

## DO RISK CONTROLS AND USER'S COMPETENCE AFFECTING ACCOUNTING INFORMATION SYSTEM QUALITY?

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**Abstract:** *A qualified accounting information system is needed to produce qualified accounting information. The accounting information system must be designed to mitigate the risks and executed by a competent user to ensure that the system is qualified. The purpose of this study is to examine the influence of risk controls and user's competence toward accounting information system quality. Survey was conducted on 35 bank companies listed in Indonesia Stock Exchange. The empirical results indicate that risk controls and user's competence have a positive and significant effect on accounting information system quality.*

**Keywords:** *risk controls, user's competence, accounting information system quality*

### 1. INTRODUCTION

Accounting information system aims to provide accounting information for both internal and external users. To be useful, the information generated by the accounting system of accounting information, such as financial reports and various kinds of reports, presents an overview of the company's activities must be accurate, complete, and timely (Romney & Steinbart, 2009).

Siegel and Marconi (1989) states that the sender of information can be intentionally report false information with the intention for lying. But, information can also reported inaccurately caused by unqualified information systems.

Information quality problems not only includes the value of the wrong information, but information quality problems arise because of problems in the processing of data (including error), a technical problem on the storage and access as well as problems caused by changes in information needs. The quality of accounting information system is an integration of hardware, software, brainware, telecommunication network and database (Sacer *et al.*, 2006).

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According to Azhar Susanto (2013), controls is necessary to ensure that the accounting information system works as it should be, so that the risks to the deviation from the set objectives can be avoided. Laudon and Laudon (2012) stated that the implementation of security and control that can effectively improve the quality and reliability of information systems.

To minimize the risk for errors or irregularities (fraud) in accounting information systems both manual and computer-based, control is carried out through a combination of general controls and application controls (Wilkinson *et al.*, 2008; Azhar Susanto, 2013; Bodnar and Hopwood, 2010; Laudon and Laudon, 2012).

To improve the quality of accounting information system is also required competence of its users. An information system will be profitable for the organization if the employees contribute their knowledge (O'Brien & Marakas, 2010).

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1. Risk controls and Accounting Information System Quality**

Laudon and Laudon (2012) stated that the implementation of security and control that can effectively improve the quality and reliability of information systems. Control is necessary to ensure that the accounting information system works as it should be so that risks to the deviation from the set objectives could be avoided (Azhar Susanto, 2013). Control is also necessary to ensure that all relevant economic events captured by the accounting information system and the process of change and summarize financial information does not indicate an error (Hayes *et al.*, 2005).

Bawenah (2014) tested three types of security and control procedures used in accounting information systems (AIS): security and general controls for the organization; security and general controls for the Information Technology (IT), and application controls to process the transaction. The study found that this control (input control, process control, output control and physical security) can protect banks against the risk of computer fraud. Furthermore, the study found that many banks do not perform risk assessment procedures. Actions taken by the bank's top managers in the risk of computer fraud is when they suspect a computer crime in progress or fraud, they can hire forensic accountants to investigate the problem, documenting findings, and make recommendations.

Research by Hayale (2006) evaluate the effectiveness of risk control systems in computerized accounting information system. This control is implemented in the banking sector to maintain the confidentiality, integrity and availability of data

bank and accounting information systems. The study also revealed that banks are sorely lacking in the application of physical access controls, logical access, data security, documentation standards, disaster recovery, internet, communications and e-controlss and security control output. The low quality of the bank's risk control system causes high threat which could ultimately degrade the quality of accounting information system.

According to Moller (2011) if the company does not carry the risk control, then the likelihood of risk would be very high. This raises the weak impact the quality of accounting information systems so that the potential for losses of significant consequence is not represented in the accounting information or in other words that the accounting information involve risks and reduces the relevance and reliability in making decisions.

Based on the description above, the first hypothesis proposed in this study:

- $H_1$ : Risk controls has an effect on accounting information system quality.

## **2.2. User's Competence of Information System and Accounting Information System Quality**

Azhar Susanto (2013) stated that analysts as one of the users of the information system as well as developers should strive to always discuss with users of other information systems, especially in the scope of information systems at the level of detail to determine what information is required and what decisions were taken. Thus it can be said that the competence of users of information systems will also determine the development of the quality of accounting information systems.

If the human resources involved are not qualified, then the information systems can not follow the normal procedure in a company's development (Tait & Vessey, 1988). So that the information system will be profitable for the organization if the employees contribute their knowledge (O'Brien & Marakas, 2010). Laudon and Laudon (2012) stated that a manager who knows how to work with the situation of an organization's information system will be more successful than the less skilled managers in implementing information systems. Thong (1999) found in his research that knowledge of employees about the information system becomes a determining factor increasing the quality of information systems within an enterprise.

A survey conducted by Choe (1996) on the accounting information users at 100 companies in Korea, revealed that the training and education of developers, managers and users of accounting information systems are critical success factor in the implementation of accounting information systems. Accounting information systems which are complex requires careful and sustainable management in order to produce valid financial statements.

Research conducted by Sabherwal et al. (2006), argued that the accounting information system requires the experience of a financial manager in accounting information systems and training in the field of accounting information systems. Both things are a construct that determines the success of the implementation of accounting information systems.

Based on the previous description, the second hypothesis proposed in this study:

H<sub>2</sub>: information system user's competence has an effect on accounting information system quality.

### 3. RESEARCH METHODOLOGY

#### 3.1. Sample and Data Collection

Research was conducted on 35 Bank Companies listed at Indonesia Stock Exchange by the year of 2014. Respondents in this study consists of: Users of Information Systems, Information & Technology Manager and Accounting Manager. The data collection carried out by distributing questionnaires to the respondents.

#### 3.2. The Operationalization of Variables

The operationalization of variables is the process of operationalizing the concept into a variable that can be measured, which is categorized based on the elements that can be measured (Sekaran & Bougie, 2013). The operationalization of variables in this study can be seen in Table 1.

**Table 1**  
**The operationalization of variables**

| <i>Variables</i>  | <i>Indicator</i>  | <i>Scale</i>   |
|---|---|--|
| Risk controls<br>(Collier & Ampromah, 2007;<br>Wilkinson <i>et al.</i> , 2008; Aren <i>et al.</i> ,<br>2012; McLeod & Schell, 2007;<br>Azhar Susanto, 2013; Moeller, 2011). | Preventive controls<br>Detective controls<br>Corrective controls                        | 5-point Likert (ordinal)<br>5-point Likert (ordinal)<br>5-point Likert (ordinal) |
| Information System User's<br>Competence (Mc.Shane & Glinow<br>(2010); Funk (2005); Stewart &<br>Brown (2011); Yulk (2010); Moeller<br>(2011); Spencer & Spencer (1993))     | Knowledge<br>Skill  | 5-point Likert (ordinal)<br>5-point Likert (ordinal)                             |
| Accounting information system<br>quality (DeLone & McLean<br>(1992, 2003); Davis (1989); Sedera<br><i>et al.</i> (2004); Gorla <i>et al.</i> (2010))                        | Perceived usefulness<br>Perceived ease of use<br>Information system (IS)<br>use (usage) | 5-point Likert (ordinal)<br>5-point Likert (ordinal)<br>5-point Likert (ordinal) |

### **3.3. Data Analysis Methods**

Data analysis method used in this research is Structural Equation Model (SEM) - Partial Least Square (PLS). According to Hair et al. (2010), PLS is an alternative method of SEM that can be used to solve problems of complex relationships among variables but have a small data sample size (30 to 100).

## **4. RESULTS AND DISCUSSIONS**

Based on data from this research, the overall risk control latent variable ( $X_1$ ) obtained an average score of 4.346 (out of range of the interval 1.000 - 5.000) and a percentage of 86.93%. Thus this variable are in very high category. This means that generally the risk control in the companies surveyed already very high, or in other words have been very effective.

Manifest variables of risk control which shows the higher average scores respectively shown by indicators of preventive controls, followed by indicators of corrective controls and indicators of detective controls. The first indicator, preventive controls, considered to be very high because it is characterized by very high response to: (1) control of organization, (2) control of documentation, (3) control of the assets accountability, (4) control of management practices, (5) control of the information center, (6) control of authorization, and (7) control of data access. In general, responses of preventive controls are already very high.

The second indicator, detective controls, also assessed very high because it is characterized by a very high response to: (1) input control, (2) process control, and (3) output control. In general, the response to detective controls is already very high.

The third indicator, corrective controls, assessed very high because it is characterized by a very high response to: (1) user documentation control, and (2) assets control. In general, respondents assessed that corrective controls is already very high.

Furthermore, the latent variable of user's competence ( $X_2$ ), based on research data overall obtained an average score of 3.693 (out of range of the interval 1.000 - 5.000) and a percentage of 73.86%. Thus, this variable can be classified in the high category. This means that in general, the user's competence of the companies surveyed are already high.

The highest average scores obtained from the manifest variables of user's competence in this study, respectively shown by the indicator of skill (3.914), followed by the indicator of knowledge (3.471).

The first indicator, knowledge, measured by: (1) formal education, (2) the certification of expertise or non-formal education in the field of information systems,

(3) working experiences at the company as a system user, and (4) knowledge in the field of information systems. Formal education is rated high because most of the respondents have a bachelor degrees. Certification of expertise or non-formal education in the field of information systems considered sufficient for the majority of respondents. Working experiences is rated high, because most of the respondents have been working more than five years. Furthermore, the concept in the field of information systems is assessed adequately. In general, response for the aspect of knowledge is assessed adequately.

The second indicator, skills, measured by: (1) conceptual skills, (2) interpersonal skills, (3) technical skills, and (4) management skills. Respondents in this research are considered to have relatively high skills in conceptual, interpersonal, technical, and management skills. In general, the skills aspect in this research is considered to be adequate.

The last latent variable, the quality of accounting information system (Y), based on this study acquire an average score of 3.977 (out of range of the interval 1.000 - 5.000) and a percentage of 79.54%. Thus, this variable classified in the high category. This means that in general the quality of accounting information systems at the companies surveyed are already high.

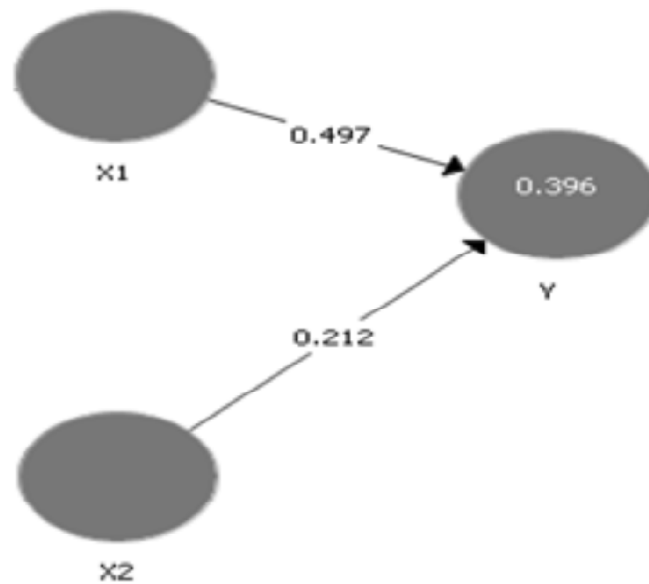
Manifest variables of the quality of accounting information systems that obtain the highest score respectively shown by the indicators of: perceived usefulness (4.164), followed by perceived ease of use (3.857), and information system usage (3.843). The first indicator, perceived usefulness, measured by: (1) work more quickly, (2) job performance, (3) effectiveness, and (4) makes job easier. In this case, respondents generally considered the accounting information system used is able to accelerate the implementation of work, can improve performance, can improve its effectiveness, and can ease the task. In general, respondents assessed that the quality of accounting information systems can already be perceived usefulness.

The second indicator, perceived ease of use, measured by: (1) easy to learn, (2) easy to become skillful, (3) easy to use, and (4) easy to remember. In this case, respondents generally considered that the accounting information system used is relatively easy to learn so as to facilitate adaptation to become an expert user. In addition, most respondents considered that the accounting information system which existed is easy to use and easy to remember. In general, respondents assessed that the quality of accounting information system is already easy to use.

The third indicator, information system usage, measured by: (1) frequency of use and (2) time of use. In this case, most respondents stated that the accounting information system is often used in everyday life. In addition, it was revealed that

the duration of use of accounting information system is also relatively old. In general, respondents assessed that the accounting information system has been qualified so that it can be used effectively.

Structural model in this research examine the the first hypothesis, namely “control of risks affecting the quality of accounting information system” and the second hypothesis, namely “ user’s competence affecting the quality of accounting information system”. The model can be seen in Figure 1.



**Figure 1: Structural Model Effect of Risk Control and User’s Competence on the Quality of Accounting Information Systems**

From a structural equation model, it is known the influence of Risk Control and User Competence on the Quality of Accounting Information Systems. This structural model can be written in the following equation:

$$Y_1 = 0.497 X_1 + 0.212 X_2$$

This equation shows that the value of path coefficient of the influence of risk controls on the quality of accounting information system is two times greater than the value of path coefficient of the influence of user’s competence on the quality of the accounting information system. The coefficient of determination (R<sub>2</sub>) of 0.396 indicates that 39.6% variance in the variable of the accounting information system quality can be explained by the model. The value of 0.396 is among from 0.33 to 0.67 which shows a moderating influence.

T-value of the path coefficient from  $X_1$  to  $Y_1$  is equal to 3.000, while the critical value of  $t$  for  $\alpha = 0.10$  is equal to 1.645. Based on these calculations it can be stated that the first hypothesis is acceptable.

Similarly, the  $t$ -value for path coefficient of  $X_2$  to  $Y_1$  is equal to 1.688, while the critical value of  $t$  for  $\alpha = 0.10$  is equal to 1.645. Based on these calculations it can be stated that the second hypothesis is acceptable.

## 5. CONCLUSIONS

Based on the results of this research, it can be concluded that risk controls and user's competence of information system have a positive and significant effect on accounting information system quality. Risks control related to controlling information systems to mitigate the potential risks to ensure the accuracy, validity and appropriateness of information system activity. User's competence of information system is needed to produce qualified accounting information system. Knowledge and skills in appropriate areas are needed to improve user's competence of information system.

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