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A Conceptual Model of the Relationship between Management Support and the Intention to Adopt Activity-Based Costing: Mediating Effects of Perceived Attributes and Perceived Benefits

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Abstract: Activity-based costing (ABC) is considered as one of the alternatives costing method to traditional management accounting information system. Even though ABC is an advancement of costing tool in manufacturing and service firms, but the adoption of ABC is still lacking. Literature points that management support might evaluate as the most important factor that influence and motivate before, through and after the adoption operation. It considered as crucial for succeeding or failing innovation implementation and use. Based on the previous studies, this paper proposed the conceptual model to study the relationship between management support and the intention to adopt ABC. The model also shows the mediating effect of perceived attributes and perceived benefit of ABC on the relationship.

Keywords: management support, intention to adopt, perceived benefits, perceived attributes, Industrial sector.

I. INTRODUCTION

Adoption of ABC system is the most common issue in the literature of management accounting information system. The debate in the literature revolves around the adoption of the system because ABC system adoption is still low. Organizational, technological, contextual and environmental factors might contribute to this issue. Researchers have examined many organizational factors as predictors of ABC system adoption. For example, Shields (1995), who examined 143 companies in the United State, found that management support has a significant impact on the success of ABC system adoption. Chang and Deegan (2010), Cohen et al., (2005), Cokin (1999), point out that the defeat of ABC adoption in many firms is a result of absence of management support.

In addition, Foster and Swenson (1997) confirm the results of Shields's research. Abdul Majid and Sulaiman (2008), in their qualitative research in the biggest two Malaysian companies, articulate that management support is the most important factor influencing the adoption of ABC system. Kumpulainen and Polhjola (2008) and Kokubu (2002) perceive that management support can play a significant role in the presentation of change in a firm. Hence, the significance and importance of management support have been underlined by numerous researchers. consequently, management support as an organizational factor might estimate as the most imperative factor that influences and motivated before, during and beyond the adoption operation. It considered as a crucial for succeeding or failing innovation implementation and use. Hence, management support is considered as an urgent factor in terms of the ABC system adoption and implementation.

However, although the relationship between management support and the adoption of any innovation has been found to be significant, Chang (2007) points out that the relationship between management support and adoption intention is not strong. James (2013), however, indicates contrasting findings in his study which inspected the factors influencing the adoption of ABC system in the Jamaicans bank sector. The outcome shows that management support is not statistically significant and produces a negative coefficient in influencing ABC adoption. Accordingly, it seems there is inconsistency regarding the association and the strengthening effect of management support on the innovation adoption. James (2013, p. 16) articulates that "it would be interesting to get a better understanding as to why these factors were not statistically significant". Therefore, it is imperative to consider the influence of this factor on the intention to adopt ABC system frequently to provide more evidence to confirm the nature of the relationship and the strength of the effect between those factors.

Managers as a change decision-makers have their own perceptions towards contemporary management accounting innovation. They make their mind to compare the benefits gained and efforts required for the adoption and use the innovation (Jarvenpaa, 1989). Accordingly, when the

benefits of an innovation are perceived as more than the efforts required to embrace this innovation, the adoption intention will generate and the adoption operation will occur. This sense supported by the technology acceptance model. Consistently, perceived attributes of innovation can explain between 49-87 percent of the variance of innovation adoption as well (Rogers, 2003). Hence, perceived attributes and perceived benefits of innovation can play an undeniable role regarding adoption operation.

Given the above, the purpose of this study is to conceptualize a framework to address the aforesaid relationships. i.e. to confirm the nature of the relationship or the effect of management support on the intention to adopt ABC system. Also, based on the technology acceptance model, this study extends the literature of ABC system adoption through proposing the mediation role of perceived attributes and perceived benefits of ABC system between management support and the intention to adopt ABC system in the industrial sector.

II. LITERATURE REVIEW

A. Management support

Wu et al. (2008), state "that management support represents a key to building a more conducive environment for system success, including diminishing users' unenthusiastic attitudes toward the adverse event reporting system, and fear of retaliation or punishment from others". Management support influences the adoption of contemporary information technology in many ways. For example, management support can reduce or frustrate the resistance of employees to change, its absence, may defeat the change or fail it (Daft & Marcic, 2013). Management support hints to all workers that the change is indispensable to improve the company. Management support denotes the willingness and insistence of senior managers towards change and innovation adoption. This insistence, in turn, facilitates the steps of innovation implementation through the provision of moral and physical support to the firm for adopting a contemporary innovation (Mumford, 2000).

Additionally, the management has the accessibility for setting the rules and means that control, arrange and form the operations and resources that influence the decision making strategically and operationally in the company. Meanwhile, the management is authorized on the strategic decisions of the company such as adopting new innovations and practices (Al Kisher, 2013). Hence, the support of the management is a dominant factor that substantiates the success and sustains the adoption of any innovation such as the adoption of ABC system. Managers are the individuals who have the dominance to take strategic decisions (Dewar & Dutton, 1986). Hence, management support consists of providing the required capital and commitment to work out probable problems and opposes (Mumford, 2000). Managerial support is not restricted to the initial steps of ABC adoption; instead,it is an uninterrupted progression of the process to retain the new system.

Numerous authors have investigated the linkage of management support to ABC adoption and implementation success (e.g. Foster & Swenson, 1997; Krumwiede, 1998; Shields, 1995). For example, Foster and Swenson (1997) initiate management support as statistically significant in predicting the usage intention of activity-based costing management information and business function use. Krumwiede (1998) institute that management support is substantial in the adoption of ABC system extensively. In addition, Young et al. (2001) point out that administrations' role is a substantial factor in the adoption of innovations. Mumford (2000) also maintains that the positive viewpoint of administrators toward innovation and its usefulness simplifies the adoption operation. Based on the literature, a conceptual framework originates to address the relationship between management support and the intention to adopt ABC system in industrial sectors.

B. Perceived benefits of ABC system

The perceived benefits of the ABC system indicate how much awareness of the person or company that the ABC system is beneficial or valuable, to enrich their performance (Twati, 2006). It considers one of the key features of innovation. The perceived benefits represent the extent to which decision-makers are convinced of the claimed advantages of innovation such as ABC system (Chau & Tam, 1997). Hence, the consequences of adoption operation would be justified by its convincing benefits. which, in turn, raise the propensity of the decision makers to take up the ABC system (Salem & Mazhar, 2014).

Previous studies extensively and empirically investigated the influence of perceived benefits on the adoption of a management information system in the literature. They indicate that the adoption of information system importantly affected by its perceived benefits (Beatty, Shim, & Jones, 2001; Chau & Tam, 2000; Iacovou, Benbasat, & Dexter, 1995; Kuan & chau, 2001; Oliveira & Martins, 2008; Twati, 2006). For instance, Chau and Tam (2000) investigate the connection between perceived benefits and the adoption of open systems. They found that the perceived benefits of techniques or system obviously rises the firms' desirability to adopt or implement an open system.

Kuan and Chau (2001) correspondingly showed that the perceived benefits of recent technology substantially affect the adoption of electronic data interchange in businesses. Oliveira and Martins (2008) as well initiate that perceived benefits have a substantial effect in adopting websites of large firms. Beatty, Shim, and Jones (2001) established that the perceived benefits affected the adoption and use of technology. Awareness of the expected benefits of technology is mandatory for adoption behavior of such technology (Iacovou et al., 1995). Hence, the dearth of the

ABC benefits perception might form the explanation for the lack of its adoption intention.

C. Perceived attributes of ABC system

Attributes of innovation denote to an innovation concerning its' advantage, compatibility, complexity, observability and trialability. These attributes explain the undeniable ratio of the variance of ABC adoption (Rogers, 1983). Rogers (2003, p. 219) elaborate that "firms' perceptions of these characteristics predict the rate of adoption of innovations". Although of the claimed role of the perceived attributes of ABC adoption, there is a dearth of addressing the impact of perceived attributes of innovations on the intention adoption of the innovation (Rogers, 2003). The five characteristics of innovation should outline the directions of the adopters to adopt innovation.

Furthermore, the connection between perceived attributes of ABC system and its adoption has investigated in the literature by many authors. For instance, Moore and Benbasat (1991), Thong (1999), Askarany, and Smith (2000), and Askarany (2005) inspected the connection between perceived attributes and ABC system adoption in firms. The empirical results showed a substantial relationship between them. The impact of the perceived attributes on the adoption of ABC system have examined by Askarany and Yazdifar (2007, 2010), Askarany, et al., (2007), and Askarany et al. (2012) as well. They point out that the adoption of ABC system significantly affected by the perception of its attributes. These outcomes are in line with Rogers claim that the variance of ABC system adoption undeniably explained by its attributes perception. Hence, the dearth in attributes perception of ABC system might lead to a dearth in its adoption intention as well.

D. Intention to adopt ABC system

The intention to adopt an innovation represents the step earlier the actual adoption, meanwhile, the adoption operation for any firm begins with an intention to make actual and complete use for an innovation (Rogers, 2003, p. 177). Investigating the intention to adopt an innovation can refer to the dissemination of the innovation among adopters. Handling intention behavior to predict adoption have been extensively used. Prior scholarships (e.g. Taylor & Todd, 1995; Szajna, 1996; Venkatesh & Davi, 2000) have revealed that behavior intention significantly influences the actual adoption behavior.

Also, a majority of literature concerning accepting modern technology has narrowly focused on behavioral intention predictions to influence later use, and the basic model for technology acceptance and implementation of investigation relies on classical behavioral theories i.e., the Theory of Reasoned Action, the Theory of Planned Behavior; (see Ajzen, 1991; Fishbein & Ajzen, 1975).

The research endeavors have been commanded by an information technology perspective (Davis, 1989; Davis et al., 1989; Venkatesh & Bala, 2008; Venkatesh et al., 2003). Unambiguously, the destination of this flow of research has mostly concentrated on understanding behavioral intention to adopt and implement the technology to contribution in technology advancement process. If adopters abled to recognize system characteristics to increase the intention behavior as early as possible, then the system is would be seen more adoption and more use. Briefly, the prior studies, as stated up, has indicated an important positive relationship between intention to use and use behaviour.

E. Technology Acceptance Model

The technology acceptance model (TAM) established by Davis (1985) is based on the theory of reasoned action which propose that the company's behavior is created by their intention (Hu, Chau, Sheng & Tam, 1999). Its object is "to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified" (Davis, Bagozzi, & Warshaw, 1989, p. 985). Hence, TAM seeks to evaluate the values, responses, and perceived benefits (usefulness and ease of use) of the system. TAM is considered very relevant in illuminating information technology and information system adoption behavior (Davis et al., 1989; Mathieson, 1991).

TAM model posits that a firm's behavior is constructed on an individual's perceptive balance among the efforts required to carry out an action and the consequences of this action (Jarvenpaa, 1989). Accordingly, a company will adopt a technology if its perceived benefits beat the amount of effort required to use it (Parsons, Iivari, & Hevner, 2005). This is consistent with the notion of perceived benefits that are used to specify the level to which firms or individuals perceive that ABC system is beneficial or convenient to augment their performance (Twati, 2006). Technology acceptance model is sufficient to gauge the intention of potential adopters toward the adoption of the system (Davis, 1985). Moreover, TAM is advocated and justified as being influential in predicting the acceptance of information technology and understanding its adoption issues (Davis, 1985). Thus, the technology acceptance model has the capability to predict the directions of firm's managers, in terms of their intention to adopt, and support the use of contemporary management information technology such as ABC system.

III. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Based on technology acceptance model, the main interest of this study is to abstract the effect of management support on the intention to adopt ABC system in industrial sectors, while these relationships are mediated by the influence of

perceived attributes and perceived benefits of ABC system as indirect relationships. Figure 1 portrays the relationship studied.

A. The relationship between management support and the intention to adopt ABC system.

Previous studies indicate that management support is essential for any changes or development in a company. For instance, Al Kisher (2013); Byrne (2011), Chenhall & Langfield-Smith (1998), Wong & Aspinwall (2005), Intakhan, (2014); and Yang, Adams &Yapa (2013) revealed that management support has a strong impact on the adoption and implementation of ABC system. Authors claim that the failure of ABC adoption in many companies is as a consequence of the dearth of management support (H. Chang & Deegan, 2010; Cohen et al., 2005; Cokins, 1999). Therefore, Kumpulainen and Polhjola (2008) and Kokubu (2002) postulate that management support has the ability to perform a significant role in the actualization of change in a firm.

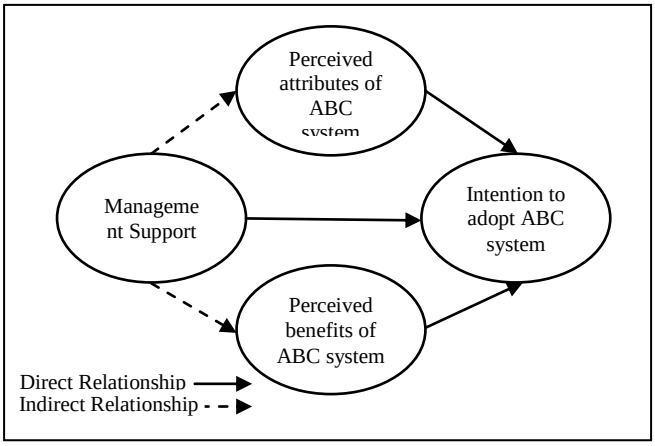

Figure 1 The Conceptual Framework of The Study

A majority of previous studies point out that there is a positive significant relationship between management support and ABC system adoption such as Al Kisher (2013), Yang et al. (2013), Maelah and Ibrahim (2007), and Baird, Harrison & Reeve (2007). However, Chang (2007), points out that the relationship between management support and adoption intention is not strong. Additionally, James (2013) reveals opposing findings in his study which inspected the factors influencing the adoption of ABC system in the Jamaicans bank sector. The outcome showed that management support is not statistically significant and produced a negative coefficient in influencing ABC adoption. This infers that management support has a contrary impact on the adoption of ABC system. However, several other investigations theoretically, and statistically, approved that management support is a substance for the achievement of ABC adoption and implementation. For instance, Abdul Majid and Sulaiman (2008), and Elagili (2015) examined the factors that are responsible for determining the adoption and implementation of ABC system in Malaysia, and Libya, respectively. With the aid of the qualitative method, specifically the interview instrument, the results of the studies exposed that management support has a serious impact on the adoption and implementation of ABC in the company. Going by the above discussion, this conceptual paper proposes that:

Management support positively influences the intention to adopt ABC system.

B. The relationship between management support, perceived benefits of ABC system, perceived attributes of ABC system and the intention to adopt ABC system.

Wu, Shen, Lin, Greenes & Bates (2008) use the technology acceptance model to assess the healthcare professionals' intention to use an adverse event reporting system in 144 hospitals in Taiwan. Their study revealed that management support directly influences the intention behavior and perceived benefits (perceived usefulness and perceived ease of use) have a significant mediation effect between them. In contrast, Al-Kisher (2013) also investigates the mediation role of perceived benefits of environmental management accounting system on its adoption intention in Libya. His study originates that management support has a significant effect on the intention to adopt environmental management accounting practices but not mediated by perceived benefits of the environmental management accounting system. So, it is imperative that perceived benefits of ABC system address more than once to confirm its impact.

Likewise, management support may have a positive impact on the perceived attributes of ABC system. Askarany and Yazdifar (2007) conduct two survey studies in Australia. The first survey, carried out in 1997, was a self-administered survey to all 200 manufacturing firms registered with the Plastics and Chemicals Industries Association Australia. The second survey, carried out in 2002, targeted the 500 Australian CPA members who were working with Australian industries. They examine the impact of perceived attributes of ABC system on the decision to adopt it. The findings of these studies demonstrate that one of the main influential significant factors to the adoption of ABC system links to its attributes in terms of its relative advantage over traditional techniques; its complexity; its compatibility; the observability of its results and its trialability. Management support may influence the perceived attributes as its effect on perceived benefits of adopters. Based on Preachers and Hayes (2004, 2008), the perceived attributes may have a mediation role between management support and the intention to adopt ABC system. Accordingly, this study hypothesizes that:

Perceived attributes of ABC system mediate the relationship between management support and intention to adopt ABC system.

Perceived benefits of ABC system mediate the relationship between management support and intention to adopt ABC system.

CONCLUSIONS

This study represents an endeavor to zoom out the role of management support on the intention to adopt ABC system as a management accounting innovation in industrial sectors. As discussed in the introductory section, ABC system is the best alternative system to the traditional management accounting information system. Also, it has many attributes and benefits that help improve and sustain the company in terms of its performance and its competitive level. However, the level of ABC system adoption is at low ebb. Management support is considered as a crucial factor that would have an impact on successes or failures in the adoption of such a system. So, it is worthy to contemplate management support in the case of ABC adoption intention due to the inconsistent outcomes regarding its influence in the literature. Also, an indication in the previous empirical studies point that perceived benefits and perceived attributes of an innovation by adopters can mediate the relationship between management support and ABC adoption intention. In this sense, a conceptual framework is proposed in this study to contribute to the literature in the field of ABC adoption intention. Consequently, the proposed framework in this study attempts to direct the researchers to pave a new road for reinvestigating these vital linkages which may assist in developing some of the existing theory or may even structure a new theory.

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