A LITERATURE REVIEW: FACTORS OF SUCCESS AND FAILURE OF ACCOUNTING INFORMATION SYSTEM IMPLEMENTATION

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ABSTRACT

Organizations in the digital era increasingly understand the importance of implementing accounting information systems (AIS) because can help improve the efficiency and effectiveness of business processes, as well as assist managerial decision making. In reality, not all AIS implementations are successful, because information systems are not just computerized systems that are run manually but more than that involve business processes and resource utilization. This article is a literature review aimed at understanding the factors that determine the success and failure of implementing an accounting information system. The discussion was carried out descriptively based on a literature review and previous findings related to the determining factors for the success and failure of implementing an accounting information system.

INTRODUCTION

The digital era has changed the pattern of human thought and behavior and within the scope of the organization or company has become an important factor influencing strategic decision making. Organizations both public sector and business enterprises in achieving success have given important attention to the use of information technology.

Information technology used by organizations has provided many benefits for all sectors such as government, economy and industry and even education. One of the benefits for the government sector is being able to increase the capability of the apparatus in serving the public, as well as for the business sector to provide accurate and timely information so as to assist managers' decision making (Alshibly, 2015).

Accounting information systems (AIS) in implementation in organizations refer to data processing processes to produce quality accounting information in order to help the organization's operations and parties outside the company (Susanto, 2013). Several benefits of accounting information increase organizational competitiveness (Baltzan, 2012) and help managers make effective decisions (Gellinas, 2012). Data, procedures, *software* and IT infrastructure are important factors that determine whether the AIS implemented by an organization is able to achieve success (Susanto, 2013).

AIS involves components including collecting, classifying, processing, analyzing and combining financial information as material for decision making (Baridwan, 2009). This goal is achieved through the use of effective *software to facilitate the work of its users (* Baltzan, 2012).

In several previous studies, research has been carried out regarding the factors that influence the implementation of accounting information systems. Research on the application of accounting information systems, yielded various findings regarding both the determinant factors and some of the constraining factors found. In system implementation, *end-user* satisfaction is used as an indicator of information system success, end-users are the final users of the implemented system. Success will be determined by the level of system user satisfaction (Mohamed et al., 2009). The performance of an accounting information system can be measured from the level of use of the accounting information system (Sahusilawane, 2014).

The use of information technology systems in organizations is inseparable from various inhibiting factors. Common problems in using accounting information systems are due to system incompatibilities with business processes and incompatibility of information from implementing organizations (Lucas et al., 1998). Usnodo (2010) revealed that in various surveys around 70% of SI projects were declared failures. Standish Group stated that only 10% of companies successfully implemented ERP, 35% of projects were canceled and 55% experienced delays. Meta Group states 55% – 75% of CRM projects fail. CRM Forum states that more than 50% of CRM projects in the United States and more than 85% in Europe are considered failures. To avoid failure, a change management strategy is needed, so that the company gets the expected value from IS investments.

An accounting information system is the integrity of both physical and non-physical sub-systems that are interconnected and integrated to process transaction data related to financial matters to produce accounting information (Susanto, 2008). An information system is a system that connects daily transaction processing needs to support managerial operational functions as a means of decision making (Srimindarti & Puspitasari, 2012).

The Accounting Information System function functions to collect and store data about activities and transactions, process data into information that can be used in decision-making processes, and exercise proper control over organizational assets (Susanto, 2008). The purpose of the Accounting Information System is to encourage accounting activities to produce quality accounting information such as timely, relevant, accurate, complete (La Midjan & Susanto, 2001).

AIS consists of five components, namely (1) The people who operate the system. (2) Both manual and automated procedures involved in collecting, processing and storing data about organizational activities. (3) Data about the organization's business processes. (4) *Software* used to process organizational data. (5) Information technology infrastructure, including computers, supporting equipment, and equipment for network communications (Srimindarti & Puspitasari, 2012).

Based on the description above, it can be concluded that the Accounting Information System is a tool that functions to process information well, because a good information system will provide benefits for management in making decisions, whether in terms of planning or control activities. To produce a good information system, *software is needed* that can support the work of system users. Properly designed *software*, apart from making work easier, can provide reliable information.

According to Wibowo (2007) performance can be viewed as a process or result of work. Performance implies a description of the level of achievement of an activity in a certain period. Performance in an organization is the answer to the success or failure of the organizational goals that have been set. According to Mangkunegara (2016) that the term performance comes from the word *actual performance,* namely the work results in quality and quantity achieved by an employee in carrying out his duties in accordance with the responsibilities given to him. Performance is divided into two, namely individual performance and organizational performance. Individual performance is the result of employee work both in terms of quality and quantity based on predetermined work standards, while organizational performance is a combination of individual performance and group performance.

SIA is a collection of resources that will transform financial data into information that is processed manually or with the help of a computer that is useful for decision making (Srimindarti and Puspitasari, 2012). This definition describes the forms, records and procedures as well as the types of tools used to process data related to the operations of a business entity that aims to produce feedback in the form of reports needed by management to control company operations.

Komara (2005) states that information user satisfaction and use of information systems are dimensions that can be used to measure AIS performance. Information user satisfaction shows how far users are satisfied and trust the information system provided to meet their needs, while information system use shows the frequency of use and willingness to use the system.

The aim of this article is to understand the factors related to success and failure in implementing accounting information systems based on a literature review and previous research. The success and failure of implementing accounting information systems is interesting to study as material for management considerations for making strategic decisions, apart from that, this literature review can contribute to researchers as material for developing concepts related to AIS implementation.

RESEARCH METHOD

The study used literature review methods. It can be used to evaluate the success and failure factors of accounting information system implementation are as follows:

1) Topic identification: Identify research topics related to success and failure factors of accounting information system implementation.
2) Literature search: Conduct literature searches related to research topics through online databases such as Google Scholar, ResearchGate, and others.
3) Literature selection: Selecting literature that is relevant to the research topic and meets the inclusion criteria.
4) Literature evaluation: Evaluate the selected literature by considering quality, accuracy, and relevance.
5) Literature analysis: Conduct an analysis of the selected literature by considering the success and failure factors of accounting information system implementation.
6) Data processing: Processing data obtained from literature analysis using statistical techniques or other methods.
7) Report writing: Write a report based on the results of literature analysis and data processing that has been done.

This literature review method able to gain a better understanding of the success and failure factors of accounting information system implementation. By using this method, researchers can obtain accurate and relevant information from the selected literature.

RESULTS AND DISCUSSION

Success Factors in Implementing an Accounting Information System

In several literatures, various findings have been obtained related to the determinants of the success of implementing an Accounting Information System. This literature review understands the importance of knowing the factors that organizations can consider to achieve successful AIS implementation. Based on empirical research, it was found that the success factors for implementing an Accounting Information System can be influenced by user ability, user involvement, top management support, information system quality, and information quality.

Individual performance in carrying out a job task is generally determined by the abilities or competencies they possess. Adequate abilities will make it easier for someone to adapt to the tasks to be carried out. Competency according to Mui et al. (2009) is an ability related to a person's quality including more than just behavioral characteristics such as performance, knowledge, skills, level of adequacy and several similar things such as goals, reasons, attitudes, or certain qualities. Competency characteristics are grouped into five types, namely (1) Motive is a person's desire that causes action, motive can encourage, direct and choose behavior through certain actions or certain goals and away from others; (2) Temperament or traits are physical characteristics and consistent responses to information or situations; (3) Self-concept includes attitudes, values or self -*image* of a person; (4) Knowledge, in this case, is information possessed by a person in a specific field; (5) Skills are the ability to perform physical or mental tasks.

In connection with the use of accounting information systems, Almilia & Briliantien (2007) stated that the higher the personal technical abilities of accounting information systems, the performance of accounting information systems will improve. According to Robbins (2005) the notion of user ability is an individual capacity to perform various tasks in a job. User capabilities according to Robbins (2005), namely:

1) Knowledge

Knowledge is defined as the basis of truth or facts that must be known and applied in work. Knowledge as an information system user can be seen from the knowledge an individual has regarding accounting information systems and the individual's understanding of their work duties as an information system user.

2) Ability

Ability is defined as an innate ability from birth or the result of practice. Ability as an information system user can be seen from the ability to run existing information systems, the ability

to operate information systems, the ability to carry out tasks from jobs that are responsible, the ability to align abilities possessed with tasks.

3) Skills

Skills are defined as the ability to express work easily and accurately and require basic abilities. Expertise as a user of an information system can be seen from the expertise in the work for which they are responsible and the expertise in expressing their needs at work.

In line with the opinion of Robbins (2005), the definition of information system user ability in this research is the individual's capacity to use information systems to carry out various tasks in a job in accordance with the responsibilities entrusted to them. The ability of information system users can be assessed from 3 dimensions, namely knowledge, ability and skills possessed by individuals in using information systems in accordance with job duties and responsibilities.

User Engagement

Many researchers have investigated user engagement, that engagement affects key criteria such as system quality, user satisfaction and system use (Komara, 2005). According to Ronaldi (2012) SIA user participation is involvement in the system development process by members of the organization or members of the target user group (users from each department involved in system development).

Sahusilawane (2014) defines the involvement of information system users as assignment behavior and activities carried out or represented during the information system development process. Participation or involvement by users in the form of real personal intervention or user activity in system development. Information system users are anyone who needs information for decision making.

According to Komara (2005) user involvement is involvement in the system development process by members of the organization or members of the target user group. According to Almilia and Briliantien (2007), more frequent user involvement will improve AIS performance because there is a positive relationship between user involvement in the information system development process and AIS performance.

Information systems that are developed involving users will provide satisfaction for users and these users will try to use the AIS implemented in their company (Hendra et al., 2014). Participation or involvement of information system users can be assessed from (1) Participation in system development; (2) Opinions or suggestions in system development (3) Influence in system development; (4) User involvement in the information system development process; and (5) Exchange of information.

Top Management Support

According to Komara (2005) top management support is defined as top management's understanding of computer systems and the level of interest, support and knowledge about IS or computerization. This means that the greater the support provided by top management, the performance of the accounting information system will improve.

Almilia and Briliantien (2007) argue that the greater the support given by top management will improve the performance of the SIA because there is a positive relationship between top management support in the process of developing and operating the SIA and the performance of the SIA. Top management support in the process of developing information systems and organizing information systems within the company will increase users' desire to use existing information systems and feel satisfied in using these systems (Hendra et al., 2014). Top management support can be measured from five indicators, namely (1) superiors are proficient in using computers; (2) superiors have high expectations for the use of IS; (3) superiors are actively involved in planning IS operations; (4) giving appreciation to employee ideas; (5) superiors pay high attention to IS performance; (6) conducting regular AIS performance evaluations; and (7) SI usage rating.

Quality of Information Systems

System quality is a characteristic of the inherent information about the system itself, meaning that the quality of an information system is related to the information it produces. The quality of the information system can be measured by analyzing the precision and accuracy of the resulting information, the more accurate and precise the information generated will improve the quality of the information system so that users are truly satisfied with the assistance of the information system. The

quality of the information system is the quality of the accounting *software* used. The quality of accounting *software* in an organization is related to the abilities and skills of users. A good understanding of accounting *software* can help users process data into quality information and information users are satisfied with the results of the information presented. This means that user understanding improves the quality of accounting *software*. Good quality accounting *software* can increase user satisfaction. User satisfaction with an information system is defined as how the user views the information system in real terms, not on the technical quality of the system, and how the impact generated by the information has on corporate decision making (Tananjaya, 2012).

According to DeLone & McLean in Radityo & Zulaikha (2007) the quality of the information system means the quality of the combination of *hardware* and *software* in the information system, the focus is the performance of the system, which refers to how well the capabilities of the hardware, software, policies, procedures of the information system can provide information user needs. Information system quality indicators can be measured by ease of use, *system* flexibility, response *time,* reliability and *security.*

Information Quality

The quality of information cannot be separated from *perceived usefulness,* namely the level to which someone believes that using a particular system can improve performance. *Perceived usefulness* is related to the beliefs and behavior of system users. When accounting *software users* feel confident in *the software's capabilities* and using *the software* is not difficult, they will believe that implementing accounting *software* will provide greater benefits and improve their performance. This has an impact on the information produced being more accurate. If the information produced from the accounting *software* used is more accurate, timely and has good reliability, it will further increase the trust of *software users.* If users do not have *perceived usefulness,* this will have an impact on the use of accounting *software.* Users will use the system less and less and doubt the information results from the accounting *software.* Based on user perceptions, the higher the quality of accounting *software* and the higher the quality of information, the more *perceived usefulness will be,* so *perceived usefulness* is important in determining the success of implementing accounting *software* (Tananjaya, 2012). In relation to the use of accounting *software, perceived usefulness* depends on the user's ability *to* use accounting *software.* High *user* capability can further strengthen *the perceived usefulness* felt by users of accounting *software.* The faster users understand how accounting *software works,* the faster the performance of accounting *software users* will be in producing the desired financial information.

According to Radityo & Zulaikha (2007) information *quality* refers to *the output* of the information system, regarding the value, benefits, relevance, and urgency of the information produced. Indicators of information quality can be measured from the accuracy of the information (*accuracy*), timeliness (*timeliness*), completeness of information (*completeness)* and presentation of information (*format*). Based on the description above it is concluded that the quality of information focuses on the information generated by the information system. When linked to an Accounting Information System, the quality of information from an accounting information system can be assessed by the completeness of the information, accuracy of the information, timeliness, availability of information, relevance, consistency and data *entry*.

Factors of Failure of Accounting Information System Implementation

Failure can be interpreted as not being successful or not being achieved and in terms of implementation failure is defined as a situation where certain functions in the information system do not work, thus affecting the implementation function of the information system. Failure to implement an accounting information system in this article can be interpreted as a failure that is still possible to repair, so that the main objective of implementing an accounting information system can be achieved as expected.

According to the theory put forward by Jogiyanto (2007), that failure to implement an information system is divided into two aspects, namely technical aspects and non-technical aspects. Technical aspects are aspects that concern the system itself which is the quality of the technical information system. Poor technical quality concerns the number of syntax errors, logical errors and even

information errors, while non-technical aspects relate to the perceptions of information system users that cause users to be willing or reluctant to use the information system that has been developed.

In the view of Frese & Saunter (2003), the failure of Information System Implementation is caused by several factors, namely a) ineffective internal communication relationships; b) less effective external communication relationships; c). less quick decision making; d). less effective team collaboration.

According to Kaur & Aggrawal (2013) the factors causing the failure of Information System implementation are (a) Project failure, that is, when the expected information system standard has not been met, including the specified deadline is not met, it is not in accordance with the budget and function, this is referred to as project failure. (b) System failure, namely when the system does not perform as expected and also cannot operate at a certain time or cannot be used so that the project does not generate productive profits even though the system is used in the right way. (c) User failure, namely when the user refuses or cannot receive system information. The reason may be the lack of staff training and skills, the complexity of the new system or the confrontation with the new system so that users develop resistance to the system.

Wilson and Howcroft (2002), concluded that several factors that cause failure to implement information systems are categorized into three types, namely (1) project problems (projects do not meet expectations, requirements, projects do not meet budget, projects miss deadlines, projects are canceled before completion, and projects do not meet function) (2) System problems (the system is partially unusable, the system cannot operate optimally and the system fails to produce the expected benefits) (3) user problems (rejection from users, users feel dissatisfied, low user capabilities).

Yeo (2002) further states that the failure factors for the implementation of information systems are (1) when the system as a whole does not operate as expected and its overall performance is not optimal; (2) if the system cannot perform as expected or there is resistance by users and underutilization; (3) if the system development costs exceed the entire useful life of the information system; or (4) If information system development is abandoned before completion, either due to system complexity or project management problems.

According to Susanto (2014), the level of success and failure of information systems can be categorized into three levels, namely (1) Total failure of the initiative, never implemented or where a new system was implemented but immediately abandoned. (2) Partial failure of the initiative, where the main objective was not achieved or where there were significant adverse outcomes. Related to partial failures are sustainability failures where the initiative is first successful but then abandoned after a year or more. (3) Success of an initiative in which most stakeholders achieve their primary objectives and do not experience undesirable outcomes.

Several factors cause information system failure according to O'Brien & Marakas (2009), due to lack of executive management support and input from end-users, incomplete and constantly changing requirements statements and specifications, and technological incompetence. Littlejohns, et al. (2003), describes several causes of Information System failure, namely (1) Failure to adapt to the social and professional culture of the organization and to recognize user and staff education. (2) There is an underestimation of the complexity of routine and managerial processes. (3) Mismatch between the expectations of the commissioner, creator and user of the system. (4) Refuse to stop spending money on a failing system. (5) Not evaluating the previous system.

Salehi & Abdipour (2013) in his research states that several factors hinder the implementation of accounting information systems in companies listed on the Tehran Iran Stock Exchange, namely the attitude of middle-level managers towards the implementation of AIS, human resources, organizational structure, environmental factors, financial problems, and organizational culture. From this study, to overcome the obstacles to implementing AIS, namely by giving awards to managers and staff and encouraging staff to use the new system so that these efforts will help the successful implementation of AIS and can provide benefits for the progress of the company.

Furthermore, Susanto (2018) in his research states that the inhibiting factors in the implementation of AIS are (1) Destruction due to Natural and Political Disasters is a threat to the application of AIS (2) software and equipment errors (3) Unintentional actions of personnel, for example errors in deleting data due to ignorance. (4) This computer crime is an intentional act by personnel.

CONCLUSION

Based on the results of the literature review, it was concluded that the application of AIS by public organizations and business companies provides benefits, namely a role in providing information for managers to understand internal problems and external environmental conditions so that they can assist managers in making decisions.

Benchmarks for the performance of an accounting information system can be assessed from user satisfaction and the level of usage by users of the Accounting Information System itself. User satisfaction emphasizes the emotional aspects of the user, namely the user's feelings of pleasure or displeasure towards using the system, while the level of usage emphasizes the frequency of use and the user's desire to continue using the system.

Factors that also determine the success of AIS implementation generally come from organizational factors, system factors, and system users. The results of a literature review related to the factors that determine the success of implementing an AIS are user capability, user involvement, top management support, information system quality, and information quality.

In reality, not all AIS implementations achieve success, because information systems are not just computerized systems that are run manually but more than that involve business processes and resource utilization.

Factors that hinder the implementation of AIS can be divided into two aspects, namely technical aspects, namely the quality of technical information systems and non-technical aspects related to the perception of system users so that they will determine whether users are willing or reluctant to use the implemented system.

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