

Decision Making Process Quality and Effectiveness in the Use of the ERPS for AIS

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Abstract:

In India, the adoption of enterprise resource planning systems, or ERPS, increased significantly. The requirement for empirical data about the accounting benefits of employing those systems has arisen as a result of this growth. The existence of accounting research on ERPS has made it possible to conduct additional accounting research. Quality and efficiency of information systems (AIS) in the decision-making process in relation to the degree of an ERPS. Alternative partial least squares approaches are employed in this study (PLS). The findings indicate that the effectiveness of the decision-making process is influenced by managers' judgments of the AIS quality. The size of the association between a manager's view of their employees and their use of the ERPS can be moderated by AIS excellence and the decision-making process' efficacy. Last but not least, there was no distinction between the perceptions of the concerns the AIS quality and the efficiency of the decision-making process on the part of various department managers' length of the ERPS's use.

Key words: Decision Making Process Effectiveness, AIS quality, ERPS capabilities, and manager perceptions

1. Introduction:

According to report buyer's information technology (IT) industry study, Indonesia's use of ERPS in 2009 displayed a notable growth rate when compared to other ASEAN nations. In 2009, more than 250 businesses in Indonesia implemented SAP, and more than 100 businesses used Microsoft Dynamics AX. In the same year, Metro data saw a 20–30% annual growth in the ERPS market. The requirement for empirical data about the accounting benefits of employing those systems has arisen as a result of this growth.

According to Dehning and Richardson (2002), accounting researchers have a chance to look into the return on investment for IT investments. Hunton et al. (2003), Sutton (2006), Moon (2007), Schlichter and Kraemmergaard (2010), Grabski et al. (2011), and Granlund have all stressed the need for ERPS research (2011).

They said that very few studies have looked into ERPS in the field of accounting. Accounting study on ERPS has made it possible to do more research on how changes in the AIS process would be influenced by the extent of ERPS implementation. Does the adjustment result in higher-quality AIS outputs, which in turn improves the efficiency of managers in various departments making decisions?

According to prior research, it has not been precisely explored how the decision-making process for using the ERPS affects the quality of the AIS or its usefulness. Therefore, it is essential to investigate the accounting perspective on how the use of the ERPS affects the effectiveness and quality of the AIS when making decisions regarding the amount of use of the ERPS. This leads to the formulation of the following research question:

- Does the manager's opinion of the AIS's quality have an impact on how well the ERPS's decision-making process works?
- Does the manager's view of the AIS quality and the efficiency of the decision-making process depend on the extent to which ERPS are being used?
- Are there disparities between how the managers of the various departments view the quality of the AIS, the efficiency of the decision-making process, and the scope of the usage of the ERPS?

2. Theoretical Background

2.1 Theory of Information Systems Success

To quantify end user happiness, this study will utilize the Delone and McLean (1992) and Doll and Torkzadeh (1988) information system (IS) success models. The measurement includes five factors: 1) content, which indicates that the system provided information that was in line with user needs; 2) accuracy, which indicates that the system provided accurate information; 3) format, which indicates that the system provided information in an appropriate display format; 4) ease of use, which indicates that the system is easy to use; and 5) timeliness, which indicates that the system provided information in a timely manner.

2.2 The Extent of the Use of the Enterprise Resource Planning System

This study will employ the models proposed by Doll and Torkzadeh (1988) and Delone and McLean (1992) to quantify end-user satisfaction with information systems (IS). Five factors make up the measurement: 1) content,

which indicates that the system provided information in accordance with user needs; 2) accuracy; 3) format; 4) usability; and 5) timeliness, which indicates that the system provided information in a timely manner.

The more extensively the ERPS is used, the more information is shared across all business functions. This is crucial since information is the basis for making decisions. The data that will aid the management in problem-solving and decision-making will be more integrated the more widely the ERPS is used.

Additionally, the integrated system is anticipated to deliver timely analytical reporting (Gupta, 2000; Shebab et al., 2004). delivered data in a timely manner.

Numerous viewpoints can be used to describe an information system's effectiveness (DeLone and McLean, 1992). The output produced in accordance with requirements, higher productivity, improved performance, and increased control over the decision-making process connected to the information supplied by the AIS can all be used to evaluate an effective system. As a result, the information generated as predicted can improve the effectiveness of decision-making.

2.3 The Effectiveness of the Accounting Information Systems and the Decision Making Management

Additionally, the distribution of information to all functional areas might be improved, and the information supplied is simpler to digest and comprehend (Ugboma, 2004). According to Kim (1988), determining the efficiency of AIS depends on how the user feels using the system in terms of the calibre of the information generated. the standard of the information produced. Reliability, report formats, timeliness, and relevance for the decision maker are all factors that affect the quality of information. According to Nicolao (2000), the effectiveness of an AIS is determined by the decision that is made after considering the information output produced by the transaction processing system, management reporting, and whether or not the budgeting system satisfies their requirements for task coordination and control.

According to Nicolaou (2000) and Yeunyong (2007), the utilisation of an integrated system and the efficacy of AIS are related. Alzoubi (2011) discovered that AIS effectiveness has been impacted by the use of the ERPS. The calibre of the output accounting information and the internal control of the company can be used to describe the effectiveness of AIS. Spathis and Constantinides (2004), Spathis (2006), and Spathis and Ananiadis did additional research (2005). They look at the factors that lead businesses to switch from their traditional information systems to ERPS and how the adoption of ERPS has changed many processes, particularly the accounting process. They discovered that the integration of accounting applications, more flexibility in information generation, and quality improvement are the three main advantages perceived from using ERPS.

They discovered that the integration of accounting applications, increased flexibility in information generation, and improved financial reporting and judgments with regard to timeliness and the reliable accounting information produced are the main benefits seen from using ERPS. In their 2005 study, Brazel and Dang look at the adoption of ERPS in terms of the information's dependability and relevance for external users of financial reporting. They discovered that the company will simultaneously reduce the reporting latency after the adoption of ERPS. While Poston and Grab ski (2001) demonstrated that the implementation of ERPS can improve decision-making by supplying accurate and timely information, it can also lower costs by enhancing efficiency thanks to the computerized system.

Other studies on the connection between ERPS and the decision-making process have been conducted by Bahrami and Jordan (2007), Carton and Adam (2005), and others (2009). According to Carton and Adam's (2005) study findings, the majority of earlier studies solely looked at the impact of ERPS at the operational level. While Bahrami and Jordan (2009) demonstrated a development in the operational and strategic levels of decision-making.

However, using the ERPS is not the company's primary objective. A case study about the accuracy of the data related to the implementation of the ERPS was carried out at an Australian company by Xuet al. in 2002. They have discovered that the major consideration when installing the system is the data's quality.

According to Sajady et al. (2008), the decision maker's opinion of the value of the information produced by the system affects how effective the AIS is. How the information meets their needs about the organization's operating procedures, managerial reporting, budgeting, and control. According to Sajady et al (2008) 's findings, the adoption of AIS will result in improvements in the management decision-making process, the integrity of internal controls and financial reporting, and the support provided by organisations that handle transaction processing.

Therefore, in this study, evaluation of the AIS's effectiveness is based on user judgments of the information's utility. Users' satisfaction with the form, substance, and presentation of the information was measured as part of the measurement process.

2.4 The Perceive of the AIS Quality and the Decision Making Management Differences

Previous research on the disparities between managers' perspectives across various departments in relation to ERPS produced conflicting findings. According to Chang (2006), Ifinedo and Nahar (2007), and Esteves (2009), there are no discrepancies between how the managers of the various departments view the advantages of implementing an

information system. However, Holsapple et al. (2006) hypothesised that systemlevel managers' levels of user satisfaction were higher than those of non-managers. Similar to this, Longinidis and Gotzamani (2009) discovered that users' perceptions of the network departments within the sales and supporting department varied. Additionally, Kanellou and Spathis (2011) hypothesised that while there are no differences in attitudes of the advantages of accounting, there are discrepancies in how IT professionals and accountants perceive system performance of the use of ERPS.

Following the theoretical framework covered above, the following hypotheses are put forth:

H1: AIS quality directly and positively influences how well decisions are made.

H2: The Manager's impression of the AIS quality has a favourable direct effect on the efficiency of the decision-making process, and more widespread usage of the ERPS mediates this effect.

H3: There are no disparities in how managers from various departments perceive the AIS's quality and the efficiency of the decision-making process across the board.

3. Methodology

Directly to the companies, questionnaires were distributed via mail or email to collect the data. Alternative partial least squares approaches are employed in this study (PLS). The limited sample size is what drives the use of PLS. PLS does not presume that the data should be regularly distributed and estimates the sophisticated models with few samples. Furthermore, when the conceptual and measurement models are either completely undeveloped or yet in the exploratory stage of the theory's development, the usage of PLS is also extremely appropriate (Ghozali, 2011). Similar to this, PLS, according to Chin (1998), is particularly helpful in modelling and analysis for a small sample size and a tiny measurement scale. It is a programme called Visual PLS. However, for the purposes of testing the differences perception the SPSS is used.

Three phases will be used to test hypotheses using PLS. To make sure the model is valid, the first step is completed. The standard is that any indicator must have a factor loading of at least 0.50 and a significance threshold of 0.05. Accordingly, indicators having factor loadings of less than 0.50 were not included in the analysis. Re-estimate the model in the second step after deleting the indicators with factor loadings of less than 0.50 according to the study. The third stage involves reading the outer model's (measurement model) outcomes and examining the a model within (structural model).

The measurement model was assessed by the indicators' convergent validity, discriminant validity, and composite reliability for the block indicator because the indicators employed in this study are totally reflexive (Ghozali, 2011). Additionally, it compared the square root of the average variance extracted (AVE) for each construct with the correlations between the constructs in the model to evaluate the discriminant validity. The model had excellent discriminant validity if the square root of AVE for each construct was greater than the correlation between the constructs in the model (Fornell and Larcker, 1981). AVE is recommended to be more than 0.50. The reliability test comes next, which assesses the internal consistency of a construct's indications to determine the degree to which each indicator implies a shared construct. Latent dimension variables must have minimum reliability values of 0.70 to be received.

The second step is to analyze the inner model (structural model), which describes the relationship between latent variables. This was done by examining the quantity of structural path coefficients and the percentage of variance explained by the dependent latent constructs' R-square values. R square value changes can be used to determine whether or not certain independent latent variables have a significant impact on the dependent latent variable (Ghozali, 2011). The significance of the estimated structural routes is also taken into account when performing hypothesis testing. Cut of Point, which is employed in this study to determine the probability value, is the value of the Critical Ratio (CR) (p-value). If the Critical Ratio's probability value isThe inner model (structural model) defining the link between latent variables was assessed in the second step. The hypothesis is accepted if the Critical Ratio's probability value ($t > 1.96$) is less than 5%. The hypothesis is rejected if the likelihood of the Critical Ratio values is higher than 5% ($t > 1.96$). (Hair et al., 1998).

4. Result and Discussion

Only 268 of the 395 organizations that utilize ERPS consented to participate in the poll. From October 2010 to February 2011, four months of data gathering were completed. Up to this point, 12 copies have been returned via mail and email, compared to 38 copies that have been returned directly through visits. It still falls short of expectations. As a result, the researchers continued to collect data until April 2011. The following is the ultimate outcome of the data collection process: A total of 71 copies representing 71 companies were gathered—18 via mail and email, 53 through direct visits, and 18 through other means—but only 63 of them could be processed.

Table 1 shows the profile of the respondents, with the majority of the companies being in the Miscellaneous Industry. ERPS customers come from a variety of industries. The status of the department managers changes depending on where the respondents stand within the organisation. 41 percent of managers work in the non-

IT/accounting sector, 30 percent in the IT sector, and 29 percent in the accounting sector. This shows that ERPS users are found not only in one department but also in other departments that are already familiar with using ERPS. Additionally, up to 43% of respondents that used SAP ERPS suppliers did so. The sample is reasonably representative, given the respondents' descriptions, it can be said. They can be processed in terms of the type of industry, the department managers who filled out the questionnaires, and the kinds of vendors used.

Agriculture 3 5% SAP 27 43% Mining 4 6% Oracle 7 11% Basic Industry and Chemicals 7 11% IFS 4 6% Miscellaneous Industry (otomotive, wired,elektronic) 15 24% In house 3 5% Consumer Goods Industry 8 13% Mincom 3 5% Property, Real Estate and Building Construction 9 14% Peoplesoft 2 3% Infrastructure, Utilities & Transportation 8 13% SUN SYSTEMS 2 3% Trade, Service&Investment 9 14% Others 15 30% Total 63 100% Total 63 100% Department Manager Total Percentage Information Technology (IT) 19 30% Accounting 18 29% Non IT / Accounting 26 41% Total 63 100%

4.3 HypotesisTest

4.3.1 Measurement Model

Testing the measurement models that were assessed using the convergent validity and discriminant validity for the block of indicators is the first step in the study of the PLS. Convergent validity can be evaluated by examining the reliability of each indicator, the reliability of the composite, and the averaged Variance Extracted (AVE). Using the Visual PLS 1.04bi application, the data's validity and dependability are tested. As many as 14 questions were utilised as indicators or item questions in the survey. The validity and reliability of every item were determined based on testing results, and the questionnaire was deemed to be valid and reliable. Below is a description in more detail.

4.3.1.1 Convergent Validity

The data is analysed using the Visual PLS 1.04bi programme, and all items have value loadings greater than 0.5 with the exception of the OSC indicator (for the ERPC construct), which has a value loading of 0.488. As a result, all items—aside from the OSC indicator—can be used at a later time. Items totals to gauge the extent of ERPS usage as suggested inThere are three questions on the survey. "Which modules are used?" is the first query; is it the module for operations (manufacturing), accounting/finance, or human resources (FSC)? The following query is, "Are all the department, division, the entire firm, or many companies are covered by the company's ERPS.(OSC). Which geographical regions are covered by the programme, according to the third querycompany's ERPS; a single area regionally (more than one site), nationally, or internationally (GSC). Using the results of Visual PLS 1.04bi, adjust forThe initial phase's loading values are displayed.

Is the output displayed in a meaningful format? was one of six elements used to quantify the Construct of AIS quality (AISQ). In general, the system provides helpful information for the ongoing monitoring of the decisions and actions (FOR), "an accurate accounting information system" (AKUR), "to obtain the information needed in a timely manner" (TIME), "the content information needs" (ISI), "information systems are easy to use" (EASE), and "the content information needs" (PEM). The five-item questionnaire used to assess decision-making effectiveness includes the following five items: "use of the ERPS has improved the quality of corporate data" (EPK3), "use of the ERPS has improved the accuracy and accessibility of the company's AIS" (EPK3), "use of the ERPS has improved the timeliness of access to corporate data" (EPK1).

4. Final thoughts

The three goals of this study were to: (1) determine whether managers' perceptions of the quality of the accounting information systems have an impact on the efficiency of the decision-making process; (2) determine whether the breadth of the accounting information systems The association between managers' perceptions of the accounting process and the use of ERPS can be moderated by the use of ERPS. Quality of the accounting information systems and the efficiency of the decision-making process, and (3) determine whether managers in various departments have different perspectives on these issues. ERPS are used extensively in accounting, so this assessment will focus on the quality of these systems and the efficiency of the decision-making process.

The manager's opinions of the quality of the accounting information system have an impact on the efficiency of the decision-making process, according to objective hypothesis testing based on the aforementioned rationale.

- There was no difference in the perceptions of the different department managers regarding the quality of the accounting information system, suggesting that the breadth of the ERPS's use may act as a moderating factor in the relationship between managers' perceptions of the system's quality and the efficiency of the decision-making process.

References :

Alzoubi A. (2011). The Effectiveness of the Accounting Information System Under the Enterprise Resource Planning (ERP): Study on Al Hassan Qualified Industrial Zone's (QIZ) Companies. Research Journal of Finance and Accounting. Vol 2 No.11.

Bahrani B., Jordan E. (2009). Impacts of Enterprise Resource Planning Implementation on Decision Making Processes In Australian Organisations. Pacific Asia Conference on Information Systems (PACIS) 2009 Proceedings.

Brazel J.F. & Dang L. Oktober (2005). "The Effect of Enterprise Resource Planning (ERP) System Implementations on The Usefulness of Accounting Information". SSRN-id815190.

Carton F., Adam F. (2005). "Understanding the Impact of Enterprise System on management Decision making: An Agenda for Future Research". The Electronic Journal of information Systems Evaluation. Vol 8 lss 2 pp. 99-106.

Chang, H.H. (2006). "Technical and management perceptions of enterprise information system importance, implementation and benefits", Information systems Journal, Vol 16, pp. 263-292.

Chin W.W. (1998). "Issues and opinion on Structural Equation Modeling". MIS Quarterly; Mar 1998; 22, 1; pg. VII.