

## CRITICAL SUCCESS FACTORS FOR ACCOUNTING INFORMATION SYSTEM IMPLEMENTATION: EVIDENCE FROM MANUFACTURING COMPANIES



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### Abstract

Not all manufacturing companies are successful in implementing an integrated Accounting Information System (AIS), it requires the right combination of technology and humans as the main drivers. This research explored the relationship between organizational commitment from AIS users, knowledge of accounting managers, and data quality on the success of AIS implementation in manufacturing companies. A quantitative approach used the SEM-PLS method on 50 manufacturing companies in Indonesia. Meanwhile, the research results stated that data quality and knowledge of accounting managers had a positive and significant effect on the success of AIS implementation, while organizational commitment did not have a significant effect. This research implied that manufacturing companies could emphasize quality data and increase the knowledge of their managers to provide value to the organization through AIS.

## INTRODUCTION

Information technology (IT) has become a necessity as well as a requirement for organizations to run their businesses. In principle, IT has become an enabler for organizations to achieve goals (Jogiyanto, 2017). With the development of IT, it can change an organization in running its business, so proper planning must be done to ensure that IT can improve service, efficiency and profitability. Accounting is the language of business, which is used by every organization as a language of communication when doing business, which is an information system. With the development of the concept of accounting which was originally always triggered by paper, these conditions have changed because accounting is now driven by technology.

Industrial Development Corporation Of South Africa Limited (2018) stated that the estimated growth in information technology spending in Indonesia is around 7.9% per year. The IT expenditure includes procurement of hardware, software and IT services. Increased IT spending due to the benefits of IT in supporting business

processes is increasingly evident in line with increasing and dynamic business competition. A good information system is a system that can produce performance and benefits for its users (Jogiyanto, 2017). For a company, an Accounting Information System (AIS) is built with the main objective of processing accounting data from various sources into accounting information needed by various users to reduce risk when making decisions (Susanto, 2017).

Accounting as an information system is developed by using IT to produce better performance and value for the organization so precise measurements are needed to measure the success of the accounting information system (Jogiyanto, 2017). One form of change in the implementation of AIS is the existence of enterprise resource planning (ERP) solutions that provide AIS applications for the main business functions in the organization (Susanto, 2017). ERP is an information system model that allows companies to automate and integrate various key business processes, one of which is AIS (Hall & Wagner, 2012).

There are still problems regarding the level of success of implementing AIS incorporated in ERP. The successful implementation of accounting information systems in companies is not easy to achieve and often causes problems because it is influenced by many factors, including (1) User involvement; (2) Management support; (3) User training and education; (4) Workgroup factors in the organization; and (5) Other organizational factors such as organizational size, task characteristics, etc. In addition to organizational factors such as task complexity, organizational size, leadership factors, etc., individual factors such as motivation, satisfaction, and usefulness for the user will determine the successful implementation of accounting information systems. The successful application of an accounting information system is a crucial problem in the company because it is determined by the factors of the situation and conditions of the application of the accounting information system, among others closely related to (1) Factors of the company's environment; (2) The contents of the accounting information system used, such as tasks, structure, technology, and people; and (3) The process of applying accounting information systems.

The complexity of the process and characteristics of the accounting information system that must comply with the procedures for carrying out the accounting information system requires that individuals implementing accounting information systems have a strong working power within themselves so that they can sustainably carry out the accounting information system process reflected in organizational commitment (Hanasya, 2016).

Organizational commitment can affect the successful implementation of accounting information systems in three ways: (1) Management support that can ensure the availability of adequate funding to run an accounting information system; (2) Through setting objectives and company policies that support the operation of the accounting information system; and (3) Giving priority scale for developing accounting information systems. In addition to organizational commitment, the successful application of accounting information systems is also influenced by another major factor, namely the knowledge of accounting / financial managers about accounting information systems (Meidina, 2023). An adequate accounting information system for an organization is determined by the ability and competence. Managers are currently required to equip themselves with knowledge in the field of information technology, especially those used in computers and use it in accounting information systems to help process data into accounting information so that they can produce quality information when needed (Susanto, 2017).

Apart from the organizational commitment and knowledge of accounting managers that influence the success of implementing an accounting information system, other factors influence this success. Data quality is another factor that influences the success of implementing an accounting information system (Al-Hiyari et al., 2013; Rahayu, 2012). Most organizations tend to use (databases) that are not integrated and this is a problem in traditional database systems, where each part of the organization develops its own data and archiving system (Laudon & Laudon, 2012).

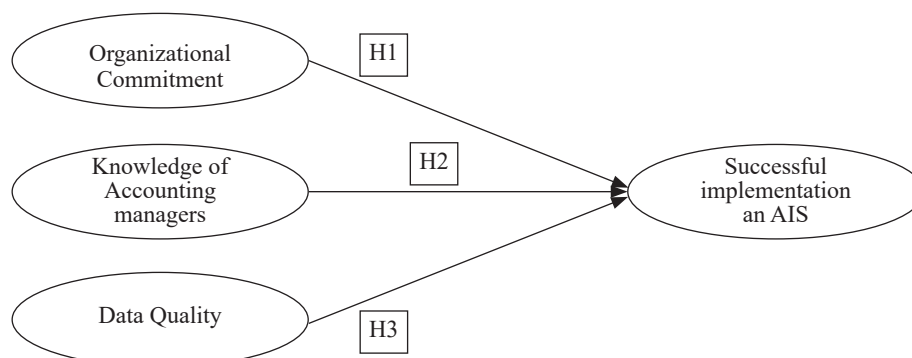


Figure 1. Research Framework

## METHODS

This type of research is verification research (verificative research) and is explanatory (explanatory research) because this research aims at verifying and explaining the causality relationship between various variables through hypothesis testing (Sekaran, 2014). In terms of data collection, this research can be called survey research or grounded research. Survey research is a primary data collection method obtained directly from the source, in the form of distributing questionnaires taken from a sample in a population. While grounded research is research based on existing theories, from these theories, the research model is developed to be empirically tested Ismayani (2019).

This research included research in the field of accounting information systems primarily related to attitudes and behaviour (psychological aspects) of users (users) in the use of daily accounting information systems. Specifically, this research examined aspects of the effect of organizational commitment, manager's knowledge, and data quality on the successful implementation of accounting information systems in manufacturing companies. The unit of analysis in this research is the accounting department of a company in West Java and individuals as respondents and cross-sectional studies. According to (Sekaran, 2014), cross-sectional studies are research conducted by collecting data only once, it can be done daily, weekly, or monthly, to answer research questions.

The target population in this research was the accounting department of BUMN (State Owned Enterprises) which is a limited liability company in West Java. The population frame in this research was 50 companies. The sampling was carried out based on certain criteria. This method is known as purposive sampling design with criteria in the form of certain considerations (judgment sampling). Meanwhile, the operational variables of this research can be seen in Table 1 below.

Table 1. Operational and Definition of Variables

Variables	Dimension	Indicators
Organizational Commitment (X1)  Reference: (Luthans, 2008; Meyer & Allen, 1991)	Affective Commitment	A sense of belonging A sense of emotional connection Personal meaning of the organization
	Continuance Commitment	Consideration for continuing to work Awareness to remain in the organization Disadvantages of leaving the organization
	Normative Commitment	Attachment to the organization Loyalty to the organization
Knowledge of Accounting Managers (X2)  Reference: Choe (1996); Sabherwal et al., (2006)	Experience in Accounting	Long time working in accounting Experience in accounting The importance of experience in accounting
	Training in Accounting	The number of accounting training attended Training of accounting staff The importance of training in accounting
	Education in Accounting	Education in accounting The importance of accounting education
Data Quality (X3)  Reference: Turban & Cable, (2003) D. Ballou et al., (1998, 1987) D. P. Ballou & Pazer, (1982, 1985, 1987)	Accurate	Can be confirmed The recorded value corresponds to the actual value
	Timely	Available on time Value according to time
	Complete	Completely recorded All values for a particular variable are recorded
	Consistency	The data values are the same in all cases There is no data redundancy
Successful Implementation of an Accounting Information System (Y)  Reference: Ismail (2009); Mollanazari & Abdolkarimi (2012); Iivari (2005); Choe (1996) Gelderman (1998); Chin et al. (1988) Abernethy & Stoelwinder (1991) Chenhall & Langfield-Smith (1998) Mia & Clarke (1999); Ghasemi et al. (2015)	User Satisfaction	Appearance Learning System Terminology and Information System capabilities
	System Usage	Frequency of use Reference in daily tasks
	Achievement of company targets	Target achievement is related to productivity Achieving targets is related to costs Achievement of targets related to quality Achievement of targets related to delivery Target achievement is related to total assets

## RESULTS

This research used a quantitative approach, where SEM-PLS is used to determine the relationship between variables. The indicators used for each variable in this research must be valid and reliable. To find out the validity and reliability of each variable can be seen in Table 2 below.

Table 2. Composite Reliability Test Results and Cronbach's Alpha

	AVE	Composite Reliability	Cronbach's Alpha
Organizational Commitment	0,586	0,842	0,861
Knowledge of Accounting Managers	0,507	0,899	0,842
Data Quality	0,594	0,928	0,914
Successful Implementation of an AIS	0,725	0,963	0,956

The results indicated that the Average Variance Extracted (AVE) values for all constructs are higher than 0.5. The construct with the lowest AVE value is "Knowledge of Accounting Managers ( $X_2$ )" with a value of 0.507, as presented in Table 2. Additionally, Table 2 displayed the Composite Reliability (CR) values for all constructs, which were above 0.7, indicating that the estimated model met the criteria for discriminant validity. The construct with the lowest Composite Reliability value is the "Organizational Commitment ( $X_1$ )" with a value of 0.842. It is worth noting that the recommended value for Cronbach's alpha, as suggested by Bagozzi & Yi (2012) and Fornell and Larcker (1981), was above 0.7. In this research, the Cronbach's alpha values for all constructs were above 0.7, with the lowest value being 0.842.

Meanwhile, the influence exerted by independent variables such as ( $X_1$ ) Organizational Commitment, ( $X_2$ ) Knowledge of Accounting Managers ( $X_2$ ) and Data Quality ( $X_3$ ) on Successful Implementation of an AIS ( $Y$ ) can be seen from the following R Square table:

Table 3. R Square Test Results

	Successful Implementation of an AIS (Y)
R-Square	0,753
Adjusted R-Square	0,745

In the SmartPLS analysis discussed earlier, the R-square value for Successful Implementation of an AIS stands at 0,745, indicating a significant strength in the relationship. This result suggested that 74.5% of the Successful Implementation of an AIS can be attributed to the combined impact of Organizational Commitment, Knowledge of Accounting Managers and Data Quality, while the remaining 36.2% is influenced by other factors.

Table 4. Structural Model Calculation Results

Hypotheses Testing	Original Sample (O)	T Statistics ( O/STDEV )	P Values	Results
Organizational Commitment → Successful Implementation of an AIS	-0,001	0,008	0,994	Rejected
Knowledge of Accounting Managers → Successful Implementation of an AIS	0,745	3,073	0,002	Accepted
Data Quality → Successful Implementation of an AIS	0,206	2,363	0,019	Accepted

Based on the output of the Hypothesis Test results in the table above showed the relationship between organizational commitment and the successful implementation of an AIS was not significant with a T-statistic of 0.008 (<1.96). The original sample estimate value was negative, which is -0.001, which indicated that the direction of the relationship between organizational commitment and the successful implementation of an AIS is negative. Thus the H1 hypothesis in this research stated that Organizational Commitment with Successful Implementation of an AIS was rejected. Then, the relationship between the knowledge of accounting managers and the successful implementation of an AIS is significant with a T-statistic of 3.073 (> 1.96). The original sample estimate value was positive at 0.745 which showed that the direction of the relationship between the knowledge of accounting managers and the successful implementation of an AIS was positive. Thus the H2 hypothesis in this research explained that the knowledge of accounting managers with Successful Implementation of an AIS was accepted. In conclusion, the relationship between data quality and the successful implementation of an AIS was significant with a T-statistic of 2,363 (> 1.96). The original sample estimated value was positive which was equal to 0.206 indicating that the direction of the relationship between Data Quality and Successful Implementation of an AIS was positive and hypotheses was accepted.

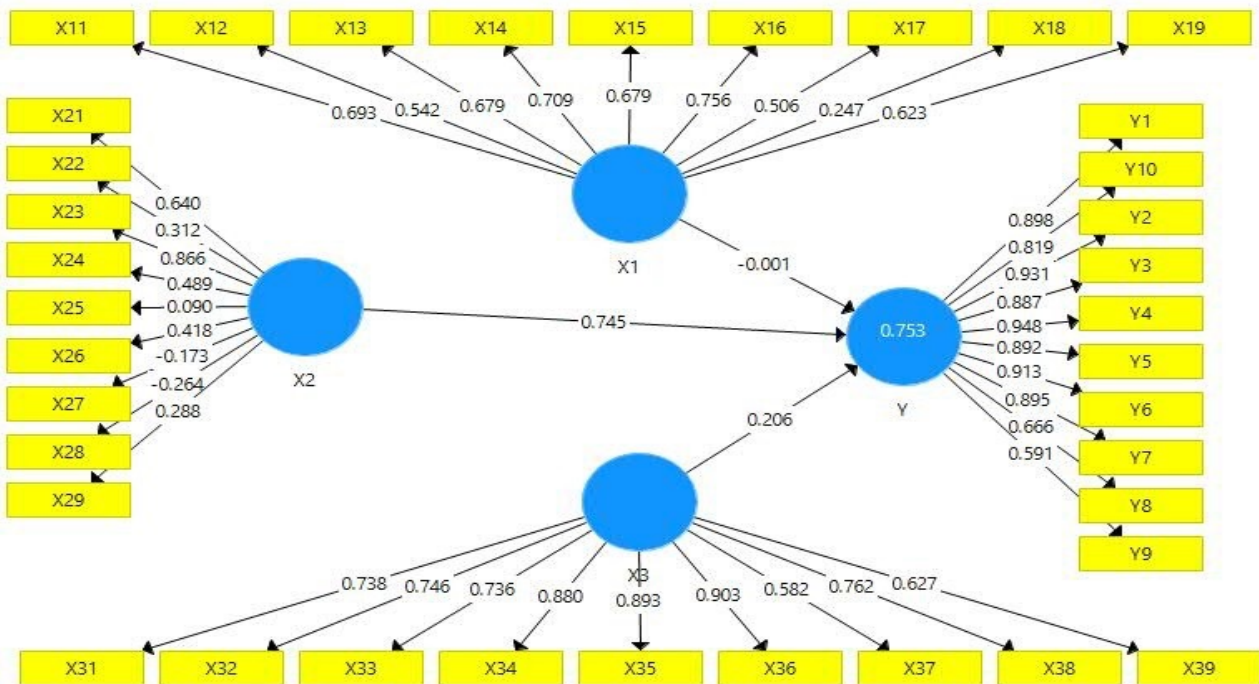


Figure 2. Output Bootstrapping

## DISCUSSION

Based on hypothesis testing, it was found that organizational commitment did not have a significant influence on the success of AIS implementation. The results of this research are supported by Lingga (2021) who stated that organizational commitment did not affect the success of accounting information systems. The results of this research did not support the theory and results of previous research (Fitriati & Mulyani, 2015; Ilham & Hayon, 2018; Indahwati & Afiah, 2015; Nurhayati, 2014; Syaifullah, 2014) which stated that organizational commitment had a positive and significant effect on the success of implementation accounting information system, this occurred because the implementation of accounting information systems in manufacturing companies in Indonesia was not fully supported by high organizational commitment.

Meanwhile, accounting managers' knowledge can significantly influence the success of AIS implementation in manufacturing companies. The results of this research are supported by several opinions, including the research conducted by Nguyen & Nguyen (2020) who revealed that ultimately the accounting manager's knowledge is needed to understand the company's information needs and based on the knowledge they had, the manager will implement an accounting information system that is following the company's information needs. According to Alnajjar (2016), training and education of developers and users is an important aspect of forming knowledge, together with other factors is a determinant of the success of implementing an accounting information system. Saunders & Jones (2015) said that the competency of accounting information system staff is a determining factor in the success of implementing accounting information systems. Apart from that, it is also supported by several research results, including that the knowledge of accounting managers has a positive effect on the success of implementing accounting information systems (Alnajjar, 2016; Komala, 2012; Kouser et al., 2011; Nguyen & Nguyen, 2020). These results are the same as the research conducted by Ilham & Hayon (2018) stated that accounting managers' knowledge has a positive and significant effect on the successful implementation of an accounting information system.

The successful implementation of an AIS in manufacturing companies also needed to be supported by quality data. According to Ali & Oudat (2020), data quality has emerged as one of the fundamental components of the success factor for implementing an Accounting Information System, especially in the current information era. According to Kalu & Campus (2011), an effective Accounting Information System is a competent information system and requires high-quality data. In a similar research, Ahmad et al., (2013) described the significance of the data quality in any AIS and concluded that it should be seen as a key priority in several organizations. Apart from that, it is also supported by several research results, conducted by Emeka-Nwokeji (2012), who mentioned that the data quality in AIS should conform to the data quality dimension of organizations making contributions to the AIS effectiveness.

## CONCLUSION

In conclusion, these research findings shed valuable light on the intricate factors influencing the successful implementation of Accounting Information Systems (AIS) within organizations. Contrary to common belief, this research suggested that organizational commitment did not play a significant role in determining the success of AIS implementation. This challenged the prevailing notion in the literature, prompting a reconsideration of the emphasis placed on organizational commitment in the context of AIS integration efforts. Instead, our research highlights the pivotal roles played by the knowledge level of accounting managers and the quality of data. These factors emerged as key determinants and emphasized the importance of expertise and accurate information in ensuring the effective incorporation of AIS into organizational processes. By recognizing the impact of managerial expertise and data quality, organizations can now redirect their focus and resources toward enhancing these aspects, thereby increasing the likelihood of successful AIS implementation and maximizing the benefits derived from these advanced information systems.

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