

ACTIVITY BASED COSTING SYSTEM AND HOW IT IS SUPERIOR THAN THE TRADITIONAL COSTING SYSTEM?

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ABSTRACT

Introduces the fundamental notions of activity-based costing (ABC)

Motivates ABC by means of a simple example, a single and a diversified factory proceeds to show how ABC assigns costs more accurately to products and customers by:

- 1) Identifying the activities being performed by organizational resources;
- 2) Assigning resource costs to the activities;
- 3) Identifying all the products, services, and customers of the organization; and
- 4) Assigning activity costs to these outputs via activity cost drivers. Also covers activity attributes, such as the cost hierarchy, value and non-value added, and business processes, as well as different types of activity cost drivers: transaction, duration, and intensity.

Closes with the admonition to balance the benefits from more accurate cost estimates with the cost of developing an appropriate activity-based cost system

Keywords: *Activity Based Costing, ABC Management*

INTRODUCTION

Activity-based costing (ABC) is an accounting method that identifies the activities that a firm performs and then assigns indirect costs to products. An activity-based costing (ABC) system recognizes the relationship between costs, activities and products, and through this relationship, it assigns indirect costs to products less arbitrarily than traditional methods.

Some costs are difficult to assign through this method of cost accounting. Indirect costs, such as management and office staff salaries are sometimes difficult to assign to a particular product produced. For this reason, this method has found its niche in the manufacturing sector.

BREAKING DOWN 'Activity-Based Costing - ABC'

Activity-based costing (ABC) is mostly used in the manufacturing industry since it enhances the reliability of cost data, hence producing nearly-true costs and better classifying the costs incurred by the company during its production process.

This costing system is used in target costing, product costing, product line profitability analysis, customer profitability analysis and service pricing. It is also hugely popular since organizations can develop a much better corporate focus and strategy if costs are better grasped.

Definition of Activities in ABC System

The ABC system of cost accounting is based on activities, which is any event, unit of work or task with a specific goal — such as setting up machines for production, designing products, distributing finished goods or operating machines. Activities consume overhead resources and are considered cost objects.

Under the ABC system, an activity can also be considered as any transaction or event that is a cost driver. A cost driver, also known as an activity driver, is used to refer to an allocation base. Examples of cost drivers include machine setups, maintenance requests, power consumed, purchase orders, quality inspections or production orders.

There are two categories of activity measures: transaction drivers, which involves counting how many times an activity occurs, and duration drivers, which measure how long an activity takes to complete.

Unlike traditional cost measurement systems that depend on volume count such as machine hours and/or direct labor hours to allocate indirect or overhead costs to products, the ABC system classifies five broad levels of activity that are to a certain extent unrelated to how many units are produced. These levels include batch-level activity, unit-level activity, customer-level activity, organization-sustaining activity and product-level activity.

How ABC System Improves Costing Process

Activity-based costing enhances the costing process in three ways. First, it expands the number of cost pools that can be used to assemble overhead costs. Instead of accumulating all costs in one companywide pool, it pools costs by activity. It also creates new bases for assigning overhead costs to items such that costs are allocated on the basis of the activities that generate costs instead of on volume measures such as machine hours or direct labor costs. Finally, ABC system alters the nature of several indirect costs, making costs previously considered indirect such as depreciation, inspection or power are traced to certain activities.

However, ABC transfers overhead costs from high-volume products to low-volume products, raising the unit cost of low-volume products.

OBJECTIVES OF THE STUDY:

- To study the functions and operations of the organization
- To know and understand the existing costing method followed by the industries.
- To allocate the cost for the activities.
- To compare existing costing method followed by the industries with Activity Based Costing.

RESEARCH METHODOLOGY CHOSEN

The research methodology is the process in which the actual methodology is been considered to progress the research as well as the tools that are been used in order to collect the information that are necessary to support the research. Generally there are two kinds of the research methodologies which are been used in order to rectify the problems happened within the research such as Qualitative research methodology as well as the Quantitative research methodology. The research methodology types which are considered are based on the different aspects such as the type of problems which are taken in to consideration within the research process as well as the appropriate and significant data which is to be collected and even the total analysis of the research methodology types are illustrated in detail.

QUALITATIVE RESEARCH METHODOLOGY

The qualitative research methodology is totally based on the human behavior or actions as the major causes which are after this actions are been included with in this process. The problems which are taken in to consideration with in the process of the research towards the human behavior or actions are specified with in this qualitative research methodology as well as these kind of methodology is been utilized towards the educational discipline, social studies as well as the common problems which are happened within the market. The process of decision making will include several steps as well as the critical aspects such as the way of reacting towards the problems which have taken pace with in the research.

For the purpose of the qualitative research methodology it is better to choose the small volume rather than choosing the huge volume which is been used to collect the data from the individuals who are included with in the process of research. The critical non- numerical data excluding the main issues such as graphs, charts as well as the statistical methods are taken in to consideration

in order to finish the research analysis of the data which is base on the genuine emotional observations as well as the conclusions than that of the basic conclusions.

QUANTITATIVE RESEARCH METHODOLOGY

Generally the quantitative research methodology is based on the models which are related to the mathematical as well as the theories based on the social sciences. This quantitative research methodology will even include the statistical analysis as well as the experimental examination of the properties and the internal relationship among the quantitative aspects.

The significant aspects which will make the quantitative research methodology are the measurement as well as the evaluation by the regular values as well as the resulting observations are been used within the quantitative research methodology. By making use of these research methodology the questions such as what, why and where are been answered and in this quantitative research methodology as the major research methodology will include the major social sciences such as political science, economics, anthropology as well as the psychology.

Within this quantitative research methodology the specific case study is been utilized as the information resource as well as the number of general conclusions and even the hypothesis are been resulted by making use of the quantitative research methodology.

As the list of hypothesis are been made within the research process, then this quantitative research methodology could be utilized in order to confirm the true hypothesis from the list which is taken in to consideration in order to rectify the problem happened within the research. The numerical measurements such as graphs, charts as well as the statistical analysis are been used basically within the quantitative research methodology and this kind of methodology could be taken from the huge problem in which the huge or large sample size is needed as well as the data which is been collected from this type of sample should be analyzed in the way of experimental examination as well as the equivalent results are been calculated by means of the empirical analysis. For example the survey which is conducted which may result in completion of the total research process then the best methodology which could be utilized within this level is the quantitative research methodology.

DATA COLLECTION

Secondary Data

- Secondary data was collected from internet sources, journals and magazines.
- Books on cost accounting were referred.

LITERATURE REVIEW

Activity Based Costing (ABC) is an accounting technique that allows an organization to determine the actual cost associated with each product and service produced by the organization without regard to the organizational structure. It is developed to provide more-accurate ways of assigning the costs of indirect and support resources to activities, business processes, products, services, and customers. ABC systems recognize that many organizational resources are required not for physical production of units of product but to provide a broad array of support activities that enable a variety of products and services to be produced for a diverse group of customers. The goal of ABC is not to allocate common costs to products. The goal is to measure and then price out all the resources used for activities that support the production and delivery of products and services to customers.

Concept of Activity-Based-Costing:

An organization performs activities to do its business. These activities define the kind of business you are in: a ship owner has an activity to unpack boats; an accounting firm prepares tax returns; a manufacturer produces products; a council delivers services; a university teaches students. All activities consume resources. It is the consumption of these resources that adds to overhead costs. The basis of Activity Based Costing is look at the activities required to produce the cost of the product or service. The activities consume resources and the cost of these can be calculated. The amount of activity required for each product and service is determined, hence the real cost can be determined.

What's what in ABC?

- The activity is the work that is done.
- The resource is what the activity uses to do the work e.g. people, equipment, and services. Resources cost money.
- The cost of the activity depends on the quantity of resources used to accomplish the activity.
- The cost driver for an activity is the factor that influences the amount of the resources that will be consumed by this activity.

Example: the activity is delivering goods. The costs of this activity include the truck drivers' wages, fuel, depreciation of the truck, insurance, etc. The quantities of the resources that will be consumed by this activity are influenced by the number of deliveries made per year. Hence the cost driver could be the number of deliveries. A cost driver is designed to allocate the delivery activity cost pool to the cost objects.

- The activity driver measures how much of the activity is used by the cost object. Example: Product A is delivered once a month, whereas product B is delivered once a week. Products A and B require a different number of deliveries, hence the cost of the delivery activity should be assigned to each product on the basis of the number of deliveries each uses.
- The cost object is whatever it is you wish to cost. It could be a product, service, process, job or customer. While traditional costing arbitrarily allocates overhead costs, ABC traces overhead costs by looking at the activities that each product and service calls upon. With ABC the products consume the activities. It is the activities that cost money.

Why use Activity-Based-Costing?

Activity-Based-Costing is necessary for the following reasons.

- Understand true profitability of your customers, products, or services
- Quantify the cost of non-value added activities such as errors and reworks
- Identify opportunities to reduce costs and/or increase efficiency
- Obtain actionable information to negotiate price increases for unprofitable clients
- Stratify overhead costs so they can be managed more effectively.

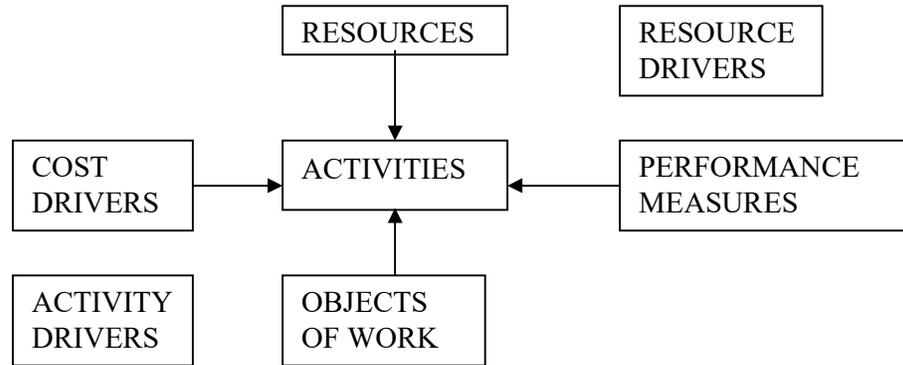
The ABC framework

Activity based costing has been claimed as a method of arriving at more accurate costs, often in order to set selling prices. In a market economy, the idea of selling prices based on costs is dangerous, with serious consequences for a business competitive stance. With the variety of conventions and concepts used in cost determination, there are no absolutes in determining product costs, hence the objective of accurate costs is diluted. However, the technique of ABC is being seen more as a cost-distortion alarm; more as an attention directing tool; more as a cost management tool.

Activity Based Costing is a methodology for understanding the activities, processes, services and products of a business; understanding what drives the cost of these activities and processes; and thus reducing the non-value-adding activities/processes.

The Elements of ABC can be described in the following model:

The ABC CROSS: COST ASSIGNMENT VIEW



Resource Drivers are the link between resources and activities assigning cost from the financial statements.

Activity Driver is the factor used to assign cost from an activity to a object of work, for instance, if making a sales call is the activity then the frequency of sales calls to a specific customer/client would be the activity driver.

Object of Work is the specific objective at the end of a process, for instance, a product, a satisfied customer/client.

Cost Drivers are factors that cause changes in the performance of activities and create increased consumption of resource. Fundamentally there are two types of Cost Drivers. The Structural Cost Drivers are viz. Scale, Scope, Experience, Technology and Complexity. The Exceptional Cost Drivers are viz. Work Force Involvement, Total Quality Management, Capacity Utilization, Plant Layout, Electricity, Product Configuration and Exploiting Value Chain Linkages.

Activities comprise of units or work or task. For example purchase of raw materials, activities involved in manufacturing etc.

ABC categorizes the activities into:

Unit level activities:

- ❑ Performed each time a unit is produced.
- ❑ Consumed in direct proportion to the number of units produced.
- ❑ E.g. Direct materials, Energy costs, direct labour, etc.

Batch related activities:

- Performed each time a batch of goods is produced.
- Consumed in direct proportion the number of batches produced.
- Fixed for all units within a batch.
- E.g. set up resources, purchasing resources.

Product sustaining activities:

- Performed to support and sustain different products/services on the product life cycle.
- Consumption varies with the variety of products/services and the stage of the Product Life Cycle the products/services are in.
- E.g. designing the product.

Facility sustaining activities:

- Performed for supporting the happening of the above three types of activities and providing the platform/infrastructure.
- These are generally fixed for a certain scale/scope of operations over a period of time.
- E.g. Administration, plant maintenance, accounting, etc.
- These costs are deducted lump sum from operating margins of all product lines.

ABC establishes inputs and outputs to and from each activity, Inputs to one activity may be outputs from another and there could also be interactive relationships among activities.

Hierarchy of Activities and Activity based profitability analysis

Sales Revenue

Less: Unit-level products cost

(Material, Power Costs, Other identifiable costs)

= unit level contribution

Less: Batch related costs

(Sets-ups, material movements, purchase orders, inspection)

= batch – level contribution

Less: Product line costs

(Process engineering, product specifications, order change notices)

= product line contribution

Less: Consumer and market related costs

= customer level contribution

Less: Facility sustaining cost

(Plant management, rent , rates, and taxes, etc.,)

= net profit

Note: Unit level and batch contribution analysis facilitate short-term decision relating to products and complexity analysis. Product line contribution helps in product line decisions. Customer level contribution helps in customer and market related decisions. Facility sustaining cost are period cost are period which are fixed in nature.

STAGES OR STEPS INVOLVED IN ACTIVITY BASED COSTING.

Step 1: Identify the various activities within the organization. Activities comprise of units of work or task. For example purchase of material is an activity consisting of series of task like purchase requisition, advertisement, inviting quotations, identification of suppliers, issuing purchase orders, follow up etc.

Step 2: Relate the overheads to the activity using resource cost drivers

- a) Over heads will be related to support and primary activities.
- b) For this purpose, resource cost drivers will be used.
- c) All costs will be identified under the activities, thus creating activity cost pools.

Step 3: Apportion the cost to support activities over the primary activities on suitable basis.

- a) This is very much like reapportionment of service department expenses to production departments.
- b) Cost of support activities are spread over to primary activities to collect costs only under them.
- c) The base is the cost driver which is the measure of how the support activities are used.

Step 4: Determine the activity cost drivers for activity/cost pools.

- a) Activity cost drivers used to relate the overheads collected in the cost pools to cost objects should be determined.
- b) This is based on the factor that drives the consumption of the activity.
- c) For example, in production scheduling, the driver will be the number of batches ordered.

Step 5: Calculate Activity cost driver rate =
$$\frac{\text{Total cost of activity}}{\text{Activity cost driver}}$$

- a) Activity cost driver rates are computed for each activity.
- b) The rates will be multiplied by the different amounts of each activity that each product/other cost object consumes so as to ascertain its cost.

c) This rate can be used to ascertain cost of the product (as in traditional absorption costing) and to ascertain cost of other cost objects such as customers/customer segments and distribution channels.

Activity-based costing

Activity-based costing (ABC) is a system for assigning costs to products based on the activities they require. In this case, activities are those regular actions performed inside a company. "Talking with customer regarding invoice questions" is an example of an activity inside most companies.

Accountants assign 100% of each employee's time to the different activities performed inside a company (many will use surveys to have the workers themselves assign their time to the different activities). The accountant then can determine the total cost spent on each activity by summing up the percentage of each worker's salary spent on that activity.

A company can use the resulting activity cost data to determine where to focus their operational improvements. For example, a job-based manufacturer may find that a high percentage of its workers are spending their time trying to figure out a hastily written customer order. Via ABC, the accountants now have a currency amount pegged to the activity of "Researching Customer Work Order Specifications". Senior management can now decide how much focus or money to budget for resolving this process deficiency. Activity-based management includes (but is not restricted to) the use of activity-based costing to manage a business. While ABC may be able to pinpoint the cost of each activity and resources into the ultimate product, the process could be tedious, costly and subject to errors.

Lean accounting

Lean accounting has developed in recent years to provide the accounting, control, and measurement methods supporting lean manufacturing and other applications of lean thinking such as healthcare, construction, insurance, banking, education, government, and other industries.

There are two main thrusts for Lean Accounting. The first is the application of lean methods to the company's accounting, control, and measurement processes. This is not different from applying lean methods to any other processes. The objective is to eliminate waste, free up capacity, speed up the process, eliminate errors & defects, and make the process clear and understandable. The second (and more important) thrust of Lean Accounting is to fundamentally change the accounting, control, and measurement processes so they motivate lean change & improvement, provide information that is suitable for control and decision-making, provide an understanding of customer value, correctly assess the financial impact of lean improvement, and

are themselves simple, visual, and low-waste. Lean Accounting does not require the traditional management accounting methods like standard costing, activity-based costing, variance reporting, cost-plus pricing, complex transactional control systems, and untimely & confusing financial reports.

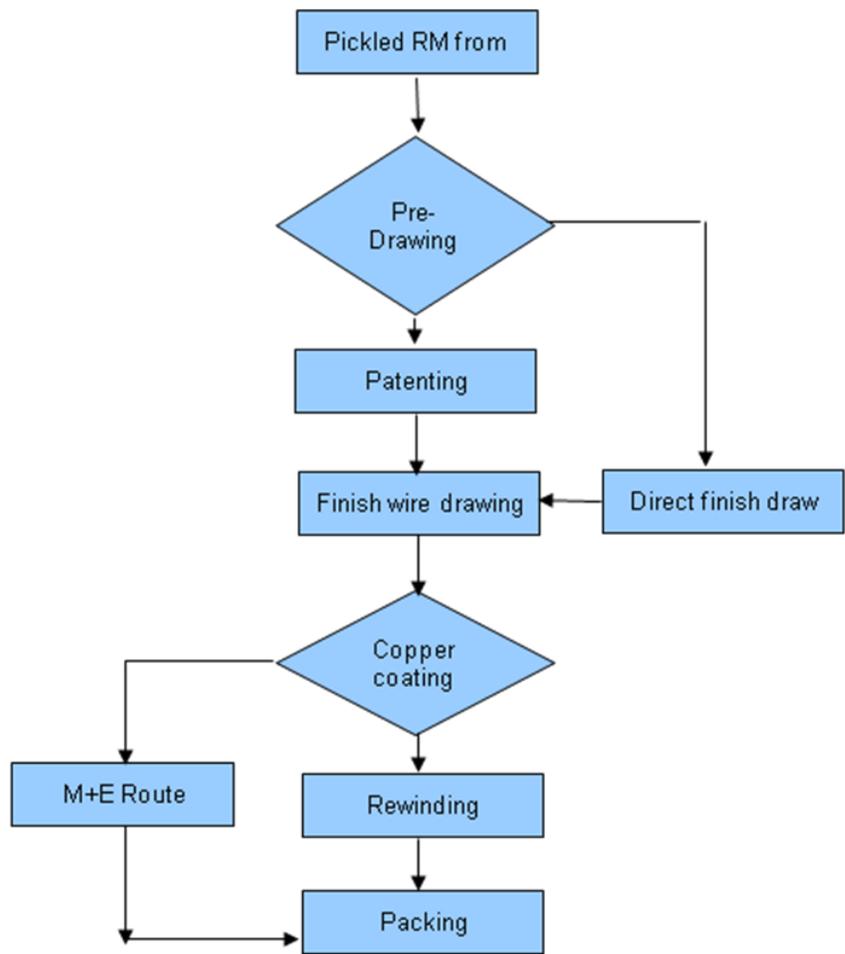
Marginal costing

This method is used particularly for short-term decision-making. Its principal tenets are:

- Revenue (per product) – variable costs (per product) = contribution (per product)
- Total contribution – total fixed costs = (total profit or total loss)

Thus, it does not attempt to allocate fixed costs in an arbitrary manner to different products. The short-term objective is to maximize contribution per unit. If constraints exist on resources, then Managerial Accounting dictates that marginal cost analysis be employed to maximize contribution per unit of the constrained resource.

Below Figure is a flow chart of the MTB process



Pickling

The wire rods used in the manufacturing of MTB wires are produced in the Wire Rod Mill (WRM – west). After manufacturing these wire rods are shipped to the centralized pickling line at the TWP 2 plant for the pickling process. It is compulsory to pickle the rods before they are used in the drawing machines.

That there are many ways to skin a cat is certainly true when it comes to removal of mill scale and surface oxide. The scale is the Fe_3O_4 blue oxide that forms on the wire as it cools following the rolling process. Fe_2O_3 is the red surface oxide or rust that forms during shipping and storage. Both oxides need to be removed prior to drawing.

You can do this by 4 basically different methods.

- Acid pickling
- Mechanical de-scaling
- Abrasive Blasting or Sanding
- Shaving.

ACTIVITY BASED COSTING ADVANTAGES

- More accurate costing of products/services, customers, distribution channels.
- Better understanding overheads.
- Easier to understand for everyone.
- Utilizes unit cost rather than just total cost.
- Integrates well with Six Sigma and other continuous improvement programs.
- Makes visible waste and non-value added.
- Enables costing of processes, supply chains, and value streams
- Activity Based Costing mirrors way work is done
- Facilitates benchmarking.

ACTIVITY BASED COSTING DISADVANTAGES

- More time consuming to collect data.
- Cost of buying, implementing and maintaining activity based system.
- Makes waste visible which some executives and managers don't want their boss to see.

How does Activity Based Costing differ from traditional cost accounting systems?

Most traditional costing systems utilize a single basis, (e.g. direct labor) to distribute the indirect costs to all products and services. This method of allocating indirect costs commonly results in erroneous cost data. Often products which have high volume (and high labor cost) are over cost. Likewise, the cost of lower volume products are often understated, and many of the indirect costs of these products are overlooked. Rather than relying on a single basis to distribute costs, ABC assigns costs to activities and products based on how the costs (resources) are actually consumed by the process or product. By moving away from traditional cost allocation methods and using improved ABC methods of tracing and assignment, ABC provides managers with a clearer picture of cost of processes and the profitability of customers and products.

CONCLUSION

Activity based costing is superior to traditional costing. There are many reasons that show traditional costing to be a terrible way to account for costs in organizations and businesses. As well, there are a multitude of beneficial things that make activity based costing the obvious system to use. However no system is perfect, no system can account for all activities and no system can allocate all costs; but at the end of it all, activity based costing is the more preferred and superior costing system.

BOOKS

- 1) Cost Accounting For Business manager By Asish K Bhattacharyya
- 2) Cost Accounting By I M Pandey

WEBSITES

www.babasabpatilfreeppt.com
<http://www.moneycontrol.com>
<http://www.businesslink.gov.uk/>
<http://www.marketresearchdata.org/index>

JOURNALS

- The International Journal of Financial Markets and Derivatives
- The Journal of Derivatives & Hedge Funds