

# THE CURRENT STATUS OF ACTIVITY-BASED COSTING: AN INTERVIEW WITH ROBIN COOPER AND ROBERT S. KAPLAN

*Where is ABC on the path to total implementation?*

BY ALFRED M. KING, CMA

*Robin Cooper and Robert S. Kaplan have been pioneers in the field of activity-based costing (ABC) and have written numerous articles on the subject over the past five years. Prentice-Hall has recently published their latest textbook, Design of Cost Management Systems: Text, Cases, and Readings. In this interview with Alfred King, senior vice president of Valuation Research Corporation and formerly a managing director of IMA, they review the background of ABC, some of the effects it has had on business, ways in which its focus has changed, and its future prospects.*

**Q** After five years of experience with activity-based costing, you have had real-world



Robin Cooper

**practice with a number of companies. What are some of the major types of decisions which you feel can be made more knowledgeably with cost management systems that rely upon activity-based costing principles?**

**RC:** Most of the early benefits we observed related to managing the mix of products and customers. A well-designed ABC system provides managers with a better understanding of the way profits are generated at both the product and the customer level. Managers can take advantage of this understanding and increase profitability by getting rid of unprofitable customers and products or transforming them into profitable ones and attempting to sell more to the profitable ones.

**RSK:** We certainly started our work with a focus on managing product and customer mix, and that continues to be an important strategic application of ABC. In the last few years, however, we have seen the numbers coming from the activity-based cost analysis being used in conjunction with process improvements. By measuring the costs of business processes such as purchasing, taking a sales order, moving materials, and inspection, people in some companies for the first time have seen how costly some of these activities are. Now they are directing their improvement efforts to reducing the cost of performing many of these activities. Even better, they are attempting to understand some of the fundamental drivers of these activities and perhaps eliminate the need to perform some activities entirely.

Some people feel that companies are trying to move into a JIT environment anyway and that they don't need

activity-based costing to do so. These people fail to realize that many opportunities exist to apply continuous improvement activities. Without a financial model, many efforts may get directed to areas where there is not a lot of spending and where the gains from improvement are not that high. So developing an activity-based cost model *first* helps managers to set priorities. It lets them see where most of the dollars are being spent, what the fundamental drivers of those processes are, and where, if you can make changes, they can get big payoffs.

So ABC has turned out to be helpful for both focusing managerial attention and setting priorities for continuous improvement efforts. After the fact, ABC provides validation about the savings from successful cost reduction programs. What are the real cost sav-



Robert S. Kaplan

ings from reducing setup time or inspection activities or from shortening material-handling distances? We have found that activity-based costing and continuous improvement programs work extremely well together and are highly compatible.

ABC also promotes improved design for manufacturability programs. The ABC analysis reveals that complex and unique product designs can lead to high manufacturing and support expenses. Several companies, particularly those with relatively short product life cycles, are using results from the activity-based costing analysis to influence design decisions of their engineers.

**RC:** When product life cycles are really short, you don't have enough time to correct a poorly designed product before it is replaced by a new one. ABC gives these firms, which are selling their design skill as much as their products, the ability to fine tune that skill, to become proficient at designing low-cost, high-quality products that meet their customers' needs.

**Q** What are some of the significant decisions or actions you have seen in the companies you have worked with? In other words, what are some of the real "bottom line" dollars-and-cents results that companies have achieved with this kind of ABC analysis? What have been some of the appropriate actions that companies have taken?

**RSK:** We have seen firms eliminate some of their low-volume customers from whom they can't get price increases. Sometimes they are able to put surcharges on small orders. We are seeing ABC provide the *climate* for these improvement activities. It is still early, though. Most firms haven't yet gotten large benefits that are easy to measure because it is still early in the process.

ABC is not just getting the numbers. For an ABC program to be successful, organizations have to get people to buy into the actions, and that takes time. Then they have to implement the actions, and that takes time. Then they have to take the next stage of action, either to use the excess capacity that has been created or to manage the excess capacity out of the system. To go from an ABC analysis to bottom line profit improvement requires a whole set of linked steps.

**RC:** It's important to realize that ABC triggers actions but by itself does not cause savings to occur. If the ABC system is well designed it adds to managerial intuition, enabling people to put energy where previously they may not have put it. The new actions are really a mixture of the economic insights provided by the activity-based system, plus managerial intuition.

## *ABC triggers actions but by itself does not cause savings to occur.*

**RSK:** I have asked managers to attempt to quantify the hard, tangible benefits. In two companies that have had activity-based cost systems for several years, I didn't get a dollars-and-cents answer. The managers said that the activity-based cost information provided a much better language for everybody to use in their everyday discussions. Everybody now was talking from the same page. Before, there was tremendous conflict. Manufacturing people blamed the cost accounting system, and the cost accounting people became defensive, saying "you don't understand the system," and the marketing people were not even part of the discussion.

Now everybody agrees on what the underlying economics of the firm are. The managers I interviewed said this agreement has been tremendously helpful to them as they go ahead and try to manage for the medium to long term. Everybody is reading from the same page and not squabbling about the underlying economics of their business.

**RC:** Some of the benefits will be almost impossible to identify. For example, a well-designed ABC system will warn against a strategy of introducing custom products with a selling price below reported ABC cost. However, because the firm never introduces a large number of custom products, the detrimental effects of adopting such a strategy are never observed. ABC has had a profound but invisible effect on the profitability of the firm.

**Q** You mentioned in your presentation, and in a recent article in *Harvard Business Re-*

*view*, that there is a difference between usage of resources and spending on resources. Would you elaborate on that distinction?

**RC:** The distinction between resource usage and resource spending is the latest insight in the development of ABC theory. Fundamentally, you can think of spending as acquiring the capacity to perform activities. If you hire an inspector who can perform 5,000 inspections a month, you have created a capacity, on which you are spending money, to perform 5,000 inspections. Usage, on the other hand, has to do with how many inspections that inspector actually performs. Let's say in this month, the inspector performs only 4,000 inspections. ABC calculates the expense of the activity actually performed. If each inspection costs, say, \$5, and we have used up 4,000 of them, we used \$20,000 of inspection resources. But we are spending at a \$25,000 level. Therefore, this month we had excess capacity of \$5,000 for the inspection activity. By carefully identifying usage versus spending, ABC allows managers to see both how much of available resources they are using and the economics of excess capacity.

**RSK:** Basically, products and services are continually using resources. The supply of resources, machines, and people, however, comes in lumpy amounts. We used to say that all costs are variable in the long run, not realizing that is the wrong way to think about it. The correct way of expressing this phenomenon is to say that in the long run spending on resources will tend to follow their usage. If you want to find out where spending will be in the future, you would be better off looking at usage today and modeling usage in the future. You may not change spending in the short run, but eventually, if management acts, spending will come into alignment with usage.

Cost systems can model resource usage, but except for a very few types of resources they can't model spending. The only exceptions are those resources acquired from outside the firm, such as material and energy, for which, if you don't use the resource, you don't have to pay. But for resources acquired and controlled internally, spending tends to be fixed in the short run. It is effectively independent of usage. Over time, as usage changes, the spending will align with it, at least

if managers are paying attention.

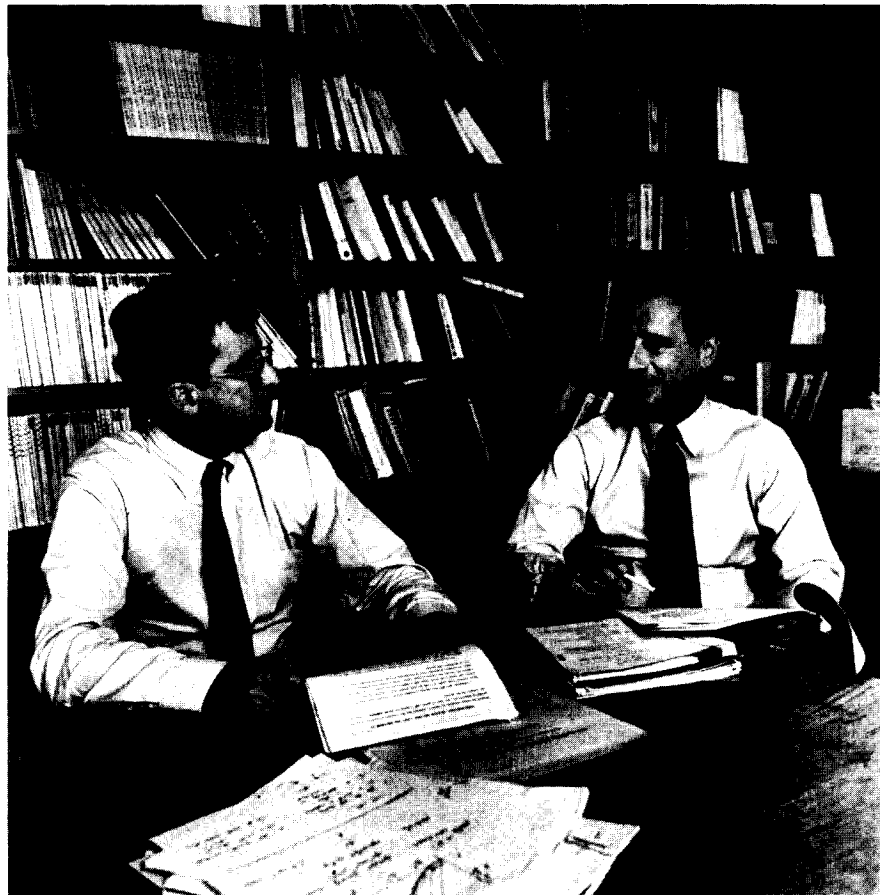
We can't predict spending because that is a managerial decision. We can predict resource usage. We can show managers where spending likely will change based on changes in resources being used. If excess capacity exists and they don't want to get rid of that capacity, managers can use it to generate more throughput, thus earning more revenues without increasing spending. So the resource usage model turns out to be critically important. It should be a good predictor of future spending.

**Q** Putting it a different way, if you cut your usage of resources but don't reduce your spending on people and other overhead elements, then in the short run you will not have any improvement in bottom line profitability. Is that a fair way of putting it?

**RSK:** Absolutely. In effect, your products will cost less because they are using fewer resources, but you will have a lot more excess capacity that is not being used by existing products or customers.

**Q** In your recent joint textbook, *Design of Cost Management Systems*, you have a chapter on capacity costing. You have some very interesting concepts on what you believe is the most appropriate method of calculating capacity cost.

**RSK:** At first we thought that the cost of excess capacity was a side issue to ABC but one that we still needed to get straight. We now realize that excess capacity costing is not a side issue—it's a central issue. Excess capacity provides the link between resource usage and resource spending. Spending on capacity-type resources gives you a supply of available time or available number of transactions that can be handled. If you don't use all that capacity, you should charge to the products and customers only the portion of the capacity that actually is used. The remaining amount, which is not used, is considered part of the cost of being in business for that period or, specifically, the cost of unused or idle capacity. Many companies make the mistake of taking their total spending on resources and dividing by actual output. By doing that, the unit cost of product output fluctuates significantly,



Authors Cooper and Kaplan plan next joint project.

period by period, depending upon volume fluctuations. That makes the whole picture difficult to interpret.

**RC:** Activity-based costing changes our view of capacity. In a traditional unit-based system, capacity is defined by the volume of production—the number of units produced. In ABC, capacity is defined as the ability to perform activities, therefore, every activity identified in ABC has the potential of going into an excess capacity position. A well-designed ABC system should identify the practical capacity to perform each activity and use that capacity to generate the costs of performing the activity.

**Q** There has been a lot of emphasis on cost management for manufacturing organizations. An even larger part of our gross national product is devoted to service operations of one sort or another. Bring us up to date on where activity-based costing stands in this major arena.

**RSK:** Banks, particularly the money center banks, have been doing some-

thing like activity-based costing for 20 years. That work continues, and it is migrating out to more and more banks. The recent trend in banks is to get out of their "factory," which is where they do transactions processing, and to look at their customer profitability. This focus mirrors some of the issues that we are seeing in manufacturing companies. In our book we wrote a case that describes the early development of a large bank's customer profitability report. As in manufacturing companies, the bank is using the customer profitability analysis to share its economics with its customers, trying to change customers' behavior, perhaps by repricing some of the services it is providing or getting the customers to use its service in different ways. The customer profitability application in the bank is very similar to what we find in manufacturing companies.

We are starting to work with insurance companies to examine their cost structures. We have been successful in understanding the operating expenses of insurance companies, again by type of product as well as by type of customer. We are working with a telecom-

munications company to look at the cost and use of the network. Other applications are with airline companies, looking at flight route profitability, and airline information systems departments, examining the reservation systems and the billing systems. ABC is migrating very naturally to all of these service organizations.

**Q** People in service organizations, in the broad sense, shouldn't hesitate to look at activity-based costing as a technique and a tool for continuous improvement.

**RSK:** Service companies have exactly the same set of issues as manufacturing concerns in analyzing their operating expenses, in finding out what activities are being performed by their resources, and in learning which products, services, and customers are demanding those activities. This information enables them to take actions to transform losses into profits and increase the profits from existing services and customers even further.

**RC:** The fascinating aspect of service industries is that the definition of their "product" is somewhat plastic. In manufacturing you have a widget that you can kick around, and therefore everybody accepts the product as a widget. The resources consumed by widgets tend to be fairly consistent over time. When you look at the products in service companies, the customer defines to a much greater extent the resources that are consumed.

In a service business, when you view products as consuming activities, you can partition the "standard products" in numerous ways. For example, a passbook savings account that is used once a month and has a balance of more than \$5,000 differs greatly from one that is being used continuously and has near-zero balances. In an ABC analysis those two accounts, even though they are the same standard passbook product on the surface, can be treated as very different products.

**Q** Let's switch gears. How does activity-based costing help justify the major investments that companies are making in continuous improvement, such as design for manufacturability, total quality control, JIT, and other techniques?

**RSK:** With the hierarchical model of

operating cost expenses that Robin developed, we now see that a lot of support resources are going to perform batch and product-sustaining types of activities. We never focused on these kinds of activities before. When we look at where the continuous improvement activities—including total quality management, just-in-time, and design for manufacturability—are being applied, they are revealed, under an activity-based cost analysis, to be batch and product-sustaining activities. The reason why there is so much interest in working on those activities is that we spent 40 or 50 years studying and improving the unit-level activities of direct labor time, machine hour time, and material content of products.

*The distinction between resource consumption and resource spending is the latest insight in the development of ABC theory.*

We probably have obtained most of the benefits from trying to improve activities that are performed each time we make a unit of a product. We have *not* focused on the activities necessary to produce a batch of a product such as setting up a machine, moving materials, writing purchase orders, or handling customer orders; or to do product-sustaining activities such as designing products, initiating engineering change notices, and the like. The ABC hierarchical model signals the tremendous buckets of opportunity in batch and product-sustaining activities that can be improved by Kaizen or continuous improvement activities.

**RC:** We can see this effect by revisiting the capacity, spending, and resource usage issues we talked about earlier. ABC allows you to take snapshots at regular intervals to see how well the JIT, DFM (design for manufacturing), and TQC programs have reduced resource usage. This resource usage decrease should be well captured by the ABC analysis. Simultaneously, ABC identifies excess capac-

ity. It tells how well the firm has managed to find alternative uses for the resources that now have been freed up. Thus it shows how effectively companies are implementing continuous improvement and whether they have successfully achieved bottom line benefits from their efforts by reducing the spending on resources to the now lower demands for resources.

**Q** You have been working in activity-based costing about five years. Where do you think we will be over the next five years in the cost-management ABC area?

**RSK:** One direction will be to attack corporate and general overhead to find out the activities performed by corporate overhead resources and what the drivers of those activities are. I suspect that many of those activities are done not for individual products or individual customers but for regions or lines of business.

A second direction will be to look more closely at the research and development activity, the resources going into R&D, and what types of activities are being performed there. If we can monitor R&D and help that whole product and technology management activity, we should be able to develop improved financial measures for product and process development.

**RC:** I see activity-based systems being applied to understand the life cycle cost of a product. ABC can capture the introduction phases of a product—all the chaos required to educate the customer, make prototypes of new products, and so on. All those costs will be captured. As the product matures, these early costs disappear to be replaced by straight manufacturing costs. The improved insights on total life cycle costs will allow us to begin thinking about better design methods and how to market and price products so that over their lives they can be more profitable.

**RSK:** We also will understand better how to link the information from an activity-based cost analysis to performance measures. We must target the areas where improvements are necessary and provide feedback on how well people are doing. We can improve those critically important measures.

**RC:** Many firms today are pointed in the right direction: reduce defects, re-

duce cycle time, improve design. Rapidly those firms are going to reach a point at which there is a tradeoff between introducing new products quickly versus a decrease in cycle time. I think at that point ABC can play a critical role and help healthy firms to manage those tradeoffs.

A lot of people today are preaching that you don't need cost information—that all you need to know is in which direction to jump. I think that is a shallow analysis. Perhaps there are times when a cost/benefit tradeoff is so obvious you don't need to run the financial numbers. Once you get rid of those glaring inefficiencies, however, the financial numbers will be very important to guide companies' efforts.

**RSK:** In the 1980s, there was a lot of slack rope in organizations that had not been managing their processes well. Now that they have made continuous improvements, the rope is starting to get tight. When the slack is reduced, companies will need an economic model—based on financial numbers—to help them understand the nature of the tradeoffs needed.

**Q** As you are designing an ABC system, is there any conflict between an emphasis on performance measurement and an emphasis on product costing?

**RSK:** There is no conflict. If you are interested mostly in understanding products and customer profitability, then you can design a comparatively simple ABC system to give you the major insights on product and customer profitability. If you want to go inside processes, improve them, and make

them more efficient—in effect, the activity management story—then companies need to understand activities at a more detailed level. They have to do a deeper and more comprehensive analysis of the underlying activities.

**RC:** We have learned during the last few years that the appropriate way to design an ABC system depends on what you want the system to do. You can't use a cookie cutter approach to ABC, even in the same firm. One division may need a customer orientation, another division a product orientation, and a third a cost reduction orientation, while a fourth might have a product design orientation. All of these systems will be different. Not only will the ABCs differ across the facilities, but within the same facility over time they have got to evolve and adapt to changing conditions.

**Q** Let me wrap up this interview with a final question on cost management and ABC. What is the most important role ahead for the management accountant in this exciting process?

**RSK:** Increasingly, the financial person will create value in the organization because he or she really understands the operations and is able to develop a customized system that has the highest payoff at the least cost for that organization. That role will require continual involvement in management-level activities and an understanding of the critical success factors in the business, the technology of the business, the nature of the outside product, and customer markets. Systems must be kept appropriate and up to date for that environment to meet management objectives. It's a more challenging—perhaps a more frightening—task. Certainly it is going to be a much more exciting and interesting time for management accountants.

We now have the tools the management accountant can use to provide a common language for managers in operations, in engineering, in product design, and in marketing, to talk about the economics of their business. This requires that the management accountant be involved with all those groups, making sure that everybody is reading from the same page and fully understands the economics of the business. The management accountant is not a decision maker by herself or himself but is in a position to provide information to focus management's attention

so that management will make the decisions that will increase value.

**RC:** In the really successful implementations we see the ABC system owned by everybody. It has become a *business system*, not an accounting or financial system. That moves the management accountant's role from being a record keeper on the sidelines to being one of the active players. One of the implications is that the modern management accountant has to have a very broad business education. It is good for the profession to make the management accountant more of a generalist.

**RSK:** To reinforce that, some new accreditation standards recently were passed for business schools in general and accounting departments in particular. If you look closely you will see that there is now a requirement that accounting students get some exposure to operations and technology management. This is part of the recognition that accountants have to *understand* the businesses in which they are operating.

**Q** If they do, will they be able to play on the top management team?

**RSK:** We hope that they eventually become top management! ■

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