



The association between activity-based costing and improvement in financial performance

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This study investigates the improvement in financial performance that is associated with the use of activity-based costing (ABC), and the conditions under which such improvement is achieved. Internal auditors furnish information regarding company financial performance, extent of ABC usage, and enabling conditions that have been identified in the literature as affecting ABC efficacy. Confirmatory factor analysis and structural equation modelling are used to investigate the relationship between ABC and financial performance.

Results show that there indeed is a positive association between ABC and improvement in ROI when ABC is used concurrently with other strategic initiatives, when implemented in complex and diverse firms, when used in environments where costs are relatively important, and when there are limited numbers of intra-company transactions. In addition, measures of success of ABC used in prior research appear to be predictors of improvement in financial performance.

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1. Introduction

Activity-based costing¹ (ABC) has been promoted and adopted as a basis for making strategic decisions and for improving profit performance for over a decade

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¹The terms activity-based costing (ABC) and activity-based management (ABM) are sometimes used interchangeably. Strictly speaking, ABC refers only to determining the costs of activities and the outputs that those activities produce. Some researchers and practitioners prefer to use the term activity-based management (ABM) when describing how the activity information is used to support operating decisions.

(Bjornenak and Mitchell, 1999). In addition, 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 regarding the efficacy of ABC (McGowan and Klammer, 1997). Several reservations have been expressed concerning its usefulness, relevance, and practicality (Innes *et al.*, 2000). Despite managers' insistence that management accounting systems pass the cost-benefit test (Foster and Young, 1997), there still is no significant body of empirical evidence to validate the alleged benefits of ABC (Shim and Stagliano, 1997; McGowan and Klammer, 1997). Empirical research is needed to document the (financial) consequences of ABC implementation (Kennedy and Bull, 2000; McGowan, 1998).

Furthermore, previous research has suggested that the benefits of ABC are more readily realized under enabling conditions such as sophisticated information technology, highly competitive environment, complex firm processes, relatively high importance of costs, and relatively low unused capacity and intra-company transactions. Variables representing these conditions are appropriately incorporated into a model testing the efficacy of ABC.

The purpose of this study is to measure the improvement in financial performance that is associated with ABC use and the conditions under which such improvement is achieved. The research instrument is a cross-sectional mail survey of 1058 internal auditors, claimed to be knowledgeable and unbiased in the assessment of cost systems (Tanju and Helmi, 1991; Ray and Gupta, 1992). Confirmatory factor analysis and structural equation modelling using LISREL8 (Joreskog and Sorbom, 1993) are used to test a model hypothesizing the conditions under which there is a positive association between time-impacted use of ABC and change in financial performance. Control is provided for the moderating effects of concurrent use of other strategic management initiatives (e.g. TQM, JIT) and enabling conditions identified by prior research. In addition, the study tests the association between improvement in financial performance and previously used measures of ABC efficacy, as suggested by Foster and Swenson (1997).

This study enhances previous research on ABC in three ways. One, it employs internal auditors who constitute an objective and knowledgeable source of ABC performance. Prior research has used respondents with a personal stake in ABC, such as controllers or ABC project managers (e.g. Shields, 1995; Swenson, 1995; Krumwiede, 1996, 1998). Second, this study tests a specific measure of improvement in *financial* performance, as opposed to unobservable general constructs such as perceptions of 'success,' 'satisfaction', or 'financial benefit'. Finally, it tests a structural model synthesized from prior theoretical research, describing the conditions under which ABC should be successful.

Results show that positive synergies are obtained from concurrent use of ABC with other initiatives. In addition, positive associations between ABC and improvement in ROI are reported when ABC is implemented in complex and diverse firms, in environments where costs are relatively important, and when there are limited numbers of intra-company transactions to constrain benefits. There is also some indication that other enabling conditions (information technology sophistication,

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