

# Activity-based costing and its impact on management accounting

Heydar Mohammadzadeh Salteh, Mohammad Hedayati, Ali Harzandi, Bahram Mehdi Pashae

Department of Accounting, Marand Branch, Islamic Azad University, Marand, Iran

## Abstract

It would be impossible to improve productivity in the industrial and service units, both in the governmental and non-management firms without changing the current system into an effective one. There are needs for changes in management structure and new tools, including accounting management. Unfortunately, what the majority of business managers have considered as accounting is financial accounting, whose duty is to register, classify, and summarize financial events and they should provide periodic reports to show the financial position and results of firms in the world. However, current competitive dependence on financial accounting data cannot be adequate guidelines for managers and decision makers. In this paper, an overview of the ABC and its brief history and analysis related to other aspects of this process is presented and the use of tools and an efficient development of relevant strategies and challenges are discussed.

**Keywords:** Cost accounting, activity-based costing, management accounting

## Introduction

Increased domestic and foreign competition, and changes in the cost structure of manufacturing companies use automated machines that make her a better understanding of the accounting system and the need to seek new information system. A few years ago, a typical manufacturing companies that produce products. (Labor) wages a constant factor in the cost structure. Today, a large number of products pay a small fraction of the total cost of production. Therefore, companies should focus on their traditional systems and new systems to consider. Providing customers with high quality and

low cost, the need for effective planning and control of costs and expenses are generally effective management. Management system aimed at providing relevant and timely information to management. This will support better management of resources and the competitiveness of such costs and improves the quality and profitability. Cost accounting, management, and reliable for comparing and analyzing product prices, costs related to the design and management controls and to calculate their needs. Prices of products includes direct materials, direct labor and overhead construction. There is no problem with direct material and direct labor because they can be directly allocated to the product. The problem is that the burden of overhead should be allocated to the correct product. The complexity of today's companies, direct materials and direct labor productivity is reduced. However, instead of public spending has risen (Lazemi Chalak, 2011). One of the goals of cost management is to identify and eliminate non-value added costs as is clear from its name. Cost effective management techniques, and various models have been proposed. One of these methods is an activity based costing system recognizing the need to provide services and activities

Measuring the costs of these activities is highlighted. Activity-based costing (ABC or accounting activity) is a system that has a special interest activities. Activity-based costing can be part of the job order costing system is a costing stage.

## History of Activity-Based Costing

In the late 1960s and early 1970s, the relationship between activity and cost accounting, some authors pointed out. But in the 1980s to reflect the weaknesses and shortcomings of the current system of cost accounting to provide accurate information, In academic and professional attention was drawn

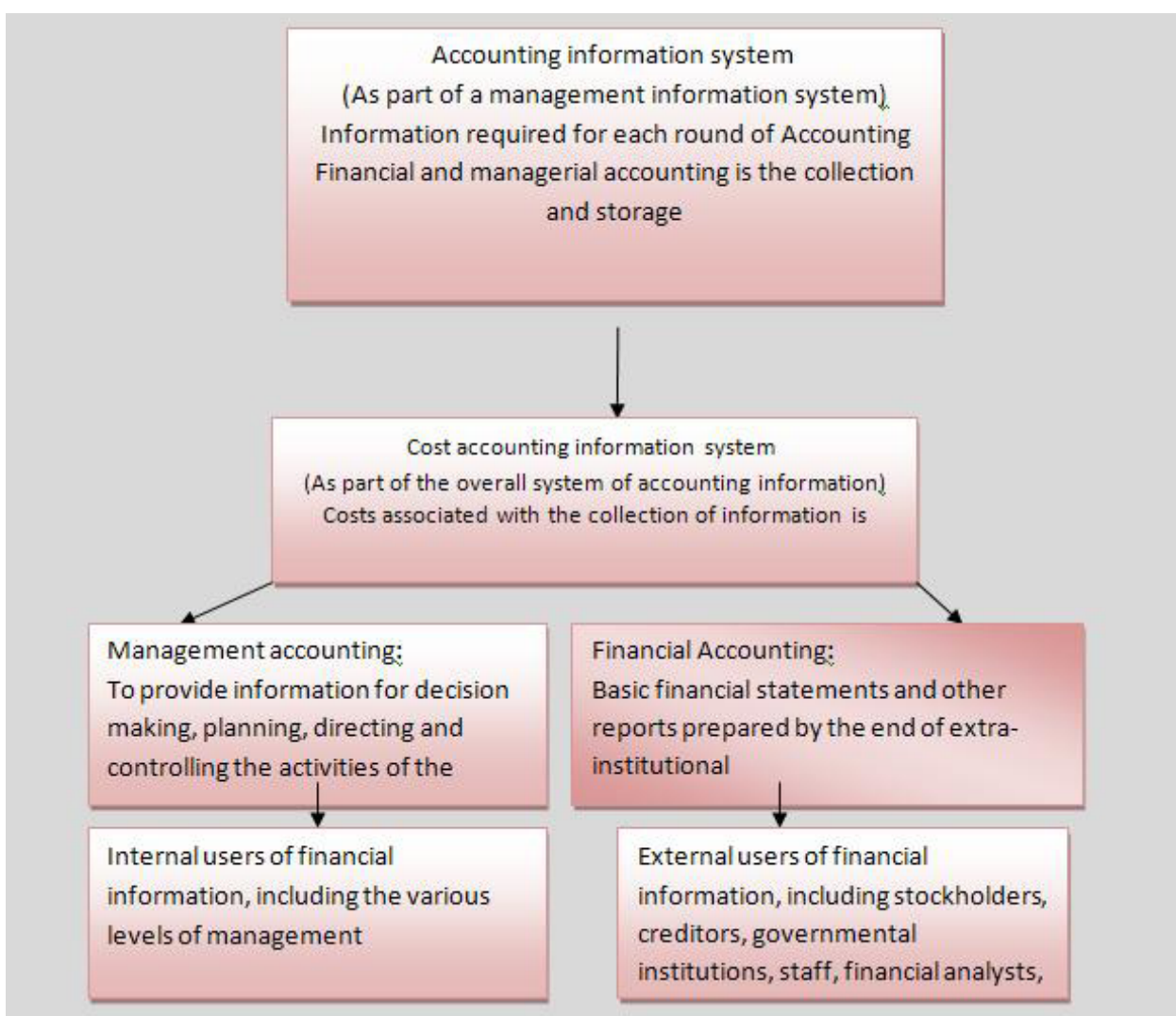
**Corresponding author:** Mohammad Hedayati, Department of Accounting, Marand Branch, Islamic Azad University, Marand, Iran. E-mail: [M\\_hedayati\\_2730@yahoo.com](mailto:M_hedayati_2730@yahoo.com).

to this relationship further. This was due mainly to the main constructs of Genesis. It was the first structure in the world to introduce new technology, new production mechanisms in different countries, particularly in Japan and ... occurred. The second structure in the 1980s, many corporate executives have undergone major changes in philosophy in addition to profitability, global competitiveness, enhance customer satisfaction, reduce costs, focus on products quality control management were also among the goals. Third, the structure of accounting authors describes a number of new areas of manufacturing, technology and new approaches whereas managers have different roles. The authors claimed that in traditional accounting systems, industrial managers and administrators not only meet the needs of using the information obtained from the misleading and incorrect decisions being managers. Consequently, the authors attempted to introduce a

new system entitled "Activity-Based Costing", respectively. Require information about operational costs, the introduction of the ABC system provides two-dimensional. This approach specifically designed to provide helpful information for remedial purposes within and outside the organization emerged. The system has two main views. The first view shows the allocation of resources to activities and activities to cost objects (categories) costs (including customers and products) are.

### Definitions of Words and Phrases

*Activity-based costing:* Activity-based costing is a cost accounting method for cost allocation of resources, which is based on issues of cost, the cost approach, the causal relationship between stimuli, which identifies resources and activities" (Azizi, 2002; Cooper, 1988).



**Figure 1. The relationship between management accounting, financial accounting and cost accounting systems**

*Cost Accounting:* Cost accounting is a series of regular registration procedures and rules and reporting measures related to the detailed costs of goods and services (Allivar, 2004).

*Management Accounting:* it is the process of identifying, measuring, gathering, preparation, interpretation and transfer of financial information and other information that can be defined quantitatively by management to plan, control and evaluate the operations of a business unit in use (Allivar, 2004).

### *Relations between management accounting, financial accounting and cost accounting systems*

Cost accounting system, which is common to both the field of database management accounting and financial accounting serves. In fact, the analysis of internal and external financial reporting, management both need to have information related expen-

ditures. That part of the cost accounting function of collecting and accumulating costs for inventory valuation and calculation of cost of goods sold in order to meet the requirements of external financial reporting is concerned, the underlying cost accounting to financial accounting serves. But it's part of the job cost accounting and forecasting to provide the appropriate information for individuals within the organization and to assist them in making logical decisions and assessing performance is concerned, which is another application of cost accounting management accounting serves.(Mokremi, 1993)

### *The principal differences between management accounting and financial accounting*

Also, the difference between financial accounting and management accounting can be summarized in the form and manner provided in the table below.

**Table 1. Difference between financial accounting and management accounting**

<b>The principal differences between management accounting and financial accounting</b>		
<b>Description</b>	<b>Management accounting</b>	<b>Financial Accounting</b>
Users of information	Different levels of administrators	People outside the organization, such as investors, creditors, government etc
Legal and regulatory requirements for reporting	There is no obligation and Regulations	Wrong who provide information to people, stakeholders and interested parties in accordance with regulations, laws or regulations is mandatory.
Generally accepted accounting principles	There is no binding principles and standards	Principles and standards required by applicable law or regulation by professional bodies, and are marked
The nature of information	Predicted data is fundamentally linked to future	Verifiable information and are typically based on past events.
Emphasize information	In terms of products, geographical areas in different parts of the organization, etc.	In general terms, some of the main constituent parts of the organization with regard to disclosure
Low quality of information	Generally, detailed	Often compressed and summarized in Fig.
Information providers	Cost and management accountants, engineers and other professionals;	Financial Accountants and auditors
The information	Any form that is useful for diagnosis and without any restriction	Even within the limits set by institutions concerned with the specific terms of flexibility and
Course Information	Short periods, such as monthly, weekly, daily and sometimes shorter	Frequently year

### **Activity-based costing (ABC)**

#### *Define ABC*

Activity-based costing in accounting literature, various definitions are provided: Hilton writes: "activity-based costing method in which a portion of

the cost based on the actions taken by each product, from a reservoir is allocated to cost of goods "(Cooper, 1988).

Taleb Nia (2011) believes "activity-based costing is a costing of product cost collectors activities leading to product prices are earned."Front view of

the highlands of China and “activity-based costing is a costing model that identifies activities in an organization’s storage costs or facilities, the allocation of costs to products and services based on the number of events or transactions that may be involved in providing the service or product. “

### **Definition of Activity Based Management (ABM)**

ABM is a management approach in order to ensure that the activities needed to produce goods and services with added value are used. Such an estimate of value by means of techniques based costing activity occurs, the data on revenue, customer recognition, quality indicators and market factors. (Cooper 1988).

### **The relationship between (ABC) and (ABM)**

Between (ABC) and (ABM) is justified to achieve this, the first step is to draw a link between data analysis and outputs is taken. The data are measured under the activities. These activities are costly and ABC originating application. In process costing activities, activities related to range of outputs - value-added and non-value added - is estimated. There are some activities that are not of any value. The measurements of the costs incurred and benefits realized are among the factors that management activities will be necessary to optimize the results.

### **Adoption and implementation of activity-based costing system**

Activity-based costing system is a two-step process. In the first phase the main activities identified and overhead costs for each activity in proportion to the amount of resources that can be used in any activities, are allocated. Overhead costs allocated to each activity and storage costs comprise activities (Babad 1993) after allocation.

Overhead costs to vessels operating costs in the first stage cost drivers are identified which are suitable for storage costs. In the second stage, overhead costs the storage cost per bit of any activity that triggers the production line production line uses cost allocation finds.

For this system, companies can implement a new section entitled “accounting work” to create (Lazemi Chalak ,2001). The estimated revenue and expenditure for each activity as well as activities designed to manage and control .Therefore, the question is when managers are able to organize any activities as a profit center.

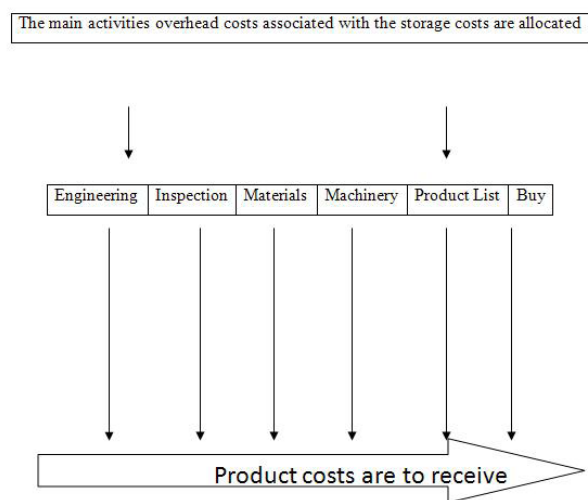
Accounting cycle is as follows:

1 - resource-based activities are defined and can be programmed.

2 - Significant restructuring activities are defined and planned.

3 - Fees are determined based on performance.

Activity-Based Costing to include other items such as customer profitability, labor productivity, distribution channels and other issues management, activity based management (ABM) is well developed (Lazemi Calak ,2001; Babad, 1993). So the cost structure and profitability of products that ABC information system in an organization reveals, While activity-based management (ABM) to describe the activities that will improve quality and reduce costs and cycle time.



**Figure 2 Activity-Based Costing System (Hawkes, 2003)**

### **The benefits of Activity Based Costing**

Activity-based costing is widely used because of several advantages are. The first and most obvious advantage is that the product cost is very reasonable and accurate measurement in which decisions about production and product mix and pricing to help manage (Rohm 1992). Company is able to identify your most profitable products and identify cost drivers. Also, the system can also be effective capital budgeting decisions regarding the direction of the firm can easily evaluate investment in new technologies. Accumulation of costs by activity or area of activity provides information that can help managers plan and control costs. Data from activity-based costing can also encourage companies to redesign their products for use in the common area (Lazemi Chalak, 2001). When activity-based cost-

ing system is used, the activity-based flexible budget probably will. Such a flexible budget, the budget is much more traditional. To explain the behavior of overhead costs, cost drivers are identified multi.

In addition, ABC insight into customer profitability analysis, distribution channels, trademarks, and other areas that directly affect the profitability of the company provides. Performance of certain activities by the ABC link is the resource consumption (Babad, 1993). It is the activity-based costing system for opportunities to reduce cost of production planners to create, and a competitive factor for companies to enter the market with competitive prices for the products. The estimated long-term cost of a product that enables companies to enter the market or remain in the market and the costs of rivals to compete profitably are called. Production companies - most of the cost of Japanese consumers in their pricing strategies they use (Monden Yasahiro, 2000; Lazemi Chalak, 2011). An activity-based costing systems can help by providing information about calculating the cost of products to make product design engineers.

Activity-based costing system with separate storage costs to activities and cost drivers to assign each of the reservoirs are generally for the estimation of cash flows of analysts to improves. Thus, analysts can accurately determine the levels of various costs that must be endured.

Productive environment during production (JIT) inventory reduction targets and key activities and the transition stage of production. For a review of the overall quality control (TQC) is required, which is often associated with JIT. Variable manufacturing costs are reduced due to savings in direct labor and general costs (overhead) factory new manufacturing equipment for the deployment increases. But such issues with activity-based costing systems are reduced.

### ***ABC system compared with conventional systems***

Table 2 shows the main differences between costing ABC conventional methods (eg, job order costing or process using an integrated overhead rate, or the rate predetermined overhead costs based on direct labor or machine hours) and other methods. (Monden Yasahiro, 2000).

#### **Application of activity-based costing**

Activity-based costing is useful in companies that have the following characteristics:

A - companies that have diverse and varied products or services are used.

B - companies that have high overhead costs and the cost of production of each of the different products can be assigned to be equal.

C - firms that use advanced machinery and automated production sharing overhead costs to products using traditional methods based on direct labor or machine hours are difficulties.

D - companies that have two product categories, products that are more profitable products that are difficult but they are easy, but the profit or loss will be less. (Arab Mazar Yazdi,1994)

Conventional systems costing methods for sharing of overhead costs, product costs will be distorted. Production volume will focus on traditional costing systems. Usually all the overhead costs using a base unit (including a variety of product batch size) variation in physical size differences between the product and other products, while allocating overhead costs to activities and products will be considered. Thus, activity-based costing systems, although more complex than traditional systems costing, product costs and provides a more accurate manner. Traditional costing systems in a systematic way to measure the cost of major products size and measurement products for less than the cost of interest is small in size. These systems also reduce overhead costs to products with lower production volume and cost of high overhead production-volume products than is actually calculated. This type of abuse (bias) is often exacerbate each other, so that may be more or less than double the cost of such products is actually calculated. Whenever a unit of resource use is not directly proportional to the use of other resources, traditional systems based costing and unit production costs are reported to be distorted.

Some of the reasons for the distortion of product costs are as follows :

- Variation in production volume-
- Variation in physical size products-
- Complexity of diversify production-
- Variety of raw materials-

Variety of different types of product only by using activity-based costing system can be identified. Each class of product variety needs at least a stimulus. Since the traditional costing system uses a base unit sharing overhead costs of this action causes the cost to be distortions products. Activity-based costing is applicable in companies with high overhead costs, product variety (variety of size, diversity, physical size, complexity, diversity and variety of production materials) and that storage costs can be identified and cost factors. There are a variety of

products such as activity-based costing system leads to an accurate determination of the overhead prod-

ucts and ultimately leading to more accurate product cost will be.

**Table 2. The main differences between costing ABC conventional methods and traditional ones**

ABC method	Traditional
1 The main purpose is to provide background information on profitability, customer satisfaction and competitive internationally.	1 The main purpose is to provide information on the profitability.
2 For flow produced by simple, complex and non-applicable.	2 For current yields simple and common standards are applied.
3 The cost of materials and direct factory overhead (or conversion costs) are calculated and costs related to technology, quality control and global competition are considered.	3 The cost of the product with the use of direct materials, direct labor and factory overhead are calculated and are not formally determine the effects of technology.
4 To calculate the cost-causality relationship between production and distribution activities for the product or service and economic value of the resources used to produce small amounts directly.	4 Cost for one cycle, regardless of the product or service directly for production and distribution activities are calculated.
5 The activity of the various cost centers are determined, they are used to.	5 Has a maximum or a cost center allocation of expenses in the company or are in the circle.
6 suitable bases for each cost center activity and that is to have multiple bases.	6 Of a base (usually the cost of direct labor or machine hours) or maximum a base for manufacturing overhead costs into use.
7 For each activity based solely on cause and effect relationships, as appropriate, based on the factory overhead rate is determined and used.	7 Overhead into the foundations of the mandatory use of overhead items are not all the causal relationships.
8 Of the bases for financial and nonfinancial benefits are allocated overhead costs.	8 Most of the bases are used to finance allocated overhead costs.
9 All costs 'product cost' and sees the long-term perspective, all costs 'variable' is considered.	9 Costs into two groups, 'production costs' and 'course fees' are divided. Well as fixed costs into variable costs distinguish.
10 Take the appropriate decisions using information from the accounting system enables management.	10 Can be misleading for management decisions.
11 Is well suited for planning and control and provide accurate information in this regard.	11 For proper planning and control are not managers.

### *Problems and issues arising from the implementation of the ABC system*

Activity-based costing system issues associated with low-quality, poorly designed and does not cover minor markets. Kylağ about this feature is that ABC is questionable. In addition, there are many advantages of JIT and TQM. However, when implementing the new system, many problems arise.

Based on the research done by Hot Blksy many companies have ignored this point: just a basic overhead costs are not relevant. It is related processes. One barrier is that it requires the use of ABC management thinking.

Many companies are very difficult to implement activity-based costing system can be considered. Ness and Kvkva have estimated that about 10 per-

cent of companies using ABC and other companies in most of its operations, the system will not work. (Lazemi Chalak). The problem is that most managers in the activity-based costing as an organizational change program thought they do not. Therefore, instead of changing their accounting system to make the change. Like other organizational changes, implementation of the ABC system is facing resistance from employees. Some employees believe that ABC would change the existing power structure. In the case of ABC, staff training at all levels, all other things are more difficult. ABC system is more detailed and more complex than a standard costing system. Overhead costs of traditional systems in heterogeneous reservoirs can accumulate. Each of these vessels to operate under the ABC system of separation

Are. The ABC system of statistical criteria traditional systems costing more diverse uses. ABC system also triggers a variety of costs and overhead rates varied uses this system is very difficult and costly to implement to (Hawkes, 2003).

As Kaplan stated that all the cost accounting system, the problem is the timeliness of the information. Activity-based costing cannot solve this problem. Managers may need to have a daily or even hourly, but many systems provide data on a monthly basis. Another problem is that of data collection, especially in the beginning, is very time consuming.

To solve these problems, Howell and Soosay recommend that companies have used several types of costing systems. However, the use of multiple costing system would be costly and the results may be misleading. Instead, the new costing systems have been developed. For example, time-based costing. Another solution is to simply not solve the problem. This means that the complex systems we do not use. This is because competition makes the market price is determined by the market of corporate products. As Japanese companies are doing it.

## Conclusions

In traditional costing systems, mainly through cost centers, all productive and unproductive expenditure of various departments are divided into a number of products to determine product cost. In this system, no direct correlation between the activities necessary to produce the products (services), as well as the costs of using these activities are not financial resources. Reflect the direct cost of the product, not the company's activities and the resources being used. The ABC system failures by operating activities related to direct costs, organizational costs makes resolve. Activity Based Costing, scorecards and EVA are good tools that can participate in achieving success in the business environment, to help today's competitive and dynamic. Activity Based Costing can assist managers in understanding the effects of their decisions. When managers decide frameworks, standards of performance and reward should rouse them to have ownership position, will have the best performance. Activity-Based Costing System is a new phenomenon that traditional costing accounting management thinking has changed drastically economic units has attracted the attention of many of the advantages of this system are:

1. Improved costing system and allocate corporate costs to more favorable

2. Determine the cost and reasonably priced and detailed.
3. Control of the company's operations and business planning and decision making
4. More accurate assessment of the financial operations managers
5. Elimination of non-value added activities

Despite these advantages, today in the scientific community to develop theory and theoretical work is ABC's manufacturing industry has been less addressed. The main reason for the lack of familiarity of managers and staff is the existence of various industries and fear of cutting the cost of the system.

## References

- Allivar, A. (2004). *Cost accounting* (1), published by the Audit, Third Edition
- Arabmazar Yazdi, M. The need to review the status of the teaching profession and accounting, accounting information systems, accounting research in the third year, 9.
- Azizi, A., & Modares, A. (2002). *Activity based costing*, publications Auditing Organization.
- Babad, Yair M., & Bala, V., & Balachand, I. (1993). Cost driver optimization in activity-based costing. *The Accounting Review*, 56, 3.
- Cooper, R. (1988). The Rise of activity-based costing-part one: what is an activity-based cost system? *Journal of Cost Management*.
- Hawkes, Fowler & Tan (2003). Management accounting education: is there a gap between academia and practitioner perceptions?, Working paper, Eastern Institute of Technology, New Zealand,
- Horngren, C.T. (1989), Cost and management accounting: yesterday and today. *Journal of Management Accounting Research*, 13, 2332.
- Lazemi Chalak, S. (2011). Advantages and disadvantages of activity based costing system (ABC), Regional Conference Management, Light.
- Mokremi, Y. (1993). Costing systems and advanced manufacturing techniques to study accounting in the first quarter numbers.
- Monden Yasahiro (2000). *Reduced system costs*, translation Hesamedin SM, Sapco Press, first edition.
- Nazari, R. (1995). Activity based costing, *Journal Accountant*, chartered accountants association of 112.
- Reyhanoglu, M. *Activity based costing system*, working paper, www.ssrn.com
- Rohm, Harper A. & et al. (1992). Yes, ABC works

with purchasing, too. *Journal of accountancy*.  
Taleb nia, Gh & Mirzaei, Gh. (2001). New activity-

based costing tool cost management, *Journal of  
Management, 51 and 52*.