

Factors Influencing Activity-Based Costing Success: A Review

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Abstract. In today's advanced manufacturing environment and competitive environment, accurate costing information is crucial for all businesses, such as manufacturing firms, merchandizing firms, and service firms. Argued as superior to traditional volume-based costing system, Activity-Based Costing system (ABC) has increasingly attracted the attention of practitioners and researchers alike as one of the strategic tools to aid managers for better decision making. The benefits of ABC system and its impacts on companies' performance have motivated numerous empirical studies on ABC system and it is considered as one of the most-researched management accounting areas in developed countries. Previous research on ABC have examined pertinent issues related to ABC implementation such as the levels of ABC adoption in various countries, the reasons for implementing ABC, the problems related to ABC and the critical success factors influencing ABC. This paper reviews the research on ABC carried out within the last decade, from 1995-2008, and from the review research gaps are identified. Specifically, this paper examines the selection of factors influencing ABC successful implementation, variables used by previous research. The review revealed that past research concentrated mainly on behavioral, organizational, and technical variables as the main determinants of ABC success. Based on the research gaps identified, suggestions for future research are also provided.

Keywords: Activity-Based Costing, ABC Success, Advanced Manufacturing Environment

1.

Introduction

Activity-Based Costing system (ABC) is considered as one of the most revolutionary changes in management accounting theory and practices. ABC aims to provide more accurate cost information to managers through allocation of activity costs to products and services by applying cost drivers (Banker, Bardhan, and Chen, 2008). Researchers who advocate ABC, such as, Cooper and Kaplan (1991), and Swenson (1995) argued that it provides accurate cost data needed to make appropriate strategic decisions about product mix, sourcing, pricing, process improvement, and evaluation of business process performance.

The benefits of ABC and its positive impact on firm's performance motivated numerous studies that investigate various aspects of ABC. Among others are McGowan (1998) who assessed the integrity of ABC success, Innes and Mitchell (1995, 2000) and Yanren (2008) examined factors affecting ABC adoption, and Shield (1995), Shields and McEwen (1996), Gosselin (1997) and Baired et al. (2007) investigated the factors influencing ABC success especially at the implementation stage.

However, there is mounting evidence that suggest most of firms are experiencing problems in implementing ABC and, in some extreme cases, ABC implementation is not successful (Shield, 1995), which later resulted in abandoning the ABC systems altogether (Gosselin, 1997). Thus, assessing factors that influence ABC success implementation is recognized as an important research area.

This article has two main objectives; the first research objective is to identify research gaps based on the revision of previous research, and objective 2 is to propose suggestions for future study. This article is organized as follows: Section 2 presents seventeen selected empirical research related to ABC implementation, and gaps or limitation in each article will be stated. In section 3, the suggestions and recommendations for future research are presented.

2.

Summary of Previous Research

In this section, selected empirical studies about ABC implementation, which spanned between 1995-2008 periods, were collected from four prominent accounting journals including Journal of Management Accounting Research, Accounting, Organizations and Society, Management Accounting Research and British Accounting Review. The technical, contextual, behavioral and organizational factors used by previous research to investigate the effect on ABC success implementation are summarized, and stage of ABC implementation also is outlined.

2.1 Technical Variables

Early studies of ABC adoption and implementation undertaken by previous researchers (e.g. Cooper et al., 1991; Morrow and Connelly, 1994) concentrated on technical factors, such as identification of main activities, selection of cost drivers, and problem in accumulating cost data. However, technical factors alone may not adequate to explain the factors influencing ABC success implementation. According to Cooper et al. (1992), the key problem during ABC implementation stage is that companies only focus on technical factors. To make ABC implementation more effective, they suggested that some non-technical factors, such as involvement of non-accounting in ABC implementation process, top management championship, adequate training program to employees about the objectives and benefits of ABC should be emphasized.

Similar opinions were expressed by Shield (1995) and Shields and McEwen (1996), Shield (1995) who found no significant relationship between technical factors and ABC success. Shields and McEwen (1996) also highlighted that emphasis on the architectural and software design of ABC systems leads to the failure of ABC implementation. Therefore new variables should be considered to investigate factors influencing ABC success.

2.2 Contextual, Behavioral and Organizational Variables

Recognizing the research gaps in identifying other factors that may affect ABC success, academicians shifted their focuses from technical variables to other variables such as contextual, behavioral and organizational variables. Anderson (1995) conducted a longitudinal investigation of ABC process in General Motor (GM) from a period of 1986 to 1993. In his research, he examined the effects of organizational variables and contextual variables, and segmented ABC implementation into four major stages, and they are initiation, adoption, adaptation and acceptance. He found that organizational factors, such as top management support, and training for the ABC system affect various stages of ABC significantly, while contextual variables, such as competition, relevance to managers' decisions and compatibility with existing systems produced different degree of impact on different stages of ABC. Shield (1995) examined the relationship between a diversity of behavioral, organizational and technical factors and the success of implementation of ABC. She employed Shield and Young (1989)'s framework and summarized behavioral and organizational variables as top management support, adequate resources, training, link ABC system to performance evaluation and compensation, non-accounting ownership, link ABC to competitive strategies as well as clarity of ABC objectives. She found that top management support, linkage to quality initiatives and to personal performance measure (pay/appraisal), implementation of training and resource adequacy is the significant predictors in explaining ABC success. She also found that technical variables are not associated with ABC success.

Shield's findings are supported by other researchers, such as Shield and McEwen (1996), who argued that a significant cause for unsuccessful implementations of ABC of several companies could be due to the emphasis of architectural and software design of the ABC system and less attentions given to behavioral and organizational issues, which were identified by Shield (1995). Krumwiede and Roth (1997) also stated that barriers of ABC implementation can be overcome if firms could give importance to behavioral and organizational variables identified by Shield (1995). Similarly, Norris (1997) agreed with Shield (1995)'s

findings that there exist a stronger association between ABC success and behavioral and organizational variables than with technical variables.

McGowan and Klammer (1997) examined whether employees' satisfaction levels associated with ABC implementation and their perceptions of the factors associated with the degree of satisfaction, such as top management support; the degree of involvement in the implementation process; objectives clearly stated; objectives shared; training; linkage to performance evaluation system; adequate resources; information quality and preparer over user. They conducted a survey of 53 employees from 4 targeted sites in the U.S. and found employees' satisfaction with ABC implementation was positively with clarity of objectives, quality of ABC information.

Gosselin (1997) carried out a survey of 161 Canadian manufacturing companies to examine the effects of strategic posture and organizational structure on adoption and implementation of general forms of Activity-based costing. He segmented the ABC implementation stage into adoption and implementation. The research finding suggested that a prospector strategy is associated with manager decision to adopt ABC, while centralization and formalization were significantly associated with ABC success implementation.

Krumwiede (1998) surveyed U.S manufacturing firms to study how contextual factors, such as the potential for cost distortion or size of firms; organizational factors, such as top management support, training or non-accounting ownership, affect each stage of ABC implementation process. His findings showed that the different factors affected the various stages of implementation of ABC and the degree of importance of each factor varies according to the stage of implementation. Contextual factors, such as usefulness of cost information, IT existence, less task uncertainty and large organizations are related to ABC adoption. Moreover, organizational factors, such as top management support, non-accounting ownership, and implementation training (organizational variables) affect ABC success implementation.

In another study by Anderson and Young (1999), the relationship between organizational and contextual variables, such as organizational structures, task characteristics, management support, information technology and ABC success was examined. The result confirmed the importance of organizational factors (top management support and adequacy resources) during the ABC implementation stage.

A case study of one Chinese manufacturing firm was carried out by Lana and Fei (2007) in China.. Their research aimed to examine some key success factors pertinent to ABC implementation within Chinese organizational and cultural setting. The research finding showed that top management support, hierarchical and communication structure and high proportion of dedicated professionals are the significant factors in determining ABC success implementation.

In Malaysia, Sulaiman (2008) used a case study approach to describe the process of ABC implementation in a Malaysian service company and a Malaysian manufacturing company and to find out the problems that his respondents faced during ABC implementation,. He categorized ABC implementation into initiation and adoption, design, implementation and use of information. He found that the factors determining ABC success were top management support, suitable ABC software, and finally, ensuring that all affected employees understand and participate in the ABC implementation stage. In addition, he also found that at different stage of ABC, the dominant factors influencing ABC success were also different.

Colin et al. (2008) adopted behavioral and organizational factors summarized by Shield (1995) to examine to examine factors influencing the adoption and degree of success of ABC systems and determinants of that success. In their research, the targeted research population was manufacturing and service firms in the UK. They found that top management support, non-accounting ownership, adequate training provided to ABC determined ABC success.

Besides behavioral, organizational and technical variable, some researchers also indicated that the dimensions of national cultures could affect the level of ABC success (Brewer 1998; Supitcha & Frederick 2001). Brewer (1998) used Hofstede's taxonomy of work-related cultural values to examine the relationship between national culture and Activity-Based Costing system.

In that study, Hofstede (1983)'s work was applied to the case of Harris Semiconductor (HS), which has implemented ABC at plants in Malaysia and the USA. The results show that the level of ABC success in Malaysia is higher than that of U.S due to high-power-distance and collectivist cultures over U.S. In addition, Supitcha and Frederick (2001) also included national culture's dimension into framework in a case study of one Thai state-owned enterprise's budgeting system. They found that due to cultural differences, modifications were required, when the organizations in Thailand tried to implement ABC system in Thai context. Apart from national culture, organizational culture factors also were tested by prior research. Baird, Harrison and Reeve (2007) examined the relationship between success of activity management practices and the organizational (top management support, training, link to performance evaluation and compensation, and link to quality initiatives), organizational culture (outcome orientation, team orientation, attention to detail, as well as innovation). They adopted a survey questionnaire method and randomly choose business unit in Australia. The finding showed that two organizational factors (top management support, link to quality initiatives) explain the variation in success of activity management practices, such as ABC, and of outcome orientation, attention to detail of organizational culture are associated with ABC success. They also stressed that compared to organizational culture; organizational factors had stronger association with the ABC.

3.

Suggestions for Future Research

Inspired by previous research, the possible trend in ABC implementation during those 12 years period will be summarized and research gaps will be identified and suggestions for future research will be presented in this section.

Lana and Fei (2007) outlined that majority of ABC research still was done in developed countries, very little research has been done in developing country, especially in Asian context. Future research should be conducted in developing nations, especially, in Asian countries. Date to the year of 2008, majority of ABC research still adopt behavioral and organizational variables initiated by Shield (1995) to investigate factors influencing ABC success, few research examined the effect of organizational structure and organizational culture on ABC success empirically. Future research is suggested to examine the effect of structure and culture on ABC success.

Supitcha and Frederick (2001) argued that successful accounting practices in one country need modification for effective use in another country. So the influence of national culture should not be ignored (Brewer, 1998), especially in developing countries, and differences in term of perceived ABC success could be explained by national culture. But a single country setting is impossible to examine the relationship between national culture and ABC success, hence, future research is recommended to conduct a comparative study between at two nations.

4.

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5.

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