Study of Store management in the Small and Medium Enterprises

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1) Abstract[10]

Stores management plays the crucial role within the organization which required desirable amount of expenses. Objectives being prevention of overstocking and under stocking of the materials. To ensure uninterrupted supply of materials without delay to various users of the organization and to protects materials from pilferage, theft and other risks. This article gives overall insight on the role of various activities related to stores management. However, this article gives the step further information of inventory control, facility planning and service management.

2) Introduction [1][6]

Stores management is concerned with ensuring that all the activities involved in stores keeping and stock control are carried efficiently and economically by stores personnel. In many cases this also encompasses the recruitment, selection, induction and the training of stores personnel, and much more. Close communication between purchase and stores with respect to order placement, receipt of materials, rejection, shortages, breakages, theft and loss of material, if any. Also information to flow with regards to changing production trends, slow or non moving stock, absolute or surplus stock, scrap, etc.

1)Inventory Control: Inventory Control classified into four sub categories: a) Raw Material, b) Working process items c) Finished goods d) MRO goods: MRO stands for Maintenance Repair and Operating supplies Inventory can be more classified but depends on the industry.

2)Facility Design: Facility design is the proper arrangement of machinery equipments, other industrial facilities to achieving quick production at least cost. The arrangement should be in manner so that it minimizes the travelling time, compactness and minimum investment, safety and satisfaction , usage and flexibility and should be in sequence.

3)Material Handling: Material handling is the movement, protection, storage and control of material and product throughout manufacturing, warehousing, distribution, consumption and disposal.

4)Capacity PlanningAny manufacturing facility benefits from the financial and logistical capabilities of capacity planning, no matter the size of the business.

5)Process PlanningThis defined as conversion of design data to work instruction, determination of methods by which a product is to be manufacture economically and competitively is consist of arranging , selecting, specifying process, machine tools (to convert raw material to finish product).

6)Store Maintenance: Maintenance of facilities and equipment in good working condition is essential to achieve specified level of qualities, reliability and efficient working. Store maintenance helps in increase the operation efficiency of plant facilities and thus contributes to revenue.

3) Motivation [5]

The purpose of this paper is to redefining requirement of small store management problem and try to overcome it. In future needs of stores management, knowledge that we have is able to make a significant contribution in developing process.

4) Problems [2][7]

In the large scale production or in a modern days automatic production the intake and use of goods or raw materials now get on very large scale so that we required some authorized and modern procedures, planning, rules, which are should be on paper and

documented so that we can track the large flow of materials from the stores. Storekeepers also encounted problems in keeping the stocks in the warehouse according to the present demands because demand get change according to the trend. Maintenance and record of the stores also get difficult due to the rotation of large quantity of goods and raw materials.

If the store layout is not well defined or marked on a physical ground then it create fatigue while interrogation, inspection, loading and unloading of raw materials.

The research paper redefines and review the automation and large warehouse requirements.

1) What are new industries requirement?

2) How we can satisfy their needs and fulfill their requirements?

3) What are our constraints while resolving their problems?

5.1) Invoice Generator [9]

We can keep the element of invoice administration with the goal that we have an organized information about the material which is have been issued or which is accepted by the storekeeper (respective executive officer). This data is mandatorily for further tracking of material and used to determining the ordering quantity. The invoice/ demand memo (DM) should contain all the product information which are issued and accepted store (warehouse)

5.2) Print Invoice

The hard copy of invoice must kept by the storekeeper (executive officer) to keep the record up to date and easy to track the material.

5.3) View Invoice

The invoice or the receipt of fresh material is thoroughly checked sequentially: 1) vendor name and address 2) receivers name and address 3) invoice number 4) date 5) consignment 6) material detail 7) billing details 8) transport details 9) signature of the authorized officers.

6) Objectives [3]

1. To find out EOQ (Economic Order Quantity) to be ordered at a mean time.
2. To be able to forecast the data for the future trends so that it helps to order the amount of stocks.
3. Minimizing the operating time and get quick output.

7) Solution [4][8]

Following techniques are associated with the stores management:

1. Inventory Control:

Good inventory management strikes a balance between the amount of inventory coming in and going out. It controls the timing and costs of non-capitalized assets and stock items, allowing a business to reach optimal profitability. For this generally economic order quantity (EOQ) which is given by

$EOQ = \sqrt{\dfrac{2AS}{I}}$ where   A=Annual   consumption, S=ordering costs, I= carrying costs

All the data considered from the research analysis
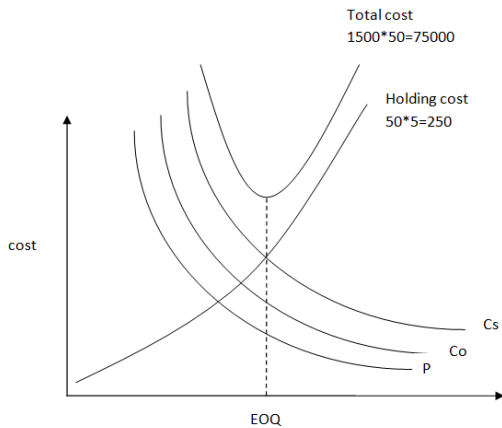
50 bullets camera per month

1500rs/ bullet camera

1000rs/dome camera

Holding cost at one time= 5rs(vary according to industries)

$EOQ = \sqrt{\dfrac{2AS}{I}} = \sqrt{\dfrac{2*1000*50}{5}} = 142$

At least 142 dome camera should be order at a time then company will run at no profit no loss

$EOQ = \sqrt{\dfrac{2AS}{I}} = \sqrt{\dfrac{2*1500*50}{5}} = 174$

Total cost
1500*50=75000

Holding cost
50*5=250

cost

Cs

Co

P

EOQ

Cs= shortage cost

P= purchase cost (Demand x Product number)

Cycle time=t= EOQ/Demand= 174/50= 3.48 i.e. after 3.48 months you have to reorder the stock.

This calculation has no value then again we have to forecast as demand and trends.
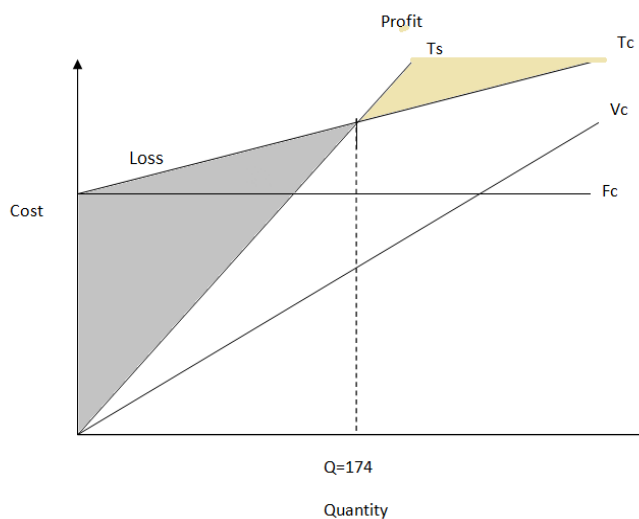
Ts=total sales

Tc= total cost

Vc= total variable cost

Fc= fixed cost

v= variable cost per unit

s= selling price per unit

Profit

Ts

Tc

Vc

Loss

Cost

Fc

Q=174

Quantity

Priority sequence rule

1) First come first serve [FCFS]

2) Earliest due date [EDD]

3) Shortest processing time [SPT]

4) Longest processing time [LPT]

5) Least slack = EDD-P.T (processing time)

EDD = 1 year 365 days
P.T = 5 days
Slack = 365-5 = 360

Forecasting

Forecasting done by simple exponential smoothing method.

$F_{t+1} = F_t + \alpha [D_t - F_t]$

$\alpha = 2/(n+1)$ $0 \le \alpha \le 1$

when we went to forecast for February

demand for January = 100 bullet cam

forecast for January = 95 bullet cam

therefore $\alpha = 2/1+1 = 1$

[forecast] for feb = [forecast] for jan + α {[demand] jan – [forecast] jan}

= 95+1 [100-95]

[forecast] for feb = 100

When only demand are given.

Find forecast for august.

$D_{jan} = 75$ $D_{apr} = 90$

$D_{feb} = 80$ $D_{may} = 95$

$D_{mar} = 85$ $D_{june} = 100$

Therefore $\alpha = 2/(n+1) = 2/(6+1) = 2/7 = 0.29$

$F_{t+1} = \alpha.D_t + \alpha (1-\alpha) . D_{t-1} + \alpha (1-\alpha)^2 . D_{t-2t} + \ldots \ldots$

[Forecast] for august = $0.29*100+0.29*(1-0.29)*95+0.29*(1-0.29)^2*90+0.29*(1-0.29)^3*85+0.29*(1-0.29)^4*80$

[forecast] for august = 81

8) Application

The proper implementation of the software on the entire system should be installed. The executive officer's and working staff should know all the aspects of the working software so that it is easy and convenient to work with it. Applicable in every inventory holding stores, industries which looking for their maximum profit and save the time.

9) Conclusion

As per our observation the following out come data is beneficial for industry but to do the calculation every time is tedious & time consuming hence a use of inventory management software is advisory. Some inventory management software are NET suite , GINESYS ,ZOHO inventory . This saves time & money and provides real time data of the assets and the graphical representation of the seals which helps to forecast the demand.

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