

An Analysis Of Activity Based Costing: Between Benefit And Cost For Its Implementation

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Abstract: This research discusses how the importance of adopting activity-based costing for the company in order to carry out its business strategy. One objective is to implement activity based costing cost efficiency by cutting costs incurred for non-value added activity. But the phenomenon shows that there are still many companies / organizations are not interested in adopting the activity based costing. This article also outlines the advantages and limitations in adopting activity based costing for the company.

Index Terms: activity-based costing, costing system, traditional costing

1 INTRODUCTION

Changes in business environment, triggered by global competition and technological innovation, has led to innovations in the use of information within the organization, both financial and non-financial information. New environments within organizations demand information and relevant data on the cost and performance of activities, processes, products, services and customers. Typically, a leading company using the system their costs for [13]:

1. Design products and services that better meet customer expectations and can be produced and shipped by generating income;
2. The signals that companies need repair continuous or discontinuous in quality, efficiency and speed;
3. Assist employees in learning and continuous improvement activities;
4. Guide the product mix and investment decisions;
5. Negotiations with the customers about price, product features, quality, delivery and service;
6. a distribution and service processes efficiently and effectively to the market and targeted customer segments.

However, many companies do not gain a competitive advantage from the increased cost systems because they rely on information from the system cost that is designed for simple technology when the competition was local and not global, and the company produces standard products and services as well as the speed, quality and performance is less important for success. Use of this system manager does not have the information that is timely and relevant to guide the improvement activities that they do, and they do not have a valid and accurate information to make their strategic decisions about processes, products, services and customers.

At present the company and managers require the system cost to perform three main functions, as follows [13]:

1. Assessment of inventory and cost of goods sold for the measurement of financial reporting - due to external circumstances with investors, creditors, regulators and authorities;
2. The estimated cost of the activities, products, services and customers - for internal managers need to understand and improve their operations economizing;
3. Provide information that is accurate and timely economic costs and feedback to the manager and operator of the efficiency of the process for making decisions, both strategic and operational.

In this condition the managers need to rethink their managerial practices and this is closely related to them must reshape their current accounting system, especially the managerial accounting system. In response to this change researchers have turned their research to the study of change and innovation in managerial accounting, and a witness of the re-evaluation of managerial accounting in terms of developing techniques and new systems [19]. Mechanical managerial accounting as traditional as the absorption of costs, budgeting and performance measures based on earnings replaced with things like accounting strategic management, the determination of activity-based costing (ABC), strategic cost management, measures non-financial, balanced scorecard (BSC) and based costing goals. Some of these topics, for example, ABC and the BSC, also gained popularity level in practice "[11]. In addition, most are considered important contribution is the establishment of activity-based costing (ABC). System of activity-based costing (ABC) and activity-based management (ABM) appears to meet the needs accurate information about the costs that are absorbed by the resources, products, services and customers and this system also allows indirect costs and support costs to be encouraged to activities and processes, and then to products, services and customers. In this way managers have gained a clearer picture of the economic effort and can improve the quality of their decisions. Changes, intense debate, and high interest came from researchers at the international level, to make the author develops the article toward the study of managerial accounting changes and practices, tools, and a new managerial accounting techniques,. In order to contribute to the managerial accounting literature, this article look at how the costing and activity-based management evolved over the years; how ABC is accepted, adopted and implemented by organizations and practitioners over the years, and what are the disadvantages of this system to be very slow progress.

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2 LITERATUR REVIEW

2.1 Allocation of Product Cost

Improving the quality of the product cost information appears to be an important target in the management accounting. There is evidence that managers confront the problems of inaccuracies or imperfections product costing system by finding and using other information that is supplemental [2]. In today's manufacturing environment, which involves the development of more automated technology, new production activities as well as the cost structure has changed. Raffish and Turney [18] conducted a survey of manufacturing industry in the United States and found that the magnitude of factory overhead cost reaches 30 to 50 percent. Even the percentage rate of factory overhead cost, especially for the electronics industry is 70 to 75 percent [12]. Therefore, the allocation of factory overhead costs have a major impact on the calculation of the cost of products mainly for electronics-related industries, such as communications equipment company. Traditional costing system imposes factory overhead cost of the product or service individually using a base allocation with volume triggers, such as direct labor hours and machine hours. The allocation system is needed to assess the inventory in the financial statements. In practice, many of the organization's resources are absorbed by the product and the customers individually is not proportional to the volume of units produced or sold [13]. Consequently, the conventional cost allocation practices have limitations, among others:

1. Ignore sustaining related activity, such as the handling of raw materials, procurement of materials, machine setup, production scheduling, and inspection activities;
2. This system assumes that the product consumes all resources in proportion to production volumes this can result in distorted product cost;
3. In the current organizational environment in which the company produces a wide range of products and experience of global competition, it is inappropriate.

(Hoque, 2004: 60) Traditional manufacturing covers routine production process with a relatively simple labor intensive. In such environments, the allocation of the cost of using direct labor hours or direct labor costs is sufficient. But in a manufacturing environment with high techniques, the role of labor decreases drastically. Consequently, product costing is based on a traditional system would impose tariffs allocation of factory overhead cost is high [10]. Cooper [5] showed that with the increasing diversification of product volume, size, and complexity, product costs are calculated using the traditional cost systems will be greatly distorted.

2.2 Cost Allocation System Alternative

The use of the practice of modern manufacturing such as automation, computerized machines, robotics, and supply management Just-in-time (JIT) can significantly change the cost structure of production, with a very big change in the relative proportions of raw materials, direct labor, cost of inventory handling, and technology costs. Management accounting literature has demonstrated the development of alternative approaches to allocate costs to the products since the 1980s. Approach to cost allocation is then called Activity Based Costing (ABC). [8] Excellence activity-based costing methodology compared to the volume-based costing is also known traditional costing had a warm conversation in

contemporary accounting literature. Traditional volume-based costing systems is said to be less than perfect and can mislead strategic decision making. Opinions stated that the decision makers to use such information in a manner that is not problematic [1]. Meanwhile, activity-based costing provides advantages such as by providing product cost information product lines more accurately, particularly when companies produce different product lines and factory overhead cost allocation to each product line can not be linked to the volume of products. This system also helps to identify and understand the behavior of the product cost, and therefore the potential to improve the estimated cost of the product. However, survey results indicate that the use of ABC is not widespread. In one study, only about 20% of companies are reported to have adopted the ABC, and in another study reported that about 21% have adopted it in the determination of the product cost rates [10]. Why many companies prefer to continue using other methods than this accounting system? One possibility is that there are differences in the nature and scope of the information generated by each system. For example, the system cost of products may vary in their ability to provide information on the measurement performance, increased revenue, or efforts to reduce product costs. Research Narcyz Roztocki and Sally M. Schultz [16] about fifteen years since it introduced activity-based costing, the results show that only a third of the company managers knew ABC well. The rest just know (37%) and even has a manager who did not know about this method. Other results showed that only 22% of companies that have adopted this method. This shows that the relatively slow development of the ABC.

2.3 What is Activity Based Costing

Lately there are various comments sticking on determining the cost of traditional systems, which only focuses on the allocation and short-term cost information used by the organization [8]. Changes in manufacturing environments simultaneously requires a shift in the method of traditional cost accounting methods for companies that reflect the company's manufacturing environment. Traditional cost systems assume that products consume all resources with in accordance with the proportion of production volume. In fact a lot of the organization's resources consist of activities that have nothing to do with the physical volume of units produced. Consequently, the practice of traditional volume-based cost allocation may report distorted product costs. Cost accounting literature has proposed a change towards an alternative basis for costing, ie activity-based costing. This method assumes that the activity causes costs, and that the product (and customer) creates a demand for activities. With the ABC system, the cost charged to the product based on the consumption or demand for such products individually to each activity. Chartered Institute of Management Accountants (CIMA) defines ABC as: ... attribution (connect) the cost of the units in the base cost of the benefits received indirect activity, such as booking activity, machine setup, quality assurance, and so on. Wayne J. Morse, James R. Davis and A. L. Hartgraves [14] provides a definition of the Activity-Based Costing (ABC), as a system of allocation and reallocation of costs to cost objects on the basis of activities that cause costs. The ABC system is based on the premise that the activity causes the costs and activity costs are allocated to cost objects on the basis of the cost of activities consumed. The ABC system trace costs to the product as the basic activity

that is used to produce the products. Garrison [6] provides a definition of the Activity-Based Costing (ABC), as a method for calculating the cost that creates a group fee for each event or transaction (activity) in an organization that serves as a booster charge. Overhead costs are then allocated to the products and services on the basis of the number of events or transactions of products or services produced it. Horngren, Sundem and Stratton [9] provides a definition of the Activity-Based Costing (ABC), as a system that is costing approach that focuses on the activity as a fundamental cost objects. The ABC system uses the cost of these actions as a basis for allocating costs to other cost objects such as products, services, or customers. ABC first attempt is to establish the cost activity that occurs in various departments of the factory, which created a factory overhead cost and then associate these activities with the product. Under ABC, cost driver is used, which is a driver of jobs that are being created or generated, in other words activities that drive costs. CIMA define a cost driver as an activity that generates fees. Cost pools and cost centers are activities account (the account ledger fees) prepared to collect the charge made by each activity.

2.4 Benefits of Activity-Based Costing (ABC)

Benefits of Activity-based Costing (ABC) system for the management of the company is:

1. An assessment of the cost of the system ABC can convince management that they must take steps to become more competitive. As a result, they can strive to improve quality while simultaneously focusing on cost reduction are possible. This analysis could highlight how truly expensive manufacturing process, this in turn can stimulate the activity of organizing process, improving quality, and reducing costs
2. The management will be in a position to conduct competitive bidding is more reasonable
3. ABC system can assist in management decision making make-buy that management should do. In addition to costing more accurate then the decision will be taken by the management phak gets better and right. This is based on the accuracy of the calculation of the cost of products that become very important in today's competitive climate.
4. Continius support the improvement, through the analysis of the activity, the ABC system allows the elimination or corrective action against non-value-added activities or less efficient. It is closely related to the company's productivity problem
5. Easier to determine whether the costs are less relevant (cost reduction), the traditional system, a lot of costs that are less relevant are hidden. ABC transparent system caused sources of these costs can be identified and eliminated.
6. With an improved cost analysis, management can make more accurate analysis of the production volumes needed to achieve breakeven on low volume products.

2.5 The Advantages of Activity Based Costing

Some of the advantages of the system cost of Activity Based Costing (ABC) in the determination of the cost of production is as follows:

- a. Cost of products that are more realistic, especially in high-tech manufacturing industry where overhead costs are a significant proportion of the total cost.

- b. The more factory overhead cost can be traced to the product. In manufacturing the modern, there are a number of non-factory activity growing. Analysis of ABC costing system itself paying attention to all the activity so that non-factory cost of the activity can be traced.
- c. ABC cost system recognizes that the activity that caused the costs (activities cause cost) is not a product, and produklah that consuming activity.
- d. ABC system focuses attention on the real nature of the behavior of costs and assist in reducing costs and identifying non-value added activity.
- e. ABC system recognizes the complexity of the diversity of production modems using multiple cost drivers, many of the cost drivers that are transaction-based rather than volume-based products.
- f. ABC system provides a reliable indication of long run variable cost product that is relevant to the strategic decision making.
- g. ABC system is flexible enough to explore the cost to the process, the customer, managerial responsibility area, and also the cost of the product.

2.6 The Difference between the Traditional Cost Systems and System Activity Based Costing

In the traditional system can be seen that the costs involved are usually just plain straight out, namely labor costs and material costs. But over time arises costs can be classified into direct costs. These costs such as the cost reperasi, maintenance, utility costs, and so forth. The system will charge no fees directly to the base allocation unrepresentative. To assess whether the cost of an organization in need of repair, according to Hicks [7], there are some characteristics that can be used as a guide, as follows:

1. The percentage of indirect costs become a major part of the total cost, or factory overhead costs increased continuously in recent years. The tendency in recent years of an enterprise is repeated by replacing labor with technology. The greater the technology costs, labor costs required becomes increasingly lower. The end result is a greater cost will be allocated to the smaller base.
2. Operations that use direct labor has been replaced by automated machines. Extra equipment is able to walk without the help of direct labor can cause distortion in the distribution of indirect costs, if direct labor to be used as the basis for allocations by the company.
3. Many operations that can be performed with minimal human intervention. Many operations have a cycle time significantly, where this can be seen with just a little attention required of workers and at times like that fees are not based on the process, but on the set up and direct labor cost, there will be errors in distribution costs.
4. The presence of humans using machines and engines using humans. In many facilities there are some operations where workers assisted in carrying out its activities equipment and workers in control, but it also is an operation in which workers perform simple actions as material handling equipment at work. Two different situations require cost distribution with a different approach, if only one method is used, there will be errors in charging.

In the traditional cost system, the factory allocating indirect costs to the production units, but taken as follows: firstly carried out the allocation of costs throughout the existing organizational unit, after the cost of organizational units are allocated again kesetiap production unit. Elements of joint cost is allocated proportionately by using an indicator or factor appropriate comparator, while the cost elements are allocated directly, in accordance with their respective immediate calculation. In an industrial company that produces several types of products, usually occur various types of joint elements of cost to be allocated kesetiap combined product concerned at pisahnya point each. ABC assumes that activities cause costs and that the product (and customers) create a demand for activities. ABC analysis focuses on how costs react to changes in various levels of activity. Fees charged to products based on product demand konsumsi or individually to each activity. ABC provides recognition that a business must understand the factors that trigger each main activity, the cost of the activity, and how the activities associated with the product.

2.7 Classification of Activities in the Activity Based Costing

Here the definition to distinguish between activity in large companies with activity in the medium and small companies. For large companies, the activity is defined as the processes or procedures that lead to employment. For example, in the accounts payable department activities can be specified include charging admission reports, purchase orders and invoices, comparing the reception reports, purchase orders and more. As for the medium and small enterprises such activities defined by Hicks [7], as a group of activities that have a relationship processes and procedures can be incorporated into the work requirement specifically in the organization. Based on these definitions, the accounts payable department activity is accounts payable and purchasing departments are purchasing activity. In the system of Activity-Based Costing (ABC), the activity in question is the activities associated with the activities of designing and producing a product which is also called the product driven activity. Product driven this activity can be grouped into four categories, as follows:

1. Unit-level activities: are activities undertaken each time one unit of product produced, the size of this activity is influenced by the number of units of products produced. Costs incurred for the activities of this unit is called charge-level activity-level activities be unit cost, examples of factory overhead costs for this activity is the cost of electricity and the cost of operating the machine. Raw material costs and direct labor costs are also included in the cost of the unit-level activity, but not included in the overhead costs.
2. Batch-level activities: are activities undertaken whenever a batch of products manufactured, the size of this activity is influenced by a number of batches of products manufactured. Examples of activities that are included in this group are setup activity, the activity of production scheduling, materials management activities (movement of materials and purchase order), inspection activity. Costs arising from this activity are batch-level activities costs, these costs vary batch of products manufactured, but is fixed in relation to the number of product units produced in each batch.
3. Product-level activities: also called product-sustaining activities are activities undertaken to support a wide range

of products manufactured by the company. These activities consume inputs to develop products or allow products produced and sold. This activity can be tracked on individual products, but the resources consumed by these activities are not affected by the number of products or batches of products produced. Examples of activities that are included in this group is the research and product development activities, perekrasan process, product specifications, engineering changes and product enhancements. Costs arising from this activity is called the product-level activities cost.

4. Facility-level activities: called a facility-sustaining activities include activity is to support the manufacturing process is generally required to provide facilities or the plant's capacity to produce, but the extent of this activity is not related to volume or product mix manufactured. This activity is used jointly by various different types of products, or in other words the activity is done to maintain the existence of the company. Examples of these activities include, for example: plant management, building maintenance, security, landscaping, plant lighting, cleanliness, property tax, and depreciation of the plant. Plant management activities of an administrative nature, such as plant management activities, employees, and accounting for the cost. The cost for this activity is called with facility-level activities cost.

Although this ABC system looks more complex than the traditional cost system, but the system is able to produce more accurate cost calculation. This activity can also be classified, as follows:

1. Repetitive and Non Repetitive activities: Repetitive activity is repeated or continuous, whereas the non-repetitive activity is an activity performed only one time.
2. Primary and Secondary activities: Primary activity (production activity) is an activity that has a direct contribution to the activities of the department or organizational unit, whereas the secondary activity (production support activity) supports the primary activity.
3. Value added activities and non-value added activities. Value added activities is an activity that can directly provide benefit to the company, while the non-value added activities are activities that do not provide benefits to the company.

In the system of Activity-Based Costing (ABC), there are several techniques of data collection activities in which each technique has its advantages and limitations of each. These techniques include:

1. Historical Data analysis: This analysis uses data that already exist in the company. These data are weekly or monthly activity data and usually contain activities undertaken each department.
2. Business Process Analysis: This analysis approach to business processes by tracing the activity of the input to the output. Activity is determined by observation of the physical flow and deformation of the product. The advantage of this approach is that it allows the depiction of the relationship between the input or output of the activities and identification of communication between departments.

3 DISCUSSION

However, the ABC system has practical shortcomings. In theory, the company should be possible to keep track of all overhead, but in practice it is very likely that there will be some costs that can not be traced, for example, the cost of administrative staff headquarters. As a result, arbitrary allocation will still occur. Management accounting literature has recently focused more on the management side of activity-based costing, rather than the technical aspects alone. There are some limitations that are owned by Activity Based Costing systems according to Carter and Usry [3], among others:

1. Activity Based Costing require data collection far more numerous and profound, beyond the need to make a report to external parties. This resulted in the emergence of difficulties in obtaining the required data. While the traditional system only requires data that is sufficient for the preparation of the financial statements and for the purposes to taxation. The drawback of course makes the company difficult. It could even be the company in collecting data requires a very long time also costs quite a bit.
2. The possibility of a wrong conception by reducing the number of cost drivers activity, for example in order handling. For example, by only accept bookings with a large amount. In such possibility is to make the company lose the chance to get more consumers. The chance of loss the company will suffer a loss in its business.
3. Activities to run a business are numerous, making it difficult to monitor the activities in the work process. Process monitoring activity will also add to the cost of the company. Activities will be difficult to detect if the company's operations are not fixed or may vary according to the circumstances, conditions, and also the shape of the company.
4. According to Carter and Usry [3] Activity Based Costing systems require the manager to make a radical change in the way they think about the cost. ABC treat all costs as variable costs, since ABC is designed as a tool of strategic decision makers in the long term. These weaknesses make management decisions so it will be more difficult if the company's business conditions will change in the short term.

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4 CONCLUSION

From the above authors to conclude that the method of calculating the cost of using the ABC system has weaknesses that can make management decisions only oriented to long-term decisions alone. In fact, what happens on the pitch is the number of conditions that would cause there must be a decision or policy managers in the short term. In companies that have a long history of success by relying on traditional cost calculations, it will be difficult to convince management that a new cost accounting system is needed. The solution for this problem is to continue to use the traditional system, which is already known, and experiment with ABC separately, by using it first for one product line, the facility, or a category of

expenses such as service departments.

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REFERENCES

- [1] Briers, W.K., M.E. Doherty, et al. (1989). "Data Fixation and The Use of Traditional versus Activity-Based Costing Systems" *ABACUS* Vol. 33 (No. 1): p.1-20
- [2] Bruns, W.J. and S.M. McKinnon (1993). "Information and Managers: A Field Study." *Journal of Management Accounting Research* Fall: p.84-108
- [3] Carter, W. And Usry, M. (2002). *Cost Accounting*, 13th edition, Thompson Learning.
- [4] 1986. (URL link *include year)
- [5] Cooper, R. and R. S. Kaplan (1992). "Activity-Based Systems: Measuring the Costs of Resource Usage." *Accounting Horizons* September.
- [6] Garrison, Ray H. (1991). *Manegerial Accounting*. 6th Edition. Richard D. Irwin.
- [7] Hicks, Douglas T. (1992). *ABC for Small and Mid Size Business: An Accounting Guide*. 1st Edition. Canada: John Wiley & Sons, Inc.
- [8] Hoque, Zahirul (2004). "Strategic Management Accounting: Concepts, Processes, and Issues" Second Edition. London: Spiro Press.
- [9] Horngren, Charles T., George Foster., dan Srikant Datar. 1993. *Cost Accounting: A Managerial Emphasis*. 8th Edition. Prentice-Hall International Inc.
- [10] Hughes, S. B. and K. A. P. Gjerde (2003). "Do Different Cost Systems Make a Difference?" *Management Accounting Quarterly* Vol. 5 No. 1: 22-30.
- [11] Jarvenpaa, M. (2007). "Making business Partners: A Case Study on How Management Accounting Culture Was Changed." *European Accounting Review*, Vol. 16, No. 1, pp. 99-142
- [12] Johnson, H.T., "Activity Based Management: Past, Present, and Future." *The Engineering Economist*, Vol. 36, No. 2, (Spring, 1991), pp. 219-238.
- [13] Kaplan, R.S., Cooper, R (1998). *Cost & Effect: Using Intergrated Cost System to Drive Profitability and Performance*, Harvard Business School
- [14] Morse, Wayne J., James R. Davis, dan Al. L. Hartgraves (1991). *Management Accounting*. 3rd Edition. Addison: Wesley Publishing Company
- [15] Rayburn, L. Gayle. (1993). *Cost Accounting Using A Cost Management Approach*. 5th Edition. Richard D. Irwin

- [16] Roztocki, N., J.F. Valenzuela, et al. (2004). "A Procedure for Smooth Implementation of Activity Based Costing in Small Companies." *Engineering Management Journal*. Volume 16. Issue 4
- [17] Turney, P.B. "Using Activity Based Costing to Achieve Manufacturing Excellence." *Journal of Cost Management*, Vol. 3, No. 2, (Summer 1989). pp. 23-31
- [18] Turney, P. B. B. (1991), *Common Cents: The ABC Performance Breakthrough: How to Succeed with Activity-Based Costing*, Hillsboro, Cost Technology
- [19] Yazdifar, H. Tsameny, M. (2005). "Management Accounting Change and The Changing Roles of Management Accountants: A Comparative Analysis between Dependent and Independent Organizations." *Journal of Accounting & Organizational Change*, Vol. 1, No. 2, pp. 180-198.