

Significance and Application of ABC as an Effective Tool for Cost Management



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Abstract

In today's advanced manufacturing and competitive environment, accurate costing information is crucial for all the kinds of businesses. In recent years the world of costing systems has shown major developments. The field of cost accounting has evolved into the field of cost management. It has moved from a procedural focus on stewardship accounting to a strategic focus on the use of accounting to facilitate the business success. The most significant part of the role of cost accounting used to be accurate measurement and reporting of costs. Leading a company to competitive success requires offering increased customer value at reduced costs. Hence, costs have to be not only accounted for but influenced. All costs can and should be managed. Moreover, costs do not simply happen; they are the results of management decisions an effective cost management system must provide managers the information to achieve short-run profitability and maintain a competitive position in the long run. It can be used by both manufacturing and service organization since it focuses equally on service and production functions to remove the historical bias towards product costs. Activity-Based Costing system (ABC) has increasingly attracted the attention of practitioners and researchers alike as one of the strategic tools to aid managers for better decision making. This study aims to identify the reasons why activity-based costing is preferred to traditional costing.

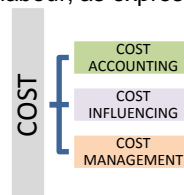
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Introduction

The concept of direct and indirect cost is very important for costing purposes. It was observed that most of the firm collected cost and after collecting cost, on the basis of relationship with cost centre cost classified into Direct Cost and Indirect Cost. In any system it is very easy to charge direct cost on product or service. Direct costs are allocated, since they can be directly identified with a cost centre or cost unit. All the indirect cost grouped and known as overheads and indirect costs are apportioned expenditure.

Alexander Hamilton Church [1931], was of the opinion that overhead is a cost of production preparedness rather than just a cost of production because overhead is a cost to maintain the plant in a condition ready to process whether there is work going on in the plant. Overhead is merely a collective term for several distinct and separate services, each of which has its separate incidence on production, and that it is possible to waste these services as well as to utilize them for actual production. Because of this concept of overhead there are four efficiency measurements:

1. The cost of preparedness, or the efficiency of the actual as compared with the possible cost of maintaining a required capacity;
2. The efficiency of utilization, or ratio of the actual to the expected or possible use of this capacity;
3. The efficiency of process time, or of the actual as compared with the possible speed with which any job is done; and
4. The efficiency of direct labour, as expressed in earnings.



In traditional cost management, cost is a function, primarily, of only one cost driver, output volume. Cost concepts related to output volume permuted the thinking and the writing about cost: fixed versus variable cost, average cost versus marginal cost, cost-volume-profit analysis, breakeven analysis, flexible budgets, and contribution margin, to name a few. The traditional costing systems assume that cost objects (products or services) consume resources and therefore these systems see the products as cost generating. In this case, it is difficult to manage costs because a company can only manage what is actually being done (activities) and then costs will change as a consequence. However, in traditional costing systems, the underlying assumption is that costs can be managed, but as most managers have found out the hard way managing costs is almost difficult.

The technique, which is popularly known as Activity-Based costing (ABC), is a 'system that focuses attention on the costs of various activities required to produce a product or service'. This system is in favor of many organizations in order to provide "true" cost information for their strategic decision-making.

Brignall [1997] stated the conventional or traditional accounting system allocates the manufacturing overhead to the products either plant wide overhead rate or on two-stage allocation system. The former allocates cost on a single activity base for the entire factory but the latter assigns manufacturing overhead cost based on departmental activities. Under this system, at the first stage, the manufacturing cost is collected into cost pools and then attached to products by a method based on unit volume of production such as direct labour hours.

Kaplan and Cooper[1998] argued that, in the case of a wide variety and complexity of products and services and high overhead costs, the allocation of such overhead costs could be significantly improved, thus leading to a reduction in the distortions in product cost calculations, if an ABC system was adopted. ABC requires a new kind of thinking. Traditional costing systems are the answer to the question, "How can the organization allocate costs for financial reporting and for departmental cost control?" ABC is the answer to an entirely different set of questions:

1. What activities are being performed by the organizational resources?
2. How much does it cost to perform organizational activities and business processes?
3. Why does the organization need to perform activities and business processes?
4. How much of each activity is required for the organization's products, services, and customers?

ABC focuses on resource consumption not spending. Thus, a major conceptual advance in ABC is that ABC system should not assign all organizational expenses to cost objects (see Cooper and Kaplan 1992). Thus, the activity-based system can measure the costs of using resources, not the cost of supplying resources. This leads to accurate product costing and reveals why operational improvements often do not lead to lower spending.

The main objective of this study is to present the idea that how ABC is preferred to conventional costing in the modern manufacturing environment. Activity-based costing (ABC) is a new method for calculating the cost of product thereby replacing traditional cost. Give accurate product cost and provides insight information of operation for managers. For the past two decades, the traditional cost method has failed to provide such accurate costing of products for companies.

Related Litratue Review

According to Kaplan (1988), companies need cost systems to perform three primary functions: inventory valuation for financial reporting purposes, operational control for performance and productivity evaluation, and individual product cost measurement. Kaplan (1988) recognized that no single system can adequately answer the demands made by the diverse functions of the cost systems. At the same time, Cooper and Kaplan (1998) argued that, while the first function is arguably fulfilled adequately by conventional costing systems, such systems could not explain what the manager should do to manage costs, improve performance, and these systems tended to distort product costs for strategic and marketing purposes, particularly in high overhead contexts.

Conventional costing systems (cost center method) are based on a two-stage procedure. Under the two-stage allocation procedure direct costs are traced to products, overhead costs are allocated to cost centers, and then to production outputs. In the second stage, the traditional costing system allocates overhead costs from cost centers to products using volume-based cost drivers This two-stage allocation procedure, however, fails to provide information that can be applied to cost management and performance improvement, and distorts product or service costs considerably (Cooper and Kaplan 1998 and Blocher et al. 1999).

Traditional costing systems mostly utilize direct labour or other volume related allocation bases for cost assignment purposes and therefore these bases rarely reflect the true cause and effect relationship between overhead costs and cost objects. Thus, Cooper and Kaplan (1998), Cokins (1999) argued that such system usually fails to allocate costs and distort product or service costs considerably. In addition, traditional cost systems are more concerned about the organizational charts than the actual process. These systems are therefore structurally oriented and the process view is completely missing.

Miller and Vollman (1985) in their study "The hidden factory", argued that most production managers understand what drives direct labour and materials costs, but they are much less aware of what drives overhead costs. Miller and Vollman explained that the real driving force of overhead costs comes from different transactions, not physical products. These transactions involve exchanges of the materials and/or information necessary to move production along but not directly result in physical products. Rather, these transactions are responsible for aspects of the "bundle of goods" that customers purchase - such aspects as on-time delivery, quality,

variety, and improved design. Therefore, there are different cost drivers, which stem not only from the production transactions but also from other transactions of the company.

In the past, the traditional costing was adequate because of major two reasons [Cokins, 1999]:

1. The fraction of total product cost due to the direct cost component was substantially larger than overhead component. Therefore, imprecise estimate overhead cost would not cause a big distortion in the cost of product.
2. Overhead cost component as and is inherently more expensive to determine than the direct cost component. Spending time and money to allocate small amount of overhead would not be worth.

Over the last third of the 20th century, there were considerable changes in the cost structures of companies caused by new conditions of the business environment. These changes have resulted in higher overhead rates; investment in machinery and services has reduced direct labour costs and simultaneously increased overhead costs.

On the other hand, today's companies typically have a wide variety and complexity of products and services, high overhead costs compared to direct labour, an overabundance of data and substantial non product costs that can dramatically affect true product cost (Drury 2000). The nature of overhead cost has changed from costs which were predominantly influenced by volume-related factors to a composition determined largely by non-volume-related factors (Innes et al. 1994). Thus, simplistic overhead allocations using a declining direct labour base cannot be justified, because computer technology has reduced the costs of developing and operating of cost systems that track many activities (Drury 2000).

Under ABC, the first-stage allocation is a resource cost assignment process by which overhead costs are assigned to activity cost pools or groups of activities called activity centers by using appropriate resource drivers (Sakurai 1996 and Blocher et al. 1999). The second-stage allocation is an activity cost assignment process by which the costs of activities are assigned to cost objects using appropriate activity drivers. ABC differs from traditional costing systems in two ways (Innes et al. 1994, Sakurai 1996 and Cooper and Kaplan 1998):

First, cost pools are defined as activities or activity centers rather than cost centers.

Second, the cost drivers used to assign activity costs to cost objects are activity drivers based on cause-effect relationships.

The traditional approach uses a single volume based driver that often bears little or no relationship to either the resource cost or the cost object.

These modifications to the two-stage procedure allow ABC to report more accurate costs than a traditional costing system because ABC identifies clearly the costs of the different activities being performed in the firm. ABC also assigns the costs of those activities to output cost objects using measures that represent the types of demands

individual output products or services make on those activities. The concept of ABC began with the objective of more accurate product costing but in many companies cost management has become as, if not more, important than product costing (Innes et al. 1994 and Blocher et al. 1999). The reason for this is that once managers begin to think in terms of activities and cost drivers, it is natural to ask questions about whether all the existing activities are required and whether certain activities can be performed efficiently or effectively.

Akyol, Tuncel, and Mirac Bayhan [2005] have defined Activity-based costing (ABC) as a methodology that measures the cost and performance of activities, resources and cost objects. In their study they illustrated an application of ABC with traditional costing methods. It can be considered as an alternative paradigm to traditional cost-based accounting systems. 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. ABC is capable of monitoring the hidden losses and profits of the traditional costing methods. The results of the application of ABC highlight the weak points of traditional costing methods and an S-Curve obtained is used to identify the undercosted and overcosted products of the firm. The existence of S-Curve shows which ones of the products are under or overcosted.

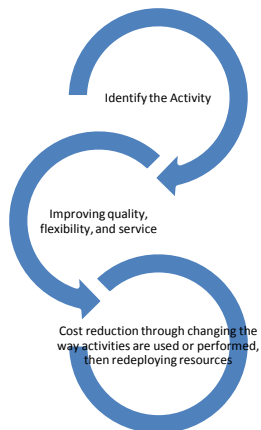
Dekker, Knight & Zingo [2003] were at the opinion that Activity Based Costing (ABC) addresses internal operating concerns and is an augmentation to the traditional General Ledger based cost management system. It is not a replacement for traditional accounting, but makes use of the source documents provided from standard job costing systems. Instead of being heavily labour based, ABC looks at a business unit's events as cost drivers and ascribes all company resources and accumulated costs against those events in a time-phased sequence. As events and resource consumption are time phased, costs are also time phased. It is important to note that the ABC system provides a methodology to allocate costs on the basis of actual and their projections into the future. ABC provides the ability to track and forecast both expenses and revenues.

Activity-Based Costing system is intended to more effectively track overhead costs particular to those companies engaged in e-commerce. The output of the ABC analysis is a good basis for revising corporate strategies, especially in cases where the daily business environment changes rapidly, or new competitors appear, or customers are highly demanding. These conditions are typical for companies of the New Economy. Therefore, it appears that ABC would be a effective managerial tool for companies involved in e-commerce. The ABC system will lead companies from the New Economy to establish well-founded business strategies. The ABC analysis enables managers not only to more reliably measure costs associated with e-commerce, but also

provides them with more of an understanding of how these costs are generated. Managers may then use the ABC analysis to investigate different methods of regulating their business. They can compare different options regarding their handling of customers, product lines, and distribution methods. For many e-businesses, the ABC system may be an important move from management-by-intuition to management by principles.

Competitive conditions dictate that companies must deliver products the customers want, on time, and at the lowest possible cost. That means that an organization must continually strive for cost improvement. Many companies attest to cutting costs "the traditional accounting approach", but few achieve lasting savings. In some cases costs have gone up, while employees complain about stress and work loads.

In contrast, the heart of ABC is the activity. Cost management focuses on the performance of each activity and its resulting use of resources. Managing activities better is the key to permanent cost reduction. Reducing cost is only one of several focal points of ABC. Improving quality, flexibility, and service - the importance of which vary from one business to another - is also central to ABC. Cost reduction is best achieved by changing the way activities are used or performed, then redeploying resources freed by the improvement.



Methodology

This study is based on documentary analysis. Extensive literature has been reviewed to arrive at the conclusion with regard to the significance and application of ABC as an effective tool for cost management. The common findings are generalized henceforth.

Findings and Conclusion

The basic idea in ABC is: activities consume resources and products consume activities. Thus, the original ABC system proposed by Cooper and Kaplan in the mid- to late 1980s is also based on a two-stage procedure. However, ABC differs from traditional costing systems by modeling the usage of a firm's resources on activities performed by these resources, and then linking the cost of these activities to cost objects such as products or services. In particular, ABC measures more accurately the cost of activities

that are not proportional to the volume of outputs produced.

Innes and Mitchell [1995] found that overheads based on activity centers facilitate the targeting of unnecessary, wasteful, resource usage and the costly effects of over-complex ways of running a business process.

Cooper, R. and Kaplan, R. S., [1991] Using the information provided by ABC, companies are able to cut costs, review pricing policies, identify opportunities for improvement, and determine a more profitable product mix.

John L. Daly is of the opinion that Pricing policies based on "average" cost work well only when "average" products are being priced. Many manufacturing companies produce a diverse portfolio of products using diverse processes. Many companies applied common sense methods of cost analysis to avoid arbitrary allocations. This common sense analysis sometimes found that the "real" cost and the "accounting" cost didn't even reside in the same neighborhood. In the late 1980's these common-sense techniques gained the respectability of an organized discipline under the name Activity-Based Costing (ABC). Activity Based Costing applied to pricing strategy can provide us with a powerful tool for enhancing the top line and the bottom line at the same time. Daly calls it, Activity Based Pricing (ABP).

Korhan, Feridun&Ozakca [2005] in their study found that there is a strong positive association between using ABC, JIT or TQM and improvement in financial performance. As management accounting continues to evolve and become more involved in the strategic management of the firm, it is important for management accountants to understand not only how to account for strategic initiatives (e.g., TQM), but also how these initiatives should be implemented and managed to achieve maximum benefit for the firm.

From the above discussion and findings on the basis of thorough research review it is concluded that Traditional measurement methods of cost accounting proved insufficient for accurate cost allocation and cost management. ABC focuses on resource consumption not spending. Thus, a major conceptual advance in ABC is the ABC system should not assign all organizational expenses to cost objects (see Cooper and Kaplan 1992). Thus, the activity-based system can measure the costs of using resources, not the cost of supplying resources. This leads to accurate product costing and reveals why operational improvements often do not lead to lower spending.

Activity based costing allows the firm to precisely price its products in reflection of their actual cost of production. It reduces the potential for over pricing or under pricing and helps the firm to offer more precise prices to its consumers. The process also allows for elimination of waste by identifying areas where there are excessive expenditures and allowing the firm to limit these expenditures. These all provide compelling reasons why a firm might want to use ABC to control its costs and determine prices. The advantages to ABC include careful control of costing, which can be a strong advantage when there is fierce competition, when the products being

produced are already very expensive, or when a firm is attempting to gain or maintain a cost-leader position. It can also help to ensure that a firm with a diverse product line can price its products competitively in all cases, which allows for increased competitiveness within each of these areas.

Many studies in the literature of cost accounting and management (e.g. Cooper and Kaplan 1998, Cokins 1999, Blocher et al. 1999, Hansen and Mowen 2000) stated that contemporary activity based costing was developed to overcome the problem of overhead cost measurement and management caused by traditional costing systems which leads to the invention of activity-based costing.

References

1. Akyol, GoncaTuncel, and G. MiracBayhan 2005: A comparative analysis of activity-based costing and traditional costing DeryaEren World Academy of Science, Engineering and Technology, pp 44 -47
2. A. H. 1931: Overhead: The cost of production preparedness. *Journal of Cost Management* (Summer): 66-71. (Reprint of Church, A. H. 1931. Overhead: The cost of production preparedness. *Factory and Industrial Management* (January): 38-41.
3. Baird, K.M., G.L. Harrison, and R.C. Reeve 2004: Adoption of activity management practices: a note on the extent of adoption and the influence of organizational and cultural factors. *Management Accounting Research*,. 15(4): p. 383-399.
4. Brignall, S. 1997. A contingent rationale for cost system design in service. *Management Accounting Research*, 8, 325-346.
5. Blocher, E., Chen, K. and Lin, T. 1999: *Cost Management: A Strategic Emphasis*. The McGraw-Hill Companies, Inc., New York
6. Cokins, G. 1999: Learning To Love ABC. *Journal of Accountancy*, Vol.188, Issue 2, pp.37-39
7. Cooper, R. and Kaplan, R. S., 1991, "Profit Priorities from Activity-Based Costing," *Harvard Business Review*, Vol. 69, No. 3, pp. 130-135.
8. Cooper, R. and Kaplan, R. 1992: Activity-Based Systems: Measuring the Costs of Resource Usage. *Accounting Horizons*, Vol.6, Issue 3, pp.1-13
9. Cooper, R. and Kaplan, R. 1998: *Cost and Effect: Using Integrated Cost Systems to Drive Profitability and Performance*. Harvard Business School Press, Boston.
10. Daly John L. Pricing for Profitability: Activity-Based Pricing for Competitive Advantage
11. Dekker, Knight&Zingo 2003: ACTIVITY BASED COSTING: A CONCEPT WHOSE TIME HAS COME
12. Drury, C. and Tayles, M., 2000: *Cost systems Design and Profitability Analysis in UK Companies*, London, Chartered Institute Of Management Accountants
13. Hansen, R. and Mowen, M. 2000: *Cost Management: Accounting and Control*. 3rd ed., South Western College Publishing, Ohio
14. Innes, J., Mitchell, F. and Yoshikawa, T., 1994: *Activity Costing for Engineers*. John Wiley & Sons Inc., New York
15. Innes, J. and Mitchell, F. 1995. A survey of activity based costing in the UK's largest companies, *Management Accounting Research*, June, pp. 137- 53.
16. Kaplan, R. 1988: One Cost System isn't Enough. *Harvard Business Review*, January/February 1988, Vol.66, Issue 1, pp.61-66
17. Korhan, Feridun& Ozakca.2005: impact of total quality management (tqm), activity based costing (abc), and just-in-time (jit) on corporate financial performance: an empirical analysis on the turkish textile industry. *European Journal of Economics, Finance and Administrative Sciences*, Vol 3, No 2, 2005
18. Miller, J.G. and Vollman, T.E. 1985. The Hidden Factory, *Harvard Business Review*, vol. 63(5), p. 142-150.
19. Proctor, R. 2009: *Managerial accounting for business decisions* (3rd ed.). London: Financial Times/Prentice Hall
20. Activity-Based Costing for E-Commerce NarczykRoztocki
21. Sakurai, M. 1996: *Integrated Cost Management: A Companywide Prescription for Higher Profits and Lower Costs*. Productivity Press, Portland, Oregon
22. Turney, P. 1996: *Activity-Based Costing: The Performance Breakthrough*. Kogan Page Limited, London
23. S.C. Vadiya, Suveera Gill: *Cost Management A Strategic Approach*: Macmillan India Ltd. Isbn10: 0230-63661-6, Isbn13: 978-0230-63661-3.Pp-2.