A COMPARATIVE STUDY OF ACTIVITY BASED COSTING AND TRADITIONAL COSTING AS A FRAGMENT OF PRICING

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ABSTRACT

To support compliance with financial reporting requirements, a company's traditional cost-accounting system is often articulated with its general ledger system. In essence, this linkage is grounded in cost allocation. Typically, costs are allocated for either valuation purposes (i.e., financial statements for external uses) or decision-making purposes (i.e., internal uses) or both. However, in certain instances costs also are allocated for cost-reimbursement purposes (e.g., hospitals and defense contractors). Activity-based costing (ABC) which has become an important aspect of manufacturing/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. The objective of this paper is to illustrate an application of Activity Based Costing method and to compare the results of ABC with traditional costing methods. However an attempt has made to study the importance of activity based costing in present competitive business environment to exercise minimum control over on the cost.

KEYWORDS: *Activity-Based Costing, Cost Drivers, Overheads, Traditional Costing*

INTRODUCTION

Present global competition forced manufacturing and services organizations to become more flexible, integrated and highly automated in order to increase their productivity at reduced costs. Activity-based costing (ABC) provides the tools necessary to understand indirect costs. The traditional approach to cost-allocation consists of three basic steps: accumulate costs within a production or nonproduction department; allocate nonproduction department costs to production departments; and allocate the resulting (revised) production department costs to various products, services, or customers. Costs derived from this traditional allocation approach suffer from several defects that can result in distorted costs for decision-making purposes. For example, the traditional approach allocates the cost of idle capacity to products. Accordingly, such products are charged for resources that they did not use. Seeking to remedy such distortions, many companies have adopted a different cost-allocation approach called activity-based costing (ABC). But it is impossible to sustain competitiveness without an accurate cost calculation mechanism Proposed by as an alternative method to traditional cost accounting methods, ABC assigns costs to activities using multiple cost drivers, then allocates costs to products based on each product's use of these activities. Using multiple activities as cost drivers, it reduces the risk of distortion and provides accurate cost information. In an ABC system, the total cost of a product equals the cost of the raw materials plus the sum of the cost of all value adding activities to produce it. In other words, the ABC method models the usage of the organization resources by the activities performed and links the cost of these activities to outputs, such as products, customers, and services. Each product requires a number of activities such as design, engineering, purchasing, production and quality control. Each activity consumes resources of different categories such as the working time of the manager. Cost drivers are often measures of the activities performed such as number of units produced, labor hours, hours of equipment time, number of orders received.

Traditional costing methods fail in many pricing situations because they arbitrarily allocate indirect costs. Today, indirect costs such as rent, depreciation, utilities and supervision are often a significant portion of the company's cost structure. While many people think such costs are unrelated to specific products, an analytical mind will quickly see cause and effect connections between products and the activities required to provide them to a customer.

In traditional cost accounting systems, direct materials and labor 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 the performance of the system, non value-added can be eliminated.

Activity-Based Costing

In contrast to traditional cost-accounting systems, ABC systems first accumulate overhead costs for each organizational activity, and then assign the costs of the activities to the products, services, or customers (cost objects) causing that activity. As one might expect, the most critical aspect of ABC is activity analysis. Activity analysis is the processes of identifying appropriate output measures of activities and resources (cost drivers) and their effects on the costs of making a product or providing a service. Activity analysis provides the foundation for remedying the distortions inherent in traditional cost-accounting systems.

Activity based costing (ABC) is a costing method that is designed to provide managers with cost information for strategic and other decisions that potentially affect capacity and therefore "fixed cost".

Activity based costing system is used to determine product costs for special management reports. This system is ordinarily used as a supplement to the company's usual costing system. Most of the organizations that use ABC system have two costing systems--the official costing system that is used for preparing external financial reports and the activity based costing system that is used for internal decision making and for managing activities.

In traditional cost accounting systems, the objective is to value inventories and cost of goods sold for external financial reports in accordance with the generally accepted accounting principles (GAAP). In activity based costing (ABC) system the objective is to understand overhead and the profitability of products and customers and to manage overhead. As a consequence of these differences in objectives, "best practice" activity based costing system differs in a number of ways from traditional cost accounting.

In activity based costing:

1. Non-manufacturing as well as manufacturing costs may be assigned to products.
2. Some manufacturing costs may be excluded from product costs.

3. A number of overhead cost pools are used, each of which is allocated to products and other costing objects using its own unique measure of activity.
4. The allocation bases often differ from those used in traditional costing system.
5. The overhead rates or activity rates may be based on the level of activity at capacity rather than on the budgeted level of activity.

Activity Based Costing (ABC) Systems versus Traditional Cost-Accounting

ABC systems are not inherently constrained by the tenets of financial reporting requirements. Rather, ABC systems have the inherent flexibility to provide special reports to facilitate management decisions regarding the costs of activities undertaken to design, produce, sell, and deliver a company's products or services. At the heart of this flexibility is the fact that ABC systems focus on accumulating costs via several key activities, whereas traditional cost allocation focuses on accumulating costs via organizational units. By focusing on specific activities, ABC systems provide superior cost allocation information—especially when costs are caused by non-volume-based cost drivers. Even so, traditional cost-accounting systems will continue to be used to satisfy conventional financial reporting requirements. ABC systems will continue to supplement, rather than replace, traditional cost-accounting systems.

Geared toward compliance with financial reporting requirements, traditional cost-accounting systems often allocate costs based on single-volume measures such as direct-labor hours, direct-labor costs, or machine hours. While using a single volume measure as an overall cost driver seldom meets the cause-and effect criterion desired in cost allocation, it provides a relatively cheap and convenient means of complying with financial reporting requirements. In contrast to traditional cost-accounting systems,

Treatment of Costs Under Activity Based Costing (ABC) System:

Non-manufacturing Costs and Activity Based Costing (ABC) System: In traditional cost accounting system, only manufacturing costs are assigned to products. Selling, general, and administrative expenses are treated as period costs and are not assigned to products. However, many of these non-manufacturing costs are also part of the costs of producing, selling, distributing, and servicing products. For example commissions paid to salespersons, shipping costs, and warranty repair costs can be easily traced to individual products. The term overhead is usually used to refer non-manufacturing costs as well as indirect manufacturing costs under an ABC system. In activity based costing, products are assigned all of the costs-manufacturing as well as non-manufacturing-that they can reasonably be supposed to have caused. The entire cost of the product is determined rather than just its manufacturing cost. Manufacturing Costs and Activity Based Costing (ABC): In traditional cost accounting, all manufacturing costs are assigned to products-even manufacturing costs that are not caused by the products. For example, a portion of the factory security guard's wages would be allocated to each product even though the guards wages are totally unaffected by which products are made or not made during a period. In activity based costing, cost is assigned to a product only if there is a good reason to believe that the cost would be affected by decisions concerning the product.

The Cost of Idle Capacity and Activity Based Costing (ABC): In traditional cost accounting, predetermined overhead rates are computed by dividing budgeted overhead costs by a measure of budgeted activity such as budgeted direct labor hours. This results in applying the costs of unused or idle capacity to products, and it results in unstable unit product cost. In contrast to traditional cost accounting, in activity based costing system, products are charged for the costs of capacity they use and not for the costs of capacity they do not use. The costs of idle capacity are not charged to products in activity based costing system. This results in more stable unit costs and is consistent with the objective of assigning only those costs to products that are actually caused by the products. Instead of assigning the costs if idle capacity to products, in activity based costing system these costs are considered to be period costs that flow through to the income statement as an expense of the current period. This treatment highlights the cost of idle capacity rather than burying it in inventory and cost of goods sold**.**

Designing and Implementing Activity Based Costing (ABC) System:

First, the initiative to implement activity based costing must be strongly supported by top management. Second, the design and implementation of activity based costing system should be the responsibility of a cross functional team rather than of the accounting department. The team should include representatives from each area that will use the data provided by the activity based costing system. Ordinarily, this would include representatives from marketing, production, engineering and top management as well as technically trained accounting staff. An outside consultant who specializes in activity based costing system serve as an advisor to the team.

The reason for insisting on strong top management support and a multifunction team approach is rooted in the fact that implementing activity based costing system is difficult in organizations unless those changes have the full support of those who are affected. Activity based costing changes “the rules of the game" since it changes some of the key measures that managers use for their decision making and for evaluating individuals' performance. Unless the managers who are directly affected by the changes in the rules have a say, resistance will be inevitable. In addition, designing a good activity based costing system requires intimate knowledge of many parts of the organization's overall operations. This knowledge can only come from the people who are familiar with those operations.

Implementation of activity based costing system must be initiated by top management due to two reasons. First, without leadership from top management, some managers may not see any reason to change. Second, if top managers do not support the ABC system and continue to play the game by the old rules, their subordinates will quickly get the message that ABC is not important and they will abandon the ABC initiative. Time after time, when accountants have attempted to implement an ABC system on their own with top-management support and active cooperation from other managers, the results have been ignored.

For designing and implementing activity based costing system, management should carefully study the existing cost accounting system and review the articles in professionals and trade journals. In most of the organizations, the new activity based costing system supplement, rather than replace, the existing cost accounting system, which continues to be used for external financial reports.

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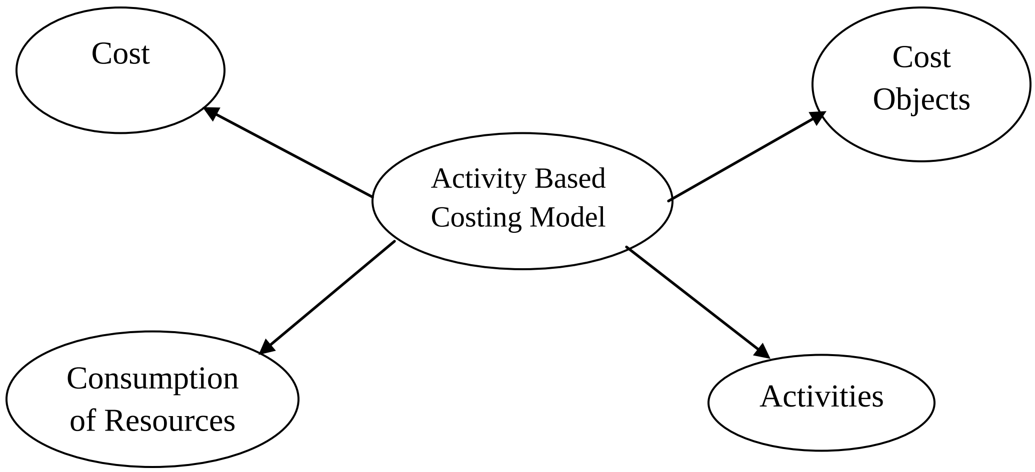

Usually, company's traditional cost accounting system adequately measures the direct material and direct labor costs of products since these costs are directly traced to products. In most of the organizations activity based costing study is usually concerned solely with the other costs of the company - manufacturing overhead and selling, general, and administrative costs.

Activity Based Costing and Product Pricing

At the time of product pricing there will three things can happen in pricing – and two of them are bad. A company's reward for a price set too low is an unprofitable sale. Their reward for a price set too high is a lost sale that would have been profitable at a lower price. Only some place between these two numbers does the company have the opportunity to both make a sale and a profit.

While companies rarely price their products below cost intentionally, they often do so due to poor costing information. Traditional costing methods do a good job at telling the average cost of an average product sold to an average customer; but they do a poor job of identifying the specific costs related to a specific situation.

Cost, of course, is not the only issue in establishing price. The product's value as perceived by the customer is another key factor. In fact, when a company has a superior value proposition or is the only one who does what they do, value is the most important factor in the pricing decision. However, value pricing falls apart in the face of real competition and cost becomes a more significant concern.

Traditional costing methods fail in many pricing situations because they arbitrarily allocate indirect costs. Today, indirect costs such as rent, depreciation, utilities and supervision are often a significant portion of the company's cost structure. While many people think such costs are unrelated to specific products, an analytical mind will quickly see cause and effect connections between products and the activities required to provide them to a customer.

Illustrative Example

MV Corporation makes a single product - a fire resistant commercial telephone cable - that it sells to office furniture distributors. The company has a simple ABC system that it uses for internal decision making. The company has two overhead departments whose costs are listed below:

Manufacturing overhead	Rs. 5,00,000
Selling and administrative overhead	Rs. 300,000
Total overhead costs	Rs. 8,00,000

The company's activity based costing system has the following activity cost pools and activity measures:

Activity Cost Pool	**Activity Measures**
Assembling units	Number of units
Processing orders	Number of orders
Supporting customers	Number of customers
Other	Not applicable

Costs assigned to the "other" activity cost pool have no activity measure; they consist of the costs of unused capacity and organization-sustaining costs - neither of which are assigned to products, orders or customers.

MV Corporation distributes the costs of manufacturing overhead and of selling and administrative overhead to the activity cost pools based on employee interviews, the results of which are reported below:

Distribution of Resource Consumption Across Activity Cost Pools

	Assembling Units	**Processing Orders**	**Supporting Customers**	**Other**	**Total**
Manufacturing overhead	50%	35%	5%	10%	100%
Selling and administrative overhead	10%	45%	25%	20%	100%
Total activity	1,000 units	250 orders	100 customers	--	--

Required:

1. Perform the first stage allocation of overhead costs to the activity cost pools.
2. Compute activity rates for the activity cost pools.
3. SGR Ltd., is one of the MV Corporation's customers. Last year SGR Ltd., ordered filing Cables four different times. SGR Ltd., ordered a total of 80 cables during the year. Construct a table showing the overhead costs of these 80 units and four orders.

Solution:

1. The first stage allocation of costs to the activity cost pools appears below:

	Activity Cost Pools				
	Assembling Units	**Processing Orders**	**Supporting Customers**	**Other**	**Total**
Manufacturing overhead	Rs. 250,000	Rs. 175,000	Rs. 25,000	Rs. 50,000	Rs. 500,000
Selling and administrative	30,000	135,000	75,000	60,000	300,000

overhead					
Total activity	Rs. 280,000	Rs. 310,000	Rs. 100,000	Rs. 110,000	Rs. 800,000

2. The activity rates for the activity cost pools are:

Activity Cost Pools	Total Cost	Total Activity	Activity Rate
Assembling units	Rs. 280,000	1,000 units	Rs. 280 per unit
Processing orders	Rs. 310,000	250 units	Rs. 1,240 per order
Supporting customers	Rs. 100,000	100 customers	Rs. 1,000 per customer

3. The overhead cost for the four orders of a total of 80 filing cables would be computed as follows:

Activity Cost Pools	Total Cost	Total Activity	Activity Rate
Assembling units	Rs. 280 per unit	80 units	Rs. 22,400
Processing orders	Rs. 1,240 per order	4 units	Rs. 4,960
Supporting customers	Rs. 1000 per customer	Not applicable	

4. The product and customer margin can be computed as follows:

Filing Cable Product Margin:		
Sales (Rs. 595 per unit × 80 units)		Rs. 47,600
Cost:		
Direct materials (Rs. 180 per unit × 80 units)	Rs. 14,400	
Direct materials (Rs. 50 per unit × 80 units)	4,000	
Volume related overhead (above)	22,400	
Order related overhead (above)	4,960	45,760
		Rs. 1,840
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Customer Profitability Analysis – SGR Ltd.,		
Product margin (above)	Rs. 1,840	
Less: Customer support overhead (above)	1,000	
	Rs. 840	
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CONCLUSION

ABC utilizes the activity concept and by using the activities, ABC can successfully link the product costs to production knowledge. How a product is produced, how much time is needed to perform an activity and finally how much money is absorbed by performing this task are answered by the help of ABC studies.

As it is seen in this application, ABC is capable of monitoring the hidden losses and profits of the traditional costing methods.

Activity-based costing (ABC) which has become an important aspect of manufacturing/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. The objective of this paper is to illustrate an application of Activity Based Costing method and to compare the results of ABC with traditional costing methods. However an attempt has made to study the importance of activity based costing in present competitive business environment to exercise minimum control over on the cost.

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