A BRIEF STUDY ON ABC ANALYSIS OF INVENTORY MANAGEMENT

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ABSTRACT

A business inventory is one of its major assets and represents an investment that is joint together until the item is sold and also costs involved storing, tracking and insuring inventory. Mismanaged inventories create significant financial problems for business organizations which results in an excess inventory or material shortage. The inventory expressed in terms of number of days of sales at any point of the time determines the time taken to introduce a new product in the market. ABC concept of classifying goods in an inventory is very commonly used for exercising effective inventory control. Under this technique the items in inventory are classified into three categories viz. 'A' category items, 'B' category items and 'C' category items on the basis of their relative values.

KEYWORDS: ABC analysis; Inventory; Control; Value; Pareto analysis.

INTRODUCTION

A global market inventory is one of the largest and most significant resources of a manufacturing business. Inventory is a tool which is used to manage and control the ordering, storage and machinery usage of companies because most of the manufacturing companies are applying the policy of reducing their investment in fixed assets like working place, warehouses, equipment and machinery etc., Whichever highlights the implication of reducing inventory.

A business inventory is one of its major assets and represents an investment that is joint together until the item is sold and also costs involved storing, tracking and insuring inventory. Mismanaged inventories create significant financial problems for business organisations which results in an excess inventory or material shortage. Right inventory management always engages to create a purchasing plan that will ensure that items are available when they are needed and keeping track of existing inventory and its utilisation. The inventory expressed in terms of number of days of sales at any point of time determines the time taken to introduce a new product in market.

Sometimes in a manufacturing industry even hundreds of small size items may be held in a warehouse but or organizations maintaining thousands of inventory items, it is impractical to provide equal consideration to each of the inventory items. Inventory classification using ABC analysis is one of the most widely used techniques in manufacturing and business organizations. This technique is based on the principle of management by exception or selective control.

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'B' category items and 'C' category items on the basis of their relative values. The ABC approach states that a company should rate items from A to C based on the following rules:

Item A: These are the goods with highest annual consumption value, the top 70-80% of the annual consumption value of the company typically accounts for only 10-20% of total inventory items.

Item B: These are the inter class items, with a medium consumption value, that 15-25% of annual consumption value typically accounts of 30% of total inventory items.

Item C: These are on the contrary items with the lowest consumption value, the lower 5% of the annual consumption value typically accounts for 50% of total inventory items.

REVIEW OF LITERATURE

There are number of study conducted on the ABC analysis over the years.

Mohd Kamarul Irwan Abdul Rahim, Quamrul Hassan, Santhirasegaran a/l S.R. Nadarajah: Material management is an essential tool which will be improving the productivity of a manufacturing industry. A poor management of materials can impact on overall production, time, cost and quality. Manufacturing management is the overall planning, sourcing, purchasing, moving, storing, coordinating and controlling the materials from starting to the end.

Nand Kumar, Rohan soni: The ABC analysis offers a tool for identifying items that will have a significant impact on overall inventory cost, while also offering a tool for the identification of different categories of stock that will require different management and controls technique.

Sayali Sudhir Mahagaonkar. Prof. Amey A. Kelkar: ABC analysis is a simple and analytical management tool. ABC analysis is a technique of categorizing inventory items according to their substantial impact on the overall expenditure of an organization. It grants a solution to faulty inventory administration within the purchased items or availed services.

OBJECTIVES OF THE STUDY

1 To give a brief understanding about ABC analysis.

2 To study why use ABC analysis.

3 To know how ABC analysis is done.

4 To study the policies governing the ABC method of inventory management.

RESEARCH METHODOLOGY

For obtaining complete information about ABC analysis descriptive research is chosen. The data used for the present study is secondary data and the same has been collected from various journals, book and websites.

OBJECTIVE 1:

ABC analysis is one of the most widely used techniques in manufacturing and business organizations. This technique is based on the principle of management by exception or selective control .ABC concept of classifying goods in an inventory is very commonly used for exercising effective inventory control. Under this technique the items in inventory are classified into three categories viz. 'A' category items, 'B' category items and 'C' category items on the basis of their relative values.

Features of ABC analysis:

NATURE	A	B	C
Frequency	Frequent.	Less frequent- once in 3 months.	Bulk ordering once or twice a year.
Lead time	Maximum efforts to reduce lead time.	Moderate efforts to reduce lead time.	Very little efforts to reduce lead time.
Safety of stock	Very low.	Low.	High.
Extent of control	Very strict control.	Moderate control.	Loose control.
Level of management	Must be handled by top management.	Should be handled by middle management.	Can be handled by clerical staff.
Purchasing and storage	Centralised.	Centralised and decentralised.	Decentralised.
Value analysis	Rigid.	Moderate.	Minimum.
Follow up	Maximum.	Periodic.	Only in exceptional cases.

ABC analysis executions methods are as follows:

- Classify the items of inventories determining the expected use in units and the price per units for each item.
- Determine the total value for each item by multiplying the expected units by its unit price.
- Rank the items in accordance with the total value, giving first rank to the items with highest total value and so on.
- Compute the ratio of number of units of each item to total units of all items and the ratio of total value of each item to total value of all items.
- Combine the items on the basis of their relative value to form three categories A, B and C.

OBJECTIVE 2:

WHY USE ABC ANALYSIS?

1 End-of-life management

When it comes to a product, there is always a lifespan: launch, growth, maturity and decline. The moment a product reaches the maturity stage, it might get declined sooner or later, but for sure. The entire lifespan of the product depends on customer demands. ABC inventory analysis helps a seller to analyse the customer demand for a particular category of product and then manage the stocks accordingly. The maturity and decline period for every product is different. More customer demand, the chances of declination is pushed further, lesser the demand, sooner will it be declined.

2 Supplier negotiations

When it's all about getting the category 'A' products sourced, it is understood that 70-80% of the money is about to be invested in those suppliers. Negotiation is always a must. There are chances when a supplier might make a nod to your offer, but do not back off. You can always make offers like reducing the down payment, providing free shipping, etc. Try to make it win-win for both yourself as well as the supplier, and there are chances that you might just out winning the deal. Saving more on category 'A' products can bring more profits to your business.

3 Inventory optimization

Inventory optimisation is the most important reason why ABC inventory analysis is preferred by many businesses to organise and segregate the products in the inventory as per their revenue and importance. The products are also categorised as per their demands amongst the customer base.

4 Strategic pricing

The ABC analysis of the inventory also brings in much more value to the company when the prices for the products are set strategically. With ABC analysis, the company will easily be able to strategize the prices for the products and then accordingly align them into different categories. More the demand for a product, wider will be the chances to increase the prices by the seller.

5 Resource allocations

While the process of resource allocation is done, category 'A' is highly monitored. If it is noticed that the product from category 'A' is not performing well or is no longer desired by the customers, it can be moved to a lower category i.e. either category B or category C.

6 Customer service levels

There are several factors that can affect a product's value or importance- item cost, quantity sold and margin set. There is no need for unnecessarily crowding your warehouse with the product that has a low margin and is also not sold frequently. In such cases, ABC inventory analysis clearly lets the planners set service levels based on the product classification. This further makes the supply chain smoother, carrying additional safety stocks.

OBJECTIVE 3:

HOW ABC ANALYSIS IS DONE?

1 Identify what needs to be analysed and define the success criteria.

ABC is mainly to be done to achieve two primary goals- to make sure that the supplier rate is as competitive as possible and to increase the cash flow by having perfect items in the list that your customers need.

2 Collect the data from your inventory that has been analysed.

Before you begin to analyse, collect some data that is already available through any accounting tool, related to the annual spend. This can include all the ordering costs, carrying costs, etc. if at all they are readily available.

3 Sort your inventory in the decreasing order of impact.

Rank the items present in your inventory from the ones costing the most to the least.

4 Calculate the accumulated impact.

Here, you need to list down all the items in a spread sheet and calculate the cumulative impact they had on your business. This will be done by dividing the items and their annual costs. This later is added to the cumulative total of the percentage spent annually.

5 Divide your inventory into buying classes.

Now, you need to bring the 'Pareto principle' into action. Not to differentiate the products with the 80/20 rule exactly, but with the principle. You will have to negotiate your contacts with the suppliers, strategize the product prices, ensure the availability of valuable products, etc.

6 Analyse the categories and decide accordingly.

The products with the highest revenue generation will remain on the top, where as the ones with a lower revenue drop down. These are only 'vital few' products that can be the money makes for you, whereas the 'trivial few' will drop down in the list. You need to constantly keep on monitoring the pricing and the selling performance of the products to make sure that their positions are adequate.

OBJECTIVE 4:

WHAT ARE THE POLICIES GOVERNING THE ABC METHOD OF INVENTORY MANAGEMENT

The idea behind using the ABC analysis is to leverage the imbalances of sales. This means that each item must be given the appropriate amount of weight depending on their class:

ITEM A:

- These are subjected to strict inventory control and are given highly secured areas in terms of storage.
- These goods have a better forecast for sales.
- These are also the items that require frequent reorders on a daily or a weekly basis.
- They are kept as a priority item and efforts are made to avoid unavailability or stock-out of these items.

ITEM B:

- These items are not as important as items under section A or as trivial as items categorized under C.
- The important thing to note is that since these items lie in between A and C, they are monitored for potential inclusion towards category A or in a contrary situation towards category C.

ITEM C:

- These items are manufactured less often and follow the policy of having only one of its items on hand or in some cases they are reordered when a purchase is actually made.
- Since these are low demand goods with a comparatively higher risk of cost in terms of excessive inventory, it is an ideal situation for these items to stock-out after each purchase.
- The questions managers find themselves dealing with when it comes to items in category C is not how many units to keep in stock but rather whether it is even needed to have to these items in store at al

CONCLUSION.

This paper presents a review of literature in a brief study on ABC analysis of inventory management. An inventory is an important asset of a company and is an integral part of the operations. ABC analysis has emerged as one of the important technique offers a tool for identifying items that will have a significant impact on overall inventory cost, while also offering a tool for the identification of different categories of stock that will require different management and controls techniques.

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