inventory to meet higher demand rate (more than production rate) during seasons of high demand.

**iv) Pipe-line Inventory:** Inventory moving from point to point in the Material flow system. materials move from supplier to a plant, from one operation to the next in the plant, and from the plant to the warehouse or distribution center or to the customer. Pipe line inventories also include material that have been ordered but not received.

**v) Fluctuation Inventory:** Inventory held as reserve stock to meet the unexpected fluctuating demand over a period which can not be predicted accurately ( K. Shridhara Bhat 2003:567).

## 2.4 INVENTORY MANAGEMENT

As per web site(<http://www.imec.org/imec.nsf/All/inventory-management>) Inventory management is discipline that encompasses the principles, concepts and techniques for determining what to order, when to order and how much to order. The right amount of inventory involves the balance between what is required to service your customers and what is financially practical. Analyze current inventory levels and usage is using data including existing inventory level, costs and part numbers, IMEC will evaluate all inventories-raw material, work-in-process, and finished goods. Evaluate utilization of inventory management software is if your company is implemented manufacturing software, IMEC will help you determine how well the inventory control module of your software is being utilized. If the software is a valuable resource that is

being, overlooked or underutilized, IMEC will help establish procedures by which to fully use its data collection and reporting capabilities. Developing an ideal inventory management system means based on the data you provide, IMEC will identify inventory categories, suggest order quantities, safety stock levels, minimum and maximum levels, turnover, replenishment policies and a hypothetical inventory value based on the replenishment policies. Identify items that are not at acceptable levels imply we will compare your existing inventory levels against the ideal levels to identify problem areas requiring attention.

Establish and maintain an appropriate inventory management system,. IMEC will help you establish the necessary controls and procedures to correct unacceptable levels of inventory management system in the future.. Working with inventory management having the benefit of an outside source reviewing your inventory management system is invaluable. We can step back and objectively evaluate appropriate levels of inventory, while tailoring policies and procedures that will work for you.

## **2.5. IMPORTANCE OF INVENTORY MANAGEMENT**

According to Shridhara B,(2003:580-581) Importance of inventory management is inadequate control of inventories can result in both under stocking and overstocking of item. Under stocking results in production holdups, lost sales, dissatisfied customer, delayed delivery of finished goods to customers and so on. Overstocking unnecessarily ties up working capital funds that might be used more productively elsewhere and also causes inventory carrying cost., obsolescence, wastage due to loss of shelf-life, damage in shortage, pilferage and so on..

Two main concerns of inventory management are:

i) **Level of customer service** *i.e.* to have the right goods, in sufficient quantities, in the right place at the right time.

ii) **Costs of ordering and carrying inventories and the shortage costs or stock out costs.** The overall objective of inventory management is to achieve satisfactory levels of customer service while keeping inventory costs within reasonable limits.

Two basic decision to be made are the *timing* and *size* of orders (*i.e.* when to order and how much to order)

The inventor performance is measured by customer *satisfaction* (measured by the number and quantity of back orders and for customer complaints) and by *inventory turnover ratio* which is the ratio of annual cost of goods sold to average inventory investment. The higher this ratio the better will be the inventory performance, which implies more efficient use of inventories,.

To be effective inventory management must have the following.

- i) *A system to keep track of the inventory on hand and on order.*
- ii) *A reliable forecast of demand that includes an indication of possible forecast error.*
- iii) *Knowledge of lead time and variation in lead time (probability of variation and extent of variation i.e extension of lead time)*
- iv) *Reasonable estimated of inventory carrying costs, ordering costs and shortage costs*
- v) *A classification system for inventory items (e.g ABC or XYZ classification)*

## 2.6 OBJECTIVE OF INVENTORY MANAGEMENT

The objective of inventory management discussed by. Murthy C, (2003:169) as follows: *To avoid over and under investment in inventories and to produce the right quality and right quantity of goods at the right time and at a reasonable price. These objectives pointed out as follows.*

- i) **Availability of material:** *all types of materials should be available at all times so that production should not suffer.*
- ii) **Best service to customers:** *by producing finished quality goods to the satisfaction of customers and maintaining the correct delivery periods.*
- iii) **Wastage minimization:** *to minimize wastage at all.*
- iv) **Promotion of manufacturing efficiency:** *by providing the right type of materials and by improving the morale of the workers.*
- v) **Optimum investment:** *there will not be any unnecessary hold-up of money if optimum level of inventories is held, capital can be efficiently used.*
- vi) **Purchase economy:** *it offers several advantages and economies in Purchasing because of bulk purchase and favorable market condition.*
- vii) **optimum level of inventories:** *this saves lots of money and avoidsthe out-of-stock danger.*
- viii) **production level of inventories:** *proper inventory control helps in increasing and maintain the buffer stock of raw materials to meet any eventuality*

## 2.7 BENEFITS OF INVENTORY MANAGEMENT AND CONTROL

Proper management and control of inventory will result in the following benefits to an organization.

- i) inventory control ensures an adequate supply of material and stores minimizes stock outs and shortages and avoids costly interruption in operation
- ii) it keeps down investment in inventories , inventory carrying cost and obsolescence losses to the minimum.
- iii) It facilitates purchasing economies through the measurement of requirements on the basis of recorded experience.
- iv) It eliminates duplication in ordering or in replenishing stock by centralization the source from which purchases requisition emanate.
- v) It permits a better utilization of available stock by facilitating inter-department transfers with in a company.
- vi) It provides a check against the loss of materials through carelessness or pilferage.
- vii) It facilitate cost accounting activities by providing a means for allocating material costs to products, departments or other operating accounts.
- viii) It enables the management to make cost and consumption comparisons between operations and periods.
- ix) It serves as a means for the location and disposition of inactive and obsolete items of stores.
- x) Perpetual inventory values provide a consistent and reliable basis for preparing financial statements (Aswathappa K. and Shirdhara B,1999:528).

## 2.8. INVENTORY CONTROL SYSTEM

Two fundamental issues which underlie all inventory planning and control system are:

- i) How much to order of each material when orders are placed with either outside suppliers or production departments in-house.
- ii) when to place the orders ( i.e. at what stock or inventory level)

**ORDER QUANTITIES** ( called lot sizes which may be **EOQ** or otherwise) and when to place these orders, called **order points** or **re-order levels** determines the amount of materials held inventory at any given time.

### **Dependent demand and independent demand inventories**

Inventories may contain materials which have either **dependent demand** or **Independent demand**. In independent –demand inventories, the demand for an item carried in inventory is independent of the demand for any other item carried in inventory. For example, inventories of finished products, tools spare parts, stationery item etc... are example of independent demand inventories. Dependent-demand inventories consist of items whose demand depends on the demand for other items held in inventory. For example, the raw materials, components, parts, sub-assemblies etc.. which will become part of the finished product and the packing materials required to pack and ship the finished goods- all have dependent demand. This means the demand for all these items (called bill-of-materials items) depend on the demand for the end product made from these items. Order quantity and order point decisions for dependent-demand

inventories are therefore distinctly different from those of independent demand inventories (Shridhara B., 2003:581)

## **2.9. FUNCTION OF INVENTORY CONTROL**

Following are the most important function of inventory control.

- a) *To run the stores effectively.* This includes layout storing media ( bins, shelves and open space etc..) utilization of storage space, receiving and issuing procedures etc.
- b) *To ensure timely availability of material and a void build up stock levels.*
- c) *Technical responsibility for the state material.* This includes method of storing maintenance procedures, studies of deterioration and obsolescence.
- d) *Stock control system.* Physical verification (stock-taking) maintenance of records, ordering policies and procedures for the purchase of goods.
- e) *Maintenance of specified raw materials.* General supplies work in process and component parts in sufficient quantities to meet the demand of product ion.
- f) *Protecting the inventory from losses.* Due to improper handling and storing of goods and unauthorized removal from store.
- g) *Pricing all material supplied to the shops so as to estimate cost.*

Sharma S,( 1999:512)

## **2.10. TYPES OF INVENTORY CONTROL SYSTEM**

There are two basic inventory control system.

- 1) periodic review system and
- 2) Fixed order quantity system.

### **2.10.1. Periodic review system**

This is a time-bounded system which requires periodic reviews of the stock-levels of all items. Here, period of review is fixed either, three months , six months, or once in a year , when requirements of all items are worked out a fresh, and the quantity is varied . This system works well for production of raw materials and components for which long lead-times are necessary.

### **2.10.2.Fixed order quantity system**

Under this system the order quantity is fixed but the time is varied. This system recognizes the fact that each item in the inventory possesses its own unique characteristics and optimum order quantity-designing of this system required consideration of many factors, such as, price, usage rate and other pertinent factors. Maximum and minimum levels are determined for each inventory item and an order or re-order point is established in between two levels. The order point is computed in such manners that by the time new supplies are received; the stock balance will fall to the minimum and then be replenished again to the maximum. The major advantages of this are

- 1) Each item can be procured at the most economic price and quantity and
- 2) Purchasing and inventory control people automatically pay attention to the items when they need it.

Thus in order to devise a good inventory control system, we have to consider the following.

- 1) what to order and



2) when and how much

The first involves planning with due regard to production and, marketing requirements. The second has two aspects.

1) order point and

2) order quantity

order point will be discussed along with safety stock or buffer stock, since subtle influence of time in transit on total inventory are closely related to the safety stock provisioning to create an impact on inventory control. At this point it would be better to draw a distinction between accounting costs and operational costs. The former is based on historical cost-concept as used for financial reporting and the later is, by and large, used for day-to-day decision making and is insensitive to small variations. Accounting system typically distinguishes three types of costs viz direct cost, indirect cost, and overheads. As against the principles and consistency of accounting costs the definition of costs in an inventory system may vary from time to time, depending upon the length of time being planned and other circumstances. However, the objective underlying inventory control is to minimize the total cost of procurement, storage, handling, distribution and other charges. Economic ordering starts with analysis of various components of cost ( Datta A.,2003:198-199).

### **2.11. TYPES OF INVENTORY COST**

As per explanation of Shridhara B,( 2003:570-571), there are two types of costs associated with inventory namely

- a) costs associated with the purchase of inventory items i.e. cost of material purchased.

b) Costs on materials consisting of three basic costs namely

**i)-ordering costs or acquisition costs:** which are costs associated with the placement of an order for the acquisition or replenishment of the stock of inventory. Ordering costs are expressed as rupees per order and are independent of the order size. Ordering costs per year vary with the number of orders placed in an year. Costs incurred each time an order is made can include requisition costs, purchase orders, transportation and shipping, receiving, inspection handling and placing in storage, accounting, bills payment auditing costs.

**ii)carrying or holding costs** are cost of holding items in storage this vary with the level of inventory and with the length of time and items held i.e. the grater the level of Inventory over time ,the higher the carrying cost. Carrying cost include the direct storage cost such as rent, lighting, security, refruigrator record keeping, Interest on capital tied up in holding the inventory (i.e. cost of capital) depreciation of Equipment used for Material holding costs due to pilferage, spoilage Obsolescence, and taxes and also the cost of Opportunity lost due to Loss of funds tied up in inventory, carrying costs are expressed as Rupees per unit of item held in inventory per time period such as a Month or year. Alternately, carrying costs are some times expressed S as a percentage of the value of an item or

as a percentage of average Inventory value per year.

**iii)- Shortage costs:** also referred as stock-out costs, occur

when Customer demand can not be met because of insufficient inventory on hand Shortage may result in permanent loss of sales of items demanded but not provided, resulting in loss of profits. Shortages can also cause Customer dissatisfaction and a loss of goodwill which may result in Permanent loss of customers and future sales. In some instance delayed Deliveries to customers due to shortages may results in specified Penalties in the form of price discounts or rebates. When demand is internal ,a shortage can cause work stoppages in the production process and create delays resulting in downtime costs and cost of lost production.

The three costs are related to each other in some way or the other. The ordering cost per year decrease as the order size ( i.e. the quantity ordered in each order ) increase, thereby decreasing the number of orders per year. The objective of inventory management is to employ an inventory control system that will indicate **how much should be ordered and when orders should be placed** in order to minimize the sum of the three costs i.e. ordering costs, carrying costs and shortage costs.

## **2.12. INVENTORY VALUATION**

There are various types to costing the inventory. Among them, very much known methods are four methods.

### **2.12.1. Specific inventory price (SIP)**

- ❖ The inventory item is costed at its price tag. It is cumbersome method. The same item may have different prices depending on the sate of procurement and market fluctuation.

### **2.12.2 .Average cost product (ACP)**

- ❖ The lot quantities and the corresponding prices are first multiplied. The sum of the products is divided by the total quantity to give the average price. Using the average price costs inventory.

### **2.12.3. Last in first out (LIFO)**

- ❖ In this method, the total inventory is costed by adopting the latest price, but this may result in the over-valuation of the inventory.

### **2.12.4.. First in first out (FIFO)**

- ❖ The assumption is that material is drawn in the order in which it is received (Murthy C,( 2003:171).

## **2.13 SYMPTOMS OF POOR INVENTORY MANAGEMENT**

As per Sharma S 1999:511, detected, the following are the symptoms of poor inventory management:

- ❖ High rate of order cancellations
- ❖ Excessive machine down time due to material shortages.
- ❖ Periodic lack of adequate storage space
- ❖ Large scale inventories write down because of price decline, distress, disposal of obsolete or slow moving items.

- ❖ Widely varying rate of inventory losses.
- ❖ Large write down at the time of physical inventory taking
- ❖ Continuous growing inventory quantities.
- ❖ Inability to meet delivery schedules
- ❖ Uneven production.

## **2.14. STORES MANAGEMENT**

Stores management is responsible for proper receipt, custody and issue of materials. For the purpose, an effective system should be employed which will take care (a) that material is never pit pf stock (b) that no material is in too much excess quantity (c) to protect stores against damage, theft etc..and (d) to decide economic order quantity for purchase of material. As stock out will affect the production badly, and keeping too much material will result in locking of working capital which otherwise can be gainfully utilized in other areas while theft and damage of material will result in direct loss, however to compensate from unavoidable losses due to fire, theft etc..Insurance may be done. Purchasing for economic order quantity in a scientific method to be adopted for economical purchases. Thus, store departments play a vital role in the operation of the company.

### **2.14.1 .Function of Stores Department**

Following are the main function of the stores department and stores in charges is overall responsible to see that these functions are performed effectively by adopting systematic and scientific approach.

- i)** To receive materials, spares, tools, and equipment ordered by purchase department.
- ii)** To receive items, goods manufactured in the organization.
- iii)** To ensure inspection of purchased material.
- iv)** To enter the receipts of accepted items in records and return the rejected ones.
- v)** To keep the material at proper place in the stores.
- vi)** Maintain the safety of item from damage, pilferage, and deterioration.
- vii)** To issue materials on authorized requisition and ensure that the issue takes place promptly without undue delays.
- viii)** To record and update receipt and issues of material.
- ix)** To check the bin card balances with physical quantities in the bins.
- x)** To ensure good house keeping
- xi)** To inform purchase department for initiating purchase action when level in stock falls below a prescribed limit.
- xii)** To co-ordinate and cooperate with purchasing, production, inspection and production planning and control department.
- xiii)** To arrange timely physical verification.

( Sharma C.,1999:454)

### **CHAPTER THREE**

#### **DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

### 3.1. INTRODUCTION

This chapter deals with data presentation and interpretation gathered through questionnaires and interview. The questionnaires well distributed to 50 selected respondents through stratified sampling out of this 40 (80 %) of the respondents from different departments, such as finance department, commercial department, production and technique department gave their responses. This makes the data more reliable, even if the non returned questioner may affect this.

**TABLE.1 . PERSONAL PROFILE OF RESPONDENT**

Item	Response	Frequency	% age
SEX	MALE	28	70
	FEMALE	12	30
	<b>Total</b>	<b>40</b>	<b>100</b>
EDUCATIONAL LEVEL	Degree	5	13
	Diploma	30	74
	12 complete	5	13
	<b>Total</b>	<b>40</b>	<b>100</b>
WORK EXPERIENCE	1-5 years	10	25
	6-10 years	19	48
	Above 10 years	11	27
	<b>Total</b>	<b>40</b>	<b>100</b>

Source: survey, 2010

### 3.2 General background of respondents

As can be seen from table 1, among 40 respondents 28 (70 %) of the respondent are male and rest 30% of the respondent are female. On the other hand 13% of respondent are 12 complete, 74% of respondent are diploma holders, 13% of the respondent are degree holder. In the same table, one can see that, 25% of the respondents have 1-5 years of work experience. Where as 48% respondent have 6-10 years work experience, 27 % of the respondents have above 10 years work experience. Our respondents are classified by sex, educational level and work experience. Based on educational level, the respondents are composed of 12 complete, diploma and bachelor degree. In addition, our respondents are from various dept. like, finance department, commercial department administrative department, store keeper and other staff. Besides, in terms of their experience, respondents have from 10 service year to above 10 years. The researcher also includes both male and female respondents.

### **3.3.The types of inventory that the company hold**

According to the interview held with the technical, personnel the company held various types of inventory are raw material, work-inprocess, finished goods, maintenance and repair, and operating supply. In addition by using different kinds of oil seeds the company produces s the following product:-

- a) refined edible oil
- b) vegetable ghee
- c) margarine

The company also has by product which has high protein context meal for animal feeding g they are:

- a) extracted meal



- b) husk
- c) fatty acid

### 3.4. The company inventory control system

As per the responses of the respondents regarding the inventory control system of the organization is not single rather the organization uses both periodic and fixed order quantity system of the inventory control system.

**Periodic review system;**- is a time-bound system which requires periodic reviews of the stock-levels of all items. Here, period of review is fixed either, three months, six months or once in a year, when requirements of all items are worked out afresh, and the quantity is varied. This system works well for production of raw material and components for which long lead-times are necessary.

**Fixed order quantity system;**- is system, the order quantity is fixed but the time is varied. This system recognizes the fact that each item in the inventory possesses its own unique characteristics and optimum order quantity (Datta A. 2003:198).

**Table 2 stocks are subject to p[hysical verification/counts**

Item	Response	Frequency	% age
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The Nature of physical verification of stock	Continuous	15	38
	Semi-annual	7	17
	annually	18	45
	<b>Total</b>	<b>40</b>	<b>100</b>

Source: -survey, 2010

About physical verification of the inventory 15 (38 %) respondent responded the inventory are counted on continuous base. 7 (17 %) of respondent are responded that physical count of inventory is on semi-annual base. But 18 (45 %) respondent knows that the counting activity of the inventory accomplish at the end of the budget year. This implies that information exchange among department is questionable and also policy and procedure of inventory management is not applicable in practice.

### **3.5 The objective and benefit of inventory control of the organization**

The respondent claims it to be:-

- a) To reduce over and under investment in inventories
- b) To minimize wastage and produce right quality and right quantity of goods
- c) To give better service than other oil factories

All respondents are well aware of the objective. This is the strong side of the company. The benefit of inventory control system also jot down by the respondent as follows

- a) it permits a better utilization of available stock by facilitating interdepartmental transfers within a company
- b) it minimize inventory carrying cost and obsolescence. Inventory control ensures an adequate supply of material and stores minimizes stock outs shortages and avoids costly interruption operation.
- c) It eliminates duplication in ordering or in replenishing stock by centralization the sources from which purchasers' requisition.

Source:- survey,2010.

### **3.6 The contribution of inventory control system to the Company.**

As it regards the contribution of inventory control system, all respondents agreed that the control system of the company contribute great deal to success of the company. According to Datta A:2003(199) objective underlying inventory control is to minimize the total cost of procurement, storage, handling,

distribution and other charges. Any control system that can help organizations succeed in their endeavor.

**Table 3 The degree of contribution of inventory control to the success of the company**

Item	Response	Frequency	% age
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<b><i>The degree of contribution of inventory control to the success of the company</i></b>	Very High	23	58
	High	10	25
	Moderate	7	17
	Low	-	-
	Very low	-	-
	<b>Total</b>	<b>40</b>	<b>100</b>

Source:- survey,2010

Table 3 shows that 58% of the respondents claim that the contribution of the inventory control is very high. On the other hand 25% and 17 % of the respondents claim that the contribution of the inventory of inventory control system is high and moderate respectively. The implication of this fact is that the inventory control system has amore that equal to moderate level of contribution to the success of the company.

**Table 4 Inventory Control performance**

<b>Item</b>	<b>Response</b>	<b>Frequency</b>	<b>% age</b>
	Very Good	15	38

<b>Inventory Contribution performance</b>	Good	20	50
	Moderate	5	12
	Poor	-	--
	Very Poor	---	--
	<b>Total</b>	<b>40</b>	<b>100</b>

Source: -Survey,2010

Concerning performance of the company inventory control system, 15(35%) respondent responded that the company performance is very good. 20 (50%) respondent responded the company inventory performance is good and the rest respondent i.e. 5(12%) responded that the company inventory performance is better than others.

**Table 5 Reconciliation of stock records with physical count**

<b>Item</b>	<b>Response</b>	<b>Frequency</b>	<b>% age</b>
<b>Reconciliation of stock records with physical count</b>	Yes	5	13
	To some extent	35	87
	No	-	-
	<b>Total</b>	<b>40</b>	<b>100</b>

Source:- Survey.2010

The above table shows 5 (13%) respondent claims that the company stock records regularly reconciled against actual physical count 35 (87%) of the respondents confirm the company stock records reconciled against actual physical existence to some extent. There is no respondent who claims the absolute of the practices. The practice of reconciling of actual stock against stock records is v ital. Because, wherever there is shortage or excesses of inventory in the store the company looses it good performance. Whenever actual inventory is excess it creates capital tied up and incur carrying cost whenever actual stock is less it create interruption of production. Therefore, it is advisable to reconcile actual stock with stock record for smooth and uninterrupted production.

### 3.7. Inventory Valuation

Inventory valuation is assigning cost of inventory by using different cost method like weighted average unit cost, specific inventory price, LIFO and FIFO. Consistency of costing method help an organization and stake holders to have a clear understanding about the financial reports regarding to inventory costing method.

**Table 6. Practice of Internal Audit**

Item	Response	Frequency	% age
<i>Does the physical counting procedure involve internal auditor?</i>	Yes	40	100
	No	--	---
	Total	40	100

<b><i>Are there adequate internal auditors to control the inventory?</i></b>	Yes	10	25
	No	30	75
	<b>Total</b>	<b>40</b>	<b>100</b>

Source:-Survey,2010

The above table reveals that all respondent responded physical counting procedures involve internal auditors. But 10 (25 %) respondent responded that there are adequate internal auditors to control the inventory and 30 (75%) respondent responds there is no adequate internal auditors to control inventory. Because of this two contradictory response, I asked an explanation from the concerned body i.e. Head Manpower Department As the Department Head explanation, currently two of their auditors leave the company and they already announced for new candidate and they hope within short period of time this problem get solution.

**Table 7. stock taking sheet pre-numbered and adequate control exercised**

<b>Item</b>	<b>Response</b>	<b>Frequency</b>	<b>% age</b>
Stock Taking Sheet	Yes	40	100
Pre-numbered	No	-	-
<b>Total</b>		<b>40</b>	<b>100</b>

Source:- Survey,2010

Hundred percent of the respondent agreed that stock taking sheets pre-numbered and adequate control exercised to ensure that all sheets are accounted..

### **3.8 Concerning Insurance coverage**

Concerning the security of material in the company, the interview held revealed that all items of the company is covered by third party insurance.

### **3.9 Analysis of Interview**

**3.9.1 In the case of material availability,** the interviewer responded that the company product raw materials are oil seed and palm tree product which uses for vegetable gee. Oil seeds purchased totally from local market and some amount of palm purchased from abroad and some amount purchased from local market.

#### **3.9.2. Handling of perishable item.**

First of all our product is very fast moving product. After production finalized and packed, the product sold with in few days. Second, at the time production the company pays unreserved effort to protect the product from spoilage.

#### **3.9.3 Concerning administration of obsolete inventories**

As we all know, oil product is food stuff. It is easily going to spoil. If we didn't discharge obsolete item immediately, it may contaminate the whole inventory. So, we are conscious to administer obsolete inventories.



### **3.9.4 REGARDING OF YOUR PRODUCT USER AND EXPORT**

Our product users are all people living in the country. There is shortage of oil product in the country, due to this reason for the time being we are not ready for export.

## **Chapter Four**

### **Summary of findings, conclusion and recommendation**

#### **4.1 Summary of findings**

The overall objective of this study is to address the inventory management practice of Addis Modjo Edible Oil complex S.C. and to find out the problem related with inventory management. The method used to prepare this research is descriptive method to pick subject from the population and used primary and secondary data obtained through questionnaire and interview analysis. The method in analyzing the presenting data using descriptive analysis method like percentage, tables and interview. The researcher analysis can be summarizing as follows.

- ✚ Large majority (38%) of the respondents confirm that there is continuous base of stock taking even if there are significant proportion of respondents who claim it to be annual or semi-annual.

- ✚ Of the total respondents, 58% of them responded the contribution of inventory control to the success of company is very high. 25% of the respondent agreed that the contribution of inventory control to the success of the company is high and the rest agreed that the control contribution is moderate.
  
- ✚ The findings also disclose that 38% of the respondents agreed that inventory control performance is very good, While 50% confirm that inventory control performance is good
  
- ✚ Almost all that is 87% respondents responded that stock records reconcile with physical count applied to some extent
  
- ✚ Hundred percent of the respondent agreed that the physical count procedure involve internal auditor.but,75% of the respondents responded that no sufficient internal auditors to control inventory.
  
- ✚ The objective of inventory control of the company are to reduce over and under investment ,to minimize wastage and the likes
  
- ✚ The company uses inventories like raw material, finished goods and **MRO.**( Maintenance .Repaid and operational equipment)

- ✚ Most of the respondent agreed that the benefit of inventory control are better utilization of the inventory and minimize carrying cost.

## 4.2 Conclusions

The inventory management practice of the company could be taken as if it is good. Nevertheless, there are few problems with the existing inventory management practice of the company, such as


- In appropriate shelving system
- Poor reconciliation system of actual inventory with Physical count
- Inventory management and control division run with other department
- shortage of finished product.


## 4.3 Recommendation

Concerning the contribution of the inventory control system to the success of the company, it is possible to say that the inventory control system has great contribution for the success of the company under study.

- ✚ *Shelving system is not good. Some finished product (oil) kept on the ground. Above/under temperature may spoil the product. As the product is food stuff, it needs strict care. Inventory should be shelved properly for the ground of convenient counting and safety. Inventory need to keep at proper places.*
- ✚ *Reconciling actual inventory with physical count is vital, so that any discrepancies may be investigated and adjusted. But most of the*

*respondent knows that the counting activity of the inventory accomplish randomly. Reconciliation activity useful if it perform on continues base.*

 *Inventory management and control division should organize separately including assignment of qualified and experienced employee.*

 *There is shortage of finished product. The demand of Addis Modjo Edible oil complex s.c. product (oil) is very high. The management of the company can be beneficiary if the company plans to expand production capacity.*

