ORIGINAL ARTICLE

ABC ANALYSIS FOR INVENTORY CONTROL IN SPARE STORE DEPOT

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ABSTRACT

The basic principle of inventory control is ABC based on cost criteria. The objectives of this study are to identify the categories of spare items requiring greater managerial control, because not all inventories need to be controlled with equal attention. Another most important objective is to ensure continuous availability of stores to user departments while keeping the stock levels at optimum level is one of the important objectives of Stores Department.

The study was conducted at a single ward of store depot SECR Raipur. From 189 items of spare, 17 items (8.99%) consume 70.56% of annual value and classified into class A, 40 items (21.16%) consume 19.35% of annual value classified into class B, and 132 items (69.85%) of annual value consume only 10.09% forming class C. The results showed that there was items of class A may warrant more care than forecasting class B and class C.

INTRODUCTION

Approximately one-third of annual store budget is spent on buying materials and supplies, including tools & equipment. This requires effective and efficient management of the spare stores. Efficient priority setting, decision making in purchase and distribution of specific items, close supervision on spare items belonging to important categories. The goal of the store department supply system is to ensure that there is adequate stock of the required items so that an uninterrupted supply of all essential items is maintained. The following broad objectives of inventory control management:

1.   Identification of the spare (tool etc) categories requiring greater supervisory monitoring.
2.   Measures for quality improvement.

ABC analysis (Cost analysis) popularly known as "Always Better Control" is a very useful approach to material management based on Pareto's principle of "Vital few and trivial many" based on the capital investment of the item. According to Pareto principle, inventory has been divided into the following categories:

•   Class A items may represent only about 10% of total inventory items, but they represent about 70% of the total money value.

•   Class B items may represent about 20% of total inventory items, and they represent about 20% of the total money value.

•   Class C items may represent about 70% of total inventory items, but they represent only about 10% of the total money value.

Using the classification, each category should be handled in different way, with more attention being devoted to category A, less to B, and still less to C. The points should be considered for each class is shown in Table-I.

With the use of ABC, costing was found to be more detailed and precise and overhead costs diminished drastically. Among various inventory control models, Economic Order Quantity (EOQ) has been commonly used, which attempts to balance the carrying cost of inventory with the cost of running out of an item. EOQ in conjunction with ABC has been proposed to be effective and efficient. Most of the savings with the ABC-EOQ were reported with the low value. items (B and C items) which were being purchased too frequently.

MATERIAL & METHOD

The study was conducted at a single ward of store depot SECR Raipur. The data obtain from Head personnel of ward in store depot. All the spare, tools items expended during July 2011 to July 2012. For ABC analysis, the annual consumption of all the spare items was calculated after multiplying unit cost by annual consumption and resulting figures were arranged in descending

order of rupee value. The items then classified in to A B C categories according to total cost consumed 70%, 20% & 10%. This analysis is done on the computer as explained below:

(a) First of all annual issue values of all the items which were issued from all the depots are added together to find total issues (in rupees),

(b) Then all the items are sorted in descending sequence of their issue value,

(c) Then we go on counting the items adding issue value of the items to a "cumulative issue value" counter. When the value in this counter represents 70% of total issues after adding a particular item, all the items from top to this item are classified as "A" category items,

(d) This is further continued and when after adding issue value of an item to "cumulative issue value" counter, value in the counter is equal to 90% of total issues, we mark all items excluding "A" category items to the last item as "B" category items,

(e) All remaining items are classifies as "C" category items.

TABLE- I

COMPARISON OF A, B, AND C CLASSES

CLASS	DEGREE OF CONTROL	TYPES OF RECORD	LOT SIZE	SAFETY STOCK
A	Tight	Accurate and complete	Low	Small
B	Moderate	Good	Medium	Moderate
C	Loose	Simple	Large	Large

TABLE- II

ABC CLASSIFICATION OF SPARE ITEMS

CLASS	TOTAL ANNUAL VALUE	PERCENTAGE OF ANNUAL VALUE	NUMBER OF ITEMS	% OF NUMBER OF ITEMS
A	38873017.82	70.56	17	8.99
B	1066033014	19.35	40	21.16
C	5558797.477	10.09	132	69.85
TOTAL	55092145.44	100	189	100

RESULT & ANALYSIS

Shown in Table-II are the total annual value, percentage of annual value, number of items and percentage number of items that are group into ABC classifications.

From 189 items of spare, 17 items (8.99%) consume 70.56% of annual value and classified into class A, 40 items (21.16%) consume 19.35% of annual value

classified into class B, and 132 items (69.85%) of annual value consume only 10.09% forming class C. Policies that may be based on ABC analysis include the following :

- Purchasing resources expended on supplier development should be much higher for individual class A than for class C.

- Class A should have tighter physical inventory control, perhaps they belong in more secure area, and perhaps the accuracy of inventory records for Class A should be verified more frequently.

- Forecasting class A may warrant more care than forecasting class B and class C.

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