1. INTRODUCTION

Success in the implementation of the accounting information systems (AIS) / enterprise research planning (ERP) systems is critical to organizations. With the high failure rate of AIS/ERP systems implementation, it is important to study the important factors that impact systems implementation, as well as the links to measurable organizations outcomes. Additionally, regardless of the size of a company, senior executives must pay attention to which management accounting and control (MAC) practices are needed (Duh et al., 2009), the integrity of the processes for collecting the data (Xu et al., 2002), and the impact of the human factors that contributing to the success / failure AIS/ERP systems implementation.

Implementation of AIS/ERP systems is a complicated process, and many factors impact the successful implementation of these systems (Xu et al., 2011). This study is especially important from decision making and managerial accounting perspectives, as the AIS/ERP systems are not merely systems that generate the data from daily operations and reporting; they also are vital tools to provide information for decision making and control. The objective of the study is to answer the following research question:

- Would Success in the Accounting Information (AIS)/ERP Systems Implementation Lead to Confidence in Decisions? With the sub-questions of:
  - What are the factors that related to data quality, management accounting controls, and human relations that would have impact on successful AIS/ERP implementation?
  - Would the successful implementation of AIS/ERP lead to greater confidence in decisions in organizations?

2. THE RESEARCH FRAMEWORK

This study develops a research framework based on the Technology Acceptance Model (TAM) (Davis, 1989), to shed light on the management accounting controls (MAC), data quality, and human factors’ impact on the AIS/ERP implementations. System implementation success was measured with user satisfaction and integration of non-financial and financial measures. Figure 1 shows the research framework of this study.

In the literature, user satisfaction is used to assess systems implementation success (Davis, 1989; Chau, 1996). Additionally, this research proposes that confidence in decisions is the ultimate measures of successful AIS/ERP implementation. The research framework is based on the Technology Acceptance Model (TAM) (Davis, 1989), which has been validated by other researchers, such as Chau (Chau, 1996). According to TAM, system use depends on attitude towards use that is divided into two elements: perceived usefulness and perceived ease of use. Both issues affect user satisfaction. Previous research has attempted to use the extended TAM in the ERP implementation environment (e.g., Amoako-Gyampah and Salam, 2004). Target costing and balance score card are MAC practices that depend on integrating non-financial and financial measures for their success (Hansen and Mowen, 2011), and we plan to assess its use. Next, we discuss the independent variables.

Management Accounting and Control (MAC) Practices: There are many management practices that might have impact on the systems implementation success. This study used the following measures for MAC practices: (1) activity-based costing, (2) cost-volume-profit analysis, (3) budgeting, and (4) responsibility accounting (Duh et al., 2009).

Data Quality Issues: It is essential to understand the data issues to ensure success in implementing AIS/ERP, as low quality data can have a negative impact on the integrity of the information produced from those systems (Xu et al., 2002). Legacy systems created using different functional applications could potentially cause problems when the old data migrates into a new AIS/ERP system. Well researched and tested data quality dimensions is used to measure accuracy, relevance, usefulness, completeness, and up-to-date of information from the systems (Wand and Wang, 1996).

Human Factors: This study is also interested in human factors that can affect the users of the systems, namely, (1) the commitment of the management, and (2) the management leadership style. These factors have been studied extensively in
the management and accounting literatures. In the context of budgeting, studies have shown that budget participation, high commitment and a considerate leadership style lead to better resource allocation (Parker et al., 2010), better coordination between managers as well as higher job performance (Parker and Kyj, 2006; Magner et al., 1996). The study builds on this literature and uses similar scales to measure leadership style in the context of using MAC practices and AIS/ERP implementation.

Confidence in Decisions: AIS/ERP systems provide potential benefits for decision-support (Holsapple, C. W. & Sena, M. P., 2005). It is important to build a positive relationship between the success AIS/ERP implementation with the subsequent realization of decision-support benefits from the AIS/ERP systems. AIS/ERP systems store critical information and knowledge used to make the decisions that drive an organization’s performance. They not only provide transactional information. ERP adopters also perceive substantial levels of decision-support characteristics in their ERP systems (Holsapple, C. W. & Sena, M. P., 2003). Decision support systems have been evaluated the outcomes of decision making, and have a crucial impact on the process-oriented aspects of decision making. The real-time DSS offers a significant improvement in terms of process-related characteristics (Phillips-Wren, Hahn & Forgionne, 2004). AIS focus on the financial and managerial accounting outcomes, and ERP systems focus on integration of the business process, therefore, this research would investigate whether successful implementation of AIS/ ERP systems would lead to better confidence in decisions.

3. METHODOLOGY

Large scale cross sectional survey was conducted to collect the data for this research. Constructs and questions of the survey questionnaire were from existing literature of information systems, data quality, accounting, and management fields (Davis, 1989; Chau, 1996; Duh et al., 2009; Parker et al., 2010, Wand and Wang, 1996). The questionnaire had three sections. The first section included questions regarding the respondents' experiences with AIS / ERP systems. The second section had three major components: the first one captured critical success factors including the MAC practices, data quality, and human relation issues that would impact the AIS/ERP implementation success; the second component measures for the level of success of AIS/ERP implementation from the user’s perspective and the use of non-financial data; and the third component was related to the confidence in decisions. Finally, the last section covered the respondents’ demographics information. The target respondents for the survey were users that have had experience with AIS/ERP system; they included accounting, IT, general management and non-management personnel from different type and size of organizations.

Hypotheses and Data Analysis

The following is the plan for hypothesis testing and data analysis. First, confirmatory and exploratory factor analyses will be conducted to ensure the validity of the measurement scales. Second, the following hypotheses will be tested: (1) MAC practices, human factors, and data quality issues will influence AIS/ERP system implementation success which are measured using user satisfaction and the integration of non-financial measures, and (2) the AIS/ERP system implementation effectiveness would lead to better decision-making. Third, the LISREL software will be used for structured equation modeling, and the fit results will be corroborated with path analysis. The results will be used to validate the research framework proposed in this study. Modifications and adjustments will be made if necessary to the initial research model based on the data analysis results.

4. IMPLICATIONS FOR PRACTICE

Implementation of AIS/ERP systems is a complicated process, with many factors impacting the successful implementation of those systems. Understanding the MAC, data quality, and human factors’ impact on the AIS/ERP implementations would help organizations and practitioners to manage this complicated process, and ensure resources are employed in the right places, which would lead to better outcomes. Often, practitioners in the fields feel pressured by top management to complete the implementation with less resources and time, which contribute to a high failure rate of AIS/ERP systems’ implementations. This research helps management accountants and IT managers to identify critical successful factors that have most influence on the AIS/ERP implementations, by focusing on those factors that would increase the possibility of the successful implementation of those systems. The research also focuses on the decision support aspect of the systems implementation, using factors related to the decision support such as the confidence in the decisions. It is especially important from managerial accounting perspectives, as the AIS/ERP systems are not merely systems that generate the data from daily operations of financial reporting; it is also a vital tool to provide information for decision making. The result of this research would show what the critical success factors are for their implementation and what influencing MAC practices. Hence, this research would highlight what organizations need to focus on to increase their chances of obtaining the benefits of AIS/ERP systems.

5. REFERENCES


