

Calculating Activity Based Costing

GETTING STARTED

Activity based costing (ABC) attempts to create the big picture—crystal-clear, full, and accurate—by painting assorted little pictures.

- ABC identifies the relationship between a business activity and all the resources needed to conduct it by assigning costs to each of those resources, thus presenting the true total expense of the entire activity.
- ABC can account for so-called “soft” or indirect operating costs, and thus produce a more revealing, and perhaps startlingly different, financial picture than other accounting methodologies such as standard costing might offer.
- Used properly, ABC helps management better to distinguish operations that add value from those that do not, permitting more informed decisions about such matters as pricing, product mix, capital investments, and organizational change.
- In turn, ABC’s advocates praise it as a more effective tool to identify and control costs, improve productivity, and increase profits.

FAQs

When did ABC start?

ABC came of age in the 1980s amid manufacturers’ furious efforts to raise the quality of their products while simultaneously eliminating every unnecessary cost from their operations. The dramatic improvements realized by manufacturers have led to ABC becoming a widely used tool, especially in the manufacturing industry.

What are the basic steps of ABC?

There are five:

- identify the product or service to be studied;
- determine all the resources and processes that are required to create the product or deliver the service, and their respective costs;
- determine the “cost drivers” for each resource: the cost of labor as well as raw materials;
- collect cost and other data, such as time taken, for each process and resource;
- use the data to calculate the overall cost of the product.

What are ABC's principal advantages?

First, ABC can gauge virtually any activity, be it a manufacturing process, a business process, the performance of a service, or an administrative operation. Second, it considers a much wider variety of resources and materials than more traditional accounting methodologies, and can thus present a more complete picture.

What are ABC's primary weaknesses?

It can be a very time-consuming exercise because of the volume of data it demands. Also, if not managed properly, ABC can transform every manager into an accountant whose energies become fixed on tracking the costs of the activity, rather than on tracking and perfecting the activity itself.

What kind of business sectors use ABC?

The list ranges from accountants to zoologists. It may be especially helpful to knowledge-based businesses that rely primarily on human services and related resources, whose total costs may be difficult to measure with more traditional accounting yardsticks.

What is critical to ABC's success?

Without gaining and maintaining the enduring commitment of all individuals, even a modestly detailed initiative will probably fail. It's also best to start with pilot projects to demonstrate success.

What preliminary steps are needed?

First, an organization must understand its activities and the resources that these require. Second, it must understand thoroughly the amount of information required, and the expense of generating that information. It must also determine what level of accuracy will be acceptable.

MAKING IT HAPPEN

Creating an ABC cost accounting system requires three preliminary steps:

- converting to an accrual basis of accounting;
- defining cost centers and cost allocation;
- determining process and procedure costs.

Businesses have traditionally relied on the cash basis of accounting, which recognizes income when received and expenses when paid. ABC's foundation is the accrual-basis. The numbers this statement presents are assigned to the various procedures performed during a given period. Cost centers are a company's identifiable products and services, but also include specific and detailed tasks within these broader activities. Defining cost centers will of course vary by business and method of operation. What is critical to ABC is the inclusion of all activities and all resources. Once these steps have been taken, the results are often more than satisfying.

Banks and financial services firms, for example, have long used ABC-like methods to confirm that investments in automated teller machines would be both cheaper than continuing to rely on tellers and clerks and in their customers' best interests.

Railroad companies have used the methodology to determine the cost of processing bills of lading by hand, fax, and the Internet. Studying such costs confirmed the wisdom of using e-commerce, generating annual savings of up to \$1 million.

Law firms are better positioned to confirm that the hourly fees they charge—no matter how princely they may at first appear—do, in fact, enable them to provide their services profitably.

Finally, healthcare providers use ABC to measure profitability, eliminate unnecessary costs, and plan for change. A medical practice that knows the actual cost of providing a specific service, for example, can make far better decisions about the price of managed health care.

For instance, let's say the Apple-a-Day Medical Clinic includes three physicians, Drs. Peel, Core, and Stem. Their clinic has an in-house laboratory and a radiology department. All direct revenues and expenses are allocated to the physician who performs the service and incurs the expense. Indirect variable overhead costs are allocated to each physician based on the proportion of total revenues that each generates in a given period. Fixed overhead costs are divided equally among physicians. Because of their respective incomes and expense allocations, each physician would represent a separate cost center.

Additional cost centers for this medical practice could be laboratory, radiology, and administration. As cost centers are defined, they could further be classified as, say, "patient service centers" or "support centers." In this example, laboratory, radiology, and each individual physician's activity would be patient service centers, while administration would be a support center.

Once cost centers are identified, management teams can begin studying the activities each one engages in and allocating the expenses each one incurs, including the cost of employee services. In this healthcare scenario, activities would range from actual treatment by physicians and nurses, X-rays, medical tests and assessments of their results, plus such administrative support services as personnel, bookkeeping, rent, utilities, property insurance, office supplies, advertising, telecommunications expenses, and equipment costs related to the administrative function. Rent, utilities, and property insurance are usually allocated on the basis of the square footage that the particular activity covers.

Tracking and allocating the detailed costs of individual activities and procedures can be accomplished by different methods, with various degrees of accuracy. The more detailed the cost analysis, of course, the greater the accuracy of the data. Then again, as the detail increases, so does the time and expense.

The most appropriate method is developed from time studies and direct expense allocation. Management teams that choose this method will need to devote several months to data collection in order to generate sufficient information to establish the personnel components of each activity's total cost. The cost of this exercise itself can be significant, but also worthwhile. Proponents say ABC has resulted in cost savings worth

as much as 14 times the cost of the exercise. More importantly, the exercise has provided solid documentation for decisions that “seemed correct,” as a Chrysler Corporation team once reported, “but could not be supported with hard evidence.”

Time studies establish the average amount of time required to complete each task, plus best- and worst-case performances. Only those resources actually used are factored into the cost computation; unused resources are reported separately. These studies can also advise management how best to monitor and allocate expenses which might otherwise be expressed as part of general overhead, or go undetected altogether.

Notably, determining how much of an operation’s personnel is underused or unused can significantly help management planning, specifically by exposing activities that are overstaffed or understaffed. This can be especially helpful to any knowledge-based business, since payroll is almost always its highest cost. Moreover, in any business, the more efficiently an enterprise deploys its personnel, the more profitable it will be.

COMMON MISTAKES

Getting Caught Up in the Details

Notwithstanding its successes, ABC remains a tool, not an end in itself. Organizations can lose sight of that fact, if they are not careful, and end up allowing it to dominate their working lives.

The enormity and complexity of such a project should never be underestimated. The data requirements alone are daunting. It is all too easy to get caught up in ABC’s details and mechanics. In turn, estimating some costs is often recommended, to minimize the level of detail.

At the same time, however, some details are important prerequisites of objectivity and success. For example, if time studies are not used, some other measure must be used to allocate personnel and related costs, as well as indirect costs such as percentage of revenues or income, or the number of customer calls. These methods require far less time for compiling data and are less costly, but drawbacks abound. For one thing, accuracy suffers, and they are almost always subjective, potentially to the point of compromising the entire initiative. Being far less precise, these alternative methods also do not differentiate between used and unused personnel resources, and will not provide information on unused capacity or trends in procedure costs.

Without the aid of computer software that has been developed to automate the process, ABC can be hopelessly time-consuming. Indeed, unaided by technology, ABC might well be hoist with its own petard and exposed as an outrageous waste of time.

Like any cost accounting system, activity based costing is not static. Once established, it needs to be maintained and updated as business conditions and organizations change.

Finally, in delivering its crystal-clear pictures, activity based costing also has the potential to make individual champions of particular products or services squirm, because it may reveal them to be far more expensive than they might otherwise appear. All the more reason for advocating caution: “Watch out what you wish for!”

If a management team is to reduce and eliminate costs, it must first identify them and grasp their impact on specific processes or products. Because activity based costing can paint a single picture that reveals all the individual direct and indirect costs a business incurs in a given operation, it can be a powerful tool for both assessing current operations and guiding prompt and intelligent reactions as circumstances change. In fact, it's also known as activity based management (ABM).

FOR MORE INFORMATION

Books:

Burk, Karen B., and Douglas W. Webster. *Activity Based Costing and Performance*. Fairfax, VA: American Management Systems, Inc., 1994.

Livingstone, John Leslie. *The Portable MBA in Finance and Accounting*. 3rd ed. New York: Wiley, 2001.

Journal:

Ness, Joseph A., and Thomas G. Cucuzza. "Tapping the full potential of ABC." *Harvard Business Review*, July/August, 1995.

Web Site:

Activity Based Costing Benchmarking Association: www.abcbenchmarking.com