THE DECISION TO IMPLEMENT OR NOT TO IMPLEMENT AN ACTIVITY-BASED COSTING SYSTEM: A MANAGERIAL PERSPECTIVE

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ABSTRACT

Activity-Based Costing (ABC) concepts and the associated tools and techniques provide a rich and varied tool box for vastly improving the management decision making process. These concepts apply to the needs of all organizations seeking to manage costs through improving activities and processes.

Despite the great interest on the part of scholars and practitioners in ABC, there is a dearth of empirical research examining the major factors that influence a firm's decision to implement or not to implement BC. The present study is designed to address certain gaps in the literature. Survey data of practitioners representing 376 firms are analyzed. Some explanations as well as limited generalizations and implications are developed.

INTRODUCTION

Strategic managers are responsible for providing executive leadership, formulating a strategic vision, and administering the strategic management process. They develop the strategies, structure, and systems that will enable their organization to use its resources most effectively to create value and profit. They also establish strategic control and evaluation systems that will enable them to determine how well their strategies, corporate activities, and the organizational structure and systems are working, as well as to monitor their internal and external environments.

A wide variety of approaches and techniques have been proposed for accomplishing the control and evaluation function. They include traditional financial measures, strategic audits, stakeholder measures, benchmarking, and activity-based costing (Wheelen & Hunger, 2012).

REVIEW OF THE LITERATURE

The ABC system was designed to correct the deficiencies of traditional costing systems. Advocates of activity-based costing (ABC) contend that, when properly implemented, such a system would be beneficial to managers for allocating indirect and fixed costs to individual products or product lines by focusing on the value-added activities going into a product or service. Traditional cost systems, on the other hand, were useful when most businesses had relatively undifferentiated products and services. Resources used to produce these outputs consisted mainly of direct labor and materials. Indirect or overhead expenses, such as support and administrative services and selling expenses, represented a small percentage of total costs. Costs were accumulated and reported in cost centers that pertained to a particular line, support department, or business unit.

However, as businesses expand their product lines and services and make technological changes, the percentage of overhead costs to total costs is increased. This causes serious distortions in traditional

product costs, because some products consume much less overhead than others, yet are assigned the same overhead costs.

In the mid-1980s many companies began to realize that using the information produced by traditional cost accounting systems was leading them to make less than optimal business decisions (Swenson & Flesher, 1996; Pare, 1993). As managers pursued the quest for more accurate cost information, they discovered a new tool called Activity Based Costing. They found that it helped them to better identify and quantify the total cost of production and to identify and isolate excess capacity (DeThomas, Fredenberger, & Ghosal, 1994; Cagwin & Bouwman, 2002). It provided a fair and accurate cost allocation thus allowing managers to evaluate the profitability of their products or services. Accordingly, the ABC system focuses its attention on indirect costs. The aim is to define the most appropriate way for indirect costs allocation to cost objects. When implemented properly, it provides managers with more accurate product-cost data that can be used to make more informed decisions about process improvements, pricing, and managing customer relationships. The overall goal of an ABC system is to reveal the hidden sources of profitability and embedded cost, and to serve as a catalyst for decisions to improve profitability.

As costing methods were experiencing changes so were business philosophies. In the late 1980s and early 1990s, many organizations began to change their business philosophies to process-oriented approaches. Total Quality Management (TQM) is probably the best known of these. TQM emphasizes managing processes, or the way work is done, whereas older approaches focus on post-production inspection, individual or work unit performance, budget variances, or simple efficiency. Like TQM, ABC focuses on processes by providing information on how they work and on their cost and efficiency. As organizations gained experience with TQM and ABC, many found the two were highly compatible (Kehoe, Dodson, Reeve, & Plato, 1995).

Process management approaches found uses for ABC beyond tracking costing and pricing studies. These included tools and data to assist in continuous improvement, benchmarking, cost-of-quality analysis, cycle time reduction, business process reengineering, and control and evaluation of organizational strategies. Thus ABC concepts and the associated tools and techniques are providing a rich and varied tool box for vastly improving the management decision making process.

An important trend noted in the literature is the change in the philosophy behind the design of the ABC system versus the traditional cost system. In many companies that use ABC, the user is viewed as the customer of the ABC information. Since the availability and relevance of accounting in information underlies many business decisions, the mindset of the financial managers in these organizations has changed from that of generating standardized reports to providing relevant information to customers *inside* the organization. Many successful organizations use ABC information when making key decisions involving both strategic and operational issues (Swenson & Flesher, 1996; Turney, 2010).

In most cases, the Vice President of Finance or the controller has been shown to play a major role in originating the ABC proposal and spearheading its implementation. Senior management then plays a major role in deciding whether to proceed with the ABC implementation (Pohlen & La Londe 1994; Byrne 2011). A 1996 study found that management accountants tend to be more concerned with the speed in producing the monthly financial statements than in enhancing the quality of information. Although management accountants seem to be in a strong position to respond to new techniques, such as ABC, complacency or moving out of their comfort zone may represent a significant barrier to ABC implementation (Evans & Ashworth, 1996).

Despite these research efforts and the great interest on the part of practitioners in ABC, there is a dearth of empirical research in this area. A very limited number of studies have investigated the reasons for implementing or *not* implementing ABC. It is important to note that most of the previous work in this area employed samples that were too small (see, e.g., Kennedy & Affleck-Graves, 2001; Haka, Gordon, & Pinches, 1985; Dearman & Shields, 2001). This limits the power of the statistical tests and does not result in any safely generalizable results. Also, the small sample size makes empirical results sensitive to the selection of sample firms. The present study is designed to partially fill some of these gaps and shortcomings. Specifically, its purpose is to answer the following questions: (1) What factors are considered in the decision to implement or not to implement ABC? (2) Are there differences between firms that have implemented and those that have not implemented ABC with respect to these factors?

METHODOLOGY

The data for this study were collected from two sources. The first was a questionnaire distributed to members of the Institute of Management Accountants (IMA) attending various regional conferences in six states in the U.S. Completed questionnaires were obtained from accountants representing 308 firms. To address the problem of common methods variance telephone interviews were conducted with members of the local IMA chapter in two large metropolitan areas in the U.S. These accountants were employed by 68 different companies. Therefore, 376 accountants representing their respective firms participated in the study. These firms employ a total of 87,751 persons.

A questionnaire was developed to gather data for this study. It was field tested for readability, interpretation, and completeness. Many of the items were drawn or adapted from those used in previous studies. One major flaw in these studies is the use of non-metric (i.e., categorical) scales to measure the variables. Such scales require an individual simply to agree or disagree with a statement. This limits the type of analysis that may be utilized and does not permit the use of more powerful statistical techniques to analyze the data. Interval scales, however, allow respondents to indicate the *magnitude* of differences or degree of agreement. Consequently, the actual strength of attributes or respondents' attitudes can be measured more accurately thus permitting the use of more complex statistical procedures.

Respondents were asked to indicate whether their firm was currently using ABC. Those whose firms have adopted ABC were asked to indicate to what extent each of ten factors was considered when the decision to implement it was made. Respondents whose firms had not adopted ABC were asked to indicate to what extent each of these ten factors was an impediment when the decision not to implement ABC was made. The questionnaire employed five-point Likert-type scales to measure these items.

RESULTS

Represented in our sample are 376 firms. Among them, the median number of full-time employees is 382 (mean = 233). A total of 181 (48%) of these firms reported that they used activity-based costing. The respondents held positions such as controller, business cost manager, chief financial officer, and vice president of finance.

Concerning the factors which were considered when making the decisions to implement ABC, support from upper level management was cited by the respondents as the most critical. This was followed by the generation of detailed activity data, the additional *time* and *cost* involved in running two systems, and the additional time in generating additional reports. Other reasons include organizational politics, the initial *time* and *costs* in implementing an ABC system, and the difficulty in running two systems. Finally, the

difficulty in determining cost drivers was the least influential. Table 1 shows these factors along with their means and standard errors.

Among those who had *not* implemented ABC, the two most important factors were the lack of support from upper level management and organizational politics. These were followed by the initial *time* and *costs* in implementing an ABC system; and the additional time, difficulty, and cost required to run two systems. Other reasons that were cited include the difficulty to collect detailed activity data, the time needed to generate additional reports, and the difficulty in

TABLE 1: FACTORS CONSIDERED IN THE DECISION TO IMPLEMENT ABC

RANK	FACTOR	MEAN [a]	STANDARD ERROR
1	Degree of support from upper level management	4.11	0.37
2	Degree of difficulty to collect detailed activity data	2.92	0.31
3	Additional time involved to generate additional reports	2.91	0.59
4	Additional time involved in running two systems	2.75	0.29
4	Additional cost of running two systems	2.75	0.28
6	Organizational Politics	2.66	0.55
7	Initial time involved in implementing an ABC system	2.51	0.53
8	Initial costs involved in implementing an ABC system	2.35	0.29
9	Degree of difficulty in running two systems	2.30	0.27
10	Degree of difficulty in determining cost drivers	2.21	0.24

[a] 1 = No influence, 5 = Great influence

Another interesting finding is that, although all of these factors were taken into consideration by those who had adopted ABC, all but one were given ratings lower than “3" (on a five-point scale). This suggests that these factors were taken into account, but almost all of them had little influence on the decision. Support from upper management, however, was the most influential factor. This contrasts with the results reported by those whose firms had not implemented ABC. All of these factors were perceived as major impediments - nine of the ten factors had means above “3". The most important of these were the lack of support from upper management and organizational politics. This suggests that there is an exaggerated understanding of the time, costs, and difficulty involved in implementing ABC. Generally, time and costs were considered by firms that have implemented ABC, but were not seen as major impediments. On the other hand, these same factors are perceived as major obstacles by those who have adopted ABC. Indeed, with the exception of “support from upper management,” all of the factors that were considered by firms now using ABC had means below those of companies who had not implemented ABC.

The statistical analysis underscores these patterns. Additional tests were conducted to determine the

differences between the two groups. A MANOVA revealed significant differences between them (Wilks' $\lambda = 0.7928$, $p < .00$). Overall, the two groups provided different responses. Next, to understand the underlying contributions of the variables to the significant multivariate effect, ten separate *t*-tests were performed. As presented in Table 3, the results of this series of tests show significant differences with respect to nine of the ten factors. Perhaps the most important finding is the degree of support from upper level management. Although there were significant differences between the two groups, this factor was considered to be most important by both groups.

TABLE 2: FACTORS CONSIDERED IN THE DECISION *NOT* TO IMPLEMENT ABC

RANK	FACTOR	MEAN [a]	STANDARD ERROR
1	Degree of support from upper level management	4.67	0.34
2	Organizational politics	4.28	0.28
3	Initial time involved in implementing an ABC system	3.99	0.38
4	Initial costs involved in implementing an ABC system	3.72	0.40
5	Additional time involved in running two systems	3.55	0.41
6	Degree of difficulty in running two systems	3.50	0.39
7	Additional cost of running two systems	3.38	0.32
8	Degree of difficulty to collect detailed activity data	3.31	0.25
9	Additional time involved to generate additional reports	3.01	0.61
10	Degree of difficulty in determining cost drivers	2.88	0.30

[a] 1 = No influence, 5 = Great influence

DISCUSSION AND LIMITATIONS

ABC represents a major change to a firm's information system processes since most systems are designed around the informational needs required for external reports. A greater level of detail is needed to produce ABC information. It involves the identification and tracking of activities and/or businesses processes within the firm, their associated costs, and the drivers of cost. Few, if any, employees are unaffected by this system. Without top management support, it is difficult to sustain the effort required to successfully make such a dramatic change in operational processing, and employees will begin to slip back into the more comfortable, more predictable processes of the traditional system. Thus, top management must not only be supportive of ABC, but must clearly communicate their commitment to successful implementation of ABC (Krumweide, 1998; Anderson & Young, 2001; Anderson, Hesford & Young, 2002).

Additionally, financial accountants generally play a key role in the design and implementation of accounting system changes. As earlier studies show, ABC is frequently integrated into a firm's primary financial system. Consequently, the support of key financial management (controller, CFO) is critical. Without endorsement of the benefits of ABC by this group, other members of upper level management will

likely be reluctant to support ABC, thus thwarting its implementation. This observation is consistent with numerous studies in a wide variety of areas suggesting that major organizational changes are likely to encounter great resistance and significant implementation problems unless the top executives actively support the effort.

Further comparison of firms who implemented ABC with firms who chose not to implement ABC reveals some insights into strategic considerations by the two groups. Firms that adopted ABC cited the factors of additional time and additional cost of running two systems as having a significant influence on their decision. They were also concerned about the amount of time involved to generate additional reports inherent in ABC system design and purpose. Recognition and acceptance of the benefits of ABC is implied by this group's focus on actual implementation costs in terms of dollars, time and efficiency. In contrast, firms who chose not to implement ABC ranked *initial* time and *initial* cost factors as significantly influential to their decision. Their concern with start-up costs (ranked third and fourth) suggests that this group was probably not convinced of the long-term cost benefit of ABC for their firms. The *t*-tests, however, did not show significant differences with respect to only one of the ten factors - the additional time required to generate additional reports.

This study confirms that top management must be convinced of the long-term benefits of ABC before implementation can be successful. Companies that are easily discouraged by the initial cost of implementing ABC probably perceive that the cost of installing ABC outweighs the benefit of the improved information. This lack of confidence in ABC benefits reduces upper level management commitment and support and results in a decision not to implement the system.

Certainly, the findings presented here must be viewed in the context of study limitations. A major caveat concerns the generalizability of these results. Additional research with a larger sample would be necessary to confirm these findings. Moreover, it would be useful to compare the company performance of both users and non-users of ABC. Another interesting area would be a comparison of users' and non-users' perceptions of the usefulness of information provided by this technique. Finally, additional research might explore the relationship between the use of ABC techniques and other variables such as the company's industry, market size, firm size, the number of markets in which it is operating, and whether or not it is a single product or multi-product business.

TABLE 3: FACTORS CONSIDERED IN THE IMPLEMENTATION DECISION: *T*-TEST RESULTS OF DIFFERENCES BETWEEN THE TWO GROUPS

	Firms Using ABC		Firms Not Using ABC			
Factor	**Mean [a]**	**Standard Error**	**Mean [a]**	**Standard Error**	***t***	***p***
Degree of support from upper level management	4.11	0.37	4.67	0.34	15.29	< .000
Organizational politics	2.66	0.55	4.28	0.28	36.36	< .000
Initial time involved in implementing an ABC system	2.51	0.53	3.99	0.38	31.28	< .000
Initial costs involved in implementing an ABC system	2.35	0.29	3.72	0.40	37.77	< .000
Additional time involved in running two systems	2.75	0.29	3.55	0.41	21.69	< .000
Degree of difficulty in running two systems	2.30	0.27	3.50	0.39	34.44	< .000
Additional cost of running two systems	2.75	0.28	3.38	0.32	20.25	< .000
Degree of difficulty to collect detailed activity data	2.92	0.31	3.31	0.25	14.47	< .000
Additional time involved to generate additional reports	2.91	0.59	3.01	0.61	1.61	.108
Degree of difficulty in determining cost drivers	2.21	0.24	2.88	0.30	23.80	< .000

[a] 1 = no influence, 5 = great influence.

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