

Activity based costing (abc) advantages and disadvantages



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Activity Based Costing which is popularly known as ABC system has been considered as “ an economic map of an organization’s expenses and profitability based on organizational activities” according to Kaplan R; and Cooper R.

“ An activity is an event, task or unit of work with a specified purpose, for instance, designing a product, setting up machines, operating machines, and distributing products;” by Horngren, Foster, Datar. According to Kaplan R. S & Cooper R; ABC system came in the mid-1980s to meet the need for accurate information required by managers about cost of resources demanded by individual products, services and customers. It emerged as competition moved from local to global and from the efficient use of direct labour and machines.

Absorption Costing also known as full costing is a traditional costing system developed in the 1900s, by which overheads incurred within a period were absorbed into the products by Kilgour D. The traditional absorption costing was introduced at a time when technology was simpler, competition was local, products were standard and not customised products and services, speed, quality and performance were not measurement for success in reference to Kaplan R. S & Cooper R.

Importance of Absorption Costing System or Activity Based Costing:

According to Horngren, Foster & Datar, the importance of a costing system should depend on whether the company is producing one type of product and therefore could allocate all overhead costs using one cost pool and one cost rate or whether the company is producing different kind of products and

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therefore need a system which could enable it apportion the total cost of resources accurately according to their usage of those resources. As companies began to expand and delve into producing variety of products, they began to notice that some products place more demand on their resources than others.

It became important to absorb overhead when products which are not the same but required different production processes or jobs which although they use the same facility but at a length of time according to Terry L. To ascertain how to apportion overheads to products or services, traditional absorption costing involves two stages; the first stage is the allocation and apportionment and the second stage is the use of absorption rate to absorb overheads into products.

Overhead Allocation: Terry L; overhead allocation is the assignment of all cost incurred to a single cost unit, centre account or time period.

Overhead Apportionment: This is a case where the costs incurred could not be identified with only one cost centre therefore the cost is shared between the cost centres using that service, for instance, lighting cost would be shared between all the cost centres using a suitable basis, Terry L. It is important that the basis upon which costs are apportioned are relevant, fair and equitable; Terry L.

Overhead Absorption Rate: This is usually calculated at the beginning of a period therefore it is based on budgeted costs and production volumes, AAT units 8&9. The formula is as follows: Total overheads of cost centre

Total number of units of absorption base applicable to cost centre

According to Terry L; before calculating absorption rate, the absorption base chosen has to reflect the characteristics of the given cost centre. The basis most commonly used are direct labour hours for a labour intensive cost centre and the machine hour basis usually used where the cost centre is highly mechanised. With exception of the above two basis, other basis include; Direct wages, Direct material, Prime cost and Cost unit.

ABC System: Activity Based Costing began in a manufacturing setting but has been more service -oriented than product oriented. Service Industries as much as manufacturing industries need ABC system to connect the cost resources they supply to the revenues earned by the individual products and customers serviced by these resources in reference to Horngren, Foster & Datar.

ABC System has three key features are: (1) With the system all costs used by a product whether variable or fixed in the short-run or overheads(indirect costs)in the long-run are identified by creating cost pools as ABC is focused on long-run variable costs for instance as Terry L; said, “ costs for supporting activities like stock handling, production scheduling and so on”.

Cost Pool: Classifying all related costs to a particular activity together according to Terry L.

(2) The second feature of ABC system is; An amount of an activity performed in each cost pool is recognised as a basis of allocation for instance, set-up hours as a measure of set up activity. Horngren, Foster, & Datar.

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(3) The third feature is that costs in a cost pool can sometimes be traced directly to products. Horngren, Foster, & Datar.

The Differences Between Traditional Absorption Costing and Activity Based Costing.

The differences between the two costing system are easy to notice. Below are lists of some of them:

The traditional absorption costing was introduced at the time when technology was simple, there was only local competition and not global, when products were standard not customised, from Kaplan S. R & Cooper R.

ABC system emerged at the time when competition had become global and fierce and had shifted from the efficient use of labour hours and machines, by Kaplan S. R & Cooper R.

The traditional costing uses mostly two allocation bases to allocate overheads to products; direct labour basis for a labour intensive company and the machine hour basis for a highly mechanised company. These two bases would not capture the demand of a particular product on the resources of the organisation. There are no cause and effect relationship to an allocation base with the use of this method, Horngren, Foster, & Datar.

With ABC system, costs of activities within the organisation are more accurately measured because the cost pools are properly structured with specific activity cost allocation bases which became cost drivers for the cost pool. Cost Driver: " factor influencing the level of cost" from Terry L.

In the traditional absorption system, absorption rates are based on predetermined figures thereby giving rise to under and over absorption of overhead. Under absorption arises when the estimated overhead is less than the actual overhead. Over absorption of overhead arises when the overhead absorbed exceeds the actual overhead ; from AAT Study text units 8&9.

The measurement required to implement ABC system are costly as the system demands that management should estimate costs of activity pool, identify and measure cost drivers for the cost pools to serve as allocation bases; from, Horngren, Foster,& Datar.

The use of ABC system will require its activity cost rates to be updated regularly and a detailed ABC system consumes time, is difficult to understand and operate, Horngren, Foster & Datar.

Illustration : “ As an illustration of the differences between traditional absorption costing and activity based costing, with attention to set up activity, the effect of allocating all overheads using direct labour hours as against an ABC emphasis on individual activities, the name of the company shall be called Z. Z produces two kinds of lenses for an automobile company. The first product is a simple lenses, the second product is called complex lenses.”

“ Set ups involves trial runs, fine tuning, adjustments, wrong set-ups cause quality problems such as scratches . Each set-up requires different resources depending on the complexity of the operation. Complex lenses are produced in small batches because the mold has to be cleaned more often.” Horngren, Foster & Datar.

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According to Horngren, Foster, & Datar, set-up data for simple lens and complex lens are:

Simple Complex

S3 lens CL5 lens Total

(1) Quantity produced 60, 000 15, 000

(2) Lens per batch 240 50

(3) No of batches (1/2) 250 300

(4) Set-up time per batch 2hours 5hours

(5) Total set-up hours (3)*(4) 500hours 1500hours 2000hours

Direct manufacturing labour hours 30000hrs 9750hrs 39750hrs

Z recognises total cost of set-ups comprising of allocated costs of process engineers, supervisors, set-up equipment of £300, 000.

Solution: The table below shows how the set-up costs have been allocated to simple and complex lenses using direct labour hours and setup hours:

Setup cost per direct labour hours:

$$(300,000/39750)=£7.54717$$

Setup cost per setup hours:

$$(300,000/2000)=£150$$

Simple Complex Total

S3 lens CL5 lens

Cost allocated using direct labour hrs:

£7. 54717* 30000; £7. 54717*9750 £226, 415 £73, 585 £300, 000

Cost allocated using setup hrs:

£150*500; £150*1500 £75, 000 £225, 000 £300, 000

Implementing the Activity Based Costing System:

The choice of implementing Activity Based Costing depends on the managers after evaluating the advantages and disadvantages, controlling the amount of details required and cost.

ABC system enables management to see their existing and predetermined cost of activities and business processes which then equips them with knowledge of the cost and profitability of the various products, services, customers and operating units according to Kaplan S. R, & Cooper R. There are several steps the company could take to change the existing costing system. These are:

Step 1: List all the activities of the company performed by indirect and support

Resources, for instance, material handling, schedule production and so on.

Step 2: Find out how much the company is spending on each activity in the company.

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Step 3: Identify the company's products, services and customers, Kaplan S. R, Cooper R.

Step 4: Charge support overheads by their usage of the activity with emphasis on the

Cause-effect relationship.

Recommendation: ABC system is recommended since it provides more accurate product

Costs. The system has been used successfully in some service industries

Such as the Cooperative Banks to identify profitability, product mixes,

Improve efficiency and satisfy customers, Horngren, Foster & Datar.