

ABC SYSTEM: BOON TO MANUFACTURING CONCERNS

Dr. Satish Ahuja

Principal,
DAV Centenary College,
Faridabad

ABSTRACT

In today's time of fast technological modification, tough global and domestic competition, total cost management is central to sustained corporate gain and competitiveness. The management mantra now days are conquering your costs, before these conquer you. Cost means total cost to the client. The cost leadership strategy doesn't mean compromise on either quality or technology or product differentiation. Low costs are no advantage if customers are not willing to buy the products of low cost firms. Cost management must be driven with client as the focus. The firms are successful in capturing correct cost and profit information from their ABC cost systems for value chain and supply chain analysis. The results recommend that firms have higher insights for benchmarking and budgeting with ABC cost system yet the consistency in their priority of budget goals is lacking unlike firms that are using traditional costing systems. However, both the ABC and traditional cost system users have clarity of reasons for effective implementations of planning and budgeting method in their organizations. This paper essentially highlights on ABC System along with its difference with traditional system and steps involved in its implementation.

Keywords: Activity based costing, Cost Drivers, Resources

INTRODUCTION

The interest of manufacturer's within the ABC system grown considerably under the rapid growth of some markets particularly within the manufacturing area, the increasingly growing indirect costs under the use of machine-driven systems and the need for more correct cost information to better manage the business and gain competitive benefits. Activity-based costing is a process where costs are assigned as a result of cause and effect relationship between costs and the activities that drive these costs. Moreover, the ABC approach is generally applicable across the spectrum of company functions and not simply within the factory. ABC reveals the links between performing specific activities and therefore the demands those activities build on the organization's resources, therefore it will provide managers a clear picture of how products, brands, customers, facilities, regions, or distribution channels each generate revenues and consume resources. The profitability picture that emerges from the ABC analysis helps managers focus their attention and energy on improving activities. Productivity is crucial for the long-run competitiveness and gain of organizations. It will be effectively raised if it is managed holistically and systematically. Productivity measurement is a requirement for improving productivity. As Peter Drucker, who is widely considered as the pioneer of modern management theory, said: "Without productivity objectives, a business does not have direction. Without productivity measurement, a business does not have control."

Measurement plays a really important role within the management of productivity. It helps to determine if your organization is progressing well. It conjointly provides information on how effectively and efficiently the organization manages its resources.

An integrated approach to productivity measurement:

- Provides a comprehensive image of the organization's performance.
- Highlights the relationships among different ratios and units, and permits the organization to analyze the factors contributing to its productivity performance.

- Helps diagnose drawback areas and recommended appropriate corrective actions.
- Permits the organization to monitor its performance over time and against the performance of other organizations.

LITERATURE REVIEW

Activity-based costing was developed by Cooper and Kaplan in 1988. Ever since, various authors have advocated the advantages of Activity-based costing and variety of researches have given empirical proof to support those edges. They noted that besides providing more correct product costing, this system conjointly improves the base upon that strategic decisions are created, resource allocation, product mix, pricing and marketing are performed. It is conjointly noted that once Activity-based costing system is employed in this way, customer profitability profiles and analysis are possible. There are various research papers proofing that Activity-based costing is not a theoretical method, but practical, since it is enforced in various corporations. Although the Activity-based costing method is superior compared to traditional costing methods, there is still a good world domination of traditional costing systems.

An on-line survey (2005) was completed by 528 participants from companies across varied industries, sizes and job levels in US. Survey respondents were asked whether or not they truly use Activity-based costing method in their companies, or they think its implementation. It is fascinating to note that, besides communications 8.46% percent of respondents that actively use Activity-based costing belong to financial services. 33% of all financial service respondents use ABC for costing and cost control, and 31% for process improvement. Over the half of all respondents uses Activity-based costing outputs to support organization performance management. Also, solely 28% of all respondents embrace capacity in their ABC implementation. It is noted that USA have the highest adoption rate of Activity based costing method within the financial sector.

Innes (2000) survey of activity-based cost management practices of 177 of the most important companies within the UK found that ABC adoption under consideration rate had fallen to 17.5% and 20.3%; from 21% and 29.5% respectively. However, the highest adoption rate was within the financial sector. The Activity-based costing system rejection rate had inflated from 13.3% to 15.3% throughout this period (from 1995 to 2000). Kennedy and Affleck-Graves (2001) examined the link between Activity-based costing technique implementation and therefore the creation of shareholder value. They have been surveyed 47 ABC users and 187 non-ABC users, and found that selection of management accounting system such as Activity-based costing had a significant impact on company value. From the start of the year during which Activity-based costing method was initially introduced, there was 27% increase in shareholder value over three years. Though, it has to be considered that there was relevant impact of alternative variables on this result. Majority of authors emphasize the prevalence of activity-based costing over standard traditional costing system, nevertheless the utilization of standard costing is still popular worldwide. Cornick (1998) noted that over than 75% of the companies use it within the USA, UK, Ireland and Sweden. Scarbrough (1991) find 65% usage of standard costing in Japan.

In India, almost two-thirds of the respondents use standard costing as a costing system. When discussing real life implementation of activity-based costing, there are various companies that have been used Activity-based costing method in profitability studies to assist them deciding which products or clients to chop or keep. However ABC system helps in decision making in so many alternative ways. Thousands of firms have adopted or explored the feasibility of adopting Activity-based costing, however several have given up, or their programs are stagnating. Two well known companies that have been very successful in Activity-based costing system integration in their organizations are Chrysler and Safety-Kleen Corporation. The Chrysler had benefits 10 to 20 times bigger than the company's investment within the program, and saved 50 to 100 times the implementation cost. Safety-Kleen is smaller company in size than Chrysler, however had more than \$12.7 million in cost savings, cost avoidance, and increased revenues. The need to measure more exactly how different services and products use resources has led companies like American Express, Boeing, General Motors, and Exxon Mobil to refine their

costing systems introducing Activity-based costing system. Other examples of successful Activity-based costing integration are service providing companies such as The Cooperative Bank, Braintree Hospital, BCTel within the telecommunications industry, and Union Pacific in the railroad industry. Also, several retail and wholesale companies like Supervalu (a retailer and distributor of grocery store products) and Owens and Minor (medical supplies distributor) have used Activity-based costing method, alongside with giant Hewlett-Packard. Finally, the initial cost of Activity-based costing system implementation is either insignificant or less than 1% of the sales (in most companies) and consequently the payback period is less than one year, that concludes that integrating new costing model in company doesn't need to be pricy.

RESOURCES AND VARIOUS COST DRIVERS

An activity could be a specific task or action of work done. It can be a single action or an aggregation of many actions. For instance: moving inventory from workstation 'A' to workstation 'B'. B is an activity that may need just one action. Production set-up is an activity that will include many actions.

I. Activity Driver

The best single quantitative measure of the frequency and intensity of the demand placed on an activity by cost objects or other activity. It is used to assign activity costs to cost objects or to other activities. It is used to assign costs to activities which enable more accurate cost information.

II. Activity Work

It is performed by people, equipment, technologies or facilities. Activities are sometimes described by the 'action-verb-adjective-noun' grammar convention. Activities could occur in a linked sequence and activity-to-activity assignments may exist.

III. Cost Object

Any product, service, customer, contract, project, process or other work unit for which a separate cost measurement is desired.

IV. Resource

A resource is an economic component required or consumed in performing activities. For instance: Salaries and supplies are resources required or employed in performing manufacturing activities.

V. Resource Driver

The best single quantitative measure of the frequency and intensity of the demand placed on a resource by other resources, activities, or cost objects. It is used to assign resource costs to activities, and cost objects, or to other resources.

VI. Resources Economic

Elements that are applied or used in the performance of activities or directly support cost object. They include people, materials, supplies, equipment, technologies and facilities.

Explanations to Resources and Various Cost Drivers

A cost driver is a factor that causes or relates to modification within the cost of an activity. As a result of cost drivers cause or relate to cost changes, measured or quantified amounts of cost drivers are excellent bases for assigning resource costs to activities and for assigning the cost of activities to cost objects. A cost driver is either a resource consumption cost driver or an activity consumption cost driver.

A resource consumption cost driver is a measure of the amount of resources consumed by an activity. It is the cost driver for assigning a resource cost consumed by or associated with an activity to a specific activity or cost pool. Examples of resource consumption cost drivers are the number of items in a purchase or sales order, changes in product design, size of factory buildings, and machine hours. An activity consumption cost driver measures the amount of an activity performed for a cost object. It is used to assign activity cost pool costs to cost objects.

Examples of activity consumption cost drivers are the number of machine hours within the manufacturing of product X, or the number of batches used to manufacture Product Y.

CLASSIFICATION OF ACTIVITIES

In the initial stage of the Activity Based Costing activities are classified into different categories or segments of the production process. The grouping of activities is ideally done using the various levels at which activities are performed. Broadly, activities are classified into:

- (1) Unit Level Activities
- (2) Batch Level Activities
- (3) Product Level Activities
- (4) Facility Level Activities

(1) Unit Level Activities: Unit Level Activities are those activities that are performed each time a single product or unit is produced. These activities are repetitive in nature. For instance, direct labour hours, machine hours, powers etc. are the activities used for each time for producing a one unit. Direct materials and direct labour activities are unit level activities, though they do not involve overhead costs. Cost of unit level activity varies with the number of units created.

(2) Batch Level Activities: These activities that are performed anytime a batch of products or group of identical products are created. All the units of a specific batch are uniform in nature and in size. The cost of batch level activities vary with the number of batches are ascertained. Machine setups, inspections, production scheduling, materials handling are examples of batch level activities that are related with batches.

(3) Product Level Activities: These activities that are performed to support the production of completely different type of product. Maintenance of equipment, engineering charges, testing routines, maintaining bills of materials etc. are the few examples of product level activities.

(4) Facility Level Activities: Facility Level Activities are those that are required to sustain a factory's general manufacturing process. These activities are common to a range of products and are most tough to link to product specific activities. Factory management, maintenance, security, plant depreciation are the few examples of facility level activities.

DIFFERENCE BETWEEN ACTIVITY-BASED COSTING AND TRADITIONAL COSTING

Activity Based Costing

- (1) It begins with distinguishing activities and then to producing the products
- (2) It chiefly focuses on activities performed to provide products
- (3) Cost Drivers used for identifying the factors that influence the cost of specific activity
- (4) Overhead costs are assigned to Cost Centre or Cost Pools
- (5) Overhead costs are assigned to products using Cost Drivers Rates
- (6) Variable overhead is appropriately identified to individual products
- (7) In ABC several activity based on Cost Pools or Cost Centres are created
- (8) There is no need to allocate and redistribution of overhead of service departments to production departments
- (9) It assumes that fixed overhead costs vary in proportion to changes within the volume of output.

Conventional Costing (or) Traditional Costing

- (1) It begins with identifying cost and then to producing the products
- (2) It emphasizes chiefly on ascertainment of costs once they have been incurred
- (3) Cost unit is used for allocation and accumulation of costs
- (4) Overhead costs are assigned to production departments or service departments
- (5) Overheads allocated on the basis of departmental overhead allocation rate
- (6) Costs may be allocated or assigned either on actual cost incurred or on standard cost basis

- (7) Overheads are pooled and picked up department wise
- (8) The process of allocation and re-distribution of the costs of the service departments to production department is important to seek out total cost of production
- (9) It assumes that fixed overheads do not vary with changes within the volume of output.

ADVANTAGES OF ACTIVITY-BASED COSTING

ABC system could be a very valuable tool of control. It offers variety of benefits to the management and therefore the following are the main advantages:

- (1) It brings accuracy and reliability of the costing information in determination of the cost of the products.
- (2) It facilitates cause and effect relationship to exercise effective cost control.
- (3) It provides necessary cost information to the management to take decisions on any matter, regarding the business.
- (4) It is much useful in fixing the cost and selling price of a product.
- (5) It facilitates overhead costs allocate directly to the precise product.
- (6) It permits to manage the activities instead of costs.
- (7) It helps to get rid of all types of wastages and inefficiencies and inefficiencies.
- (8) It provides valuable information to judge on the relative efficiencies of assorted plants and machinery.
- (9) Cost Driver Rates can facilitate in vital impact on the development of new products or modification of existing products.

ESSENTIAL FACTORS OF A GOOD ACTIVITY-BASED COSTING SYSTEM

The success of the Activity-Based Costing system depends on the following factors:

- (1) Objectives of costing system and level of competition.
- (2) Number of products manufactured.
- (3) Product diversity and the business.
- (4) Adaptation of cost management measures, standardization and technical aspects.
- (5) Degree of sophistication and suitability to the firm.
- (6) Determination of single or combined Cost Driver.
- (7) Determination number of Activity Centre, Cost Pools and Cost Drivers.
- (8) Determination of total overhead costs and economy.
- (9) Analysis of trade off between measurement of costs and cost of errors.
- (10) Elasticity and adoptive to the changing circumstances.

STEPS IN DEVELOPMENT OF AN ABC SYSTEM

ABC uses cost drivers to assign the costs of resources to activities and unit cost as a way of measuring an output.

There are four steps to implementing ABC.

1. Determine activities

The organisation must undertake an in-depth analysis of the operating processes of every responsibility centre. Each process might consist of one or more activities needed to provide an output.

2. Assign resource costs to activities

This involves tracing costs to cost objects to work out why the cost occurred. Costs can be categorized in three ways:

- Direct – costs that can be traced directly to one output. For instance, the wood and paint that it takes to form a chair.

- Indirect – costs that cannot be allocated to an individual output, that is, they benefit two or more outputs, however not all outputs. For example, maintenance costs or storage costs.
- General/administration – costs that cannot be related to any product or service. These costs are likely to remain unchanged, whatever output is created. For example, salaries of administration staff, security costs or depreciation.

3. Determine outputs

Identify all of the output that an activity segment performs and consumes resources. Outputs could be products, services or customers.

4. Assign activity costs to outputs

This is done using activity drivers. Activity drivers assign activity costs to output (cost objects) supported the consumption or demand for activities.

CONCLUSION

The activity-based costing implementation disclosed various organizational changes that resulted from the process of implementation. ABC and any other costing system don't seem to be static; it can be established, therefore, like organizations modification and business conditions, ABC must be updated and maintained. ABC has ability to form champions of individuals of specific goods or services. Activity-Based Management methods have a broad range of uses, allowing the empowering utilization of ABC information for a wide variety of company functions and operations like process analysis, strategy support and time-based accounting, monitoring wastage, as well as quality and productivity management. ABC provides information for strategic decisions, like product mix and sourcing decisions that is in step with the long-run nature of these decisions. ABC allows product designers to know the impact of different designs on cost and flexibility and modify their styles accordingly.

REFERENCES

- Yair M. Babad & Bala V. Balachandran (1993); Cost Driver Optimization in Activity Based Costing, THE ACCOUNTING REVIEW
- Kumar Nitin & Mohto Dalgobind: Current trends of application of Activity Based Costing (ABC): a review, Global journal of management and business research accounting and auditing, vol13, issue 3, 2013
- John Innes, Falconer Mitchell, Donald Sinclair, 'Activity-Based Costing in the UK's Largest Companies: A Comparison of 1994 and 1999 Survey Results' As published in Management Accounting Research, Vol. 11, No 3, September (2000).
- Manoj Anand, B. S. Sahay, Subhashish Saha, "Activity-Based Cost Management Practices in India: An Empirical Study" Decision, Vol. 32, No. 1, pp. 123-152, January -June (2005).
- Narong, D. K., "Activity based costing and management solutions to traditional shortcomings of cost accounting", Cost Engineering, Vol. 51, No.8, pp. 11-22, (2009).