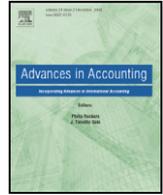




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The influence of change agents' behavioral intention on the usage of the activity based costing/management system and firm performance: The perspective of unified theory of acceptance and use of technology

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ABSTRACT

This study adopts the viewpoint of the Unified Theory of Acceptance and Use of Technology (UTAUT) model to examine the change agents' behavioral intentions in the implementation of an activity based costing/management (ABC/M) system. ABC/M is an important management system that emphasizes the allocation of overhead costs on the basis of cost drivers, in order to provide relevant information for improved decision-making. A change agent is a person chosen to cause organizational change. Senior managers and often chief executives usually play the role that implements change. The behavioral intentions have been identified as a proactive attitude and action for promoting the ABC/M system in this study. Since there is little evidence of ABC/M adoption outside the United States and European countries, this research used Taiwanese companies as the sample. Questionnaires were used to investigate the factors influencing change agents' behavioral intentions to promote ABC/M systems and the type of facilitating conditions that affected the extent of usage of ABC/M systems. The questionnaires were carried out through the perspective of user acceptance of information technology (IT). Furthermore, the aim of this paper is also to explore whether use of the ABC/M system will produce an improved effect on performance. The empirical results from 100 valid responses collected indicate that performance expectancy and social influence directly affect change agents' behavioral intentions. Both change agents' behavioral intentions and facilitation conditions are important constructs that affect the extent of usage of ABC/M systems. The extent of ABC/M usage is also significantly associated with relative financial and non-financial performance. The results demonstrate that the adaptive UTAUT model is applicable for measuring change agents' behavioral intentions in current implementations of ABC/M systems. The study also reveals the positive effect of change agents on the performance of ABC/M systems.

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1. Introduction

Several recent studies have begun to consider the constructs related to ABC/M implementation and its success (Anderson, 1995; Anderson & Young, 1999; Brown, Booth, & Giacobbe, 2004; Foster & Swenson, 1997; Gosselin, 1997; Shields, 1995; Swenson, 1995). Studies of this stream identified contextual, behavioral, organizational, environmental, and other constructs associated with the implementation process that affect the adoption of ABC/M systems. However, very limited studies have defined constructs that examined the adaptation of ABC/M projects from the perspective of information systems. As claimed by Gupta, and Galloway (2003), ABC/M is an

"Information System" (IS) developed to overcome some limitations that exist in traditional cost accounting and to enhance its usefulness to the strategic decision-making processes. Moreover, as Kaplan, and Cooper (1998) suggested, "The ABC systems usually reside on personal computers or PC network, and depend on the data downloaded from networks or floppies". Since ABC/M systems are regarded as one type of IS, it is worthwhile to research the adoption of ABC/M from the perspective of IT.

Explaining user acceptance of information technology (IT) is often described as one of the most researched areas in contemporary information literature (Hu, Chau, Sheng, & Tam, 1999). Since user acceptance of an information technology is the key to implementation of information systems, it is vital to research the users' acceptance of IT, like ABC/M systems. Moreover, the critical role of change agents in ABC/M implementation has been suggested in several studies (Cooper, Kaplan, Maisel, Morrissey, & Oehm, 1992, Foster & Swenson, 1997, Shields, 1995; Lin & Duh, 2003). Nevertheless, how IS/IT-related determinants affect change agents' behavioral intentions remains unexplored. Thus, the first aim of this study focuses on how IS/IT-related

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determinants affect change agents' behavioral intentions for ABC/M systems.

Kennedy, and Affleck-Graves (2001) demonstrated that ABC/M could improve financial performance by using a binary variable to differentiate the firms that were adopting ABC/M. Nonetheless, prior studies suggested that the implementation of ABC/M should be measured by employing the extent of usage of ABC/M instead of utilizing a binary variable (Gosselin, 1997; Cagwin & Bouwman, 2002; Baird, Harrison, & Reeve, 2004). To avoid the problem that survey respondents may misinterpret the definition of ABC/M implementation, Cagwin, and Bouwman (2002) argued that there would exist a positive relationship between “the extent of usage of ABC/M” and “relative improvement in financial performance.” Still, limited empirical research has proved that the extent of usage of ABC/M can benefit firms. Therefore, the second aim of this study is to investigate how change agents' behavioral intentions to promote ABC/M influences the extent of usage of ABC/M, and the relationship between the extent of usage of ABC/M systems and relative performance improvement.

This paper contributes to existing literature on the adoption of ABC/M in two ways. First, the contribution of this research is to propose a theoretic framework for management accounting innovations from the perspective of IT acceptance. Second, this study points out the importance of IS/IT-related constructs and the relative performance improvement associated with the adoption and implementation of ABC/M.

2. Literature review and research hypotheses

Previous studies present constructs related to the process of motivating change agents in order to implement ABC/M, and how the adoption and implementation of ABC/M can improve performance. The previous findings are provided below to develop the research hypotheses for this study.

2.1. ABC/M adoption and implementation research

The development of ABC/M implementation research found its beginning in a case study and model developed by Anderson (1995) that refers to IS innovation literature - in General Motor's ABC experience. The key findings present different behavioral and contextual factors that influenced the outcome of the decision process at different stages. Booth, and Giacobbe (1998) were the pioneers to use cross-sectional data applied to a multiple stage model of ABC implementation, as suggested by Anderson (1995), in order to frame the adoption as a three-stage process. Krumwiede (1998) directly followed Anderson's findings by adapting a multistage adoption and implementation model from prior IS literature. Brown et al. (2004) focused on technological and organizational factors that affected the adoption decision of ABC/M. The results of all these aforementioned papers provide support for Anderson's key finding. Proposed by Brown et al. (2004), individual characteristics, organizational factors, technological factors, task characteristics and environmental factors are all critical considerations in this subject area.

The constructs considered in prior ABC/M implementation studies that are associated with IS/IT include compatibility (Bjørnenak, 1997), relative advantage, complexity (Anderson, 1995), and information quality (Krumwiede, 1998). However, only one or two of the predictive variables were used in each of the prior studies and thus, it was doubtful if these variables could be utilized to recognize the role of IS/IT-related constructs in terms of ABC/M implementation. It is with no doubt, necessary to recognize how IS/IT-related constructs affect the implementation of ABC/M in a more integrated perspective. Furthermore, change agents' role in the implementation of ABC/M has been documented in prior studies. Consequently, this study focuses on how IS/IT-related constructs affect change agents' behavioral intentions in the implementation of ABC/M.

2.2. Change agents' behavioral intentions

The important role of change agents in ABC/M implementation has been emphasized in prior literature – suggested that a change agent must usually have a high-level position in an organization that also receives support from top management. Other characteristics of change agents included the ability to motivate others, the political-savvy knowledge and the knowledge of how to acquire the resources required for implementation. Cooper et al. (1992) documented the experiences of ABC/M implementation in eight case sites. Technical and process factors and organizational issues were mainly the concern in the study of Cooper et al. In general, these aforementioned studies identified several specific factors that must be taken into consideration in the analysis and action phases. Furthermore, in these two aforementioned phases; advocates, sponsors, and change agents were targeted as key individuals to lead the change process. Change agents' behavioral intentions play an important role in the implementation of ABC/M. Thus, this study expects change agents' behavioral intentions to promote ABC/M, especially in terms of the extent of usage of ABC/M. The following hypothesis was developed:

H1. There is a positive relationship between change agents' intentions to promote ABC/M and the extent of usage of ABC/M.

Regarding the determinants of change agents' behavioral intentions to promote ABC/M, Lin, and Duh (2003) adopted the technology acceptance model (TAM) from IT acceptance literature (Davis, 1989) to examine this issue. The empirical result through path analysis suggested that change agents' attitudes and perceived benefits, but not received costs, have significant impacts on their intentions to promote ABC/M, with change agents' attitudes having a greater impact than perceived benefits. Although Lin, and Duh (2003) adopted the TAM, which was usually used to access user acceptance of information technology, they examined change agents' intentions from the view of the cost-benefit paradigm instead of the perspective of user acceptance of IT. Therefore, this study adopts UTAUT to investigate the change agents' behavioral intentions to promote ABC/M systems.

2.3. User acceptance of information technology: adaptive UTAUT model

Information technology acceptance literatures have produced many competing models and each with different sets of acceptance determinants. A number of other theories that have been applied to the causal linkage of a users' IS acceptance behavior may be aligned with the TAM research. The Social Cognitive Theory, Diffusion of Innovation Theory, the Theory of Reasoned Action/Theory of Planned Behavior, the Triandis Model, Human Computer Interaction research, the Technology Transition Model (Briggs et al., 1999), and the Social Network Theory (Robertson, 1989) are typical examples. Integration efforts and a new elaboration model are required. The Unified Theory of Acceptance and Use of Technology (UTAUT) is a representative model.

Venkatesh, Morris, Davis, and Davis (2003) formulated a unified model called the Unified Theory of Acceptance and Use of Technology (UTAUT). Eight models that have been reviewed in the UTAUT, which include the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975), the technology acceptance model (TAM) (Davis, 1989), the motivational model (MM) (Davis, Bagozzi, & Warshaw, 1992), the theory model of planned behavior (TPB) (Ajzen, 1991), a model combining the technology acceptance model and the theory of planned behavior (C-TAM-TPB) (Taylor & Todd, 1995a), the model of PC utilization (MPCU) (Thompson, Higgins, & Howell, 1991), the innovation diffusion theory (IDT) (Tornatzky & Klien, 1982; Moore & Benbasat, 1991; 1996), and the social cognitive theory (SCT) (Bandura, 1986; Compeau & Higgins, 1995). Utilizing data from four organizations over a six-month period with three points of measurement, the UTAUT was then

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