

# Managerial Accounting Decision by Using Total Cost Method

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**Abstract:** Cost accounting has long been used to help managers understand the costs of running a business. Modern cost accounting originated during the industrial revolution, when the complexities of running a large scale business led to the development of systems for recording and tracking costs to help business owners and managers make decisions.

Cost, as a instrument of financial administration control, reports to informing the decision factors. It permit managers to form a global view about enterprise and to manage the relations with costumers by prices.

Having a informative character, it is necessary that this instrument to be review by qualitative characteristics of accounting information. Thus, the main characteristics of cost information are: oportunity, reliability and signification.

**Oportunity** refers to terms when cost information must be known by the manager. Thus, information is timely if it is available at the moment of decision.

**Reliability** – information is reliable if it doesn't contain errors or incomplete elements, thus the manager trust in it.

**Signification** – information is significant when it influence the decisions of managers, permitting them to evaluate the past, present and future events for confirm or correct the past evaluations. For financial administration control a cost is significant if it can be used in a decision, having relation with every of managers decisions.

Belong these qualitative characteristics of cost information and the necessity of an equilibrium between them, it must be said that the usage of informations in decision proces depends of the medium in which the enterprise is evaluating. This medium is complex and it includes many factors like:

- production size;
- sale size;
- technological level.

Depends of these factors, the medium in which the enterprise evoluate can be stable or unstable. The main characteristic of stable medium is the stability of factors.

For calculating the complete costs we ca use the analysis centers method, which requires separating costs in two important categories:

- costs which can be affected to the product, direct costs;
- costs which can not be affected to the product, indirect costs; these costs will be colected and then charged to the production using the repartition proces.

Complete costs are important for making decision proces regarding the market. However, complete costs have also some drawbacks as:

- including some insignificant informations for decision proces – because the methodology of complete costs refers to allocation of all costs about products, including insignificant elements in complete cost information is unavoidable;
- repartition bases need – because not all the production costs are directly repartited to the product, it's necessary to used repartition bases. The problem is that these repartition bases involve a subvention cost phenomenon.
- oportunity - complet cost is a reliable information, but isn't timely because it is obtain at the end of production proces. However, complet cost is a reliable information in condition of constant volume of production and sales – stable medium.

Managers need to distinguish between relevant and the irrelevant costs. Total cost contain irrelevant information. There are a number of decisions for which total cost can not be used.

Regarding the insignificant informations it is relevant the below examples about irrelevant costs:

- Manager decision of keeping an old equipment or buy a new equipment
- Manager decision "produce or buy"

### Manager decision of keeping an old equipment or buy a new equipment

Frequently, irrelevant costs affect decision process in interpretation of accounting values of tangible goods.

Tabel.1.1. Manager decision of keeping old equipment or buy new equipment

OLD EQUIPMENT		NEW EQUIPMENT	
Historical cost	75.000	Purchase price	200.000
Accounting net value	140.000	Duration of use	4 years
Period left	4 years	Annual variable costs	300.000
Market value	90.000	Annual income from sales	500.000
Annual variable costs	345.000		
Annual income from sales	500.000		

In this situation some managers would choose to continue the activity with the old equipment because removing him would lead to a loss of 50.000.

Accounting net value – 140.000  
Market value – 90.000  
LOSS – 50.000

But carefully assessing the situation can see that one is irrelevant costs is accounting net value 140,000 of old equipment. This is already a produced cost and it must be absorbed whether equipment is kept (depreciation) or if it is sold (with disposal costs of assets).

Focus on relevant costs involve:

- Elimination of costs already produced: 140,000 accounting net value
- Remove information identical to the 2 situations:
  - Annual income from sales: 500.000
  - Duration of use: 4 years
  - Annual variable costs to a level of 300.000

In these conditions only remaining information is important for the decision taken by the managers:

- reducing variable cost:  $45.000 * 4 \text{ years} = 180.000$
- purchase price of new equipment: - 200.000
- receipts from the sale of old equipment: 90.000

RESULTS: + 70.000

### Manager decision "produce or buy"

Assuming that firm X produces a subset used to produce one of its main products. The main information on the production of this subset are:

Tabel.1.2. Manager decision "produce or buy"

	Unit cost	8000 pieces
Direct material	6	48000
Direct labor	4	32000
Variable overheads	1	8000
Controller salary	3	24000
Depreciation	2	16000
General expenses allocated	5	40000
	21	168000

Firm receives an offer from a provider which can deliver 8000 pieces at a price of 19. What decision should take the manager?

At first sight the decision is to buy. To get an accurate decision-making should be eliminated anyway costs occurred:

- depreciation;
- general expenses.

In these conditions by restoring critical calculations, decision of produce bring a gain of 40.000. Therefore, the optimal decision is to produce. However, the decision can be influenced by other circumstances. If production space could be used in one other activity that could bring an income of 60,000, then the decision changes.

The enterprise is under submission of many mutations from external medium (market conditions) and from internal medium (internal structure conditions and production).

In daily economical condition, the market has been evolved, being characterized by an exacting demand speaking of quality because of a powerful competition.

The competition belongs to the enterprises capable to keep up an evolution of technical progress and managerial innovations, because there is an evolution of market and also a change of internal production conditions. The growth of technical measure of production goes to minimize the difference between direct labour and indirect labour.

The growth of automatization production and the development of service activities goes to the subtraction of direct expenses and the growth of indirect expenses. Thus, the allocation of indirect expenses with repartition bases offers unreal informations about cost.

The classic model of organization of the enterprise suffers important changes because the organizations have now a network of decentralized structures with few hierarchical levels and a transfunctional approach.

The usage of classical complete costs goes to the appearance of a phenomenon of subvention for the complete cost of products which have the same repartition base.

In the speciality theory it has been identified three kinds of subvention effects:

- effects because of diversity of activities and of disparity of costs;
- effects because of production size;
- effects because of made investments for growing productivity.

The improvement of complete costs method can be done by using the calculation method Activity Based Costing (ABC). This method became an international researching trend, being considered one of the most important innovations in managerial accounting at the end of the twentieth century. Activity cost model is an analytic accounting system built on the activity concept.

An activity is defined as an ensemble of elementary operations done by one or more people, which permit the supply of some utilities part of some resources. The activities are grouped in processes. So, an activity is composed from elementary operations and it is included in a process.

A process is defined as an ensemble of activities structured to obtain a common objective and has three essential characteristics:

- it is structured in a transversal way unlike hierarchical structure and unlike the main functional structures of enterprise;
- each process has a global unique output;
- has an internal or external customer.

This method is not only a simple cost calculation system for products, but it is an expenditure resources system.

In Activity Based Costing method, the customers generate the existence of some calculation objects which create the demand of consumer resources activities. The structure of enterprise by activities offers a good presentation of expenditure resources processes, because the ABC method is concerned first to the expenditure of resources by the activities which compose the enterprise. Financial administration control must establish the activities.

In our days, financial administration control becomes an advantage in market competition.

Fixing the activity cost means to associate every activity with an explicative factor of cost variation, named cost inductor.

The cost inductor is an allocation base for indirect expenses to activities and to calculation objects. Each cost inductor must express a determination relation with indirect expenses. The cost inductors are the determination factors which generate indirect costs.

The identification of cost inductors is realized using a cause - effect analysis, because a cost inductor must be the reason of a resources expenditure. Regarding the type of performance, the inductor can be a cost inductor, quality inductor or execution term inductor. Thus, Activity Based Costing method introduces a multicriterial administration of enterprise, based on an information system about the quality and an information system about delivery term. The effective expenses and the budgeting expenses are followed to activities.

In the speciality literature, it can be find the following types of cost inductors:

- operational inductors – specific for operational activities, as: supplies, fitting and distribution;
- structural inductors – which are specific for structure activities, as: general administration, treasury administration.

Cost calculation by activity involves the following steps:

### **Stage 1 Mapping activities within the enterprise**

Each work center is associated with a process and then decomposed into elementary activities. The objective is to identify activities starting to justify their value creation process within an enterprise, this one being an organizational analysis.

### **Step 2 Identification of use resource explanatory factors: cost inductors**

Individualized for each activity is seeking an explanatory factor of the use of resources known inductor of cost. In terms of management control, the activities retained their utility only to the extent that, for each activity, an inductor associated cost, which is due to those activities.

### **Step 3 Regrouping activities by inductor cost**

In this phase, all activities that cost the same inductor are grouped into a center of aggregation. Also in this phase is calculated at a unit cost of the inductor equal to the ratio collected in the center of aggregation inductors and total cost.

### **Step 4 Calculation of total cost, by affecting the cost of activities on various items costing**

In this last stage of calculation is determined the cost object by summing up direct expenditure and consumption costs from inductors of aggregation centers, those related to obtaining utility. Specific element is the method of allocating indirect costs, contributing to the production and sale of a particular product. This mode of formation of total cost of a product allows a more effective dimension more effective control on indirect costs, items that tend to become significant in the total cost of products.

The novelty introduced by the ABC method is that the manager is concerned with processes generating costs before these costs are concerned with attaching to a calculation object.

Therefore, information on the cost of doing business becomes, in terms of decision-making, more important than the cost of the product.

Many firms adopt activity-based costing to reduce distortions in product costs often found in their volume-based costing systems. Volume-based costing systems, generate product or service costs bearing little or no relationship to activities and resources consumed in operations. ABC clearly shows the effect of differences in activities and changes in products or services on costs. Among the major benefits of activity-based costing that many firms have experienced are:

- Better profitability measures. ABC provides more accurate and informative product costs, leading to more accurate product and customer profitability measurements and to better-informed strategic decisions about pricing, product lines, and market segments.
- Better decision making. ABC provides more accurate measurements of activity-driving costs, helping managers to improve product and process value by making better product design decisions, better customer support decisions, and fostering value enhancement projects.
- Process improvement. The ABC system provides the information to identify areas where process improvement is needed.
- Cost estimation. Improved product costs lead to better estimates of job costs for pricing decisions, budgeting, and planning.
- Cost of unused capacity. Since many firms have seasonal and cyclical fluctuations in sales and production, there are times when plant capacity is unused. This can mean that costs are incurred at the batch-, product-, and facility-level activities but are not used. Capacity is supplied but not used in production. ABC systems provide better information to identify the cost of unused capacity and maintain a separate accounting for this cost. For example, if a particular customer's order requires the addition of a certain type of capacity in the plant, then the customer can be charged for that additional capacity. Alternatively, if a plant manager decides to add capacity in expectation of future increases in sales and production, then the cost of that additional capacity should not be charged to current production but charged as a lump sum in the plant's costs. Overall, the goal is to manage capacity levels to reduce the cost of underutilization of capacity and to price products and services properly.

Although activity-based costing provides better product or service costs than volume based systems, managers should be aware of its limitations:

- Allocations. Not all costs have appropriate or unambiguous activity or resource consumption cost drivers. Some costs require allocations to departments and products based on arbitrary volume measures because finding the activity that causes the cost is impractical. Examples are facility-sustaining costs such as the costs of the information system, factory manager's salary, factory insurance, and property taxes for the factory.
- Omission of costs. Product or service costs identified by an ABC system are likely to not include all costs associated with the product or service. Product or service costs typically do not include costs for such activities as marketing, advertising, research and development, and product engineering even though some of these costs can be traced to individual products or services. Product costs do not include these costs because generally accepted accounting principles (GAAP) for financial reporting require them to be treated as period costs.
- Expense and time. An ABC system is not cost free and is time-consuming to develop and implement. For firms or organizations that have been using a traditional volume-based costing system, installing a new ABC system is likely to be very expensive. Furthermore, like most innovative management or accounting systems, ABC usually requires a year or longer for successful development and implementation.

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