Activity-based costing

Activity-based costing (**ABC**) is a costing model that identifies activities in an organization and assigns the cost of each activity resource to all products and services according to the actual consumption by each: it assigns more indirect costs (overhead) into direct costs.

In this way, an organization can precisely estimate the cost of individual products and services so they can identify and eliminate those that are unprofitable and lower the prices of those that are overpriced.

In a business organization, the ABC methodology assigns an organization's resource costs through activities to the products and services provided to its customers. It is generally used as a tool for understanding product and customer cost and profitability. As such, ABC has predominantly been used to support strategic decisions such as pricing, outsourcing, identification and measurement of process improvement initiatives.

Historical development

Traditionally cost accountants had arbitrarily added a broad percentage of expenses into the indirect cost. In addition, activities include actions that are performed both by people and machine. However, as the percentages of indirect or overhead costs rose, this technique became increasingly inaccurate, because indirect costs were not caused equally by all products. For example, one product might take more time in one expensive machine than another product—but since the amount of direct labor and materials might be the same, additional cost for use of the machine is not being recognized when the same broad 'on-cost' percentage is added to all products. Consequently, when multiple products share common costs, there is a danger of one product subsidizing another.

ABC is based on George Staubus' Activity Costing and Input-Output Accounting.[1] The concepts of ABC were developed in the manufacturing sector of the United States during the 1970s and 1980s. During this time, the Consortium for Advanced Management-International, now known simply as CAM-I, provided a formative role for studying and formalizing the principles that have become more formally known as Activity-Based Costing.[2]

Robin Cooper and Robert S. Kaplan, proponents of the Balanced Scorecard, brought notice to these concepts in a number of articles published in *Harvard Business Review* beginning in 1988. Cooper and Kaplan described ABC as an approach to solve the problems of traditional cost management systems. These traditional costing systems are often unable to determine accurately the actual costs of production and of the costs of related services. Consequently managers were making decisions based on inaccurate data especially where there are multiple products.

Instead of using broad arbitrary percentages to allocate costs, ABC seeks to identify cause and effect relationships to objectively assign costs. Once costs of the activities have been identified, the cost of each activity is attributed to each product to the extent that the product uses the activity. In this way ABC often identifies areas of high overhead costs per unit and so directs attention to finding ways to reduce the costs or to charge more for costly products.

Activity-based costing was first clearly defined in 1987 by Robert S. Kaplan and W. Bruns as a chapter in their book *Accounting and Management: A Field Study Perspective*.[3] They initially focused on manufacturing industry where increasing technology and productivity improvements have reduced the relative proportion of the direct costs of labor and materials, but have increased relative proportion of indirect costs. For example, increased automation has reduced labor, which is a direct cost, but has increased depreciation, which is an indirect cost.

Like manufacturing industries, financial institutions have diverse products and customers, which can cause cross-product, cross-customer subsidies. Since personnel expenses represent the largest single component of non-interest expense in financial institutions, these costs must also be attributed more accurately to products and customers. Activity based costing, even though originally developed for manufacturing, may even be a more useful tool for doing this.[4] [5]

Activity-based costing was later explained in 1999 by Peter F. Drucker in the book *Management Challenges of the 21st Century*.[6] He states that traditional cost accounting focuses on what it costs to *do something*, for example, to cut a screw thread; activity-based costing also records the cost of *not doing*, such as the cost of waiting for a needed part. Activity-based costing records the costs that traditional cost accounting does not do.

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      The overhead costs assigned to each activity comprise an activity cost pool.
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Methodology

- Cost allocation
- Fixed cost
- Variable cost
- Cost driver

Direct labor and materials are relatively easy to trace directly to products, but it is more difficult to directly allocate indirect costs to products. Where products use common resources differently, some sort of weighting is needed in the cost allocation process. The **cost driver** is a factor that creates or drives the cost of the activity. For example, the cost of the activity of bank tellers can be ascribed to each product by measuring how long each product's transactions (**cost driver**) takes at the counter and then by measuring the number of each type of transaction. Other example, for the running machinery activity, the driver is likely to be machine operating hours. That is, machine operating hours drive labour, maintenance, and power cost during the running machinery activity.

Uses

- It helps to identify inefficient products, departments and activities
- It helps to allocate more resources on profitable products, departments and activities
- It helps to control the costs at an individual level and on a departmental level
- It helps to find unnecessary costs
- It helps fixing the price of a product or service scientifically

Limitations

Even in activity-based costing, some overhead costs are difficult to assign to products and customers, such as the chief executive's salary. These costs are termed 'business sustaining' and are not assigned to products and customers because there is no meaningful method. This lump of unallocated overhead costs must nevertheless be met by contributions from each of the products, but it is not as large as the overhead costs before ABC is employed.

Although some may argue that costs untraceable to activities should be "arbitrarily allocated" to products, it is important to realize that the only purpose of ABC is to provide information to management. Therefore, there is no reason to assign any cost in an arbitrary manner.

Cost

ABC is considered a relatively costly accounting methodology.[7]

Lean accounting methods have been developed in recent years to provide relevant and thorough accounting, control, and measurement systems without the complex and costly methods of ABC. Lean Accounting takes an opposite direction from ABC by working to eliminate cost allocations rather than find complicated methods of allocation.

While lean accounting is primarily used within lean manufacturing, the approach has proven useful in many other areas including healthcare, construction, financial services, governments, and other industries.

Prevalence

Following initial enthusiasm, ABC lost ground in the 1990s, to alternative metrics, such as Kaplan's balanced scorecard and economic value added.[7]

> ABC has stagnated over the last five to seven years,
>
> – Kaplan, 1998

However, application of an activity based recording may be applied without change to incremental **activity based accounting** not replacing any synoptic and retrospective modeling process with *costing*, but to transform concurrent process accounting to a most authentic approach.

Public sector use

ABC is widely used in the public sector, including by the United States Marine Corps.[7]

Its use by the UK Police has been mandated since the 2003-04 UK tax year as part of England and Wales' National Policing Plan, specifically the Policing Performance Assessment Framework.[8] An independent 2008 report concluded that ABC was an inefficient use of resources: it was expensive and difficult to implement for small gains, and a poor value, and that alternative methods should be used.[9]

Furthermore, the South African government, specifically the National Treasury has tasked specialists to craft a master guideline for local government in South Africa, for purposes of cost optimisation, tariff setting, balanced budget setting and equitable fund allocations

References

[1] Staubus, George J. Activity Costing and Input-Output Accounting (Richard D. Irwin, Inc., 1971).
[2] Consortium for Advanced Manufacturing-International (http://www.cam-i.org)
[3] Kaplan, Robert S. and Bruns, W. *Accounting and Management: A Field Study Perspective* (Harvard Business School Press, 1987) ISBN 0-87584-186-4
[4] Sapp, Richard, David Crawford and Steven Rebishcke "Article title?" *Journal of Bank Cost and Management Accounting* (Volume 3, Number 2), 1990.
[5] Author(s)? "Article title?" *Journal of Bank Cost and Management Accounting* (Volume 4, Number 1), 1991.
[6] Drucker Peter F.*Management Challenges of the 21st Century*. New York:Harper Business, 1999.
[7] Activity-Based Costing (ABC): In recent years, ABC has lost ground in the metric wars. But it may be set for a resurgence (http://www.cfo.com/article.cfm/3007694), by David M. Katz
[8] Police Service National ABC Model Manual of Guidance Version 2.3 June 2007 (http://police.homeoffice.gov.uk/publications/finance-and-business-planning/ABC_Manual_of_Guidance2835.pdf?view=Binary)
[9] The Review of Policing Final Report by Sir Ronnie Flanagan February 2008 (http://police.homeoffice.gov.uk/publications/police-reform/Review_of_policing_final_report/flanagan-final-report2835.pdf?view=Binary)

Drucker, Peter F.. Management Challenges of the 21st Century. New York:Harper Business, 1999.

External links

- Who Wins in a Dynamic World: Theory of Constraints Vs. Activity-Based Costing? (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=962270) article on SSRN
- International Federation of Accountants proposed International Good Practice Guidance on Costing to Drive Organizational Performance (http://www.ifac.org/Guidance/EXD-Details.php?EDID=0114)

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