

CHAPTER II

THEORETICAL REVIEW

A. Cost Accounting

1. Definition of Cost Accounting

Cost accounting is used to calculating the cost of a product of both goods and services contain elements of raw material, direct labor, and factory overhead costs. According to Banerjee (2006:1), “cost accounting is one of the branches of accounting and is predominantly mean for meeting the informational need of the management. Managers need cost information for informed decision making”. According to Rajasekaran (2010:27), “cost Accounting is a system that measures and reports financial as well as non-financial information about the cost of products of services being produced or sold”.

While according to Khan & Jain (2007:4), “cost accounting is that branch of the accounting information system which records, measures and reports information about costs. The costs are reflected in the accounting system by outlays of cash, promises to pay cash at a future date, and the expiration of the value of an asset”.

Based on some definition it can be concluded that the cost accounting is an information system that produces information costs and operating information of an organization or company that used as a basis for planning, control, reporting, and decision making. Cost information generated by accounting charges are very important for management, particularly in the management of decision making in order to achieve company goals.

2. Role of cost accounting

The cost accountant is an important person in organization, especially manufacturing organization. The responsibility of discharging the cost accounting functions of the organization lies on the cost accountants shoulders. Their role has attained a significant position, now. They are a part of senior management team.

According to Rajasekaran (2010:26) the role of cost accountant can be understood from the following important functions to be performed by them:

- a. Financial planning: The cost accountant's role in financial planning cannot be minimized. The cost accountant assist the line and staff managers in the preparation of budget, making changes as and when necessary, ensuring consistency, and final compilation of the budget and master budget.
- b. Product pricing: This is an important function to be performed by a cost accountant. The cost accountant assist the management in pricing a product by providing valid information after analysing and interpreting various cost data relating to fixing the price of a product.
- c. Cost ascertainment: Ascertainment of the cost of a product or service is another important function of a cost accountant.
- d. Cost control: Controlling the costs of business operations is the prime function of a cost accountant. Cost accountants have to exercise cost control by using a variety of techniques such as budgetary control, standard costing, quality control. They have to assist the management by submitting periodical reports to facilitate cost control function. For example, statement of inventory valuation with relevant ratios will help the management to appraise the level of stock.
- e. Cost reduction: This is another important area in which a cost accountant role has gained much importance. Manufacturing quality goods and rendering prompt services at the minimum cost is the goal of any organization. The cost accountant aims at achieving reduction on the unit cost of goods produced or service rendered and at the same time maintaining quality.

3. Objectives of Cost Accounting

There is a direct relationship among information needs of management, cost accounting objectives, and techniques and tool used for analysis in cost

accounting. The information needs of management and cost accounting objectives are closely related.

According to Khan & Jain (2007:4), the main objectives of cost accounting are: (i) Product costing (Cost ascertainment); (ii) Planning, performance evaluation and control and (iii) Decision making.

Product Costing : Ascertainment of cost is one primary objective of cost accounting. The determination of total product cost and cost per unit are important for inventory valuation, product pricing and managerial decision making. Product costing covers the entire cycles of accumulating manufacturing and other costs and subsequently assigning them to work-in-process, finished goods, and so on.

Planning and Control : The creation of useful cost data and information for planning and control by management is another important objective of cost accounting. The tools of managerial planning and control are budgeting and standard costing.

Decision Making : Yet another objective of cost accounting is to provide information for both short and long-term decisions. Decision making primarily involves choice out of available alternatives.

4. Advantages of Cost Accounting

Business enterprises can derive many advantages from the cost accounting system. According to Jawaharlal (2002:10), some advantages are listed below:

1. The cost accounting system provides data about profitable and unprofitable products and activities. After investigating the causes of low profitability and unprofitability, management can take suitable corrective measures which may lead to higher profit.
2. All items of costs can be analysed to minimise the losses and wastage emerging from the manufacturing process and reduce the costs associated with different activities.
3. Production/manufacturing methods may be improved or changed so that costs can be controlled and profit increased.
4. Cost data can be obtained and compared with standard cost within the firm or industry.
5. Cost accounting helps management in avoiding losses arising due to many factors, such as low demand, competitive conditions, change in technology, seasonal demand for the product and the like.

B. Cost

1. Cost Definition

Cost terms and concepts have been developed in line with the development of the business world today. Understand the cost is important in the study of cost accounting. According to Banerjee (2006:2), "cost is defined as the amount of expenditure (actual or national) incurred on, or attributable to, a specified thing or activity". According to Horngren, Datar, & Foster (2003:40), "define cost as a resource scarified or forgone to achieve a specific objective. A cost usually measured as the monetary amount that must be paid to acquire goods or services." While, according to Rajasekaran (2010:1), "cost is the technique and process of ascertain costs. These costing technique comprise principles and rules to ascertain cost of products or services. The technique vary from industry to industry".

Based on some definition it can be concluded that the cost is the cash or equivalent value of cash sacrificed in order to obtain goods or services expected to bring benefits in the present or the future.

2. Cost Classification

A cost classification is a payment of cash or the commitment to pay cash in the future for the purpose of generating revenue. For example, cash or a note payable signed to purchase supplies is the cost of supplies. In managerial accounting, cost are classified according to the decision making needs of management.

Cost can be classified into product costs and period costs. Garrison & Noreen

(2002:46), explain product costs and period costs as follow :

- a. **Product costs**
Product costs include all the cost that are involved in acquiring or making a product. In the case of manufacture goods, these costs consist of direct material, direct labor, and manufacturing overhead.
- b. **Period costs**
Period costs are all the costs that are not included in product costs. These costs are expenses on the income statement in the period in which they are incurred, using the usual rules of accrual accounting. All selling and administrative expenses are considered to be period costs.

3. **Cost object**

Definition cost object according to Rajasekaran (2010:27), “represent anything in respect of which a separate measurement of cost is desirable”. According to Hansen and Mowen (2005:37), “cost object is any item, such as products, customers, departments, projects, activities, etc, where the cost is measured and charged”. While according to Carter (2009:31), “definition of cost objects is a system of activities whose costs are accumulated and measured”.

Based on some definition it can be concluded that the cost object is something that accumulated for management purposes. The activities can be cost objectives according to Carter (2009:31), “product, a batch of similar units, customer orders, contracts, product lines, process departments, divisions, projects, and strategic objectives”.

4. **Cost Driver**

Definition cost driver according to Jawaharlal & Srivasta (2009:324), is “an activity which generates cost. A cost driver is a factor, such as the level of activity or volume, that casually affects costs (over a given time span). That is, a cause

and effect relationship exists between a change in the level of activity or volume and a change in the level of the total costs of the cost object”.

According to Rajasekaran (2010:27), “cost driver is a variable (level of activity, volume, etc) that casually affects over a given time span”. While, according to Blocher, Stout & Cokins (2011:105), “cost driver is a factor that causes changes in the cost of an activity”.

Based on some definition it can be concluded that the cost driver is something that used as the basis of the change in total costs for a cost object. For example is the electric charge of a factory. The cost of electricity is a cost object, while the number of hours the machine is a cost driver who found the size of the total cost of electricity.

C. Cost of Goods Manufactured

1. Definition Cost of Goods Manufactured

In the manufacture of a product requires production costs used to establish the cost of goods manufactures. According to Horngren, Datar, & Foster (2005:46), “cost of goods manufactured indicate the cost of the goods until it is resolved, whether started before or during the current accounting period”.

The cost of goods manufactured mainly consist of direct materials, direct labor, and factory overhead. The purpose of the cost of goods manufactured is to establish the cost of production cost of the goods or products produced by the company. Cost of goods manufactured is important for the company because it is useful in order to determine the selling price of the product.

2. The Benefit Cost of Goods Manufactured

The benefits cost of goods manufactured information according to Mulyadi (2005:65) are as follows:

- a. Determine the selling price of the product
Companies that mass produce processed products meet the inventory in the warehouse. Thus, production costs are calculated for a period of to produce the information production cost per unit of product. In determining the selling price, cost of production per unit is one of the information to be considered in addition to other cost information as well as non-cost information
- b. Monitor the realization of the cost of production
If certain period production plan has been decided to carry out management requires information production costs actually incurred in the execution of the production plan. Therefore, cost accounting is used to collect information production costs incurred in period of time to monitor whether the production process consumes the total production costs in accordance with the previously calculated.
- c. Calculate the profit or loss of periodic
Gross gain or loss of information required to determine the periodic contribution to cover the costs of non-product production and generate income or loss. Therefore, the cost of the product is used by management to collect actual production costs incurred for a certain period in order to produce the information the gross gain or loss each period.
- d. Determine the cost of inventories of finished products and products in process are presented in the balance sheet
When management is required to make periodic financial accounting, management must present financial statements such as balance sheet and income statement. In the balance sheet, management should present the cost of the finished product inventory and product cost on the balance sheet date are still in process. In order to serve targeted objectives, management needs to hold the record production cost of each period

D. Traditional Cost Accounting

Traditional cost accounting assumes that the product will cause costs.

Traditional cost accounting is recognized immediately in the product based on the cost of direct labor, direct material cost, and overhead cost. Cost of direct labor and direct materials easily traced to the product, but happens tough overhead

traced to the product because of the overhead that occurs is not associated with the cause of the cost driver.

According to Jawaharlal, Srivasta (2009:323), "In traditional product costing system, cost are, first, traced not to activities but to an organisational unit, such as department or plant and then to products. It means under both ABC and traditional costing system, the second and final stage consists of tracing costs to the product. By emphasizing activities, ABC tries to ascertain the factors that cause each major activity, cost of such activities and the relationship between activities and product produced".

1. Determination Cost of Goods Manufactured

Determination of the cost of goods manufactured is used in industries that produces products that are essentially homogeneous, this designation is used in a wide area and needs to be studied by those involved in the management accounting activities, or activities associated with the system. In determining the cost of goods manufactured are the basis for setting goals the cost of goods manufactured such as:

- a. Impose material costs, labor costs, factory overhead costs
- b. Provides a mechanism for calculating the unit cost
- c. Provide important data for planning, monitoring and decision making.

2. Limitations Cost of Goods Manufactured

Traditional cost accounting systems are less able to recognize the behaviour of cost where it is the cause of the failure to produce the information accurate product cost.

According Hansen and Mowen (2005:143) describes the limitations of traditional cost accounting system as follows:

- a. Overhead costs that are not related to the unit

Using a comprehensive factory rates and departmental rates assume that resources consumption overhead is closely related to the units produced. However, if there are no overhead activity related to the number of unit produced, such as the cost of setup and product engineering costs, then these costs can not be accurately charged to the product. Using activity based on unit cost drivers for overhead charge associated with this unit can create distortion cost.

b. **The diversity of products**

The diversity of products means product consume overhead activities in different proportions. There are several reasons why the product can be consumed overhead in different proportions. For example, differences in product size, product complexity, preparation time (setup), and the size of the batch, all of which can lead to products consume overhead at different levels. Without the diversity of looking at the nature of the product, the cost of any quantity of products can be distorted by the unit overhead consumed by a product.

E. Activity Based Costing System (ABC System)

1. Definition of ABC System

Some management experts provide a definition as meaning ABC System, among others according to Jawaharlal, Srivastava (2009:323) Activity based Costing (ABC) is that costing in which cost are first traced to activities and then to products. The ABC is a costing system which focuses on activities performed to produce products. Activities become the focal points for cost accumulation. This costing system assumes that activities are responsible for the incurrence of costs and products create the demands for activities. Cost are charged to products based on individual products use of each activity.

According to Horngren, Datar, & Foster (2006:138) "Activity Based Costing (ABC) refines a costing system by identifying individual activities as the fundamental cost object. An activity is an event, task, or unit of work with a specified purpose. For example, designing product, setting up machines, operating machines, and distributing products. ABC system calculate the costs of individual

activities and assign cost to cost objects such as products and services on the basis of the activities needed to produce each product or service”.

While, according to Hornrgen, Harrison & Bamber (2005:1036) “Activity Based Costing (ABC) focuses on activities as the fundamental cost objects. The costs of those activities become building blocks for compiling the indirect cost of products, services, and customers.

Based on some definition, it can be concluded that the ABC system is a system which imposes a production costing activity based cost required to produce each product or service. ABC method management system is expected to help reduce or even eliminate activities that are not value added, so the company will be able to offer their products at competitive prices.

2. Developing an Activity Based Costing System

According to Hornrgen, Harrison, Bamber (2005:1037) the main difference between ABC and traditional systems is that ABC systems have separate indirect cost allocation rates for each activity. ABC requires seven steps :

1. Identify the activities
2. Estimate the total indirect costs of each activity
3. Identify allocation base for each activity's indirect cost. This is the primary cost driver
4. Estimate the total quantity of each allocation base
5. Compute the cost allocation rate for each activity
6. Obtain the actual quantity of each allocation base used by the cost object (for example, the quantity used by a particular product)
7. Allocate the costs to the costs.

3. Implementation Stage ABC System

In the ABC system, the important thing to trace costs to activities and then to products.

According to Hansen and Mowen (2005:148) the calculation of the cost of the ABC system is done in two stages:

a. First Stage

In the first stage provides five outcomes, namely:

- 1) The activities identified
- 2) The cost charged to the activity
- 3) Activities relating grouped to form a collection of similar
- 4) The cost of a the activities summed to determine the cost of similar
- 5) Calculated the overhead

b. Phase two

In the second stage of each group overhead costs traced to the product. This is done by using the rate as calculated in the first phase and by measuring the amount of resources consumed by each product. This measure is the quantity of activity used by each product.

4. Classification of Activities

As stated earlier, activities are identified and classified into different categories or segments of the production process.

According to Jawaharlal (2002:856), the grouping of activities is preferably done using the different levels at which activities are performed. Broadly, activities are classified into one of four activity categories:

1. Unit level activities

Unit level activities are those activities which are performed each time a unit is produced. They are repetitive activities. For example, direct labour hours, machine hours, power are used each time a unit is produced.

2. Batch level activities

Batch level activities are those activities which are performed each time a batch of goods or products is produced. The costs of batch level activities vary with the number of batches but are fixed with respect to the number of units in each batch. Machine setups, inspections, production scheduling,

materials handling are examples of batch level activities which are related to batches but not to individual products.

3. Product level activities

Product level activities are those activities which are performed to support the production of each different type of product. Maintenance of equipment, engineering charges, testing routines, maintaining bills of materials, handling materials are some example of batch level activities.

4. Facility level activities

Facility level activities are those which are needed to sustain a factory's general manufacturing process. These activities are common to a variety of products and are most difficult to link to product specific activities. Examples of facility level activities are factory management, security, plant depreciation.

5. Benefits of ABC System

According to Banerjee (2006:301), ABC is more expensive than the traditional system. So a cost benefit analysis is desirable. The benefits of ABC are many :

- a. Because cost are identified with activities and then allocated to products or services, based on appropriate cost drivers, more accurate product/service cost result. Since overheads or indirect costs occupy a significant proportion of the total costs of the firm, the overall impact of allocation of indirect costs to product/services more accurately is significant.
- b. Managers manage activities and not products. Changes in activities lead to changes in costs. Therefore, if the activities are managed well, costs will fall and resulting products will be more competitive.
- c. Allocating overhead cost to production based on a single cost driver (allocation base) can result in an unrealistic product cost because the traditional system fails to capture cause and effect relationship. To manage activities better and to make wiser economic decision, managers need to identify the relationships of causes (activities) and effects (costs) in a more detailed and accurate manner. ABC focuses on this aspect. It may be mentioned that activities drive costs. Therefore, cost should be assigned to factors that cause them.
- d. ABC highlights problem areas that deserve the management's attention and more detailed analysis. Many actions are possible on pricing, on process technology, on product design, on operational movements and on product mix, once management realizes that a large number of its

products and customers may break even or are unprofitable. The ABC system is useful in setting priorities for managerial attention and action

6. Weaknesses of ABC System

ABC is not free from certain weaknesses, as argued by the critics. They are mentioned below:

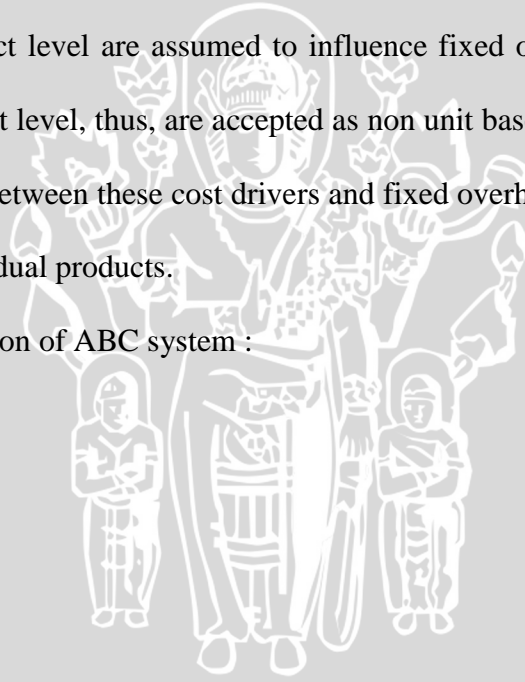
- a. ABC fails to encourage managers to think about changing work processes to make business more competitive.
- b. ABC does not conform to generally accepted accounting principles in some areas. For example, ABC encourage allocation of such non-product costs as research and development to products while committed product costs such as factory depreciation are not allocated to products. In the USA, most companies have accordingly used ABC for internal analysis and continued using their traditional costing for external reporting.
- c. Using ABC for short-run decisions may sometimes prove costly in the long run. Consider, for example, the decision about lowering sales order handling costs by eliminating small orders that generate lower margins. While this strategy reduces the number of sales orders (the driver), customer may want frequent delivery in small lots at infrequent intervals. In a competitive environment (when other companies may be willing to meet the customers needs), long term profits may suffer due to elimination of small orders.
- d. ABC does not encourage the identification and removal of constraints creating delays and excesses. An overemphasis on cost reduction without regard to the constraints does not create an environment for learning about the problems and their management. Banerjee (2006:301)

F. Comparing between the ABC System with Traditional Cost of Accounting

According to Jawaharlal (2002:856), “in traditional costing system, overhead costs are assumed to be influenced by only units produced. It means, in traditional costing system, costs of batch level, product level and facility level activities are fixed costs, that is, costs of these do not vary as production volume changes. Unit based cost systems apportion fixed overhead to individual products and variable overhead are directly assigned to products using the base of number of units produced”.

In ABC, variable overhead is appropriately traced to individual products. The costs incurred as the units are produced have been traditionally treated as variable overhead. But when fixed overheads are apportioned on the basis of units made, as in traditional costing, such apportionment is likely to be arbitrary and also may not reflect activities and cost actually consumed by the products. ABC improves product costing procedure (as compared to traditional costing) because it recognises that many so called fixed overhead costs vary in proportion to changes other than production units. It means, under ABC, the other two level activities, batch level and product level are assumed to influence fixed overhead costs and batch level and product level, thus, are accepted as non unit based cost drivers. By establishing the link between these cost drivers and fixed overhead costs, they are finally traced to individual products.

The example calculation of ABC system :



Calculation of product cost

Product A

Direct production costs

Raw material cost – assembly

Rp. 1.000.000

Raw material cost – painting

1.500.000

Subtotal

Rp. 2.500.000

Indirect cost imposed by activity driver

Acquisition order activities 20 x Rp 341.897

Rp. 6.387.940

Fulfillment order activities 40 x Rp 114.932

4.597.280

Assembly activities 700 x Rp. 33.294

23.305.800

Painting activities 50 x Rp 206.098

10.304.900

Subtotal product costs A

45.045.920

Total costs A

Rp 47.545.920

Product B

Direct production costs

Raw material cost – assembly

Rp.2.000.000

Raw material cost – painting

2.500.000

Subtotal

Rp. 4.500.000

Indirect cost imposed by activity driver

Acquisition order activities 30xRp 341.897= Rp. 10.256.910

Fulfillment order activities 50 x Rp 114.932

5.746.600

Assembly activities 300 x Rp. 33.294

9.988.200

Painting activities 100 x Rp 206.098

20.609.800

Subtotal product costs B

46.601.510

Total costs B

Rp 51.101.510

So the calculation loss profit with ABC system is :

	Product A	Product B	Total
Sales	<u>75.000.000</u>	<u>68.000.000</u>	<u>143.000.000</u>
Direct production costs			
Raw material - assembly	1.000.000	2.000.000	3.000.000
Raw material - painting	<u>1.500.000</u>	<u>2.500.000</u>	<u>4.000.000</u>
Sub Total	2.500.000	4.500.000	7.000.000
Indirect cost of product			
Acquisition order activities	6.837.940	10.256.910	
Fulfilment order activities	4.597.280	5.746.600	
Assembly activities	23.305.800	9.988.200	
Painting activities	10.304.900	20.609.800	
Sub total	<u>45.045.920</u>	<u>46.601.510</u>	<u>91.647.430</u>
Total cost			<u>98.647.430</u>
Net income			44.352.570

Source: Mulyadi (2003:90-91)

