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Activity-Based Costing

Most of us are familiar with double-entry accounting, the rather arcane approach developed in the early Renaissance to keep bookkeepers from cheating their masters. Today, it is used to create the financial statements that organizations prepare and submit to shareholders, banks and government agencies. Middle managers are more likely to use spreadsheets and some kind of cash-flow accounting to track budgeted resources against actuals. In both approaches, the focus is usually on cost categories (labor, capital equipment, etc.). Unfortunately, neither of these approaches is particularly helpful in providing accounting information required to make decisions about business processes.

In the 1970s, George Staubus developed the ideas behind what came to be known as Activity Based Costing or ABC. The activity-based view provides managers with costs associated with the performance of specific activities within the organization and, over time, allows a manager to determine whether the costs associated with the specific activities are rising or falling. Consider the two approaches illustrated in Figure 1.

Claims Processing Department

Chart-of-Accounts View

	Actual	Plan	Difference
Salaries	$621,400	$600,000	$(21,400)
Equipment	161,200	150,000	(11,200)
Travel Exp.	58,000	60,000	2,000
Supplies	43,900	40,000	(3,900)
Use & Occupancy	30,000	30,000	
Total	**$914,500**	**$880,000**	**$(34,500)**

Activity-Based View

Key/scan claims	$31,500
Analyze claims	121,000
Suspend claims	42,500
Receive provider inquires	130,500
Resolve member problems	89,400
Determine eligibility	119,000
Make copies	145,500
Write correspondence	77,100
Attend training	158,000
Total	**$914,500**

Figure 1. Conventional and ABC approaches compared.
(After Gary Cokins, *Activity-Based Cost Management*.)

In the Eighties, an association, the Consortium for Advanced Manufacturing-International (CAM-I) was formed to promote ABC and, today, CAM-I presents conferences and provides training on ABC.

It was in the Eighties when Michael Porter proposed the idea of a value chain. A key driver of the value chain approach was the desire to pull together the costs of all of the activities that were necessary to generate a product or service. In essence, if one added all of the costs of all of the activities and subtracted those costs from the income earned by selling the product or service, one arrived at the margin on the sale of the product or service. Porter distinguished between core activities and overhead or support activities like accounting and human resources, but he proposed analyzing all the costs together to determine the cost of the value chain. Using traditional accounting methods, this is very difficult to do. Many companies calculate the costs associated with core activities. They then aggregate the costs of overhead or support activities and allocate them to the core activities. Thus, a core process that only hires one employee this year and another core process that hires hundreds may both pay the same percentage of the HR budget. The equitable allocation of overhead costs has always been a major driver of ABC efforts.

ABC got a new burst of energy in the late Eighties after two Harvard Business School professors, Robert Kaplan and William Bruns, emphasized the approach in the popular 1987 HBR book, *Accounting and Management*. This book, and an associated Harvard Business Review article, focused a lot of attention on the problems associated with conventional resource or function-based accounting. Later still, in the mid-Nineties, when business managers were all talking about Business Process Reengineering, Robert Kaplan and Robin Cooper published *Cost & Effect*, a book entirely devoted to the logic of ABC. For many interested in ABC, this is still the definitive book.

ABC became increasingly popular in the Nineties and many organizations continue to use a variation of this approach. As a broad generalization, however, ABC is considered a relatively costly accounting methodology. Several surveys have suggested that less than 50 percent of the large US companies have actually adopted any type of ABC system, and it isn't high on most lists of management priorities.

One major problem is that an organization needs to have defined its business processes before it can assign costs to specific processes. Creating a business process architecture and maintaining it as the organization changes over time requires a major commitment and a continuing effort. Organizations that have process based management systems in place can do this but, for others, the entry costs can be high and the resistance fierce.

A second major problem is that, even after an organization has defined its business processes, it needs to develop effective criteria for allocating costs to the specific processes. Traditionally this was done with interviews and surveys. Employees, for example, were asked to estimate the percent of time they spent on different activities. Moreover, as organizations keep changing, the interviews and surveys need to be redone to assure that the assignment of resources remains accurate. Many hoped that ERP systems – which purport to be organized around processes – might provide a major impetus for ABC. In most cases, this has not happened because ERP systems are too often focused on the automated aspects of processes and, in any case, ERP vendors have gone out of their way to show that they can support traditional forms of financial reporting rather than trying to introduce new approaches. Today, many look to BPMS applications to drive ABC. They might, but it probably isn't a capability most BPMS vendors will provide until the market demands it.

For many, the most hopeful sign is the attention that has been given to *Time-Driven Activity-Based Costing*, a book published in 2007 by Robert S. Kaplan and Steven R. Anderson. In this book, Kaplan and Anderson do two things. First, they introduce a simpler way of calculating ABC. Second, they discuss how Anderson created software that can help do Time Driven Activity Based Costing (TD-ABC). (We are not necessarily recommending the Acorn Systems approach that Anderson created. Other companies offer similar products based on variations on the TD-ABC approach and any BPMS vendor can incorporate the approach in their product.) The key point is that a lot of work has been done in the past few years on how to use software tools to make the ABC process more efficient.

Luckily, for those interested in ABC, by the time Kaplan's latest book began to get attention, he was much better known for his work on Balanced Scorecard – which he developed with David Norton. Thus, in many cases, as Balanced Scorecard has become popular, TD-ABC has followed on its coat tails.

Kaplan and Anderson explain TD-ABC as follows:

> "TD-ABC skips the activity-definition stage and therefore the need to allocate the department's costs to the multiple activities the department performs. ... It uses time equations that directly and automatically assign resource costs to the activities performed and the transactions processed."

There are some problems with the TD-ABC approach, as it reduces everything to units of time that are 'consumed' by particular types of transactions. Moreover, in ways the authors aren't too clear about, it still requires the organization to have a good understanding of their process architecture, especially those aspects of the architecture that are not automated. Broadly, however, TD-ABC offers an approach that can simplify the development of the basic metrics and the gathering of data, thereby making the implementation of ABC less costly.

The discussion of TD-ABC has driven a renewed interest, in many organizations, in ABC. When you consider that BPMS tools can be extended to implement the ABC approach, and will if there is demand, then it seems likely that we will see more interest and better process-oriented accounting in the near future.

The bottom line, for those focused on Business Process Management, is that we need accurate performance data and metrics about processes, and traditional approaches to accounting and traditional functional management models do not provide the data we need. As organizations become more process-focused, they assign process managers who are responsible for the success of key processes. These process managers require good metrics and precise accounting data to do their work.

Till next time,

Notes:

George J. Staubus. *Activity Costing and Input-Output Accounting*. Irving Press, Oak Grove Village, Illinois, 1971.

Consortium for Advanced Manufacturing-International (CAM-I) www.cam-i.org

Gary Cokins. *Activity-Based Cost Management: An Executive's Guide*. John Wiley, New York, 2001.

Robert S. Kaplan and Robin Cooper. *Cost & Effect: Using Integrated Cost Systems to Drive Profitability and Performance*. Harvard Business School Press, Boston, 1998.

Robert S. Kaplan and Steven R. Anderson. *Time-Driven Activity-Based Costing: A Simpler and More Powerful Path to Higher Profits*. Harvard Business School Press, Boston, 2007.

For information on Acorn Systems. http://www.acornsys.com/time-driven-activity-based-costing/time-driven-activity-based-costing.aspx