



A Study on Inventory Management at Butterfly Gandhimathi Appliances, Chennai

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ABSTRACT:

Inventory management must be tailored to the demands of the marketplace while also supporting the company's strategic goals. Due to the extreme market fluctuations, new opportunities as a result of global marketing, global sourcing of materials, and new manufacturing technology, many businesses must change their inventory management strategy and inventory control process. This well-known system provides data for effectively managing material flow, maximizing the use of people and equipment, coordinating internal operations, and communicating with customers. Inventory management does not make decisions or oversee operations; instead, it provides data to managers who use it to make more precise and timely decisions. The primary goal of this project is to investigate and comprehend the inventory management practices used by a Kitchen Appliances Manufacturer in Chennai.

Index Terms – Inventory management, Technical Analysis, Kitchen Appliances

I. INTRODUCTION

Inventory management and provide chain management are the backbone of any business operations. With the event of technology and availability of method driven computer code applications, inventory management has undergone revolutionary changes. In any business or organization, all performs are interlinked and connected to every alternative and are typically overlapping. Inventory management may be a vital function that determines the health of the provision chain as well because the impacts the monetary health of the balance sheet. each organization perpetually strives to take care of optimum inventory to be able to meet its needs and avoid over or underneath inventory that may impact the financial figures.

II. REVIEW OF LITERATURE

- **Edwin Sitienei and Florence Momba (2015)** Conducted a study on Effect of Inventory Management on profitability of Cement Manufacturing Companies in Kenya. The study concluded that Gross profit margin is negatively correlated with the inventory conversion period
- **Srinivas Rao Kasisomayajula (2014)**. The study concluded that all the units in the commercial vehicle industry have significant relationship between Inventory and Sales.
- **KeahChoon Tan (2014)** This research reviews the literature base and development of supply chain management from two separate paths that eventually merged into the modern era of a holistic and strategic approach to operations, materials and logistics management.
- **Soni (2012)** The analysis used a sample of 11 companies for a period five years, that is, 2004–2009 and was done using panel data set. The adequate and timely flow of inventory determines the success of an industry. She concluded that size of inventory enhanced marginally over the period as compared to a hike in current assets and net working capital.
- **Nyabwanga and Ojera (2012)**. The study inferred that inventory comprised the maximum portion of working capital, and improper management of working capital was one of the major reasons of SSE failures.

III. OBJECTIVES OF THE STUDY

i. Primary objective

Through inventory analysis techniques, learn about the inventory management, strengths and weaknesses of Kitchen Appliances Manufacturer.

ii. **Secondary objective**

- To study about the ordering levels for the important components of inventory.
- To understand and measure economic order quantity for the selected raw material items.
- To analyze its inventory management methods with the help of ABC analysis and Trend Analysis.

IV. SAMPLING TECHNIQUES

The sampling techniques used in this study are,

- Trend Analysis
- ABC Analysis
- Economic Order Quantity

V. DATA ANALYSIS AND INTERPRETATION

- This study will be of the analytical variety. In analytical research, the researcher must use available facts or information and analyze it in order to make a critical evaluation of the material, as in this project.

1. **TREND ANALYSIS**

- **RATIO OF INVENTORY TO CURRENT ASSETS**

Table 1. Ratio of inventory to current assets

Trend Analysis of Inventory to Current Asset (in lakhs.)			
YEAR	INVENTORY	CURRENT ASSET	RATIO
2018-19	12382.2	40554.99	30.53%
2019-20	10879.94	24045.34	45.25%
2020-21	12513.37	29597.53	42.28%
2021-22	14210.29	28723.91	49.47%
2022-23	17011.36	31296.28	54.36%

Interpretation

From this trend analysis, the ratio of inventory to current asset for the last five years of period is lies between 30% to 50%. And the amount of the inventory is around 100-150 lakhs always.

- **INVENTORY TURNOVER RATIO**

Table 2 Inventory Turnover Ratio

INVENTORY TURNOVER RATIO (in lakhs.)				
Year	Sales	Inventory	Inventory Turnover Ratio	Storage Period
2018-19	53400.00	12382.2	4.31	62
2019-20	44734.60	10879.94	4.11	45
2020-21	54056.00	12513.37	4.32	60

2021-22	65198.00	14210.29	4.59	52
2022-23	67870.00	17011.36	3.99	49

Interpretation

From this trend analysis, the inventory turnover ratio for the last five years of period is lies between 3.5-4 And the amount of the inventory is around 100-150 lakhs always with the average storage period of 50 days.

- **FINISHED GOODS TURNOVER RATIO**

Table 3 Finished Goods Turnover Ratio

FINISHED GOODS TURNOVER RATIO (in lakhs.)				
Year	Sales	Avg. Stock of FG	FG Turnover Ratio	Holding Period
2018-19	53400.00	2932.15	18.21	60
2019-20	44734.60	1989.39	22.49	66
2020-21	54056.00	3078.01	17.56	58
2021-22	65198.00	4547.12	14.34	51
2022-23	67870.00	5042.71	13.46	49

Interpretation

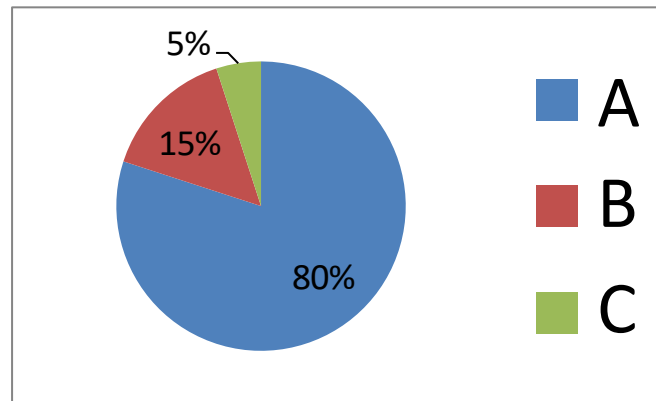
From this trend analysis, the finished goods turnover ratio for the last five years of period is lies between 14-18 and the average stock of the finished goods is always above 2000 lakhs with the holding period of 55 days.

2. ABC ANALYSIS

Table 5 ABC analysis

ABC ANALYSIS				
Category	Item	% of the item in inventory	Revenue of the item (in lakhs)	Revenue % of the item
A	LPG,MIXIE	70%	44578.4	80%
B	TTWG, COOKER	20%	9085.6	15%
C	F& B	10%	2630.4	5%

Chart 1. ABC analysis



Interpretation

From the above table 5 ,the classification of various components as A,B & C classes using ABC analysis techniques based on unit value. Here, LPG & Mixie are taken as A category which gives more than 80% of revenue, Table Top Wet Grinder taken as B category which gives over 15% of revenue and Flasks and bottles are taken as C category which gives around 5% of revenue to the total revenue of the company.

3. ECONOMIC ORDER QUANTITY (EOQ)

Table 6 .Economic order quantity (EOQ) of each product

Components (names are hideous)	Demand year	Carrying Per Cost/ order	Ordering Cost/ unit/year	EOQ Unit Per order	No. of order per year
RHINO MG	2400	1010	150	68.93	34.81
DESIRE HP MG	6000	222	150	232.49	25.80
CYCLONE MG	6000	655	150	135.35	61
TORNADO MG	6000	1800	150	57.75	103.89
SPLENDID MG	6000	4000	150	54.77	109.66
PEBBLE MG	6000	1300	150	96	63
MATCHLESS MG	6000	700	150	130.93	45.82
JET 750W MG	6000	420	150	169	35.49
IVORY PLUS MG	6000	899	150	115.90	44.77
GRAND PLUS MG	6000	1500	150	89.44	67.08
REFLECT LPG	6000	1000	150	109.54	54.79
ACE DB LPG	6000	445	150	164.21	36.58
GRAND 2B LPG	1800	999	150	60.20	30
RADIANT 2B LPG	1800	885	150	24.64	73.05
GT PRISM LPG	12000	2000	150	109.54	110
RHINO TTWG	12000	5000	150	69.28	173.91

Chart:2. EOQ unit per order

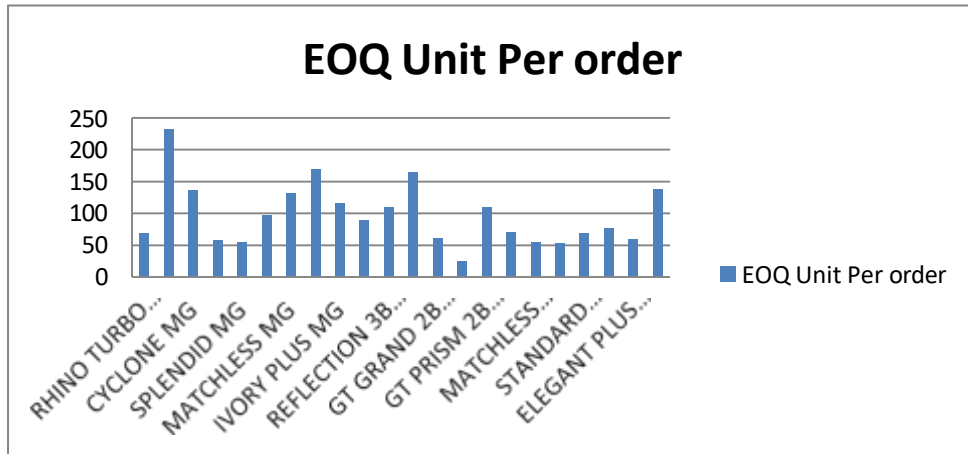
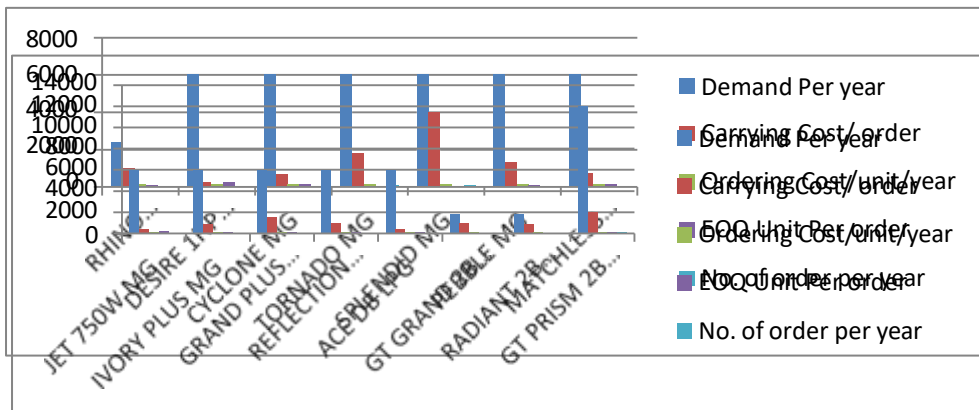


Chart 3. EOQ, Demand, carrying cost, ordering cost -1

Chart 4. EOQ, Demand, carrying cost, ordering cost -2



Interpretation

The above table 6 represents the EOQ & the no. of orders purchased per year for various components which are calculated with the requirement of respective component per year. Calculated EOQ is compared with the no. of units of each component purchased in the organization.

The above calculation shows that, there is a variation in the EOQ & no. of unit’s purchase which is not economical. Due to which the company is not satisfied and management is not following EOQ technique for purchasing of materials.

VI. FINDINGS

- The company is having good sales for their products during all the years of the study.
- The inventory turnover ratio is on a declining trend year after year in the period of the study.
- It indicates inefficiency of management in turning of their inventory into sales.
- The company should adopt sophisticated techniques to manage its inventory in a better manner.
- The EOQ calculated is suggesting that the company should obtain its inventory requirements by placing orders frequently to its suppliers rather than one time replenishment.
- Company should take measures for maintenance of proper stores and spares so as to avoid the frequent breakdown of the machinery.

VII. SUGGESTIONS

- It is recommended that to have a Total manufacturing system, a company- wide commitment, proper materials, quality, people and equipments must always be made available when needed. In addition; the policies and procedures developed and implemented for an internal

structure should also be flexible. By integrating the production process; the supplier, manufacturers and customers become an extension of the manufacturing production process instead of independently isolated processes.

- As the company follows JIT for its purchasing materials, the company should continue with the same technique which will result in quality product and low cost of production.
- Under ABC analysis, the management should take remedial measures to control items belong to 'A class' than B & C class items, because A class constitutes more i.e., 80% of higher values. There should be strict control exercised on stock level, to avoid deterioration. This is done through maintaining low safety stock, continuous check on schedules & ordered frequently in inventories, in order to avoid over investment of working capital.

VIII. CONCLUSION

Inventory management has to do with keeping accurate records of finished goods that are ready for shipment. This often means posting the production of newly completed goods to the inventory totals as well as subtracting the most recent shipments of finished goods to buyers. When the company has a return policy in place, there is usually a sub-category contained in the finished goods inventory to account for any returned goods that are reclassified or second grade quality. Accurately maintaining figures on the finished goods inventory makes it possible to quickly convey information to sales personnel as to what is available and ready for shipment at any given time. Inventory management is important for keeping costs down, while meeting regulation. Supply and demand is a delicate balance, and inventory management hopes to ensure that the balance is undisturbed

IX. REFERENCES

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