

# Assessing the Quality and Effectiveness of the Decision-Making Process in Utilizing Enterprise Resource Planning Systems (ERPS)

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**Abstract:** *ERPS usage in Indonesia experienced substantial growth. This expansion has necessitated the acquisition of actual information regarding the accounting advantages derived from utilizing those systems. The presence of accounting research on ERPS has opened up possibilities for additional investigation into the quality and usefulness of Accounting Information Systems (AIS) in the decision-making process, specifically in relation to the extent of ERPS utilization. This study employs alternate methodologies of Partial Least Squares (PLS). The findings indicate that the manager's opinions of the quality of the AIS have an impact on the effectiveness of the decision-making process. The extent to which the ERPS is utilized can influence the connection between a manager's impression of the quality of the AIS and the efficiency of the decision-making process. Ultimately, the judgments of the various department managers regarding the quality of the AIS and the usefulness of the decision-making process did not vary in relation to the extent of ERPS utilization*

**Keywords:** Enterprise Resource Planning System (ERPS) capabilities, quality of Accounting Information Systems (AIS), effectiveness of the Decision Making Process, attitudes of managers

## I. INTRODUCTION

Reportbuyer's market study on information technology (IT) reveals that the utilization of ERPS in Indonesia experienced a substantial growth rate in 2009, surpassing that of other ASEAN countries. In 2009, about 250 organizations in Indonesia adopted SAP, whereas more than 100 companies deployed Microsoft Dynamics AX. Metrodata has reported a consistent annual market growth rate of 20-30% for the ERPS in the same year. This expansion has necessitated the acquisition of actual information regarding the accounting advantages derived from utilizing those systems. In addition to the substantial investment, the implementation of this system has created a significant potential for research in the accounting domain.

Dehning and Richardson (2002) proposed that accounting scholars should explore the potential for studying the return on investment of IT initiatives. The importance of conducting ERPS research is further highlighted by Hunton et al. (2003), Suton (2006), Moon (2007), Schlichter and Kraemmergaard (2010), Grabski et al. (2011), and Granlund (2011). They asserted that there is a scarcity of research that has investigated ERPs in the field of accounting. The presence of accounting research on ERPS has opened up a possibility for further investigation into how the extent of ERPS utilization will impact the alteration of the AIS process.

Does the improvement result in improved quality of the AIS outputs, hence enhancing the effectiveness of the decision-making process by managers in various departments?

Previous research has not particularly examined the quality or effectiveness of the AIS in the decision-making process in connection to the usage of ERPS. Hence, it is imperative to examine the accounting perspective on how the utilization of ERPS affects the quality and effectiveness of AIS in the decision-making process, specifically in relation to the extent of ERPS usage. Consequently, the subsequent study topic is formulated as such.

Does the manager's assessment of the quality of the AIS impact the success of the decision-making process while using ERPS?

Does the extent to which ERPS are used moderate the relationship between a manager's assessment of AIS quality and the success of the decision-making process?

Do managers have varying perspectives of the different departments' AIS quality, effectiveness of the decision-making process, and extent of ERPS usage?

## **II. THEORETICAL FOUNDATION**

### **2.1 Theoretical Framework for the Success of Information Systems**

This study will utilize the IS success model developed by Delone and McLean (1992) and the model proposed by Doll and Torkzadeh (1988) to assess the level of satisfaction among end users. The measurement comprises five dimensions: 1) content, which signifies that the system has delivered information in accordance with user requirements; 2) accuracy, which indicates that the system has provided precise information; 3) format, which indicates that the system has presented information in the appropriate display format; 4) ease of use, which denotes that the system is user-friendly; and 5) timeliness, which signifies that the system has delivered information promptly.

### **2.2 The Usage Scope of the Enterprise Resource Planning System**

The utilization of the ERPS will differ among firms. The timeline for implementation varies depending on the level of urgency and the availability of funding inside the company. This study will employ the competence idea as provided by Karimi et al. (2007). The capability refers to the degree to which the ERPS is utilized within the firm. The variation in the extent of utilization is anticipated to have a distinct effect on the organization. Additionally, as stated by Karimi et al. (2007), the utilization of ERPS can be assessed by considering:

- 1) the quantity of functions within the company that employ ERPS,
- 2) the number of divisions or departments utilizing ERPS, and
- 3) the number of geographically dispersed offices in different regions that utilize ERPS.

The widespread dissemination of information to all functions of the organization increases with the greater utilization of the ERPS. The significance of this lies in the fact that knowledge serves as the cornerstone for the decision-making process. As the use of ERPS expands, the data becomes increasingly integrated, aiding the manager in problem-solving and decision-making. In addition, the integrated system is anticipated to deliver prompt analysis reporting in a timely manner (Gupta, 2000; Shebab et al., 2004).

### **2.3. The efficacy of accounting information systems and their impact on managerial decision-making**

The efficacy of an information system can be elucidated through many viewpoints (DeLone and McLean, 1992). The effectiveness of a system can be demonstrated by the desired output, enhanced productivity, improved performance, and more control over decision-making regarding the information generated by the AIS. Therefore, the generated information can enhance the effectiveness of the decision-making process. The information provided is more comprehensible and easier to digest. Additionally, there is potential for enhancing the distribution of information to all operational divisions (Ugboma, 2004). According to Kim (1988), evaluating the success of AIS involves assessing how users perceive the quality of the information generated by AIS. The quality of information is contingent upon the dependability, format, promptness, and pertinence to the decision maker. In his 2000 study, Nicolao provided a definition of the effectiveness of AIS. He described it as the decision made by the decision maker based on their perception of the information output generated by the transaction processing system, the management reporting, and whether the budgeting systems adequately suit their needs in coordinating and controlling tasks.

Nicolaou (2000) and Yeunyong (2007) have asserted that there exists a correlation between the utilization of an integrated system and the efficacy of AIS. Alzoubi (2011) discovered that the utilization of ERPS has impacted the efficiency of AIS. The efficacy of AIS can be assessed based on the caliber of the accounting information generated and the internal control mechanisms of the company. Additional research has been carried out by Spathis and Constantinides (2004), Spathis (2006), and Spathis and Ananiadis (2005). The authors analyze the motivations behind firms transitioning from traditional information systems to ERPS, and explore the impact of ERPS on several aspects,

particularly the accounting process. The study revealed that the primary advantages of implementing ERPS are related to the integration of accounting applications, enhanced flexibility in generating information, and improved quality of financial reporting and decision-making in terms of timeliness and reliability of accounting information. In their study, Brazel and Dang (2005) investigate the extent to which the implementation of ERPS affects the importance and trustworthiness of financial information for external users. They discovered that the company will reduce the reporting latency simultaneously following the deployment of ERPS. Poston and Grabski (2001) demonstrated that the utilization of ERPS can enhance productivity and reduce costs through computerized systems, while also improving decision-making by delivering precise and timely information.

Additional studies investigating the correlation between ERPS and the decision-making process have been conducted by Carton and Adam (2005), as well as Bahrami and Jordan (2009). According to the findings of Carton and Adam's (2005) study, past research has primarily focused on investigating the impact of ERPS solely at the operational level, with only a limited number of studies examining its effects at the managerial level. Bahrami and Jordan (2009) demonstrated enhanced decision-making capabilities at both the strategic and operational levels.

However, utilizing the ERPS is not the primary objective of the organization. Another researcher, Xuet al. (2002), conducted a case study at an Australian company to assess the data quality pertaining to the implementation of the ERPS. The significance of data quality has been recognized as the primary motive for deploying the system.

Sajady et al. (2008) asserted that the efficacy of the AIS is also contingent upon the decision maker's view of the use of the information produced by the system. How the information fulfills their requirements for the operational procedures, managerial reporting, budgeting, and control of the company. The findings of Sajady et al. (2008) suggest that the use of AIS can enhance managers' decision-making process, internal control, financial reporting quality, and streamline transaction processing for organizations. Thus, this study evaluates the efficacy of the AIS by examining user judgments on the utility of the information. The measurements were conducted by evaluating the user's satisfaction with the quality of information, encompassing its form, substance, and look.

#### **2.4 The Perception of AIS Quality and Differences in Decision Making Management**

Prior research on variations in managers' attitudes across different departments about ERPS yielded equivocal findings. Chang (2006), Ifinedo and Nahar (2007), and Esteves (2009) have discovered that there are no discernible variations in the view of managers from different departments regarding the advantages of implementing information systems. According to Holsapple et al. (2006), user satisfaction was found to be higher among system-level managers compared to non-managers. Longinidis and Gotzamani (2009) discovered disparities in how users perceive the network departments in both the sales and supporting departments. Kanellou and Spathis (2011) have proposed that there is a disparity in the perception of system performance between IT professionals and accountants. However, they found no disparities in perceptions of the advantages of using ERPS in accounting.

### **III. CONCLUSION**

This study aimed to achieve three objectives: (1) evaluate the impact of managers' perception of the quality of accounting information systems on the effectiveness of the decision-making process, (2) examine whether the extent of ERPS utilization can moderate the relationship between managers' perception of accounting information systems quality and the effectiveness of the decision-making process, and (3) investigate potential variations in perception among managers from different departments regarding the quality of accounting information systems and the effectiveness of the decision-making process in relation to the extent of ERPS utilization.

Based on the aforementioned objective, hypothesis testing has been conducted and the subsequent results have been obtained:

The manager's assessment of the quality of the accounting information system has an impact on the efficiency of the decision-making process. The extent to which the ERPS is used can influence the relationship between a manager's opinion of the quality of the accounting information system and the effectiveness of the decision-making process. There was no disparity in the department managers' perceptions of the quality of the accounting information systems and the effectiveness of the decision-making process in relation to the extent of ERPS utilization.

The breadth of the application of the ERPS can be determined by using the capability concept provided by Karimi et al. (2007) to the results of testing the outer model. The extent of utilization is seen from the diverse array of systems that employ either functional or geographic frameworks. Hence, the notion of information system capabilities can be employed in forthcoming research pertaining to information systems.

The quality of the accounting information system in this study was measured using the notion of Information Systems (IS) Success. User satisfaction in processing, storing, and disseminating information that may be utilized for decision making is a reliable indicator of the success of the accounting information system. Hence, the concept of Information Systems (IS) Success can be applied in the field of accounting information systems, particularly in the areas of data processing and information usage, as a result of implementing an information system.

- This study did not utilize random sampling data due to the absence of information regarding the quantity and identities of companies that have formally employed ERPS. In order to address the challenges encountered in collecting data using the company as the unit of analysis, additional research can be conducted by focusing on the user ERPS as the unit of analysis. This is done to gain a comprehensive understanding of the advantages that the end user will derive from the intended use of the system.

- This study employed a survey methodology, which limited the acquisition of comprehensive insights into the perceptions of the respondents. In order to obtain a more comprehensive understanding of the total advantages derived from the utilization of the ERPS, it is imperative to employ other methodologies in future study.

Future research must also consider the variations in the timing of assessing the efficacy of decision implementation resulting from the use of ERPS. Furthermore, the firm's performance improvement has been linked to the advantages of accounting.

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