

***STRATEGIC IMPLICATION OF ACTIVITY BASED COSTING
FOR INDIAN COMPANIES***

By Asst. Prof. Neetu Kapoor

ABSTRACT

In the present scenario of cut-throat competition, both on price and quality, increasing consumer demands and product differentiation, the traditional costing system has become obsolete and even have led to strategic failures in many organizations when various costs especially the overheads, are incorrectly allocated to product lines. In this paper, we trace the historical development of concepts and techniques of cost accounting that have shifted the attention of management practitioners toward alternative methods of costs allocation. Exploring the past, current, and future trends of cost accounting in Indian companies, this paper highlights the distinctive features of Activity-based costing visa-visa conventional costing methods and the Activity-based costing implementation process. It shows that Activity-based costing is a definite improvement over the traditional methods on the premise that the costs are collected on the basis of activities rather than products and it can effectively contribute to the top managerial decision-making process. The paper examines feasibility of hybrid methods of costing and its use by Indian companies. Finally, it establishes that in spite of superiority of Activity based costing over other costing methods, awareness about it and its implementation is still low in India as compared to the developed countries.

INTRODUCTION

In the present scenario of fierce competition, galloping quality standards and price wars for customer attraction, the costing of products or services has become an important success issue in today's business world. Companies are zealous to make their product more competitive and affordable. Cost leadership is an effective strategy to maintain competitive advantage, as suggested by Porter (1985), and can even decide the corporate success or failure (Panda, 1999). In such a cost driven global market, the costing system is a strategic rather than an operational issue. All these strategies depend on the fundamental objective about information on the cost that would be incurred in manufacturing/selling the product. Therefore, consideration of all these dimensions especially in the fierce competition regime is important to know about the different costs or cost involved in manufacture of the product and cost involved in selling the product. This information has to be very accurate for taking scientific decisions. In the past also, the information about cost was important. In view of the importance of this vital information, different cost concepts and costing techniques were developed at different intervals of industrialization. Global Competition has become critical to almost all the business firms in the world. In order that the firms compete with organizations in global place, lowering of labor and manufacturing overhead cost is prime. The margins have become thin and, therefore, companies can no longer afford to make mistakes in decisions that impact product mix, price quotes, capital investment, technology, outsourcing, and make or buy decisions because of bad numbers from their accounting system (Cokins, 2002). This essentially requires that decision makers must fine tune their accounting processes and make every effort to understand the cause-and-effect relationships within their companies. Brimson and Antos (1994) define cost management as the management and control of activities to determine an accurate service cost, improve business processes, eliminate waste (non-value added activities), identify cost drivers, plan operations, and set enterprise strategies. The accuracy of cost information is, therefore, strategically, important to the organization.

Vries, W.T. de and M. Pholbud (2009) argue that to remain competitive and keep budgets in balance, "geographic information organisations" need to streamline operations, eliminate waste, reduce cycle time, reduce costs, adopt a commitment to total quality, and judiciously incorporate advanced technologies, such as scanning of documents, electronic data interchange, and paperless offices. Managers seeking to succeed in this environment are turning to their management accounting systems for new types of information. The conventional costing systems allocate fixed cost differently. It has been empirically argued by most of the researchers that ABC is more suitable for medium to long-range planning and flexible margin costing is more suitable for short to medium range planning. In traditional cost accounting systems, direct materials and labour are the only costs that can be traced directly to the product. By using the ABC system, activities can be classified as value-added and non-value-added activities. In order to improve performance of the system, non-value-added can be eliminated (Akyol et. al, 2005).

Therefore, cost accounting systems have greater flexibility in allocating and dealing with both variable and fixed costs. Traditional approaches have proved inadequate for today's global and technological environment (Cooper and Kaplan,1991). As a result, the Activity-based Costing (ABC) technique has emerged in recent years to provide managers with more accurate cost information. In developing countries the public sector organizations worldwide are under stress to implement business improvement programs that create (more) value and recover production costs. In these circumstances, governments are adopting models of private sector, which is used to coping with market pressures, to produce greater management efficiencies.

The attempt in this paper is to highlight the development of costing systems globally and the factors responsible for evolution of Activity-based Costing. The results of the survey done on Indian Companies about the use of the costing systems are also presented. Historical Framework The analysis of the past suggests that costing is not developed on its own, but there were certain factors. Primarily involved in costing. These factors have kept on increasing in the course of time. In earlier days, there were formal structures in the form of industry, which comprised companies engaged in similar areas of activities. There were tiny manufacturers, cottage sector

manufacturers, small sector manufacturers, household manufacturers and manufacturers for commercial purposes or comparable higher production manufacturers. Before the advent of mechanization, the technology was not advanced, machines were not available and the volume of production was small. The transactions were less, so the activities related to financial matters used to be based on memory. But in course of time, the number of transactions became large and the manufacturers found it difficult to remember these transactions. So recording of transactions started which gradually took the form of accounting. In 20th century, accounting became more advanced and complex since expansion of business was manifold. With the advent of mass production concept launched by Mr. Henry Ford, the situation changed.

In case of India's industrial development, till 1960s there was no competition in industrial products and we were in a buyers' market. Thereafter, there were few manufacturers making the same product, causing a sense of competition and companies started worrying as to who is making more profit. To find profits, it was necessary to find cost of the product, which led to development of costing techniques, known as partial costing. In this system, the cost of raw material is added to the cost of labour. No doubt, this system of costing is very simple, but it will not serve the purpose in the today's environment of mass industrialization. Technology advanced further, and usage of electricity and automation in the manufacturing started due to which the manufacturing activities were revolutionized. Better and faster machines were available giving more output in less time. Then the manufacturing came out of the household sector to industrial areas. This resulted in overall increase in the number of units' manufacturing similar products, providing employment, making use of utilities, and starting activities of marketing by giving more emphasis to it. Hence, there was a full-fledged organization with people as managers, which of course, was not as complex as today. In the pre-independence era, the major developments in industrial sector were confined only to industrial sectors, namely, coal mining, jute, textile, iron and steel industry, and other ferrous and non-ferrous metals. All these industrial sectors were mainly engineering industries and used heavy machinery and large plants involving high capital. These developments led to situations where it was important to take decisions about various aspects of business, such as production, pricing, etc. For this

improvement cost information was required. Traditionally, the costing system has the following important characteristics:

- Overheads are arbitrarily allocated to cost objects;
- Total company's overheads are allocated to the products based on the volume-based measures viz. labour/machine hours etc.; and
- The relationship is assumed between volume based measure and overheads.

Because of these inherent attributes, the traditional system failed to allocate costs properly to product service lines leading to costs distortions. The distortion of products costs in HP, based on a research study conducted, is an excellent quotation of cost distortions arising due to adoption of traditional style of cost allocations (Table I)

Table 1: Traditional Cost Allocations Distorted Product Costs at Hewlett-Packard (Merz C.M. & Hardy, 1993)

Distortion caused by the old system expressed as a percentage difference from ABC Cost	No of Products
Under Cost:	
Between 20% and 100%	12
Between 5% and 20%	23
Little Change	
Less than 5% under cost or over cost	13
Over Cost	
Between 5% and 20%	9
Total	57

Because of the serious shortcomings of the traditional styles, many organizations succeeded or failed due to over and under absorption of cost to product/service lines. This led to development

of Activity Based Costing as a specialized technique for cost management. Activity Based Costing is an accounting system that assigns costs to products based on the resources they consume. The costs of all activities are traced to the product for which these were incurred, e.g., material handling, material management, customer support service, etc. Overhead costs also are accounted for in a similar way, instead of spreading them across all the product lines based on pre-determined assumptions.

Activity Based Costing (ABC), which has become an important aspect of manufacturing or service organizations, can be defined as a methodology that measures the cost and performance of activities, resources and cost objects. It can be considered as an alternative paradigm to traditional cost-based accounting systems (Akyol et. al, 2005).

The ABC system gives a better perspective of resource allocation and all cost of a particular product. The elements of ABC are: (a) Activities, (b) Activity Cost, (c) Cost Driver, and (d) Cost Objective. ABC is an economic model that identifies the cost pools or activity centers in an organization and assigns costs to cost drivers based on the number of each activity used. Since the cost drivers are related to the activities, they occur at several levels:

- 1) Unit level drivers, comprise increase in inputs for every unit that, is being produced.
- 2) Batch level drivers, comprise variation of inputs for every batch that is being produced.
- 3) Product level drivers, comprise necessity of inputs to support the production of each of different types of products.
- 4) Facility level drivers are the drivers, related to the facility's manufacturing process.

Users of the ABC system have to identify the activities, which generate cost and then match the activities to the level bases used to assign costs to the products. While using the ABC system, the activities, which generate cost, must be determined and then should be matched to the level drivers used to assign costs to the products (Akyol et. al, 2005). Anderson and Young (1999) have indicated following six stages of implementation of Activity Based Cost Accounting

Systems: (a) initiation of feasibility analysis (b) adoption of decision to invest some level of resources : (c) adaptation based on analysis of firm's activities and cost drivers on which ABC information is available but has not yet been used by non-accounting staff in decision-making: (d) acceptance of information occasionally used by upper management for decision-making, but still not considered as a project or model; (e) routinization of information commonly used by upper management in decision-making which is considered a normal part of the information system; and (f) infusion/integration of information used extensively and fully integrated with the primary financial system. The logical steps involved in ABC • approach is summarized as below (Table 2).

Table 2 Steps Involved in Activity Based Costing

Step 1	Identify and classify major activities related to company's product
Step 2	Group cost activities into cost pools/cost centers
Step 3	Identify measures of activities – the cost drivers and the cost driver rate
Step 4	Assign activity costs to products using the cost drivers and the rate

While ABC captures costs and affects relating to various activities, but the traditional cost accounting system fails to do so. Unlike traditional costing, ABC reveals the cost among activities in different departments. The underlying principle of ABC is to trace the product cost whereas traditional approach is guided by the need to value stocks. In ABC, costs are accumulated for each activity as a separate cost object, unlike in traditional costing where costs are allocated based on various departments and functions. Costs revealed by ABC are superior to

traditional approach because of the two underlying assumptions: (a) the cost in each pool is driven by homogeneous activities, and (b) the cost in each pool is strictly proportional to the activity (Roth & Borthick, 1991). Many researchers on the subject have highlighted the importance of Activity Based Costing (ABC). Salma (1999) defined ABC as an accounting system, which is gaining popularity as it helps the organizations to maintain control over cost. ABC covers various activities involved in the manufacturing of products/services and in allocating overheads on the basis of activity used in its manufacturing. The logic of ABC systems is that more finitely structured activity-cost pools with activity specific cost-allocation bases, which are cost drivers for the cost pool, lead to more accurate costing of activities (Horngren, 2003). ABC attempts to address allocation of fixed overhead costs to products and processes by using more than one overhead base to assign fixed overhead to products or processes (Boer, 2001). ABC can be integrated with other cost management techniques, such as Kaizen and Target costing to produce new ways to reduce costs, both across the value chains and over the life of the product (Cooper, 1998). Lowder (2006) found that ABC demonstrated positive results for the companies that implemented it. Saha (2001) focussed that Activity Based Cost Management is an analytical job that requires tremendous support from top management who are really cost conscious and employ all efforts to control the cost. Study by Narasimhan and Thampy (2002) on activity-based costing system for banks highlights the use of activity-based cost information in 61 benchmarking, branch network restructuring, business process outsourcing, and identification of value-added and non-value added activities. Foster and Swanson (1997) survey of 132 US companies indicated that the use of ABC systems had a large impact on performance measures. Bhatta (2001) argued, Most companies seem to recognise that their cost systems do not respond adequately to today's competitive environment. The methods they use to allocate costs among their many products are hopelessly obsolete. Quite simply, accurate cost information can give a company a competitive edge". Rajaraman (2001) asserts that ABC provides cost information that facilitates strategic decisions of activity management. The implementation of ABC is cumbersome, particularly with respect to involvement of people at all levels in identification of cost drivers and integrating it into the organisational financial

system and measuring performance. In fact there is a need to explore the costing methods that are applied in Indian Companies and to examine the extent of adaptation of ABC in Indian companies.

DATA AND METHODOLOGY

We attempt to devise an exploratory model to find out which system of cost management is operative in Indian companies, the level of awareness and usage of ABC. We want to examine the reasons for adoption or non-adoption of ABC and possible explanations there. We surveyed 105 companies with the attributes: (a) widely held companies (b) in operation for more than 5 years and (c) turnover greater than Rs. 100 crores. The responding companies represent manufacturing sectors-like automotives, agricultural equipment, agro-chemicals and related industries. The questionnaires were administered in 12 cities of India with high concentration of four cities namely Delhi (24%), Noida (13%), Mumbai (10%) and Chennai (10%). Interviews of executives, responsible for the Cost Management, were collected to generate empirical data.

FINDINGS

The survey results indicated a high reluctance on part of companies to disclose their costing methods. However, inclination towards implementation of Activity based-costing was high among the ones who responded. The responses are polarized to units in National Capital Territory of Delhi and Chennai covering high proportion of manufacturing and trading organizations. However, this limitation did not adversely affect the conclusions of the study. The results show that behavioural classification of cost by the respondent companies was primarily carried out in two conventional categories, namely - fixed costs and variable costs. The recognition of semi-variable costs is marginal, viz. only 4 out of the 21 respondents indicated it. Most of the responding companies were found to be using basic statistical techniques including "High and Low Method" for the purpose. The use of statistical techniques for costing was absent among most companies. Further, the split of fixed cost into committed and discretionary costs was difficult to find in Indian companies. This is probably because of lack of awareness among

the respondent companies. Classification of costs into direct and indirect was universal among the responding companies. Manufacturing companies were using well-defined functional overhead cost classification for traditional/volume based costing systems. The allocation of overheads, especially the manufacturing overhead, was carried out on predetermined rate basis (Nigam & Sharma, 1998).

However, the allocation formula applied by them varies from company to company, though most of them were either using product or volume methods. This implied that the manufacturing overheads were inappropriately distributed, if the true cause effect relationship was not established. The over or under allocation of cost in the product, therefore became obvious. Hence, a shift from the volume based costing system to activity-based system cannot be overruled. We assert that there is sufficient awareness on Activity-based costing systems, but its implementation was poor. We also find cases of partial adoption of ABC. The pattern of ABC based on Robin Cooper activity pools was examined and then illustrated to the respondents. We find that the willingness of the respondents to adopt ABC system, post acquaintance, was of a high degree (Table 3).

Table 3: Willingness to introduce ABC post acquaintance

Description	Yes	No	Total
Responses received	17	2	21
Positive response as a % of the total	89.5	10.5	100

Most of responding companies are of the opinion that ABC system is superior to the Volume based costing (Table 4).

Table 4: Activity Based Costing (ABC) vs. Volume Based Costing (VCB)

Description	ABC	VCB	Total
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No. of Responses	20	01	21
Positive responses as % of the total	95.2	4.8	100

The overhead cost and the rates of overheads are showing increasing trend among the respondent companies (Table 5).

Table 5: Pattern of Overhead Costs

Description	High %	Low %
No. of Responses	216	18
Percentage total	100	85.7

Research studies do confine this phenomenon among the corporations on a global basis. The direct labour percentage of total cost has been phenomenally low, (Table 6)

Table 6: Proportion of Direct Labour to Total Cost

Description	High %	Low %	Total
No. of responses	6	15	21
High/Low % as % of the total	30	70	100

The overhead cost and the rates of overheads are showing increasing trend among the respondent companies (Table 5). We, therefore, argue that the use of direct labour percentage as cost absorption techniques is inappropriate. Also, the manufacturing overhead costs have increased primarily because of large scale operations, multitude of new products through the same production facilities, widening markets, improved technology, automation, and specialization.

It is, therefore, imperative to use the break-ups of the manufacturing activity itself as a method of allocation and absorption. While majority of respondents agree on the issue of increasing product

diversity, the opinions on complexity of product lines were mixed. The line managers accept the cost computed by the cost-think tanks whether or not they (line managers) have the choice. A significant proportion of companies under the survey were using "Highly Profitable Product Niche". The logical implication of this niche is that if the company expands its niche, and the overall profits fall, the costing system is faulty. The respondents were convinced about this implication. Interestingly, a good number of respondents were not able to explain the high profit margins on their products lines. Also, the response to competitors' "unrealistic low prices" was mixed. This indicated failure on the part of the pricing managers to critically assess and adjust to the dynamic pricing systems. The opinions of the managers in responding companies during the interview indicated the following ground realities about the emerging competitive scenario in India:

- Out of a bundle of products, only few are really profitable;
- It is difficult to forecast, which shall be the profitable ones;
- Increasing sales does not imply profits; and
- Low-cost and high quality products are today's consumer demands.

A new cost management system is needed to determine the true cost of a product or service. This is essentially required because the profitable ones are to be focused in alternative situations, to suggest cost improvements and facilitate strategic decision making. The researchers also indicate that any costing system, whether it is ABC or conventional is ineffective at locating bottlenecks or constraints during the production process that can slow down throughput. Hence, both systems have an inherent limitation that can result in systemic problems in making decision related to throughput. ABC does not consider internal capacity constraints because of its treatment of activities and resource consumption was linear, absolute, and certain (Geri, 2(05). In spite of the Limitations, the benefit of ABC cannot be ruled out.

CONCLUDING REMARKS

Activity Based Costing can help companies in answering the market needs of better quality products at competitive prices. Ascertaining the product profitability and customer profitability, this method can contribute effectively in top management's decision-making process. With ABC, enterprises can improve their efficiency and reduce the cost without sacrificing the value for the customer. The companies, who have implemented this method, have been able to model the impact of cost reduction and subsequently confirm the savings achieved. The decision to install such a sophisticated cost system calls for firm-level suitability analysis taking into consideration the efficacy of existing cost system and proclivity for managerial action. In the time of change, which is inevitable in a business, it is imperative that the management decision makers must have an accurate, relevant, flexible, and comprehensive cost accounting system to aid them in their decision making processes. In aggregate, this method is a dynamic tool for continuous improvement.

Therefore it is imperative for Indian companies to install ABC systems else they will not be able to handle competition in the changed scenario. With ABC to its benefit, any enterprise will have a built in competitive cost advantage and can continuously add value to its stakeholders.

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Bio:

Neetu Kapoor is currently working as Vice Principal in Bharat College of Commerce, Badlapur(W), Dist –Thane. Maharashtra, India. She can be reached at neetukapoor2007@gmail.com