

ACTIVITY BASED COSTING (ABC) FOR BETTER COST MANAGEMENT

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ABSTRACT

The new industrial policy, although likely to be in the interest of the country in general and Indian consumers in particular, in long run would create new pressures and challenges for Indian organizations specially in terms of rising competition both from within and outside, ABC involves a two-stage overhead allocation process. In the first stage production or services overheads (resources) are allocated to the activity cost pools to the product or service (cost object) through the activity driver. The ABC output and next evaluation of ABC can help the business organizations in stopping an internal war of numbers, better understanding of the business, in taking right strategic decision among others in the areas of product pricing, product sourcing, product mix and market segmentation and supports the ideal of an agile, responsive organization.

Keywords: Activity Based Costing System, Activity Based Management

INTRODUCTION

Business scenario is changing rapidly and continues to change never before had the pressures from the environment had been so great on Indian Industry as they are today with Liberalization measures opening the doors of completion the whole paradigm of macroeconomic management has changed. There is of course a mix of both opportunities and threats. In short term, the threats are probably more visible. The new industrial policy, although likely to be in the interest of the country in general and Indian consumers in particular, in long run would create new pressures and challenges for Indian organizations specially in terms of rising competition both from within and outside. In the emerging environment only those organizations that are fast to adopt them to changing needs can survive. So it is inevitable and must to organizations to improve their strength time to time to withstand for the Global Completion.

Strength of an organization depends up its strength in technology, manufacturing and marketing. But in the long run, it is manufacturing strength alone that can give a company competitive advantage, which directly depends upon how profitably on can manufacture a product. To know the profitability of a product it is imperative that cost of the product is known. In simplest terms, cost of an product is built up through three components: Raw material cost, direct labour cost and overhead cost

Overhead allocation process involves two stages. In the first stage, the cost is allocated from the overhead accounts to cost pools. And in the second stage, the costs aggregated to cost

objects. The problem of distortion in product costs in the traditional settings emanates from the wrong choice of cost driver in the second stage of overhead allocation. The traditional practice of factory overhead allocation simply allocates costs and does not explain them. In the past, most of the firms used direct-labour hours as the only cost driver for applying costs to products. But direct-labor hours are not a very good measure of the cause of costs in the era of modernity and high automation. Labour related costs in an automated system may be only 5% to 10% of the total manufacturing costs and often are not related to the causes of most manufacturing overhead costs. In order to accurately charge factory overhead costs, it is necessary to identify the forces, which explain them. These forces happen to be the activities that consume the resources of an entity and hence generate costs. Therefore many companies are beginning to use machine-hours as their cost-allocation base. Others are implementing Activity Based Costing (ABC) to develop special measures that better reflect the causes of costs in their environment. In this paper the modest attempt has been made to discuss the concept of Activity Based Costing System (ABCS), elements of ABCS, development process of ABCS, barriers to implementation of ABCS, Activity Based Management (ABM) and Why ABC.

What Is Abc?

The ABC is understood as “A system that first accumulates overhead costs for each of the activities of an organization and then assigns the costs of activities to the products, services, or other cost objects which caused that activity”.

The “ABC is a system that measures the cost and performance of activities, resources and cost objects. Resources are assigned to activities through resources drivers and activities are assigned to cost objects through activity drivers” (Turney 1994). The modern ABC model has two dimensions: a costing dimension and a process dimension. The cost dimension provides accurate cost by measuring cost objects and the process dimension provides decision useful information for Activity Based Management.

ABC involves a two-stage overhead allocation process. In the first stage production or services overheads (resources) are allocated to the activity cost pools to the product or service (cost object) through the activity driver. It attempt to refine the second stage overhead allocation process and assigns costs on the basis of a cost driver that drives a bunch of activities giving birth to such cost. So depending upon the nature of activities causing a particular element of cost, a cost driver is chosen which may or may not be related to volume. The examples of such cost drivers can be, number of set ups, number of orders, number of times handled, machine hours, direct labour hours and direct labour cost.

Activity Based Costing System (Abcs)

Activity based costing system(ABCS) is more relevant than traditional costing in companies where product mix is diverse in batch sizes, physical sizes, degree of complexity and raw material characteristics. ABCS will also provide more decision useful information for the service industry, characterized by diversity in range information for the service industry, characterized by diversity in range of services provided. If the products in a plant or services provided possess similar characteristics, either volume based or an activity based cost driver will

provide reasonably accurate costs. The strategic goal of ABCS is to provide, decision useful cost and profitability information for optimal pricing decision, appropriate product mix and operational improvements by focusing on activities and cost drivers (Burch 1994). Hence ABCS in itself will not lead to better profitability. Management uses information provided by ABCS to decide the optimal product-mix. The action of management will lead to improved results.

Elements of Abcs

There are six elements in ABCS, which are as follows:

1. Resource categories: “Resource categories represent the sources of costs that support activities”, (Burch 1994)
2. Resource drivers: Activities drive the cost of resources by consuming resources. “The resource driver establishes a relationship between resource costs and activity cost pools based on some measure of usage.” (Burch) Resource drivers are chosen to approximate the use of resources by activities.
3. Activates, Activity Cost pools and activity centre: An activity is an aggregation of highly related tasks. “The result of assigning resource cost to an activity is an activity cost pool.” (Burch) significant activities are identified and costs are assigned to them. This assigning of cost results in a cost pool for that activity. An activity centre represents an aggregation of related, function specific activities.
4. Activity Drivers: the costs from a cost pool are assigned to the cost objects through the activity drivers. This is the second stage of assignment of costs and is based upon the cause and effect relationship between the activity cost pools and cost objects (Burch 1994)
5. Cost Object: Cost objects the final point to which the costs are traced. A cost object is the reason why work is performed in the organization (Turney 1994). A cost object can be anything that the designer of the system chooses it to be. Normally, a cost object is related to a broader objective of the organization.
6. Direct Cost Inputs: Direct cost inputs are elements of cost, which can be traced directly to the relevant cost object.

Development of Process of Abcs

The development of ABCS can be divided into the following six steps. It may be noted here that in practice, these steps may not follow precisely the same order as mentioned below and some of these steps may even occur simultaneously.

Plan and create Awareness for the ABCS: This is the most important step to develop ABCS. Everyone in the organization must be educated about the ABC and how it works. Everyone concerned must be aware that the two primary purposes of ABC are to (i) provide cost of cost objects and (ii) provide information for daily operational management, continuous improvements, and business reengineering (Burch 1994). It is of utmost importance that complete support is available from the top management. The ABCS will require substantial resources in terms of time and money. If management is not willing to allocate resources for the ABCS, stop at this stage.

The ABC will require involvement at all levels and through all departments. The ABC development should normally be performed through a multi-disciplinary team. This multi-disciplinary team has a representative from all major departments. An 'articulation' among the departments is a must.

Establish Cost Objects: Defining cost objects are linked to the objectives of the organization. For example, if the objective is to have a most profitable product-mix, the cost objects can be defined as the individual products; if the objective is to select the most economical distribution channel, the individual distribution channel can be the cost object; if the object is to achieve customer satisfaction, then customer can be the cost object. In short, the cost object could be anything, which the designer defines it to be. The cost object is the final destination to which all the costs are allocated.

Critically analyze and define Activities: "During activity analysis and definition, both services and production activities of an enterprise are identified in order to establish a basis for determining their cost and performance" (Burch 1994). If there is an art to ABC, it is embodied in the ability to assess and work with the appropriate level of details (Matteson 1994). It is important to define which activity is important and needs further break up and which activity does not require being broken-down further. There is a cost of providing the information. The ABCS team should avoid becoming mired in details and should frequently ask the question, "does it make a difference, and to whom?"

Activities may not restrict itself to only one department. It is also possible that one department may have many significant activities. To continue the example, say procurement of material, accounting for purchase order processing, machining, and setting up activities have been identified as significant activities. Material requisition is received by the purchase department from the shop floor, based upon the requisition the purchase department places an order with the supplier. The material is received, inspected, stored and issued to the shop floor as required (with proper authorization). Invoice is mailed by the supplier to the accounting department and payment is made from accounts after verifying the receiving report and terms of the purchase order.

Aggregation and decomposing of activities flow activity analysis. Efforts are made to group similar tasks and similar activities. For example, placing a purchase order will require number of the tasks of peripheral activities such as: receiving purchase request, indenting vendor, receiving competitive bids, making comparative analysis, preparing and mailing purchase order. All these takes can be aggregated into 'purchasing of material'. On the other hand, procurement of material encompasses purchase, inspection and receiving of material. It would be advisable to decompose the activity of procurement of material into three major activities, viz. purchase of material inspection of martial and receiving of material. This may also be required because, each of the three activates may be under a separate departmental head. In general following should be kept in mind while defining activities.

Activities that are responsibilities of different people should not be aggregated.

Beware of excessive aggregation or decomposing of activities. In case, an activity contains only one task, it is highly decomposed. An activity should contain between six and twelve related

tasks. Excessive decomposition creates problems of collection the relevant information at a reasonable cost.

Activity should not contain unrelated tasks.

“A well defined activity may contain two or three inputs and two or three outputs and may not require decomposing” (Burch 1994)

As a rule of thumb, if 90% of the overheads are captured, sufficient decomposition has been achieved.

Activities should be measureable.

1. **Identify and define Resource Categories:** A good place for the ABCS team to start identifying resources is the budgets. The various budgetary items is an indication of how the management is planning to utilize the available resources. These budgetary items may very well correspond to the various general ledger heads. The ABCS team may choose to combine or split various budgetary and general ledger items depending upon the consumption of these items by various activities. Unfortunately standard general ledger practices typically fall short of ‘marshalling’ costs according to their behavior. (Matteson 1994)
For example, insurance expense account may have premiums for fleet of vehicles and also for medical insurance of employees. The premiums will depend upon varied factors ranging from a number of vehicles in the company fleet to gross payroll. These accounts should be split up in to new accounts with similar components. An offshoot of this breakdown is the likelihood that new accounts common to a given activity are identified. This would help in defining activity centers and associated cost pools. (Matteson 1993)
2. **Define resourced drivers and set up cost pools:** Resource drivers help define how activities consume company resources. To evaluate whether all costs in a pool are driven by a single activity regression analysis, can be used with activity as the independent variable and cost as the dependent variable. A coefficient of determination with a value close to one will show that the cost is driven by that particular activity. This regression analysis could be run for data over several months to ensure that the cost and activity are proportionately related. This would ensure homogeneity of cost pool. (Roth & Borthick 1994).
3. **Determine Activity Drivers and Assign Cost-to Cost Objects:** this represents the second stage of allocation. In this stage activity, drivers are identified and costs are assigned from cost pools to the cost objects. The activity driver chosen should relate as directly as possible to the execution of the activities. Regression analysis can also be used to justify a positive correlation between the activity driver and cost assigned to the cost object A co-efficient of determination close to one will show that the particular driver really drives the cost. In case regression gives some constant numerical component, it implies that costs are fixed to that extent and will remain fixed irrespective of that driver.
Cost driver or activity driver should not be so unique that it creates unjustifiable additional collection cost. As a rule of thumb, one activity driver for one cost pool should be sufficient. An evolving ABCs should have about fifteen to twenty activity drivers. Once the drivers are identified in consultation with other departments, there is a need to measure driver usage and forecast driver volumes. The last step involves calculation of driver rate and assigning

cost to the cost objects. Identifying more cost drivers, but at the same time cost of providing information should also be considered can refine the cost assignment process.

Review Procedures and Report Generation

The ABCS development is a slow process. At the first stage, ABCS team may come with small number of drivers that in essence captures the cost associated with the product, but after a review process, it may need some changes. For example, Hewlett Packard's Roseville Network Division used ABC to guide product design for manufacturing printed circuit Board. Initially a number of machine insertions was used as the cost driver. Later it was realized that there is a need to distinguish between Axial and DIP (dual line process) insertions. This implies that there should be two cost drivers instead of one. The cost of Axial Insertions worked out to be only one-third of DIP insertion cost. The information was used to guide subsequent product design (Turney 1994)

A third party should challenge the usefulness of preliminary reports generated, assumptions made and cost drivers defined in a detailed manner. The system should be reviewed and understood by all the departments. The ABCS can capture information from different dimensions along the way thoughtful review process is often the stage of fresh observation (Matteson, 1994)

Barriers to Implementation of Abcs

The common arguments for which the ABCS team should be prepared to face during development of an ABCS are mentioned in the following paragraphs. The barriers are based upon some myths, which may have some limited truth in them. It is, therefore, important to understand when these myths are true and when they are not (Turney, 1994).

1. **ABCS is too costly:** It is true that the ABCS are more costlier than the traditional costing systems. However, most people overestimate the cost of tracking and data gathering for ABCS. This is because most of the information required for the ABCS is normally captured in any automated environment. Today there are many software packages like Easy, ABC available that uses the available data to develop ABCS. The incremental cost is not very significant compared to the benefits received from the system.
2. **ABCS is very complex to understand:** The ABCS is easier to understand because the cost drivers describe the major factor that creates the demand for activities.
3. **Improving the present system will do the job:** Critics would argue that increasing few cost centers would eliminate most of the distortions in product costs. The problem is that the non-volume related activities could not be dealt even by multiple cost centers when multiple products flow through these cost centers.

Activity Based Management (Abm)

The Activity Based Management (ABM) is the next evolution of ABC (According to Peter Turney). The change in the name indicates that we need to manage our businesses based upon this new found understanding of what it really takes to run the business. The ABM is the process of understanding, re-engineering, measuring and making decision about activities to put the enterprise on the road to continuous improvement and excellence (Burch, 1994). The information gathered during the activity analysis stage can be used to make the activities more

efficient and productive. The ABCS is primary source of information for Activity-Based Management (ABM). Activities are the building blocks of organization. Organization is constantly involved in numerous activities and produces certain outputs. To change an organization, the changes will have to be made at the activity level.

Why Abc?

The ABC identifies cost incurred in performing each activity and the value added to the product or service by such activities. Firms derive two important benefits out of this new approach. It is now possible to load costs only on products or a batch of products or products specifically meant for a customer. Thus the new costing system improves the accuracy of cost information. It is also possible to benchmark the level of efficiency in performing the activities. One could identify activities that are not adding value and activities that can be outsourced either because they are into in core value chain process or the cost of performing such activities internally is costlier.

In ABM, managers apply the information gathered using ABC, to make better decision. In the broadest terms, ABM aims “to improve the value received by customers” and “to improve profits by providing this value” (According to Turne). The ABM does achieve by focuses on managing activities including identifying non value-added activities that can be eliminated and making sure that needed activities are carried out efficiently. Of course, each organization has its own set of activities.

To improve operations, management must search out unnecessary or inefficient activities, determine the cost drivers for the activities and change those cost drivers. For example, moving a partly finished product from the end of one production process to the start of another provides no value to the customer, but it is a necessary step. The distanced between the processes drives this particular cost. By decreasing the distance, the cost can be reduced, if not eliminated.

CONCLUSION

Activity Bases costing is an objective approach that is useful to produce parts of product with the lowest cost process, design parts to minimize manufacturing costs, modify equipment to reduce costs, increase prices of products priced below ABC cost and to drop unprofitable products. And it is a powerful tool for process optimization and facilitates corporation achieve manufacturing excellence.

The output of an ABCS is bound to be more accurate as compared to the output of a traditional cost system. This will help in taking right strategic decision, among others in the areas of product pricing, product sourcing, and product mix and market segmentation.

The ABM output and next evaluation of ABC can help the business organizations in stopping an internal war of numbers, better understanding of the business, in taking right strategic decision among others in the areas of product pricing, product sourcing, product mix and market segmentation and supports the ideal of an agile, responsive organization. Obviously, the understanding of business activities that are unnecessary and to streamline those, which are

necessary for cost reduction and effective cost management, which is an obvious benefit. Since we are passing through a period of unprecedented change where globalization of markets, blurring of geographic boundaries introduction of the most modern technologies, political and trade realignments are together reshaping a new economic order, where fortunes of any enterprise would solely depend upon its ability to meet market needs in respect of price, quality etc. It is the time for Indian corporate sector to run after the ABC and ABM to benchmark the level of efficiency in performing the activities and continuous improvement to succeed and withstand in the context of global competitiveness.

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