

# **St. Marys University College**

**BUSINESS FACULTY**

**DEPARTMENT OF MANAGEMENT**

**AN ASSESSEMENT OF INVENTORY MANAGEMENT  
IN Ethio-SaMell plc.**

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**AN ASSESSMENT OF INVENTORY  
MANAGEMENT  
IN Ethio-SaMell PLC**

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**ST.MARRYS UNIVERSITY COLLEGE  
ASSESSMENT OF INVENTORY MANAGEMNT IN  
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**Figure1.** Current materials and issuing procedure

## **LIST OF ABBRIVATION AND ACRONYMS**

**SA:** Strongly Agree

**A:** Agree

**MA:** Moderately agree

**D:** Disagree

**SDA:** Strongly disagree

**EOQ:** Economic Order Quantity

**JIT:** Just In Time

**LIFO:** Last In First Out

**FIFO:** First In First Out

**SKU:** Stock Keeping Unit



# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the study**

An inventory analysis is one of the most popular topics in production and materials management. One reason is that all types of business organizations have inventory .For many firms inventory is largest current assets. Inventory is usually thought in terms of stock of materials or idle goods that are held by an organization for use some times in future .What ever from inventory tales or what ever its purpose ,it often represents a significant cost to a business firm .If a firm carries excessive inventories, it is estimated that the average annual cost of inventory would be approximately 50% of the total value of inventory held by the firm .Hence ,if the amount of inventory could be reduced to an optimal level ,both stock out cost and inventory carrying cost can be reduced to the minimum possible level. Skillful inventory management can make a significant contribution to affirm profit (Bhat.2003:566).

Inventory defined as stock of items kept on hand by an organization to be used available in stock.

In an organization, the important of inventory management can be recognizing for following reasons.

- Buffer stock /safety stock/
- Stock keeping unit (SKU):- is unique combinations of all the components that are assembled it to the purchased item.
- System and processes that identify inventory requirements, ser targets, provide replenishment techniques & report actual and projected inventory status (Bhat.2003:566).

This study aims at assessing inventory management of Ethio-SaMell plc.The study is stock keeping, controlling, recording, and system of management procedures related to inventory items in Ethio-SaMell plc.

### **1.1.1 Background of the organization**

This study is conducted in Ethio-SaMell plc. The enterprise is located here in Addis Ababa around Bole, it was established in 2007 with a capital of birr 1 billion by private investor Miss Sara Solomon. The major objectives of the company sales of the Real Estate, Building Rental, & Lodge.

The company also planning to engage other business sectors such as Lodges, Hotel Building, Farming Agricultural and, Packaging Industry and other profitable business sectors.

### **1.2 Statement of the problem**

Inventory management is essential for all organizations. However ,its efficiency differs from firm to firm mainly due to the size of the firm and the nature of inventory for many organizations, there is a lack of proper control of inventory because of stock out and so many reasons (Bhat.2003:566). In the case of Ethio-SaMell plc which is one of the real estate developers in our country of constructions in fulfilling customer dream of owning a house by making it possible. The company does not hold enough inventories on a timely basis to satisfy the demand of construction activity .In the other hand, the system lacks efficiency in the area of proper control of stock level .Therefore, the company may not be able to complete the construction of houses according to their schedule, which in turn forced to extend the delivery date.

In this short paper, we were attempt to address the following-

- Weather the work is going as planned or not because of lack of inventory shortages or because of any internal control deficiency anticipated demand.
- Weather the company could achieve its delivery promises to customers.

### **1.3 Research question**

This research is tried to answer the following basic research questions:

1. What are the weaknesses of the organization in the inventory management performance?
2. How does the company control stock keeping?

3. How does the batch process, inventory availability?

## **1.4 Objective of the study**

The research objectives are classified General Objectives and Specific Objectives discussed.

### **1.4.1 General Objectives**

The general objectives of the study are to assess the major problems of inventory management system and control stock keeping of inventory in Ethio-SaMell plc.

### **1.4.2 Specific Objectives**

The specific objectives of the study are-

- To identify the weaknesses of the organizations inventory management performance.
- To assess and describe the condition of the company in relation to inventory management system.
- Providing recommendations on the identified problems.
- To identify the existing inventory management and control system of the company.
- To indicate and find out the basic problems of Ethio-SaMell plc in its inventory management.

## **1.5 Significance of the study**

This research paper is having some importance for management, which enables to achieve the company future goal .The student researcher believes that the result of the study was having the following benefits.

- It increase motivation of the student research and it gives awareness for the company's inventory management system.

- It helps the enterprise to take the necessary action based on the recommendation that has been given up on the finding of the research.
- It adds the knowledge of the reader on inventory management control theories and practices.
- The user also may get better understanding about reliability of the organization.

## **1.6 limitation of the study**

There are certain limitations that adversely affect this research, some of this are:

- Lack of experience from the researchers.
- Unwillingness of management and employee to give information regarding to the subject matter and nature of confidentiality of financial statement.

## **1.7 Scope of the study**

This study aims at assessing inventory management system of Ethio-SaMell plc. The study is limited to assessing the company's raw materials, spare parts and finished goods inventory.

## **1.8 Research Design and Methodology**

### **1.8.1 Population and Sampling Techniques**

Out of the available departments in the enterprise, the purchasing department, logistic department, stores department are taken as responsible individual for various positions are contacted for the required data and information necessary for the study were selected random sampling method.

Among the selected department and the selected persons, the researchers have given priority to the question that are more close to the accounting records of enterprise and which had a direct relationship to inventory records and inventory items.

### **1.8.2 Sampling Design**

The researcher contacted the three departments are purchasing department ,logistic department, store department and other related staff members from total population of 60 employees , the researchers selected 20 employees by using random sampling method in order to get the right persons who are more concerned to the subject matter.

### **1.8.3 Source of data**

There are two sources of data one is Primary data source other is Secondary data sources:-

- ✓ The primary data was be collected from primary sources obtain unstructured interview, questionnaire and personal observation.
- ✓ Secondary data was be gathered from supported the information and financial statement, like publisher, magazine, internet, book and any other documents

### **1.8.4 Method of data collection**

There are different data collection methods:-

- ✓ Interview and questioner.
- ✓ Magazine, internet, book, publisher, and any other document.

### **1.8.5 Data analysis methods**

In terms of analysis, the collected primary and secondary data analyzed by using a descriptive analysis method of percentage, presenting through tables and figures.

## **1.9 Organization of the study**

This research paper was containing four chapters. The first chapter deals with introduction part, which include Background of the organization, Statement of the problem, Objective of the study, Research questions, Significance of the study and its organization .The second chapter contain Literature review .The third chapter contain

data analysis and its finding .The last chapter contains Summary, Conclusion and recommendation.

## **CHAPTER TWO**

### **LITERATURES REVIEW**

#### **2. Definition of inventory**

Inventory can be defined as follow:-

1. Inventory is a detail list of movable goods.
2. Inventory is a physical stock of items that a business or production enterprise keeps in hand for efficacy running of affairs or its production.
3. Inventory is the quantity of goods, raw material or there resources that are idle at any given point of time.

Inventory is list for goods and materials or those goods and materials themselves held available in stock by a business it is also used for assist of the contents of a household and for ails for testamentary purposes of the possessions of some one who has died in accounting inventory is considered an assets.

System and processes that identify inventory requirements, set targets, provide replenishment techniques, report actual, and projected inventory status.

Handles all functions related to the tracking and management of material this would include the monitoring of material moved in to and out of stockroom locations and the reconciling of the inventory balances (Sharma, 1999:509).

#### **✓ There are three basic reasons for keeping an inventory:-**

1. Time the time lags present in the supply chain from superior to user at every stage requires that you maintain certain amount of inventory to use in this lead time.
2. Uncertainty inventories are maintains as buffers to meet uncertainties in demand supply and movements of goods.
3. Economics of scale ideal condition to one unit at a time at a place where ser needs it when he needs it principle tends to in air lots of costs in terms of logistics so bulk buying, movement and storing brings in economies of scale thus inventory .

All these stock reasons can apply to any owner or product stage.

Buffer stock is held in individual work stations against the possibility that the up stream workstation may be a little delayed in line setup or change overtime this stock is then used while that change over is happening this stock can be eliminated by tools. These classifications apply along the whole supply chain not just within a facility or plant (Sharma, 1999: 509).

### **Special terms used (objectives of the organizations)**

- ✓ **Stock keeping unit (SKU):-** is a unique combination of all the components that is assembled into the purchasable item. Therefore any change in the packaging or products a new SKU. This level of detailed specification assists in managing inventory.
- ✓ **Stock out means running out of the inventory of a SKU.**
- ✓ New old stock comes sometimes abbreviated NOS is a term used in business to refer to merchandise being offered for sale which was manufactured long ago but that has never been used such merchandise may not be produced any more, and the new old stock may represent the only market source of a particular item at present time and the others are:-
  1. Buffer /safety stock/
  2. Cycle stock used in batch processes it is the available inventory excluding buffer stock.
  3. De-coupling /buffer stock that is held by both the supplier and the user.
  4. Anticipation stock /building up extra stock for periods of increased demand/
  5. Pipeline stock/goods still in transit or in the process of distribution have left the factory (Sharidhara Bhat, 2003: 563).

### **Mostly the organizations usually divide their goods for sale inventory into:-**

1. Raw materials:- materials and components scheduled for use in making product.



2. Work in process:-materials and components that have begun their transformation to finished.
3. Finished goods :-goods ready for sale to customers
4. Goods for resale to :-returned goods that are salable
5. Spare parts

## **2.2 Inventory and cost of goods sold**

The inter relationship of inventory and cost of goods sold makes it logical for two topics to be considered together .The internal controls that assume the fair valuation of inventories are found in the purchase (acquisition) cycle .These controls include procedures for selection of vendors ordering merchandise or materials, inspecting goods received recording the liability to the vendor and authorizing and making cash disbursements. The selection of valuation method and consistency in its application also affect both inventories and cost goods sold. During period of inflation, lime of cost of goods sold as much as they affect inventories (Saxina, 1990:53).

### **Source and nature of inventories and cost of goods sold.**

The inventories in this discussion include-

1. Goods on hand ready for sale either the merchandise of a trading concern or the finished goods of manufacturers.
2. Goods in process of production.
3. Goods to be consume directly or indirectly in production, consisting of raw materials, purchased parts and supplies.

It helps the management in measuring the implementation of business policies as well as statement (Saxina, 1990: 53).

## **2.3 Inventory systems**

Records pertaining to quantity and value of inventory in hand can be maintained according to any of the following two systems:

- Periodic inventory system
- Perpetual inventory system

### **2.3.1 Periodic inventory system**

The periodic inventory system is used, only the revenue from sales is recorded each time a sale is made. No entry is made at the time of sale to record the cost of the merchandise that has been sold. Consequently physical inventory must be taken in order to determine the cost of the inventory at the end of an accounting period. Ordinarily, it is practical to take a complete physical inventory only at the end of the fiscal year. In the sales of merchandise, the uses of the periodic system are assumed.

The periodic inventory system is often used by retail enterprises that sell many kinds of low unit cost merchandise, such as groceries, hardware and drugs.

The expense of maintaining perpetual inventory records may be prohibitive in such businesses has reduced this expense considerably. Firms selling a relatively small number of high unit cost items, such as office equipment, automobiles or fur garments, are more likely to use the perpetual system.

Although much of the discussion that follows applies to both systems has been assumed later in the chapter, principles and procedures related only to the perpetual inventory system will be presented.

The periodic system is used; the counting, weighing, and measuring should be done at the end of the accounting period. To accomplish this, the inventory crew may work during the night or business operations may be stopped until the count is finished.

Periodic inventory system one that does not require a day-to-day record of inventory changes. Costs of materials used and costs of goods sold cannot

Periodic inventory is a system of inventory in which updates are made on a periodic...in periodic inventory system no effort is made to keep up-to-date (Macheshwari, 2000: 677).

### **2.3.2 Perpetual inventory system**

Perpetual inventory system uses accounting records that continuously disclose the amount of inventory .A separate account for each type of merchandise is maintain in a subsidiary ledger. Increases in inventory items are record as debits to the proper accounts, and decreases are record as credits. The balances of the accounts are called **the book inventories** of items on hand .Regardless of the care with which the perpetual inventory records are maintain, their accuracy must be tested by taking a physical inventory of each type of commodity at least once a year. The records are then comparing with the actual quantities on hand and any differences are correct. The system thus, provides a regard control over stock of materials as physical stock can regularly be verify with the stock records kept in the stores and the cost office (Macheshwari, 2000: 678).

## **2.4 Inventory cost flow assumptions**

Major objectives of accounting for inventories are the proper determination of income through the process of matching appropriate costs against revenues. The various methods for assigning historical costs to inventory and goods sold are being explained below (Macheshwari, 2000: 679).

### **2.4.1 Specific identification**

According to this method ,each item of inventory is identifying with its cost .the total if the various costs so identified constitute the value of inventory .this method is generally used when the materials or goods when received are earmarked for the job or customer for whenever demand (Macheshwari,2000: 679).

This technique of inventory valuation can be adopted only by a company which is handling a small number of items .in case of a manufacturing company having a number of inventory items, it is almost impossible to identify the cost of each individual item of inventory .thus, this method is in appropriate most cases on account of practical considerations. More over, the method opens a door to income manipulation when like items is purchased at different price (Macheshwari, 2000: 680).

FIFO and LIFO accounting methods are means of managing inventory and financial matters involving the money a company tied up within inventory of produced.

### **2.4.2 First in first out method (FIFO)**

The first in first out method (FIFO) of costing inventory during a period of inflation or rising prices, the use of the FIFO method will result in the effects shown in the illustration because the cost of the unit sold are assumed to the order in which they were incurred, and the earlier unit costs were lower than the more recent unit costs .Much of the benefit of the larger amount of gross profit is lost however as the inventory is continually replenished at ever higher prices. During the 1970s, when the rate of inflation increased to double- digit percentages, the larger gross profits that resulted were frequently referred to **as inventory profits** or **illusory profits**.

In the period of deflation or declining prices, the effect described above is reversed ,and the FIFO method yields the lowest amount of gross profit .The major critics of the FIFO method is this tendency to maximize the effect of inflationary and deflation trends on amount reported as grosses profit .However ,the dollar amount reported as merchandise inventory on the balance sheet will usually be about the same as its current replacement cost .The working of this method of this method FIFO method gives the same result whether the periodic or perpetual inventory system (Macheshwari, 2000 : 680).

#### **❖ Advantage of FIFO method are –**

- ✓ It value stock near to current market prices since stock is presume to be consisting of the most recent purchases.
- ✓ It is base on cost and there fore, no unrealized profit enters in to the financial accounts of the company.

#### **❖ Dis advantage of FIFO method are-**

- ✓ It involves complicated calculation; hence increase the possibility clerical errors.

- ✓ Comparison between different jobs using the same type of material becomes some time difficult .a job commenced a few minutes after another job may have to bear an entirely different charge for materials  
Because the first job completely exhausted the supply of material of particular job.
- ✓ The materials of goods are perishable in nature.
- ✓ Materials are easily identifiable as belonging to a particular purchase of a job (Macheshwari, 2000: 181).

### 2.4.3 Last in first out method (LIFO )

LIFO is an acronym that stands for<< last in first out>> also known as FILO (first in last out) and may refer to:

Method of inventory valuation based on the use of the last in first out methods .During a period of rising prices, the use of the last in first out methods. Will result in lower amount of inventory at the end of period, higher amount of cost of merchandise sold and lower amount of gross profits than the other two methods.

The reason for these effects is that the cost of the most recently acquired units most nearly approximates the costs of their replacements the costs of their replace and the more recent unit costs were higher than the earlier r unit .thus ,it can be a argued that the use of the of the LIFO method more nearly matches current costs with current revenues .this latter point was on reason that Chrysler corporation changed from the FIFO method to the LIFO method in 1984, as stated in the following footnote that accompanied Chryslers financial statements for 1984.

The use of LIFO offers a saving in income taxes. The income tax savings results because LIFO reports the lowest amount of net income of the income of the three methods.

During the accelerated inflationary trend of 1970, many business enterprises changed from FIFO to LIFO to take advantage of this tax savings.

#### ❖ Advantage of LIFO method are -

- It takes in to account the current market conditions while valuing materials issued to different job or calculating the cost of goods sold.

- The method is based on cost and therefore, non-realized profit or loss is made because of the use of this method. This method is most suitable for materials, which are of a bulky and non-perishable type (M. Acheshwari, 2000: 682)

#### **2.4.4 Weighted average method**

Weighted average inventory method in calculation in which the weighted average cost per unit for the period is the cost of the goods available.

The weighted average method of inventory valuation is based on the assumption that all goods are commingled and that no particular batch of goods is retained in the inventories.

Thus, the inventories are valued based on average price paid for the goods, weighted according to the quantity purchased at each price (Macheshwari, 2000: 683).

This method produces a result for both inventory valuation and income measurement that lies between the result achieved under FIFO and those achieved under LIFO. The weighted average method does not produce an inventory value consistent with the current cost of items in inventory; by its nature it lags behind market prices. During a period of falling prices, it tends to be above replacement cost.

When the perpetual inventory system is used, the weighted average method gives the result of a moving weighted average. Under the perpetual system, a new weighted average unit cost is computed after each purchase and for this reason is known, as the moving weighted average method unit sold is priced at the latest weighted average unit

Cost (Macheshwari, 2000: 683).

#### **2.5 Inventory valuation method**

Easily select the inventory valuation /sale price method you wish to utilize, the options available are standard, FIFO, LIFO, average and weighted average.

Inventory are recorded at their original cost. However, a major departure from the historical cost principle is made in the area of inventory valuation if inventory declines in value below its original cost whatever the reason for a decline: obsolescence, price-level

changes ,damage goods, and so forth-the inventory should be written down to reflect this loss.

The general rule is that the historical cost principle is abandoned when the future utility (Donold and Willion, 1995; 448).

### **2.5.1 Lower of cost market**

Learn the lower of cost or market (LCM) rule for inventory valuation from accounting Coach.com .Accounting Coach.com is a free.

Inventories that experience a decline in utility are valued there fore based on the lower of cost or market, instead of an original cost basis.

Cost is the acquisition price of inventory computed using one of the historical cost based methods: - Specific identification, Average Cost, FIFO or LIFO .The term market in the phase the lower of cost or market (LCM) generally means the cost to replace the item by purchase or reproduction .In retailing business the term <<market >> refers to the market in which goods were purchased, not the market in which they are sold, in manufacturing the term<<market >> refers to the cost to reproduce.

Thus the rule really means the goods are to be valued at cost or cost to replace, whichever is lower ( Donold and Willion, 1995; 448).

## **2.6 Inventory management**

Inventory management is primarily about specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply net work to protect the regular and planned course of production against the random disturbance of running out of materials or goods. The scope of inventory management also concerns the fine lines between replenishment lead-time carrying costs of inventory, asset management, inventory forecasting, inventory valuation, inventory visibility, future inventor price forecasting, physical inventory, available physical space for inventory, quality management, replenishment, returns and defective goods and demand forecasting (Gopalakrishnon, 2007; 100-101).

Management of the inventories with the primary objective of determining. Controlling stock levels within the physical distribution function to balance the need for product availability against the need for minimizing stock holding and handling costs. In business management, inventory consists of a list of goods and material held available in stock.

An efficient materials management system includes the means to ensure that the stocks are maintained at optimum levels and quantities that prevent interruption in flow of needed resources. The aim is to avoid the negative effects of both excessive and insufficient stocks, which can be disputed financially and operationally. Effective inventory management is necessary to ensure adequate supplies at optimum cost, as inventories act as cushion between supply and demand (Gopalakrishnon, 2007; 100-101).

## **2.7 Over view internal control**

Control is a wider term and will include all types of management control. It means of assessing modern business management in discouraging its functions. The term internal control has been defined <<the whole system of control, financial or other wise, establishes by the management in order to carry on business of the company in an orderly manner, safe guard its assets and secure as far as possible the accuracy and reliability of its records >>. According to this definition, internal control has two classes. Accounting control and operational control (Saxena, 1999; 44).

In simple word, it means a number of checks and internal controls on various activities of business.

## **2.8 Optimum investments in inventory**

The level of sales, the length of the production cycle, and the durability of the product are the major determinants of investment in inventory. To determine the optimum investment that minimizes the total cost of inventory; management must evaluate both carrying costs and ordering costs (Suk Kim, 1989; 346).

Carrying costs include interest on funds tied up in inventory, insurance premiums, storage costs and taxes. Carrying costs rise as the size of inventory increases. Ordering costs are the costs of placing an order, of shipping and handling, and of lost quantity discounts.



Ordering costs fall as the average inventory increases .Management must also consider some implicate costs associated with the size of inventory .the cost of lost sales, lost customer good will, and potential disruption smaller inventories . The total cost of inventory consists of carrying costs and ordering costs (Suk Kim, 1989; 346).

## 2.9 Inventory policy inflation and deflation

The price of copper went from \$0.50 to \$ .40 a pound and back again in the 1980.similar price instability has taken place in wheat, sugar, lumber, and a number of other commodities .only the most astute inventory management can hope to prosper in this type of environment.

The problem can be partially control by taking moderate inventory positions (Stanley B; 1992: 188).

Another way of protecting your inventory position would be by hedging with a futures contract to sell at a stipulated price some months from now (Ibid; p 188).

Rapid price movement in inventory may also have a major impact on the reported income of the firm .A firm using FIFO (first in first out) accounting may experience large inventory profits when old, less expensive inventory is written off against new high prices in the market place .the benefits may be transitory, as the process reverses it self when prices decline (Stanley B; 1992: 188).

## 2.10 Inventory decision models

Substantial research has been devoted to the problem of determining optimum inventory size order quantity, usage rate, and similar considerations .an entire branch in the field of operations research is dedicate to the subject (Ibid; p 189)

In developing an inventory model, we must evaluate the two basic costs associated inventory: the carrying cost and ordering cost .through a careful analysis of both of these variables. We can determine the optimum order size to place to minimize costs.

**Carrying costs:** \_include interest on funds tied up inventory and the cost of warehouse space, insurance premiums, and material handling expenses.

$$\text{Carrying cost} = C \times Q/2$$

Where C is carrying cost per unit period.

Q is order quantity in units

**Ordering cost:** \_ as a second factory, we must consider the cost of ordering and processing inventory in to stock. If we maintain a relatively low average inventory in stock, we must order many times and total ordering cost will be high. (Ibid; p 189)

$$\text{Order cost} = O \times S/Q$$

Where; O is order cost per order

S is usage in units per period

Q is order quantity in units

Total cost is defined as the sum of order and carrying costs. Total cost is important in the EOQ model. Since the model's objective is to determine the order quantity that minimizes it.

$$\text{Total cost} = (O \times S/Q) + (C \times Q/2)$$

### 2.10.1 Economic order quantity

The question becomes how we mathematically determine the minimum point (M) on the total cost curve .we may use the following formula as the first stem .EOQ = radical of two times total sales in unit times ordering cost for each order divided by radical of carrying cost per unit in dollars .(Stanley B; 1999: 120)

EOQ is the economic ordering quantity the amount that it is most advantage ours for the firm to order each time. The researcher was determining the minimum total cost amount. (Stanley B; 1999: 120)

Safety stocks a level of safety stocks in all three –inventory categories (raw materials, work in process, and finished goods) is maintained to absorb random fluctuations in

purchases production ,or sales, some safety stocks in the form of raw materials are necessary so that customers will not have to wait for delivery.

Safety stocks of work in processes assure a continual; flow of materials even when there are occasional delays in the production cycle. Safety stocks of finished goods are maintained so that customers will not have to wait for delivery (Kim.1989; 155).

Although assumed that inventory orders are received immediately in practice a lead-time must establish to cover the span between the time and order is places and the time it is delivered.

$$EOQ = \frac{\sqrt{2 \times 5 \times Q}}{C}$$

Example, assume the ABC Company, a manufacturer of electronic test equipment, uses 1800 units of an item annually. Its order cost is Birr 100 per order, and carrying cost is Birr 1 per unit per year.

Required: determine the economic order quantity?

$$EOQ = \frac{2 \times 5 \times Q}{C}$$

$$EOQ = \frac{2 \times 1800 \times 100}{1} = 60$$

### **2.10.2 Just- in -time inventory**

Just- in- time inventory management a relatively new concept in inventory management, just in time inventory management (JIT), was designed for Toyota by Japanese firm shigeo and found its way to the united stated (Stanley B.Block, 1992; 192).

Just- in- time inventory management is par of a total production concept, which often interfaces with a total quality control program.

A JIT program has several basic requirements:-

1. Quality production that continually satisfies customer requirements.
2. Close ties between suppliers, manufacturers, and customers; and
3. Minimizing the level of inventory (Stanley B.Block, 1992; 192).

Usually suppliers are located near manufacturers who are able to make orders in small lot sizes because of short delivery times. One side effect has been for manufactures to reduce their number of suppliers to assure quality as well as to case the complexity of ordering and delivery.

## Chapter Three

### Data Presentation, Analysis and interpretation

#### 3.1 Analysis of data

The primary data used for this study was collected from three departments. These are logistic department, purchasing department, and stock administration department. These departments are selected more relationship to inventory.

The population size is 60 and the sample size is 20 selected through simple random sampling method. Out of this 16 (77%) of respondents from different department of the company such as logistic department, purchasing department, and store department gave the response.

The secondary data used for the study was collected from the year 2002 E.C financial statement of the company, different reports, and memorandum.

**Table 1-education level of employees**

No.	Employee	No. of respondent	Percentage (%)
1	Sex: <ul style="list-style-type: none"><li>• Male</li><li>• female</li></ul>	12 4	74% 23%
	<b>Total</b>	16	100
2	Educational level : <ul style="list-style-type: none"><li>• 12 complete</li><li>• Advance certificate</li><li>• Diploma</li><li>• degree</li></ul>	7 1 4 4	41 7 25 27
	<b>Total</b>	16	100
3	Work experience : <ul style="list-style-type: none"><li>• 1-5 years</li><li>• 6-10 years</li><li>• 10 and above</li></ul>	8 6 2	53 35 12
	<b>Total</b>	16	100

(Source: primary data)

In the organization among 16 respondents, 12 employees or 74% of the respondents are male and the rest 4 or 23% of the respondents were female. 41% respondents are 12 complete ,7% respondent were advance certificate ,25% of the respondents are diploma and 27% of the respondents are degree holder .Over 53% of the respondents have 1-5 years work experience and 35% and 12% of respondents have 6-10 and above 10years work experience . In addition, based on the interview the company employee not gets enough training.

More over Ethio-SaMell plc is a new business line, the organizational structure is not properly designed, and thus no clear segregation of duties and line of responsibilities and proper employee are not assigned for each appropriate departments or divisions.

### **3.1.1 Inventory accounting system in Ethio-SaMell plc**

#### **3.1.1.1 Inventory system of Ethio-SaMell plc.**

Ethio-SaMell plc records purchase and sales on its general ledger but do not determine and record inventory and cost of good sold for each sale of merchandise. The company shows the balance of the inventory on the bin card for each inflow and out flow of merchandise. Since Ethio-SaMell plc does not record cost of good sold on each sale in its general ledger, it follows a periodic inventory system. it uses the balance of the stock on the bin card to gross check with physical count of the inventory at the end of the year.

#### **3.1.1.2 Inventory follows up procedure**

**Table 2 -Company document**

No.	Items	Inventory control procedure
1	Bin card	Used
2	Stock card	Used
3	Identity no. of material	Not used
4	Material requirement plan	Not used

5	Economic order quantity	Not used
6	Lead time	Not used
7	Reorders point	Not used
8	Store issue voucher	Used
9	Good receiving note	Used
10	Good inter transfer voucher	Used

(Source: primary data observation)

The above table shows the inventory control procedure of the company are used bin card ,store card ,good receiving not and inter transfer voucher .the unused documents show lack of strong inventory control mechanisms in the company.

### 3.1.1.3 Purchasing

Purchasing is the function of procuring of materials required for meeting the need of users department .The purchasing department is a key role in the achievement of a company's strategic objectives. It can affect fast delivery of product, on time deliveries production cost and product quality all of which are the key element in the operation strategy .There fore setting a formal purchasing lead time helps in smooth flow of production.

**Table 3 lead time**

No.	Description	SA	A	MA	D	SDA	Total
1	Purchasing lead time in consideration market situation and urgency of the operation.	10 75%	6 25%	-	-	-	16 100%

(Source primary data)

In relation to current purchasing lead time 10 (75%) of respondents responded << strongly agree>> means the purchasing lead time is very reasonable because of having sufficient budget ,good purchasing follow up and reliable suppliers and the remaining 6 (25%) replied the lead time is reasonable.

### 3.1.1.4 Receiving and recording

Receiving simply means that in take of materials from the supplier. And recording in this context refers to items to be recorded in terms of size, quantity, quality, color, type and etc.

Receiving and recording helps a manager for effective control of inventory.

**Table 4 receiving and recording**

No.	Description	SA	A	MA	D	SDA	Total
1	Receiving and recording of items on time.	–	8 50%	–	8 50%	–	16 100%

(Source: primary data)

The result indicated that 50% of the respondent replied agree and the remaining 50% the respondent replied disagree in receiving and recording of items on time.

Those who said disagree tries to justify that receiving and recording of item has draw back. Because, inventories of Ethio-SaMell plc are purchase materials from domestic and foreign market .When materials are purchased from market, it influences on received and recording items due to transportation and port problem and lack of reliable suppliers.

### 3.1.1.5 Inventory status

Inventory status tells us the availability of stock item (i.e. size, quantity, weight, color, type) and problems related to shortage and average of inventories. Etc.

**Table 5 availability of stock item, shortage and right of return**

No.	Description	SA	A	MA	D	SDA	Total
1	Availability of fast moving & preventive maintenance items when required.	16 100%	–	–	–	–	16 100%
2	Facing down time due to shortage of inventories.	–	6 35%	10 65%			16 100%



3	Return back issued material to store.	2 16%	4 19%	10 65%	–	–	16 100%
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(Source: primary data)

That result indicated that 100% of the respondents replied strongly agreed that the fast moving and preventive maintenance items are available at the time of request.

The response indicated that 35% of respondents replied strongly agree, there is down time in daily work due to shortage of inventories and the remaining 65% replied that moderately agree some times it happens down time due to shortage of inventory other than fast moving and preventive maintenance items . According to Girma Desalegn (1987:28) time is variable element it can be saved by applying more resources to meeting the scheduled objective, or it can elapse .Planners estimate the time necessary for the events. They express the time they believed required to complete the activities linking the event in the plan.

The responses indicated that 65% the respondents replied disagree because at the time of procurement material will be purchased within the need and specification of users department and the remaining 19% and 16% of the respondents replied moderately agree and agrees respectively because of lack of technical skill and poor inspection mechanism (techniques ) during receipt of inventories. Due to this, Ethio-SaMell plc the right of return of defective quality, incorrect quantity, wrong quantity of items.

### 3.1.1.6 Inventory system

Perpetual inventory system is immediately recording system of materials when arrived and computerized system is a way to record receipt of materials by using computers and it helps the organization in getting fast ,up to date and reliable information about the status of inventory.

**Table 6 perpetual and computerized inventory system**

No.	Description	SA	A	MA	D	SDA	Total
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1	Use of perpetual inventory system for all inventories	-	-	-	16 100%	-	16 100%
2	Availability of computerized inventories	-	-	-	16 100%	-	16 100%

(Source: primary data)

All or 100% of respondents replied disagree, justify that the perpetual inventory system is applied for few expensive items and highly selective fast moving items only. There fore, perpetual inventory system is not applied for all items rather periodic system is in use .the Company manual states it should have to be exercised at least quent count of fast moving and less frequently for slow moving or dead items. Richard B.case (2001:533) state that counting is a physical inventory taking technique in which inventory is counted frequently rather than once to twice a year .the key to effective cycle counting and there fore ,accurate records lies on deciding which items are to be counted ,when and by whom.

The response implies that all or 100% of respondents replied disagree. This means there is no computerized inventory system in the company but in the near future, the respondents stated that there is a plan to install computerized inventory system.

### 3.1.1.7 Inventory control

Inventory control is the means by which material of the correct quantity and quality is made available as and when required with due regard to economy in shortage and ordering costs, and working capital.

Generally, inventory control helps the organization in achieving the overall organizational objectives.

**Table 7 inventory control**

No.	Description	SA	A	MA	D	SDA	Total
1	Inventory control as an input for finance department	16 100%	-	-	-	-	16 100%

2	Availability of effective control in minimizing cost	10 65%	6 35%	–	–	–	16 100%
3	Reports of obsolete, damaged, and slow moving items.	12 75%	4 25%	–	–	–	16 100%

(Source: primary data)

From the result I see that 100% the respondents replied (answered) strongly agree that inventory control help as input for finance department .Because finance department has to report the company’s financial status at the end of every year and proper inventory management is an input since inventories have a considerable financial implication.

In relation to availability of effective control in minimizing inventory cost 65% of the respondents says that strongly agree that there is effective control in minimizing inventory cost because of one of the main objective of inventory management is in order to reduce costs related to inventory and reaming 35% of the respondents also agreed upon there is effective control in minimizing inventory cost.

The result implies that 75% of respondents replied a report about obsolete, damaged and slow moving items is made to responsible person .Because ,the concerned department is reported every year at the time of physical count about them and the remaining 25% <<agreed >> about a report of obsolete, damaged and slow moving items are made to the concerned persons.

### 3.1.1.8 Inventory Valuations

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

**Table 8 costing, method**

No.	Description	SA	A	MA	D	SDA	Total
1	Consistency on costing	16	–	–	–	–	16%

	methods of inventories.	100%					100%
--	-------------------------	------	--	--	--	--	------

(Source: primary data)

According to the result 100% the employees replied a strongly agree. There is consistent costing method of inventory .Because the company uses the periodic inventory system and ending inventory is determined by physical count at the end of the year and its price using weighted average unit cost .If not possible to have a weighted average unit cost ,the firm uses a market price. In considering the above facts the researchers could say that the firm consistency uses its costing system.

### **3.1.1.9 Inventory recording system**

Currently inventory recording system of the company is manual recording system. But the company is on the way in order to make inventory recording system computerized .in manual recording system the company use different vouchers like:

- Store requisition
- Store issue vouchers
- Purchase requisition
- Stock card
- Receiving vouchers
- Purchase order
- Overage, shortage ,defection voucher

All of the above vouchers are distributed to different concerned bodies for use. Stock card is a card that consists of various parameters and analysis receipts issues balance, description, part number and indicated turn over of single item. And the company manual also states documents and recording system including physical count sheet and sample signature form.

### **Insurance policy and human resource in Ethio-SaMell plc.**

Ethio-SaMell plc has an insurance coverage for all its inventories at hand and those inventories imported from foreign countries.

This implies Ethio-SaMell plc insured the safeguarding of inventory from possible risks like fire

**Table 9- Segregation of Related Activities**

Opinion on segregation of duties	No. of respondents	Percentage (%)
Yes	16	100
No.		

In Ethio-SaMell plc, acquisition, receiving, storing, issuing and accounting functions are performed separately in order to control inventory theft or fraud. On the above table, it shows that 100% of the respondents agree there is segregation of duties among custody of stocks and record keeping. The company used an economic ordering quantity system (EOQ).

**Table 10 - Cut off at the end of period**

Opinion on take cut off at the end of the period	No. of respondents	Percentage (%)
Yes	12	.74
No	4	.26

On the table 5 - above shows (74%) of the respondents say cut off is applied enough only at the end of the year. And 26% of respondents say cutoff is applied not enough only at the end of the year. Based on the data, the firm takes cut off at the end of the period. The physical counting procedure is done by an independent person.

**Table 11- Damages, obsolescence and slow moving are reported to the management**

Opinion	No. of respondents	Percentage (%)
Yes	10	60
No	6	40

On the above table shows (60%) of respondents know about damage, obsolescence and slow moving are reports the management and the remaining 40 % not reported the management

**Table 12- Adequate physical safeguards**

Opinion on the adequate physical safe guards	No. of respondent	Percentage (%)
Yes	12	.74
No	4	.26

A table 7 - show (74%) of the respondent knows stocks protected by adequate physical safeguards to prevent theft or unauthorized removal of goods .26% of the respondents no adequate physical safeguard.

## **CHAPTER FOUR**

### **Summary of findings, Conclusion and Recommendations**

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

The overall objective of this study is to address an assessment of inventory management and to find out the problems related with an assessment of inventory management.

The method in analyzing and presenting data use descriptive analysis method like percentage, tables and figures.

The research analysis can summarized as follows:

- From the 60 population size the researchers selected 20 sample sizes, 16 (70%) of respondents give their responses from different department.
- Half of 50% of the respondents believed that items are received and recorded on time and the rest disagreed on the above description
- All of the respondents believed that their department prepares budget every year for materials consumption, on the availability of fast moving and preventive items when required, on the consistency of inventory costing method, and on providing inventory control as in put for finance department.
- Sixteen or 100% of the respondents disagreed on the use of perpetual inventory system and on the computerization of inventory system.
- Twenty five percent and 75% of the respondents agreed and moderately agreed upon shortage of inventory respectively.
- Half of ,16% and 19% of the respondents agreed on the right of material return to store due to quality and quantity problem respectively .
- The enterprise used inventories like raw materials, work in process and finished goods.
- Currently the enterprise used manual inventory recording system

- The enterprises have some problem like store problem, lack of reliability of supplier, problems in setting lead time etc.

## **4.2 Conclusions**

From the major findings presented above the following conclusions were drawn.

- Large percentage of respondents confirmed that the annual inventory count is appropriate .they also favorably reflected that the organization properly items.
- Respondents confirmed that shortage characterize the inventory management system of organization.
- Ethio-SaMell plc is also enjoying right of return of defective quality, incorrect quantity, wrong quality is delivery to it .this is one of the safety conditions of the organization.
- Respondents, also tried to show that the organization is sensitive to inventory costs and trying to reduce these costs.
- The company is currently using the manual inventory system.
- About the inventory system, Ethio-SaMell plc used periodic inventory system, which is appropriate for small value and large quantity item. However, the company has both small value large quantity and high value small quantity items. There fore, the inventory system the company the following has lack of appropriateness with the business type.
- The inventory cost assumption of the company is weighted average inventory method. However ,the firm has many unmovable or damage items at store ,which is not go with the cost assumption inventory .Thus Ethio-SaMell plc inventory cost assumption method is not efficient .

Finally, as per the researcher findings the concluded that the overall inventory management system of the enterprise is satisfactory.



### **4.3 Recommendation**

Besides having a well-organized inventory management system the company needs to make exhaustive effort in implementing as well as improvement of managing and controlling inventory in the future. The researchers insist that the following changes and adjustment could be good for the company.

The employees of the company are not well educated. Even if they are experienced their experienced has not been supported by trainings. In line with the current advancements should be given training in their respective fields like accounting, operations, and maintenance.

With regard to inventory management the enterprise should apply the appropriate inventory management techniques like selective inventory turn over because it is the company to cope -up problems related with poor inventory handling and costs that arise because of much accumulation of inventories. As a result is making the carrying cost higher.

The company needs to prepare interim report. It spends more money and time for physical counting because not recording cost of sales and inventory at the time of sales. There for, to solve this problem the company has change the periodic inventory system to perpetual inventory system.

## BIBLIOGRAPHY

- Bmaik.K.S. (2003). **Production and Material Management**. New Delhi: Fourteenth edition.
- Donad, R., Cober, C. and William, E. (5<sup>th</sup> Ed). (1995). **Business Research Methods**. New Delhi: Sixteenth edition.
- Machshwari, N.S. (16<sup>th</sup> Ed). (2000). **Advance Accounting** .Viras publishing House pvt .Ltd
- Suk I. Kim, and others (1989).**Financial Administration: Theory and Application**. Published in U.S.A.
- Stanly B. and Geoffrey (6<sup>th</sup> Ed). (1992). **Foundation of Financial Management**. Richard D.Irwin, Inc
- Willian C.B. (6<sup>th</sup> Ed). (1996). **Modern Auditing**. John wiley and Sons Inc.

**St. Mary's University College**

**Faculty of Business**

**Department of Management**

**INVENTORY MANAGEMENT SYSTEM QUESTIONNAIRE**

**TO BE FILLED BY: \_\_\_\_\_**

This questionnaire is prepared by prospective graduates of the management department in St. Mary's University College ,who are preparing a research paper in partial fulfillment of the requirement of the degree of bachelor of art in management .The topic for this study is assessment of inventory management in Ethio-SaMell plc .The researcher would very much appreciate your genuine responses.

N.B Please put a tick mark in the box or writes your comment in the space provided.

N/C Represents, <<No comment>> in case the respondent do not have sufficient information on the topic; he /she may put a tick mark on the box provided.

Personal data

1. Sex 1. Male  2. Female

2. Age a. below 25  b. 26-35   
c. 36-45  d. Above 45

3. Department -----

4. Education Background

1. 12<sup>th</sup> complete  2. Advance certificate   
3. Diploma  3. Degree   
4. Master degree and above

5. Position -----

6. Work experience

1. Below 5 years  2. 5-10 years   
2. 10-20 years  3. Above 20 years

7. Are you inventorying system?

1. Perpetual inventory system  2. Periodic inventory system   
3. If any other specify -----

---

**8.** Which type of inventory method does the company use?

1. FIFO method  2. LIFO method

3. Weighted Average method

4. If any other, specify -----

---

**9.** What are the procedures the stores management should follow to record the inventory?

---

**10.** What kind of inventory recording system does the company use?

1. Manual recording system

2. Computerized recording system

**11.** What is the major products sale in your company?

---

**12.** Is access to stocks restricted to authorized personnel only?

Yes  No

If no why? -----

---

**13.** is there segregation of duties among custody of stocks and record keeping stocks?

Yes  No

If no why? -----

---

**14.** Are material differences, damage, obsolescence and slow moving reported to the management?

Yes  No

If no why? -----

---

**15.** What inventory model the company used?

1. ABC model

2. Economic Order Quantity (EOQ)

3. Just In Time (JIT)

4. Material Requirement Plan (MRQ)

**16.** Do adequate physical safeguards to prevent theft or unauthorized removal of goods protect stocks?

Yes

No

If no why? -----

---

**17.** Are all material differences reported to management?

Yes

No

If no why? -----

---

**18.** Does a supervisor check to ensure that all items have been marked and on goods are omitted from stock?

Yes

No

If no why? -----

---

**19.** Are stock records checked with the physical count sheets to ensure that items not omitted?

Yes

No

If no why? -----

---

**20.** Are differences between physical and stock subject to recount and investigation where above designed to learners?

Yes

No

If no why? -----

---

**21.** Could you please explain the strengths of your company's inventory management system?

---

**22.** Could you please explain the weakness of your company's inventory management system?

---

**23.** Are there adequate internal control and internal auditor to control the inventory?

Yes

No

If no why? -----

---

**24.** are stocks counting teams adequately familiar with the items they are counting or are they accompanied by a superior to identify the items?

Yes

No

If no why? -----

---

**25.** Are adequate cut off procedures in operation to ensure that there are no movements of stock while the counts are in progress and that all stock issues and receipts have been recorded?

Yes

No

If no why? -----

## **DECLARATION**

I, the undersigned, declare that this senior essay /project is my original work, prepared under the guidance of Meselu Fanta. All sources of materials used for the manuscript have been duly acknowledged.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Place of submission: \_\_\_\_\_

Date of submission: SMUC-Management department

## **ADVISOR APPROVAL**

This senior research paper has been submitted to the department of management in partial fulfillment for the requirements of BA degree in management with my approval as an advisor

Name: \_\_\_\_\_

Signature: \_\_\_\_\_