

ST. MARY UNIVERSITY COLLEGE

FACULTY OF BUSINESS

DEPARTMENT OF MANAGEMENT

STUDY ON INVENTORY HANDLING PRACTICE AND PROBLEMS:

THE CASE OF DAN THECNO CRAFT P.L.C

BY

MUSIE LULSEGED

JUNE 22, 2010

SMUC

ADDIS ABABA

Acknowledgment

I would like to thank, my advisor Instructor Yimer Adem for his fruitful deliberations and vital advice through the whole process. I would also like to give a great attribute to my father Lulseged Tafesse, my Mother Roman Ketsela and to all my brothers. Kaldidan Tafesse, Tsegazeab Baye, Lakew Yikumengest have put their tremendous support in this paper.

Table of Content

Title	page
Acknowledgment	
List of Tables	
List of figures	
Chapter One	Introduction
1. Introduction	1
1.1. Background of the study.....	1
1.2. Statement of the problem	2
1.3. Research Question.....	3
1.4. Objective.....	3
1.5. Significance of the Study	3
1.6. Scope of the study.....	3
1.7. Research design and methodology.....	4
1.7.1. Research Design	4
1.7.2. Population and Sampling Technique	4
1.7.3. Sampling procedures and Techniques	4
1.7.4. Types of Data to be used	4
1.7.5. Data collection method	4
1.7.6. Data Analysis Method	5
1.7.7. Organization of data	5
Chapter two	Review of related literature
2.1 Effective Inventory Management	6
2.2 Problem related to Inventory Management	6
2.3 Inventory Accuracy	7
2.4 Why keep Inventory	8

2.5	Controlling Inventory	10
2.6	Successful Inventory Management.....	13
2.7	School of Thought of Inventory Management.....	14
2.8	The future of Inventory Management	15

Chapter Three Data analysis and Interpretation

3.1	Basic characteristics of the Employees	17
3.2	Information regarding inventory policy and Production efficiency	20
3.3	Information regarding Inventory	22
3.4	Information regarding customers' attitude	27

Chapter Four Summary Conclusion and Recommendation

4.1	Summary	29
4.2	Conclusion	29
4.3	Recommendation	30

	Bibliography	
	Appendix	
	Questionnaire	
	Interview	
	Focus Group Discussion	
	Declaration	
	Submission Approval Sheet	

List of table

	page
Table3.1-basic characteristic of employee	17
Table3.2-information regarding inventory policy	20
And production efficiency	
Table3.3-information regarding inventory	22
Table3.3-information regarding customer attitude	27

Abbreviations

ERP - Enterprise resource planning

MRP - Material Requirement Planning

TOC – Theory of Constraint

PCS – Physical Counting system

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Inventory is a quantity or store of goods that is held for some purpose or use (the term may also be used as a verb, meaning to take inventory or to count all goods held in inventory). Inventory may be kept "in-house," meaning on the premises or nearby for immediate use; or it may be held in a distant warehouse or distribution centre for future use. With the exception of firms utilizing just-in-time methods, more often than not, the term "inventory" implies a stored quantity of goods that exceeds what is needed for the firm to function at the current time (e.g., within the next few hours) (Biederman, 2004: 1).

Inventory is a primary part of many of today's businesses. Essentially, inventory is the storage of products that are sold to consumers to help the business make a profit. Further, in some instances, inventory also includes what the company uses to keep the business up and running for example, storage for cleaners would be considered inventory for a business that focuses on the business of cleaning (Integra core, 2000:45).

There are several different forms of inventory and any business may rely on one or more forms of inventory. First, there is inventory that is referred to as materials and components. This type of inventory is the storage of different parts to manufacture larger products. For instance, a car manufacturer will have steering wheels or brake pads in their inventory, ready for use when needed to add to a car they are manufacturing. Likewise, a web designer may have a variety of software applications that help them create innovative websites. Yet another example of material and components inventory can be seen in a restaurant: restaurants have food in their refrigerators and freezers to later cook and serve to their guests. (Hedrick, 2003:115)

Another form of inventory that a business may have is products that are ready for sale. For instance, some businesses buy their products from manufacturers and store them in warehouses: such facilities will require warehouse management of inventory. Such products are ready for sale immediately and require no assembly toys, household items, furniture, and office supplies are just a few of many items that can be part of a ready for sale inventory. Whether a business is storing products for later use or they are storing parts to later use in the

creation of products, the business owner must always know what they have on hand. In not knowing what one already has there is no way the business will function properly. Mismanagement of funds, profit loss, and theft are some of the most common consequences of poorly managed inventory. (Hedrick, 2003:117)

Dan is one of a few enterprises in our country engaged in technological innovations and transfer. In this engagement, it has encountered humble opportunities for new technological innovations. The company since it starts operating, it has engaged it's self in manufacturing and maintaining different technological products, majorly elevators. As well the company has encountered difficulties and has also benefited from opportunities. One of its major challenges has been and still is systematized, fast, and effective as well as efficient inventory handling techniques.

Organizational structure of the company has four managerial departments. These are material management, production management, purchasing and finance. The inventory handling and management process is incurred in material management department. This material management department is subdividing in to four stores. These are electrical store, mechanical store, raw material store and semi finished store. This research tries to see the problem and system of inventory handling in all the stores of Dan Techno craft.

1.2 Statements of the Problem

Dan techno craft is majorly involved in elevator production and maintenance. Even though, the company has high number of customers in this specific product, the preliminary assessment (document preview and interview) done in the company shows that lack of standard material lists system for every type of elevators is its major problem. According to the document review and interview, whenever a new product is ordered, the technical staff makes a new material requirement list. This will take longer time for the company to produce items that are ordered and inconsistent material requirement for the same product. E.g. the company might have been ordered to produce a lift a month ago, and make a material lists. After a month the company is ordered again to produce the same lift, and make a material lists which is different from the previous one, such as one unit material input greater or less. This will lead the company to have an extra cost and shortage of input leading to time delay to the customers. Therefore; this paper assess the above problems.

1.3 Research Question

The research tries to answer the following basic questions:

1. In what ware house operation system does the company has a major problem?
2. To what extent the inventory handling problem is significant in Dan techno craft?
3. What measures should be taken to solve this problem in the future?
4. How is the cost of inventory management in the company profitability?

1.4 Objectives

The major objective of the study is to analyse major inventory handling problems in Dan Techno craft.

The following are the specific objective of the study;

1. To describe in what warehouse operation system does the company has a major problem of handling inventory.
2. To assess the extent of significance of poor inventory handling practice in Dan techno craft
3. To assess the role of the solutions that has been given to improve the inventory management system.
4. To Assess to what extent the inventory handling problem affect the company profitability

1.5 Significance of the Study

The information out of this paper will help to change the inventory handling conditions of the company. This is possible partly by enhancing the technical efficiency of the company through the recommendation given by this study. In addition, investigating these issues will help to find way of dealing with this kind of problem, if it appears in the future. It also gives insight on how to handle inventory for staring organization on related technological products. Finally, it is believed that this research can be a helping tool as a reference for further research to be studied in related areas.

1.6 Scope of the Study

Due to limited time and resource availability at this level of research writing related with the company broad department sub divisions, the study focuses only on the inventory handling problems for each ware houses.

1.7 Research Design and Methodology

1.7.1 Research Design

Based on the nature of the objective, exploratory type of research design is used in order to clarify and define the existence and nature of a problem. In this study three inter related activities such as diagnosing the situation, scanning alternatives and discovering new ideas is conducted by performing primary and secondary data analysis using qualitative and quantitative techniques.

1.7.2 Population and Sampling Technique

The population size of the study comprises 214 number of population which is managers and employees working at four departments of the company. Out of this population, a sample size of 64 which are 30% is taken.

1.7.3 Sampling Procedure and Techniques

Various methods of sampling techniques used based on the population characteristics under taken. For this study simple random sampling techniques is used. This is due to in order to give equal chance for all heterogeneous respondents.

1.7.4 Types of Data Used

Both primary and secondary data type is used through proper sources. Primary data's are information gathered through direct and indirect contact with respondents, these consists of managers, employees, customers etc... and secondary data's are information's which are gathered indirectly, which have already been collected by someone and which, have already passed through statistical process.

Sources for secondary information are official statistics, government organizations documents, and research organizations. This information is collected to better clarify the context of the whole company, to have a guide on what primary information would have to

collect in order to meet the inventory handling assessment objectives and to save time and cost in information gathering.

1.7.5 Data Collection Methods

The inadequacy of three things could be the cause of profit loss, poor customer handling, increasing price effect on supply cost, and poor inventory handling system. Close ended and open ended questionnaire is used to collect information to capture indicators of determinants that affect inventory handling prospects.

Various interviews are hold with different people to look for the information needed. Most of the interviews are going to be semi structured, open ended questions. The interview is conducted for higher authorities and managers in the company to gain close insight about the problem and for the ease of finding solution.

Focus group discussion is a group of people gathered together to discuss a specific subject of common interest or knowledge. It involves 6-12 people to discuss about the subject matter.

Firstly, a heterogeneous focus group discussion with people of different backgrounds, Such as technical staffs, main customers, and daily labour workers is held. This is useful in order to understand some general information directly and indirectly related to the factory status and general information. There are two ways to do this:

1. Selecting the people for the focus group: you include professional staff workers and customer consumers, of the organization.
2. Begin the focus group with the first group you meet upon arrival in the area (in order to have heterogeneous group): people are asked for an interview while they are being gathered together.

1.7.6 Data Analysis Method

The questioner's response entered into percentage and mean analysis. In order to check the quality of the data entry, about 10% of the questioners were double entered and different data entries were compared to identify critical areas rechecking. In order to gain each findings in the study descriptive statistics and profit loss statement is used.

1.7.7 Organization of the Data

Each data are organized based on different pattern of characterization of each attribute of the company. This characterization of each part of the company are in ported to the data analysis method and their revealed and organized in table format. If it is found necessary, the study is open to use other data organizational methods such as chart, graph, pie chart etc...

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Effective Inventory Management

Effective inventory management can literally be the difference between profit and loss. It can be the difference between success and failure.

While inventory handling includes many, many functions and tasks, there are some basic elements that must always be considered. First among these is the time that newly received inventory is allowed to remain in the receiving area. In a tight margin business it is important that merchandise not be allowed to remain sitting in receiving areas for lengthy periods of time. In fact a strategy might be to establish time limits to ensure that the oldest merchandise is stocked before newly arrived merchandise.

Back stock handling and storage is another concern. After opening a store it is easy to get into the habit of simply placing full and partial boxes of excess merchandise on shelves above the sales floor. Often these boxes are dull and tend to reduce the amount of light that actually gets to the merchandise that is being displayed for sale. A much more effective strategy when there is excess merchandise is to simply remove that merchandise from the shipping box and place the merchandise on display overhead. Not only does this brighten up the store sales area, but you will also make a few extra sales. (Biederman, 2004: 1)

Time is money when you are producing a store and Merchandise display, it is critical to sales yet efforts must be made to do everything possible to reduce the labor associated with merchandise handling and display. One way to reduce labor cost is by using striping and bulk

display strategies properly. Striping should be the standard practice for most of the store. Bulk display should be practiced in high-volume areas where you do not maintain high inventory levels. Areas where bulk displays should be used include cleaners, paper goods, food, some health and beauty items and others.

Another area of concern is the actual ordering of products for resale. To reduce the amount that is invested in merchandise inventory frequent, smaller orders are best. Almost never is it appropriate to order quantities that require maintaining back stock in a storage area. Maintaining back stock can result in shrinkage as well as double and even triple handling of merchandise. There are exceptions such as opportunities to obtain products at special pricing. It is important to remember that under-ordering of in-demand merchandise can create out-of-stock situations that can cost you sales and ultimately customers (Hamilton, 2006:17).

According to (inventory Ops, 2004: 64), define “Inventory Operations as the combination of systems and processes involved with inventory management as well as the physical aspects of storage and material handling”. I use this definition to control the content of this site.

2.2 Problems related to Inventory management

Inventory management is a key problem in several industries, (car renting, storehouse space renting, etc.). It consists of managing a given fleet of equipment in order to satisfy requests to use it. When requests exceed the stock of available equipment, a decision has to be made, either to subcontract some requests to another provider or to purchase new pieces of equipment. The main difficulty lies in the fact that a subcontracted request must be subcontracted for all the duration of the request. For example, if a subcontracted car is rented to a given customer, this customer will keep the subcontracted car for all the duration of the rental. In this paper, we propose a set of benchmark problem instances, derived from real-world inventory management problems (Myers, 2000:23).

2.3 Inventory Accuracy

Inventory accuracy depends based on the following major factors:

I. Attitude Maintaining inventory accuracy must be an integral part of the attitude of the organization. Like quality, customer service, and plant safety, accuracy must be promoted throughout the organization as everyone's responsibility. This attitude must start at the top

levels. Processes are often shortcut in the name of "Customer Service" (this also applies to processes for Quality, Inventory Management, and Production Plans) that reduce or eliminate the effectiveness of the plan, which in the long run will reduce the ability to service customers.

II. Process Definition While defining the processes, looking for opportunities of errors and implementing changes to eliminate or reduce them. Even the most accurate employee will make errors; I suggest placing formal checks in place for critical operations. Get as many people involved in this step to completed and accurate understanding of the processes. Anything missed in this step will require new procedures and additional employee training later, so once again, "take the time and do it right".

III. Procedure Documentation This is the part where you use the previously defined processes to document the procedures the employees will follow to maintain inventory integrity. The procedures documented here should not be limited to inventory issues; they should be the complete procedure including quality, physical aspects, and safety. This documentation should be as clear and comprehensive as possible. It should be written for a specific task within a specific job responsibility, it should include everything the employee needs to know to complete the task and nothing else. For example: if a stock clerk's responsibility is to notify the supervisor of any discrepancies, that is all it should state in the procedure for the stock clerk even though there will be additional procedures for dealing with the discrepancy. Procedures should also include the correct method for filling out and processing paperwork, the sequence and timing of entering data, and any checks that are required to be performed. If there are any exceptions to a procedure they should be specified in the document, allowing undocumented exceptions to a procedure will decrease its effectiveness. Be realistic, procedures are not a "wish list", they are the documentation of the requirements of a specific task. You must be prepared to enforce compliance to all procedures. Once completed with the documentation, first distribution the procedures to a few key employees, then monitoring existing operations to see if anything was missed or if anything is incorrect. Once this is done, the procedures should be officially put into effect and distributed to all employees. (Myers, 2000:24)

2.4 Why Keep Inventory?

Why would a firm hold more inventory than is currently necessary to ensure the firm's operation? The following is a list of reasons for maintaining what would appear to be "excess" inventory.

Table 1

	January	February	March	April	May	June
Demand	50	50	0	100	200	200
Produce	100	100	100	100	100	100
Month-end inventory	50	100	200	200		0

Meet Demand In order for a retailer to stay in business, it must have the products that the customer wants on hand when the customer wants them. If not, the retailer will have to back-order the product. If the customer can get the good from some other source, he or she may choose to do so rather than electing to allow the original retailer to meet demand later (through back-order). Hence, in many instances, if a good is not in inventory, a sale is lost forever. (Biederman, 2004: 1)

Keep Operations Running A manufacturer must have certain purchased items (raw materials, components, or subassemblies) in order to manufacture its product. Running out of only one item can prevent a manufacturer from completing the production of its finished goods.

Inventory between successive dependent operations also serves to decouple the dependency of the operations. A machine or work center is often dependent upon the previous operation to provide it with parts to work on. If work ceases at a work center, then all subsequent centers will shut down for lack of work. If a supply of work-in-process inventory is kept between each work center, then each machine can maintain its operations for a limited time, hopefully until operations resume the original center. (Stevenson, 2005)

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

If a supplier (an external firm or an internal department or plant) cannot supply the required goods on demand, then the client firm must keep an inventory of the needed goods. The longer the lead time, the larger the quantity of goods the firm must carry in inventory.

A just-in-time (JIT) manufacturing firm, such as Nissan in Smyrna, Tennessee, can maintain extremely low levels of inventory. Nissan takes delivery on truck seats as many as 18 times per day. However, steel mills may have a lead time of up to three months. That means that a firm that uses steel produced at the mill must place orders at least three months in advance of their need. In order to keep their operations running in the meantime, on-hand inventory of three months' steel requirements would be necessary. (Sucky, 94: 253)

Hedge Inventory can also be used as a hedge against price increases and inflation. Salesmen routinely call purchasing agents shortly before a price increase goes into effect. This gives the buyer a chance to purchase material, in excess of current need, at a price that is lower than it would be if the buyer waited until after the price increase occurs. (Sucky, 94: 253)

Quantity Discount Often firms are given a price discount when purchasing large quantities of a good. This also frequently results in inventory in excess of what is currently needed to meet demand. However, if the discount is sufficient to offset the extra holding cost incurred as a result of the excess inventory, the decision to buy the large quantity is justified. (Biederman, 2004: 1)

Smoothing Sometimes inventory is used to smooth demand requirements in a market where demand is somewhat erratic. Notice how the use of inventory has allowed the firm to maintain a steady rate of output (thus avoiding the cost of hiring and training new personnel), while building up inventory in anticipation of an increase in demand. In fact, this is often called anticipation inventory. In essence, the use of inventory has allowed the firm to move demand requirements to earlier periods, thus smoothing the demand. (Sucky, 94: 253)

2.5 Controlling Inventory

Firms that carry hundreds or even thousands of different part numbers can be faced with the impossible task of monitoring the inventory levels of each part number. In order to facilitate this, many firm's use an ABC approach. ABC analysis is based on Pareto Analysis, also

known as the "80/20" rule. The 80/20 comes from Pareto's finding that 20 percent of the populace possessed 80 percent of the wealth. From an inventory perspective it can be restated thusly: approximately 20 percent of all inventory items represent 80 percent of inventory costs. Therefore, a firm can control 80 percent of its inventory costs by monitoring and controlling 20 percent of its inventory. But, it has to be the correct 20 percent.

The top 20 percent of the firm's most costly items are termed "A" items (this should approximately represent 80 percent of total inventory costs). Items that are extremely inexpensive or have low demand are termed "C" items, with "B" items falling in between A and C items. The percentages may vary with each firm, but B items usually represent about 30 percent of the total inventory items and 15 percent of the costs. C items generally constitute 50 percent of all inventory items but only around 5 percent of the costs.

By classifying each inventory item as an A, B or C the firm can determine the resources (time, effort and money) to dedicate to each item. Usually this means that the firm monitors A items very closely but can check on B and C items on a periodic basis (for example, monthly for B items and quarterly for C items).

Another control method related to the ABC concept is cycle counting. Cycle counting is used instead of the traditional "once-a-year" inventory count where firms shut down for a short period of time and physically count all inventory assets in an attempt to reconcile any possible discrepancies in their inventory records. When cycle counting is used the firm is continually taking a physical count but not of total inventory.

A firm may physically count a certain section of the plant or warehouse, moving on to other sections upon completion, until the entire facility is counted. Then the process starts all over again.

The firm may also choose to count all the A items, then the B items, and finally the C items. Certainly, the counting frequency will vary with the classification of each item. In other words, A item may be counted monthly, B items quarterly, and C items yearly. In addition the required accuracy of inventory records may vary according to classification, with A items requiring the most accurate record keeping. (Sucky, 94: 253)

Inventory control involves the procurement, care and disposition of materials. There are three kinds of inventory that are of concern to managers:

- Raw materials,
- In-process or semi-finished goods,
- Finished goods.

If a manager effectively controls these three types of inventory, capital can be released that may be tied up in unnecessary inventory, production control can be improved and can protect against obsolescence, deterioration and/or theft, The reasons for inventory control are:

- Helps balance the stock as to value, size, color, style, and price line in proportion to demand or sales trends.
- Help plan the winners as well as move slow sellers
- Helps secure the best rate of stock turnover for each item.
- Helps reduce expenses and markdowns.
- Helps maintain a business reputation for always having new, fresh merchandise in wanted sizes and colors.

Three major approaches can be used for inventory control in any type and size of operation. The actual system selected will depend upon the type of operation, the amount of goods.

The Eyeball System

This is the standard inventory control system for the vast majority of small retail and many small manufacturing operations and is very simple in application. The key manager stands in the middle of the store or manufacturing area and looks around. If he or she happens to notice that some items are out of stock, they are reordered. In retailing, the difficulty with the eyeball system is that a particularly good item may be out of stock for sometime before anyone notices. Throughout the time it is out of stock, sales are being lost on it. Similarly, in a small manufacturing operation, low stocks of some particularly critical item may not be noticed until there are none left. Then production suffers until the supply of that part can be replenished. Such un systematic but simple retailers and manufacturers to their inherent disadvantage.

Reserve Stock (or Brown Bag) System

This approach is much more systematic than the eyeball system. It involves keeping a reserve stock of items aside, often literally in a brown bag placed at the rear of the stock bin or storage area. When the last unit of open inventory is used, the brown bag of reserve stock is opened and the new supplies it contains are placed in the bin as open stock. At this time, a reorder is immediately placed. If the reserve stock quantity has been calculated properly, the new shipment should arrive just as the last of the reserve stock is being used.

In order to calculate the proper reserve stock quantity, it is necessary to know the rate of product usage and the order cycle delivery time. Thus, if the rate of product units sold is 100 units per week and the order cycle delivery time is two weeks, the appropriate reserve stock would consist of 200 units ($100u \times 2w$). This is fine as long as the two-week cycle holds. If the order cycle is extended, the reserve stock quantities must be increased. When the new order arrives, the reserve stock amount is packaged again and placed at the rear of the storage area.

This is a very simple system to operate and one that is highly effective for virtually any type of organization. The variations on the reserve stock system merely involve the management of the reserve stock itself. Larger items may remain in inventory but be cordoned off in some way to indicate that it is the reserve stock and should trigger a reorder.

Perpetual Inventory Systems

Various types of perpetual inventory systems include manual, card-oriented, and computer-operated systems. In computer-operated systems, a programmed instruction referred to commonly as a trigger, automatically transmits an order to the appropriate vendor once supplies fall below a prescribed level. The purpose of each of the three types of perpetual inventory approaches is totally either the unit use or the dollar use (or both) of different items and product lines. This information will serve to help avoid stock-outs and to maintain a constant evaluation of the sales of different product lines to see where the emphasis should be placed for both selling and buying. (U.S. Small Business Administration, 2002: 1-3)

2.6 Successful Inventory Management

Successful inventory management involves balancing the costs of inventory with the benefits of inventory. Many small business owners fail to appreciate fully the true costs of carrying inventory, which include not only direct costs of storage, insurance and taxes, but also the

cost of money tied up in inventory. This fine line between keeping too much inventory and not enough is not the manager's only concern. Others include

- a) Maintaining a wide assortment of stock but not spreading the rapidly moving ones too thin;
- b) Increasing inventory turnover, but not sacrificing the service level;
- c) Keeping stock low but not sacrificing service or performance.
- d) Obtaining lower prices by making volume purchases -- but not ending up with slow-moving inventory; and
- e) Having an adequate inventory on hand but not getting caught with obsolete items.

The degree of success in addressing these concerns is easier to gauge for some than for others. For example, computing the inventory turnover ratio is a simple measure of managerial performance. This value gives a rough guideline by which managers can set goals and evaluate performance, but it must be realized that the turnover rate varies with the function of inventory, the type of business and how the ratio is calculated (whether on sales or cost of goods sold). Average inventory turnover ratios for individual industries can be obtained from trade associations. (Stevenson, 2005)

2.7 School of Thought of Inventory Management

The first MRP systems of inventory management evolved in the 1940s and 1950s. They used mainframe computers to explode information from a bill of materials for a certain finished product into a production and purchasing plan for components. Before long, MRP was expanded to include information feedback loops so that production personnel could change and update the inputs into the system as needed. The next generation of MRP, known as manufacturing resources planning or MRP II, also incorporated marketing, finance, accounting, engineering, and human resources aspects into the planning process. A related concept that expands on MRP is enterprise resources planning (ERP), which uses computer technology to link the various functional areas across an entire business enterprise.

There are a number of techniques and philosophies that view inventory management from different perspectives. According to Stevenson, MRP and MRP II are computer-based resource management systems designed for items that have dependent demand. MRP and MRP II look at order quantities period by period and, as such, allow discrete ordering (ordering only what is currently needed). In this way inventory levels can be kept at a very

low level; a necessity for a complex item with dependent demand. On the other hand, (P.C Pandey, 1996:12-28) advocates, MRP works backward from a production plan for finished goods to develop requirements for components and raw materials. MRP begins with a schedule for finished goods that is converted into a schedule of requirements for the subassemblies, the component parts, and the raw materials needed to produce the final product within the established schedule. MRP is designed to answer three questions: *what* is needed? *How much* is needed? And *when* is it needed?"

MRP breaks down inventory requirements into planning periods so that production can be completed in a timely manner while inventory levels—and related carrying costs—are kept to a minimum. Implemented and used properly, it can help production manager's plan for capacity needs and allocate production time. But MRP systems can be time consuming and costly to implement, which may put them out of range for some small businesses. In addition, the information that comes out of an MRP system is only as good as the information that goes into it. Companies must maintain current and accurate bills of materials, part numbers, and inventory records if they are to realize the potential benefits of MRP.

Again Stevenson advocates Just in Time, is the lowest possible levels of inventory. JIT espouses that firms need only keep inventory in the right quantity at the right time with the right quality. The ideal lot size for JIT is one, even though one hears the term "zero inventories" used.

Theory of constraints (TOC) is a philosophy which emphasizes that all management actions should center on the firm's constraints. While it agrees with JIT that inventory should be at the lowest level possible in most instances, it advocates that there be some buffer inventory around any capacity constraint (e.g., the slowest machine) and before finished goods. (Stevenson, 2005)

2.8 The Future of Inventory Management

The advent, through altruism or legislation, of environmental management has added a new dimension to inventory management—reverse supply chain logistics. Environmental management has expanded the number of inventory types that firms have to coordinate. In addition to raw materials, work-in-process, finished goods, and MRO goods, firms now have to deal with post-consumer items such as scrap, returned goods, reusable or recyclable

containers, and any number of items that require repair, reuse, recycling, or secondary use in another product. Retailers have the same type problems dealing with inventory that has been returned due to defective material or manufacture, poor fit, finish, or color, or outright "I changed my mind" responses from customers.

Finally, supply chain management has had a considerable impact on inventory management. Instead of managing one's inventory to maximize profit and minimize cost for the individual firm, today's firm has to make inventory decisions that benefit the entire supply chain. (Stevenson, 2005)

CHAPTER THREE

3. Data Analysis Presentation and Interpretation

The result and analysis of this paper implicitly assesses the process, activities, and problems of Dan Techno craft and explicitly interprets secondary information through identifying major indicators. Each indicator is analyzed based on the aim and objective of the study. Each variable is selected by importing conceptual characteristics from the general framework that guides well-mannered inventory handling practices and warehouse operation. In order to look and assess the inventory handling process, narrowing variables only into warehouse operation system gives limited and unsatisfactory images to the whole study and might disclose wrong conclusions. As a result the study involves selecting variables and obtaining information from the general background of the company to the specific procedures and processes of inventory handling practices. While saying this 64 questionnaires are distributed to each customer in February, 28 and returned in March 3. Out of the distributed sample on average 4 of the samples are discarded due to improper answer. It should be also noted that selected variables and secondary data's used are directly correlated with the objective of the study.

3.1 Basic Characteristics of the Employees

Table 3.1 Basic Characteristics of Employees

No	Item	Responses	
		No	%
1	Sex: a) Male b) Female	50	83.3
		10	16.7

2	Education Qualification: a) Ph. D	0	0
	b) Master of Science/Art	2	3.3
	c) Bachelor Degree of Science/Art	34	56.6
	d) Diploma	8	13.3
	e) certificate	16	26.6
3	Working Departement: a) Material Management	21	35
	b) Production Management	31	51.6
	c) Purchasing and Finance	8	13.3
4	Years of Experience: a) 0-1	14	23.3
	b) 1-3	17	28.3
	c) 3-5	9	15
	d) 5-7	8	13.3
	e) 7-9	8	13.3
	f) Above 9 years of Experience	4	6.6
5	Position: a) Management		
	b) Expert	7	11.6
	c) Labour Work	26	43.3
	d) Others	17	28.3

As it is summarized in Table 3.1, item one, one of the company's bodies that should be appreciated is the human resource department. The department mainstreamed gender issues in recruiting female workers into the company. The data collected shows well about this fact. From the total permanent employees sampled, 10 (16.7%) female employees, and 40 (83.3%) male employees are working. Although the data shows higher prevalence of male employees are working, the company is trying to hire much more female for the coming few years. The

reason why it is difficult to involve more females is the supply of female technology trainee from higher institutions is low.

As the data shows in Table 3.1 item 2, the employees are majorly B.Sc. degree holders counting about 34 (56.6%). The rest are distributed as follows. 2 (3.3%) masters, 8(13.3%) college diploma and 16(26.6%) certificate holders. The reason for this is the company is involved in profit making operations, so it needs more of expertise with Bachelor Degree holders.

According to Table 3.1, item 3, stratification made in terms of working department shows, 21(35%) employees work in the material management department, 31 (51.6) employees are workers of production management department, and 31(51.6%) employees works in the purchasing and finance department. More experts are needed in the production department is because; the company is focusing in increasing the number of products and quality each year.

As presented in Table3.1, Item 4 the numbers of employees that are hired are mainly young individuals who are fresh graduates. According to the human resource department, the company prefers to hire youngsters in order to train young individuals about technology and as well they will get less price of labor so that the cost of human resource will be low. Based on the data 14(23.3%) are employees having no or 1 year of experience, 17(28.3%)of the employees have 1-3 years of experience, 9(15%), 8 (13.3%), 8(13.3%), and 4 (6.6%) have 3-5, 5-7, 7-9, and above 9 years of working experience.

As the data shows in Table 3.1, Item 5 out of the 60 sampled employees, 7(11.6%) are in the managerial position, 26(43.3%) experts, and 17(28.3)are labor workers. This shows that the company has higher number of skilled workers. According to the human resource this is due to the need of higher efficiency labor is require to conduct the jobs available.

3.2 Information regarding Inventory Policy and Production Efficiency

No	Item	responses	
		No	%
1	Type of inventory system the company follow: a) Perpetual inventory system b) Reverse Stock or Brown Back c) the eye ball system d) Physical counting system e) ABC system	60	100
2	Inventory policy: a) Quality policy b) Quantity policy		60 40
3	Major kind of product ordered to be produced a) Traffic light b) Furniture c) Elevator Total	46 74 12 132	34.8 56 9 100
4	Products ordered and delivered according to the time schedule a) Traffic light b) Furniture c) Elevator Total	40 59 5 104	30.3 44.69 3.78 78.78
5	Production controlling efficiency a) Pre-action controlling efficiency b) Post-action controlling efficiency c) Performance feedback system		50 30 20

As table 3.2, item 1 shows, all the respondents agree on the inventory system that the company follows. This is physical counting system. Majority of our country inventory system is the same system, due to best fit to the market and logistic condition.

As it is summarized in Table 3.2, item 2, information was collected on what kind of policies they follow in order to have a proper assessment in identifying the problems facing the inventory handling management and system of the company. Dan Techno Craft, since the past two years the management office was following quality and quantity policy at equal hand but later or the near past two years it has been evident that quality policy is preferred. According to the quality manager Lakew (2010), the company is following more profitable scheme than the past two years due to having more customers at its hand. As a result, according to him the company management is prioritizing more on the quality (giving it around 60% share) of the inventories as well as products, than the number of products that will produced or the inventory inputs ordered.

According to Table 3.2, item 3 the data shows the company produce Traffic light 46 (34.8%), Furniture 74 (56%), and Elevator 12(9%). It is well known the company is presumed as one and only producer of elevators, even though it manufactures in majority other products such as furniture's, traffic lights and frame of different equipment's. This is as a result of much of the marketing departments emphasizes on elevator production due to a higher rate of return for the company.

As presented in Table3.2, Item 4 the Company faces problem in producing Elevator and deliver the product to the customers based on the time schedule. From the observed products that the company produces, among all other major products Elevator is delivered to the customers less efficiently accounting 3.3%.This is as a result of; the quantity input for the manufacturing of elevator is high and is shipped from other countries abroad.

According to Table 3.2, Item 5 the company follows three types controlling workers efficiency mechanism. This are described as follows. Pre-action controlling efficiency mechanism is one of the mechanism widely used, accounting about 50% of the controlling mechanism. This method is used in order to know the worker efficiency before he employs any effort in the job. This is done following mechanisms based on the company criteria. The second method is post- action controlling mechanism accounting 30%. This is done after an employee started putting effort on the job. This is the most important approach and mainly employed, and it will help in order to determine worker efficiency on sight. The third method is

performance feedback system, accounting 20%. This method gathers information from customer's attitude.

3.3 Information Regarding Inventory

No	Item	Responses	
		No	%
1	Major inventory input needed		
	a) Bolt and Nut	10	16.6
	b) Round Bar	9	15
	c) Motor	41	68.3
	d) Total	60	100
2	Material input Left Over		
	Yes	42	70
	No	18	30
3	If answer is yes for item no2, reason		
	A) Miscalculation of Material in Put	6	10
	b) New efficient designs of material	5	8.3
	c) Lack of standard system of material list	38	63.3
	d) Purchasing in excess for future production	18.3	30.5

5	Cost extent for the excess inventory a) High b) Medium c) Low	60	100
5	What Measures has been taken for the excess a) Put into proper storage b) Selling in a bid market c) Returning the product based on refund System	56 3 1	93.3 5 1.7
6	Material input shortage a) Yes b) No	34 26	56.6 43.3
7	If answer is yes for item no 7, reason a) Miscalculation of material inputs b) Lack of finance c) Lack of standard system of material List d) Ambition to save cost	22 6 26 6	36.6 10 43.3 10
8	What measures has been taken for the shortfall		

	<p>a) Using products previously stored</p> <p>b) Purchasing the product</p> <p>c) Changing the material design into Least cost</p> <p>d) Delaying the product ordered</p>	<p>32</p> <p>12</p> <p>0</p> <p>16</p>	<p>53.3</p> <p>20</p> <p>0</p> <p>26.6</p>
9	<p>What is the type of storage shelving</p> <p>a) Metal shelving</p> <p>b) wooden shelving</p> <p>c) Steel Shelving</p>	<p>1</p> <p>59</p> <p>0</p>	<p>1.6</p> <p>98.3</p> <p>0</p>
10	<p>What type of storage record does the company Follow</p> <p>a) Closed system</p> <p>b) Open system</p>	<p>0</p> <p>60</p>	<p>0</p> <p>100</p>
11	<p>Storage records</p> <p>a) Accessible, since the last 2-5 years</p> <p>b) Accessible, since the last 5-8 years</p> <p>c) Accessible, 8 years and above</p>	<p>10</p> <p>23</p> <p>27</p>	<p>16.6</p> <p>38.3</p> <p>45</p>

According to a survey conducted Table 3.3 item 1 show, for the 60 sample unit, 3 products are referred from the respondents as the major inventory inputs needed for the whole functioning of the company for its manufacturing. According to the received data the company needs majorly, 16.6 % Bolt and nut, 15 % Round Bar, and 68.3% Motor.

Table 3.3 items 2 shows how many of the material inputs are purchased and found to be excess in amount for the whole production process. Based on the selected respondents 70% of them agree on having purchased excess material inputs each year. This is as a result; the company doesn't know exactly the specification of each product that is assumed to be produced. Whenever a product is ordered the company follows the procedure of making calculations on the material input needed.

As presented in Table 3.3, Item 3, 68% of the respondents answered; the company has a problem of making standard material lists or material input specifications for each assumed to be majorly ordered products.

On the other hand the cost extent of the product that is excessively purchased does not lead the company to fall under loss. This is because ordering an excess material input by itself will help the company to save some amount of money in terms of considering future time value of a product. As presented in Table 3.3, Item 4, all of the respondents agree on purchasing an excess product have small or lower opportunity cost to the company due to saving time value as discussed in the above discussion.

As summarized in Table 3.3, Item 5, 93.3% of the respondents agreed on, majority of the products that are purchased in excess are put into proper storage. This is the other reason why the material input purchased in excess does not lead the company to higher under a higher cost.

On the contrary, Table 3.3, Item 6 shows 56.6% of the respondents agree on having shortage of material lists while production. Again as presented in Table 3.3, Item 7, 43.3% of the respondents believe the shortage existed due lack of standard material lists. But the cost incurred to the company in this case is not as low as the case with excess material input, but even higher due to additional shipment and logistic cost. When we look at the same table item 8, for the material input that has shown shortage, 56.6% of the respondents agree on, the material that has shown shortage are listed and material input will be imported from the warehouse storage facility.

Based on Table 3.3, Item 9, 98.3% of the respondents answered the material input that are stored are in metal shielding, while 1.7 % of the respondents answered that some years back the company used to have wooden shielding in order to save cost. On the same table item 10, the companies follow open storage system because this system is efficient in saving time, easily accessible and reduce procedural logistics.

On the other hand on table 3.3, item 11 all respondents answered that the company storage record is accessible starting from two years to more than 8 years. This helps to make easy managerial decision for the company.

3.4 Information regarding Customer Attitude

No	Item	Responses	
		No	%
1	Complements received		
	a) Excellent	104	21
	b) Very Good	202	40.9
	c) Good	119	24.1
	d) Satisfied	68	13.7
	Total	493	100
2	Complains:		
	a) Products delivered according to the time schedule	54	65
	b) The quality of the product is poor	17	20.4
	c) Quality and delivery is poor	1	1.2

d) Customer treatment is poor	11	13.2
Total	83	100

According to Table 3.4, item 1 complements are received from 493 customers 40.9% are very good while 13.7% are only satisfied with the service and product they get. On the other hand on the same table item 2 major complements are shown. From this, the major complains received is lag of time delivery of products to the customers accounting 65%.

Since now it has been looked at the quantitative survey conducted, the forth coming discussion is about the qualitative survey conducted in terms of Interview and focus group discussion. The company follows dynamic procedural activity in terms of season of production and keeping the quality as well as quantifying the products.

Products are ordered majorly from United Arabia Emirates and China, and purchasing these products is financed by the finance department. The term of agreement is signed by the company and the suppliers are based on the supplier's responsibility to deliver the product till Djebouti. Then the company takes full responsibility in the next procedure.

Since it is found that the company has a problem in terms of system but no in terms of specific ware house operation, all the ware houses share a common problem other than specific problems. This means the inventory operation system of the company has generally shortfalls in managing. In order to improve this many corrective measures had been taken; some of the measures are in terms of changing the design of the products and re arranging another purchasing operation.

While purchasing or rearranging another purchasing procedure, is determined based on the policy, and terms as well as rules of the company. Getting this information as well as description of the structure of each department; was unable due to terms and regulation of company confidentiality. On the other hand satisfying the services to the customers is briefly discussed on the above section of the discussion.

CHAPTER FOUR

4. Summary, Conclusion and Recommendation

4.1 Summary

This study tries to appraise the problem of inventory handling in Dan Techno craft, p.l.c. Description in what warehouse operation system does the company has a major problem in handling inventory, Identifying the root cause of poor inventory handling, Assessing the role of the solutions that has been given to improve the inventory management system and analysing to what extent the inventory handling problem affect the company profitability are some of the objective of the study.

After conducting survey for about 60 sample units and focus group discussion as well as key informant interview, followed by an in depth assessment it was found that, 70% of the respondents refers that, each production year there is material left over needed for each item planed to be produced, as well 56.6% of the respondents reflects the existence of material

input shortages for the products assumed to be produced. On the other hand, based on the effort made to know the cause of this material input redundancy, 68% of the respondents assured that the company has a problem of making standard material lists or material input specifications for each assumed to be majorly ordered products.

In order to mitigate this problem, According to the data gained through the survey, 53.3% of the respondents had answered that using the products that is stored in previous production is chosen as a as a mechanism to fulfil the needed material input when material input shortage exists. On the other hand, since purchasing in excess of material inputs for the material input assumed to be needed for current production does not cause unnecessary cost leading the company to profit loss, the authority prefers to do nothing about it.

Based on the qualitative survey conducted, the management had been planning 5 years plan and moving by the plan for the past two years. But before this five years plan there was no any major movement was made in order to give solution for this problem. As a result the company used to suffer whenever a shortfall in inventory input exists, because it leads to a shock of 2% -3% losses in profitability.

4.2 Conclusion

A major assessment was made in order to analyze the major inventory handling problem in Dan Techno Craft. Through this process, description of which ware house system more often face a major problem of handling inventory, identification of the root cause of inventory handling, and assessing the role of the solution that had been conducted to improve the inventory management system as well as analyzing the cost extent of the problem are looked at.

Based on the assessment made the company has organized procedural activities in managing ware houses but the main problem relies on having efficient material list system to be produced at the beginning of each working years. Looking at the organizational structure and marketing strategy, having an excess material input is acceptable and sometimes important in reducing future material costs if it has been properly stored, and the same procedure is being followed.

On the contrary the company has good records in storing excess material inputs in a proper and standard form as a result it contributed in reducing future material needs in terms of cost; in addition the storage records conducted can be easily accessed, until the time drawing back eight years eight. The managerial authority has been working on reducing each year existence of material shortages which is an escalating problem directly related to the previously mentioned problem (having no standard material listing method).

4.2 Recommendation

Control of inventory, which represents 45% - 90% of all expenses for the company business, is needed to ensure the company has the right goods on hand to avoid short falls as well as excess, and to provide proper accounting. Worse, they may have their capital tied up in the wrong kind of inventory. Inventory may be old, worn out, shopworn, obsolete, or the wrong sizes or colors, or there may be an imbalance among different product lines that reduces the customer appeal of the total operation.

The company should first produce standard material lists at the beginning of each year. On the other hand, as a second priority, finding out a better rout way chain of accessing markets will reduce an excess cost created due to shipment whenever inventory input is found to be in shortage. So that a better marketing strategy is necessary, in order to prevent an extra cost when additional an inventory input is needed.

This can be done by employing more technical staffs as well as experienced Engineers in terms of legal temporary agreement. And this is mainly done after at the beginning of the production year. On the other hand, until this procedure is accomplished, the purchasing department should always order inventory inputs in excess and put in a proper storage. So than whenever material inputs are becoming shortfall, inputs will be substituted immediately. In this case customers satisfaction will be increased due to the products are delivered according to the time schedule.

Bibliography

American Recovery and Reinvestment Act, H.R. 1- 92-94.

Benton, W. C.,(2007). **Purchasing and Supply Management**, McGraw-Hill/Irwin, New York.

Biederman, (2004). (pp.1-34), **“Why the relationship Matter,”** Supply Chain Management Review.

Chopra, Sunil, and Peter Meindl, (2001). **Supply Chain Management, and Operation**, Upper Saddle River, NJ: Prentice-Hall, Inc.

Goldratt, Eliyahu M., (1984), **The Goal**, Great Barrington, MA: The North River Press Publishing Corporation.

Harris, L.D., and M.B. Perlberg, (2008) **“The Advantage of the Consensus DOCS,”**

Presented at winds of Change, “The Consensus DOCS,” America Bar Association Forum on the Construction Industry, September 11-12, Chicago, IL.

Johnson, Steven, (2001), Emergence: **The connected Lives of Ants, Brains, Cites, and**

Software, NY: Scriber.

Knight, F.,(1965) (First published in 1921) **Risk, Uncertainty and Profit**, Harper and Row, New York.

MacBeth, D.K., and N. Ferguson, (1994), **Partnership Sourcing: An Integrated Supply Chain Management Approach**, Pitman Publishing.

MacNeil, Ian R., (1980), **The New Social Contract**, An Inquiry into Modern Contractual Relations, Yale University Press, New Haven, CT.

Senge, Peter M., (1990), **The Fifth Discipline: The Art and Practice of the learning Organization**, New York, NY: Doubleday/Currency.

Integra Core Document, (2000), Standard Forum of Agreement between Contractor and Subcontractor, pp 45, Description of project.

Stack, Jack, (1992), **The Great Game of Business**, New York, NY: Currency/ Doubleday.

Porter, Michael, (1985), **Competitive Advantage: Creating and Sustaining Superior Performance**, New York Free Press.

[http:// www.iacontractdocuments.org/](http://www.iacontractdocuments.org/)

[http:// www.content.asce.org/ ejcdc](http://www.content.asce.org/ejcdc)

Appendix 1

ST. Mary University College

Department of Management

Questionnaire to be filled by employees of Dan technocrat

The questionnaire majorly focuses on inventory handling practice and problems. Your act reaction is vital for the realization of the study and will used for the analysis in the study. Therefore you are kindly requested to reply the question with sincerely and honestly.

- There is no need of writing your name
- For questions which are provided with alternative answer, make a tick mark on the space provided.

- For questions that are not provided with alternative answer, you are kindly requested to write your answer on the space provided. Thank you in advance.

Part One

Basic Information Regarding Respondents

1. Sex a) Male

b) Female

2. Years of Experience

a) 0-1

b) 1-3

c) 3-5

d) 5-7

e) 7-9

f) above 9

3. Work department

a) Material management

b) Production management

c) Purchasing and finance

4. Position

a) Management

b) Expert

c) Labour work

d) Other

Part Two

Information Regarding inventory policies and procedure

1. What is the major inventory handling system does the company follow?

a) Perpetual inventory system

b) Reverse stock or brown back system

c) The eye ball system

d) Physical counting system

e) ABC system

2. What type of policy does the company follow?

a) Quality Policy

b) Quality and Quantity Policy

c) Quantity Policy

d) Other _____

3. What kinds of Products are ordered to be produced? (You can choose more than one choices).

- | | | | |
|----------------------------------|--------------------------|------------------|--------------------------|
| a) Elevator | <input type="checkbox"/> | b) Spare parts | <input type="checkbox"/> |
| c) Electronic Chips | <input type="checkbox"/> | d) Furniture's | <input type="checkbox"/> |
| e) Frame of different equipments | <input type="checkbox"/> | f) Traffic light | <input type="checkbox"/> |

4. Are all the products that are ordered are delivered to the customers, Based on the time schedule?

1. Yes 2. No

If your answer for question number 3 is NO, please try to answer the following question number 4 and 5

5. How many of the products are order but not produced and delivered according to the time schedule?

- | | | | |
|----------|--------------------------|----------|--------------------------|
| a) 0-20 | <input type="checkbox"/> | b) 20-40 | <input type="checkbox"/> |
| c) 40-60 | <input type="checkbox"/> | d) X>60 | <input type="checkbox"/> |

6. What are the major products that are ordered but not produced and delivered according to the time schedule? (You can choose more the one choice)

- | | | | |
|----------------------------------|--------------------------|-------------------|--------------------------|
| a) Elevator | <input type="checkbox"/> | b) Spare parts | <input type="checkbox"/> |
| c) Electronic Chips | <input type="checkbox"/> | d) furniture's | <input type="checkbox"/> |
| e) Frame of Different equipments | <input type="checkbox"/> | f) Traffic lights | <input type="checkbox"/> |

7. If your answer for question number 3 is YES, please try to answer the following question 7 and 8?

8. How many of the products ordered, produced and delivered according to the time schedule?

a) 0-10 b) 10-30 c) 30-50 d) 50-80 e) X>80

9. What are the major products those are ordered and produced according to the time schedule? (You can choose more than one choices)

a) Elevator
b) Furniture's
c) Traffic Light

10. Controlling workers efficiency

a) Pre action controlling efficiency
b) Post action controlling efficiency
c) Performance feedback system

Part 3

Information Regarding Inventory

1. What type of inventory system does the company follows?

- a) Perpetual inventory system b) Reverse stock or brown bag
- c) The eye ball system d) Physical counting system
- e) ABC system

2. What is the major inventory input needed to produce the products that are ordered by customers? (For the product chosen in part 2 question number 4)

- a) Bolt an Nut b) Sheet and metals
- c) Round Bar d) Screw e) Motor

3. Is there any material left over or shortage existed during or after production of the major inventory input? (For the inventory input chosen in part 2, question number 4)

- a) Yes b) No

If your answer for question number 3 is YES, please try to answer the next question

4. Mention some of the reasons why some of the inventory input ordered being excess or shortfall?

Excess Inventory

- a. Miscalculations of material inputs
- b. New efficient designs of material inputs after products are ordered
- c. Lack of standard system of material lists
- d. Purchasing in excess for future production
- e. Other _____

4.1 What is the cost extent for the excess inventory?

a) High

b) Medium

c) Low

Inventory Shortfall

- a. Miscalculations of material inputs
- b. Lack of finance
- c. Lack of standard system of material lists
- d. Ambition to save excess cost
- e. Other _____

4.2 What is the cost extent for the shortfall inventory?

a) High

b) Medium

c) Low

5. What measures had been taken for the inventory inputs that excess?

a. Put into proper storage

b. Selling in a bid Market

c. Returning the products based on refund system

d. Other _____

6. What measures had been taken for the inventory inputs that are shortfall?

a) Using products those are previously stored

b) Purchasing the product

c) Changing the material design into least cost

d) Delaying the product order

e) Other _____

7. What are the major reasons you think are, for the products that are ordered but not produced and delivered according to the time schedule?

8. What type of storage system does your company follow?

a) Closed system

b) Open system

9. What is the type of storage shelving?

a) Metal Shelving

b) Wooden Shelving

c) Steel Shelving

10. Storage records

a). Accessible, since the past to 2-5 years

b) Accessible, since the past 5-8 years

c) Accessible 8 years and above

Part 5

Information Reading Customer Attitude

1. What are the main complements received from customers during the year February 2009
February 2010?

a) Excellent

b) Very good

c) Good

d) Satisfied

2. What are the main complains received from customers during the year February 2009 and February 2010?

- a) Products are not delivered according to the time schedule
- b) The quality of the products is poor
- c) The quality of the products as well as their delivery system is poor
- d) Their system of customer treatment is poor

Part 5

Check list for the in depth interview conducted to key informants

1. Explain briefly the procedure of production?
2. Explain briefly the shipment relationship with suppliers?
3. Describe briefly on what warehouse operations system does the company often face a problem?
4. If a problem exists what type of corrective action has been taken to resolve issue?

Part 6

Focus group Discussion Topics

1. How do you measure customer satisfaction?
2. What do you think about purchasing department policy?
3. Briefly describe the about the structure of each department?
4. What are the other services that you give in the ware house other than storage?

Declaration

I the undersigned declare that this senior essay/project is my original work prepared under the guidance or advisor, Instructor Yemer Adem. All source of material used for manuscript have been duly acknowledged.

Name Musie Lulseged

Signature _____

Place of Submission ST. Mary University College, Department of Management

Date of submission 15/10/2002 E.c

Submission Approval Sheet

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

Name _____

Signature _____

Date of Submission _____

