

ACTIVITY-BASED COST SYSTEMS FOR FINANCIAL REPORTING

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Abstract: In contrast to traditional cost-accounting systems, ABC systems are not inherently constrained by the tenets of financial reporting requirements. By focusing on specific activities, ABC systems provide superior cost allocation information—especially when costs are caused by non-volume-based cost drivers. Even so, traditional cost-accounting systems will continue to be used to satisfy conventional financial reporting requirements. ABC systems will continue to supplement, rather than replace, traditional cost-accounting systems.

Activity-Based Costing (ABC) has been promoted and adopted as a basis for making strategic decisions and for improving profit performance. In addition, as Kaplan (1990) predicted, ABC information is now also widely used to assess continuous improvement and to monitor process performance.

Although ABC has found rapid and wide acceptance, there is significant diversity of opinions, however, regarding the efficacy of ABC. Despite managers' insistence that management accounting systems pass the cost-benefit test, there still is no significant body of empirical evidence to validate the alleged benefits of ABC.

ABC is one of many new strategic business initiatives that include TQM (total quality management), JIT (just-in-time), BPR (business process reengineering), and FMS (flexible manufacturing systems). Although researchers have attempted in recent years to link the use of these initiatives to improved financial performance, they have had limited success. Huson and Nanda (1995) find that JIT adopters have enhanced earnings per share after controlling for average industry unit costs, margins, turnover and employees per sales dollar. Kaynak (1996) finds that “financial and market” performance are enhanced for firms using both TQM and JIT purchasing. Easton and Jarrell (1995) find evidence that a very broadly defined TQM is associated with the variance between actual financial performance and that forecasted by Value-Line analysts. Kinney and Wempe (1998) report that JIT positively affects ROI in the three to four year period following JIT adoption.

Unfortunately, none of these studies include controls for concurrent use of other initiatives and therefore the findings cannot be attributed specifically to single initiatives. In addition, Kaynak's (1996) measure of performance is not truly a measure of financial performance, but a combination of level and change measures of financial and market factors (e.g., market share). He also relies on self-reported responses of potentially biased quality managers. Easton and Jarrell (1995) define TQM in a manner that includes initiatives and management practices other than TQM, and measure deviation from Value-Line forecasts, which may or may not have incorporated subjective valuations of the initiative. Huson and Nanda (1995) use a five-equation simultaneous equation that emphasizes JIT's effect on inventory turnover and inventory turnover's effect on EPS, thereby ignoring JIT's effect on the level of non-inventory investment.

Kinney and Wempe (1998) selected their JIT adopters from firms disclosing the use of JIT in the MD&A. However, one would expect successful firms to be much more likely to disclose their JIT adoption than unsuccessful firms. Also, although Kinney and Wempe matched on industry, accounting, and size, they didn't match on prior level of income (ROI).

One possible reason for the limited success of most studies is their reliance on public sources of information to identify users and non-users. Non-users are typically defined as companies where there is no *public* discussion of adoption of the initiative.

Consequently, many firms that adopted the initiative may be incorrectly classified as non-adopters because of the lack of publicly released implementation information. In addition, public announcement of adoption is not a reliable measure of the primary determinant of the efficacy of the innovation, the extent of diffusion throughout the organization.

Other limitations of previous studies include:

- ❑ Inadequate sample size because of the difficulty of identifying users that also release financial information
- ❑ Reliance on responses furnished by potentially biased subjects to measure the variables of interest
- ❑ Failure to control for the effect of concurrent use of multiple initiatives.
- ❑ Measurement of the *level* of financial performance rather than the *change* in financial performance). Use of levels is a weakness in that performance improvement after implementation is not accurately captured by an attained level of performance if the level was very low before implementation; conversely, high performers may have attained their level before implementation of the initiative.

Activity-based cost systems assign manufacturing expenses to products in a more comprehensive and transparent manner than traditional cost systems. So why not scrap traditional cost systems entirely and use the ABC system to also value inventory in periodic financial statements? In principle, of course, an activity-based cost system can easily serve the financial reporting purpose. There are problems with using ABC systems too soon for this purpose, however, since financial statements must withstand the scrutiny of auditors and tax authorities. This scrutiny typically imposes more severe demands on the cost system for consistency, objectivity, and uniformity than those required for purely managerial purposes. For companies on LIFO, such a switch could trigger a loss of LIFO reserves, and lead to an immediate tax liability.

As noted, ABC systems should provide managers with a reasonably accurate economic map of the costs of their activities and business processes, and the cost and profitability of the organization's products, services, and customers. To construct such a map, ABC systems depend on much subjective judgment and many estimates. These skills are not normally required of financial accountants, particularly those on less than familiar terms with modern production, marketing, and management processes. Also, ABC systems must be built location by location. They are not embedded in a software program that can be rolled out easily to all manufacturing facilities. Each site must systematically verify the completeness of its activity dictionary, the appropriateness of activity cost drivers, the availability of information about these drivers, and the mapping from resource expenses to activities, and then to individual products. And, for sure, the first ABC model, while likely to be far more accurate than the existing traditional costing model, is still only a first approximation of what the model will look like after several years of feedback, learning, and adaptation.

Organizations typically iterate back and forth between model complexity and measurement cost, as described above, until they feel they are about at the optimal point, balancing the cost of measurement with the benefits from a more detailed and accurate system. As organizations experiment with and update their ABC models, and extend their applicability from initial pilot sites to company-wide implementation, they often prefer to

use their existing traditional cost system for external reporting purposes. Otherwise, they might find that a small but growing percentage of facilities are using ABC information for external reporting while the remainder continue to use the traditional standard cost system. Also, as a factory switches over to using its ABC system for financial reporting, the managers of that system may feel less free to continue updating the structure of the system to respond to new information or changes in the production process. Such innovation could risk a consistency qualification from auditors if the changes are deemed major enough to pass a materiality threshold.

In addition, financial reporting requirements may differ from the principles companies may wish to follow with their ABC product and customer costing system. Some expenses that managers want to apply to products may not be permissible to allocate to products for inventory valuation. Conversely, financial-reporting regulations may require the allocation of some expenses (such as facility-sustaining ones) to products that managers may prefer not to assign to those products in their ABC system.

Rather than complicate even more what is already a challenging implementation process, it seems only prudent not to burden it with the constraints imposed by external regulatory authorities. That is why we recommend a period of experimentation, learning, and innovation for newly installed ABC systems, while retaining the existing (or simplified) traditional cost system for external reporting purposes.

Traditional cost systems, using only unit-level cost drivers such as direct labor hours, direct labor dollars, machine hours, and units produced, cannot capture the economics of complex, multiproduct production processes. In an attempt to capture some simple aspects of production economics, these systems may distinguish between short-term variable expenses—the expenses expected to change as one more or one less unit is produced—and short-term fixed expenses. Given improvements in production processes and guaranteed payments to employees, a diminishing share of total manufacturing expenses are classified as variable, leaving a large and growing percentage of costs classified as fixed and their causality unanalyzed by the traditional cost system. Further, because traditional cost systems must also value inventory for financial reporting purposes, many organizational expenses—including marketing, selling, distribution, and general overhead - are not traced to any cost objects, whether products, services, customers, or organizational units.

Activity-based cost systems provide more accurate cost information about business activities and processes, and of the products, services, and customers served by these processes. ABC systems focus on organizational activities as the key element for analyzing cost behavior by linking organizational spending on resources to the activities and business processes performed by these resources. Activity cost drivers, collected from diverse corporate information systems, then drive activity costs to the products, services, and customers that create the demand for (or are benefiting from) the organizational activities. These procedures produce good estimates of the unit cost and the amount of the activities and resources deployed for individual products, services, and customers.

Its relevance to the management of the business depends, to a large extent, on the presentation and understanding of the use of the information. It is very important that management use the information in context and understand the approach on which the analysis has been based.

Implementing Activity Based Costing is likely to be a significant project that must be planned and performed carefully. This type of project affects all departments and employees within the scope of the study and will begin to question every activity. The

planning and communication before, during and after the project will have a major impact on its success. Although there are many complicated issues associated with the definition and calculation of activity-based costs in any financial institution, the key to any successful system lies in its effective design and implementation.

The success of any project depends on its management. Those responsible for the project must be committed to the achievement of its objectives. They must believe in the value of the successful completion of the project to the organization. Unless they believe in the need for the project, then the project team will have a difficult task convincing the employees affected by the project of its value. Further, those responsible for the management have key roles in managing the overall scope and in communicating with users to manage expectations and ensure ownership of the results.

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