

# The Quality of Accounting Information and The Accounting Information System through The Internal Control Systems: A Study on Ministry and State Agencies of The Republic of Indonesia

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## Abstract

The purpose of this study is an attempt to explain, but not empirically tested, the effect of the effectiveness of internal control system (general and application controls) on the quality of accounting information systems (ease of use, usefulness and usage) and its impact on the quality of accounting information (relevance, accuracy, and verifiability) in order to develop a theoretical framework as a basis of the hypothesis as an answer to the question of the study, that is, to the extent of which: (1) the effect of internal control on accounting information systems (AISs), (2) the effect of internal control on the quality of accounting information, and (3) the effect of the quality of accounting information systems on the quality of accounting information. This study will use a  $t$  test by  $\alpha = 0.05$  to test each of the proposed hypothesis. The study is scheduled to be conducted in 85 Ministries and State Agencies of the Republic of Indonesia. Also explained in this paper is the research methodology used.

**Keywords:** Internal Control, Quality of Accounting Information Systems, Quality of Accounting Information

## 1. Introduction

Accounting information is the results of accounting processes, generally presented in a form of financial statement (Kieso et al, 2012:5) or an annual report (Maurice, 1994). If scrutinized, most of every definitions of accounting states that accounting information is the output of accounting processes.

Organization of any kind always needs accounting information for economic decision making (Kieso et al, 2012). Accounting information is used for such things as investment decision, stewardship evaluation, monitoring activities and regulatory measures (Hansen & Mowen, 1995). By using accounting information, decision makers would obtain information on the future of their companies, such as forecasting that involves annual plans, strategic plans, and decision alternatives (Susanto, 2008). The users are interested in using the accounting information, because those information has fulfilled a *decision-usefulness-information* criterion (Kieso et al, 2012). In a strategic perspective, accounting information itself is one of the aspects of a company's competitive advantage (Baltzan, 2012).

Useful accounting information is an one that fits for used by the information user (Wang & Strong, 1996), or one that cause user take to desirable actions (Hall, 2011), or one that may help the users in making proper decisions (Gellinas et al, 2012). Accounting information quality is an information with characteristics/attributes that make the accounting information valuable for the users (O'Brien, 1996).

The quality of accounting information comes from the implementation of an accounting information systems quality (Sacer et al, 2006. Baltzan, 2012). Among of author use different terminologies when describing the quality of Accounting information system, such as: effectiveness, success, usefulness, efficiency, user satisfaction, and also the term of quality itself. Gellinas et al (1990) suggests that the effectiveness of AIS is a measure of an accounting information system success to meet the established goals. A quality of accounting information system concerned with the measurement of output the actual system that produces the output (Delon & McLeod, 2003). An accounting information system quality is an integration of quality hardware, software, brainware, telecommunication network, data base, and quality of work and user satisfaction (Sacer et al, 2006).

The government institutions of the Republic of Indonesia are until currently still faced with a problem of the quality of accounting information system. That is reflected by the weakness of quality of the financial statements of: central governments, the ministries and public institutions and the regionals. In the time period of 2004-2010, results of audit on the financial statements of central government's, most of ministries and state agencies, and regional government still have a qualified opinion categories (Warta BPK, 2010). Gamawan Fauzi (2012) said, a target of 50% of the regional governments to attain the unqualified opinion categories in 2014 is hard to realize. The problem of low quality of the government financial statements, as a reflection of the poor quality of the accounting information system, is due to among others the weakness of internal controlling system (Warta BPK, 2011).

The objective of accounting information systems is to provide the reliable accounting information on a timely basis (Guan, 2006). An internal control system is a series of procedures designed such that provide management with reasonable assurance that the accounting information that provide by an accounting information system presents is reliable and made available timely (Guan, 2006). An accounting information system and record keeping will not success in completely and accurately processing all transaction unless controls, known as internal control, are built into the system (Millchamp & Taylor, 2008).

The purpose of this study is to develop a model to find out evidences or answers of the following problems: (1) how extent of which the effect of an internal control system on the quality of AIS, (2) how extent of which the effect of an internal control system on the quality of accounting information, and (3) how extent of which the effect of the quality of accounting information systems quality on the Accounting Information quality .

## 2. Review of Literature

### 2.1. Accounting Information Quality

The value of information is directly linked to how it helps decision makers achieve their organization's goals. Valuable information can help people and their organizations perform their tasks more efficiently and effectively (Stair and Reynolds, 2012). Furthermore, information of high quality, that is, information product whose characteristics, attributes, or qualities help makes it valuable to them (O Briens, 2004).

The quality of accounting information can be explained by several dimensions. Hall (2011) suggests that the dimensions of information quality consist of: relevance, timeliness, accuracy, completeness, and summarizing. Moreover, Gelinas et al (2012) and McLeod (2007) put forward that dimensions of the quality of information are: accurate, timely, relevance, and completeness. Far earlier, Hicks (1993) states relevance, timeliness, accuracy and verifiability as the criteria of information quality. Whereas Maurice (1994) and O' Briens & Marakas (2010) summarizes the important of information and groups them into three dimensions, namely: time (consist of: timeliness, currency, frequency, time period); content (accuracy, relevance, completeness, conciseness, scope, performance); and form (clarity, detail, order, presentation, media) In this study, the dimensions of accounting information quality are: (1) **Relevancy**. The Extent to which data is applicable and helpful for the task at hand (Wang & Strong, 1996), the contents of a report or document must serve a purpose (Hall, 2011). (2) **Accuracy**. The Information must be free from material errors (Hall, 2011). (3) **Verifiability**, the ability of confirm the accuracy of information by tracing information to its original source (Hicks, 1993)

### 2.2. Accounting Information System Quality

Accounting information system is a collection of data and processing procedures that creates needed information for its users (Bagraf et al, 2011). Accounting information systems (AISs) is a collection of resources, such as people and equipment, designed to transform financial and other data into information. This information is communicated to a wide variety of decision makers. AISs perform this transformation whether they are essentially manual systems or thoroughly computerized (Bodnar & Hopwood, 2010).

According to Stair & Reynolds (2010), an accounting information systems quality is usually flexible, efficient, accessible, and timely. Seddon (1997) state that an information system success thus conceptualized as a value judgment made by an one from stakeholders' viewpoints. Moreover, Gelinas & Wriggins (1990) suggest that the effectiveness of an accounting information systems is a measures of accounting information system success to meet the established goals. Meanwhile, Delon & McLean (1992) state that the quality of system is concerned with the measurement of the actual system in producing output.

D&M IS Success Model developed by Delon & McLean (1992) and The Technical Acceptance Model (TAM) developed by Fred Davis (1989) are widely used as references by many authors in measuring the dimensions of accounting information system success. In D&M IS Success Model, the quality of AIS is accounted for by using six dimensions, namely: (1) system quality, (2) information quality, (3) use, (4) user satisfaction, (5) individual impact and (6) organizational impact. In Technical Acceptance Model (TAM) (1989) the factors that can lead the best attitudes to a system and then receive and apply the system are used as the measure of accounting information system success, namely: (1) perceived usefulness, (2) perceived ease of use, and (3) actual use (usage). Then, a related model is also proposed by Seddon (1997) which includes: system quality, information quality, perceived usefulness, user satisfaction, and information systems (IS) use. Within the context of the current study, perceived usefulness, perceived ease of use and Information system (IS) use (usage) will be considered as a well-respected dimensions of Accounting Information Systems Quality.

Perceived usefulness, refers to the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). Whereas perceived ease of use refers to the degree to which a person believes that using a particular system would be free effort (Davis, 1989). As for an Information system

(IS) use (usage) refers to and manner in which a person utilizes the capabilities of an information systems (Petter et al, 2008),

### **2.3. Internal Control**

An internal control consists of policies and procedures designed to provide a reasonable assurance to management that the company has accomplished its goals and objectives (Elder et al, 2010). The reason for management to design an effective internal control system is so as to achieve three main goals, namely: (1) reliability of financial statements, (2) effectiveness and efficiency of company's operations, and (3) compliance to laws and regulations (Messier et al, 2006).

An internal control system consists of some components, namely: a) the control environment, (b) the entity's risk assessment process, (c) the information systems and communications, (d) the control activities, and (e) the monitoring and controls (Bodnar & Hoopwod, 2010). The components of internal control are designed and implemented by management to assure reasonably that the goals of internal control will be achieved (Arens, 2008). Then, so as to assure that each component of an internal control system is implemented in a specific application system contained in an organization's every transaction cycle, the company designs a transaction processing internal control (Bodnar & Hoopwod, 2010). A transaction processing control consists of a general control and an application control.

A general controls are designed to assure that information processing is undertaken in a reasonably control and consistent environment. These control have an impacts on the effectiveness of the application controls and processing functions that involves the use of the accounting information system (Nash & Heagy, 1993). A general control consists of (Bodnar & Hoopwod, 2010:149)

- The plan of data processing organization: Segregation of duties; responsibility for authorization, custody, and record keeping for handling and processing of transaction.
- General operating procedures: definition of personel, reliability of personnel, training of personnel, competence of personnel, rotaion of duties, form design, prenumbered forms.
- Equipment control features: Backup and recovery, transaction trail, error-sources statistics.  
Equipment and data-access controls: Secure custody, dual access/dual control

On the other side, an application control is designed to control accounting applications so as to secure the completeness and accuracy, appropriate authorization, and transaction processing validation (Nash & Heagy, 1993). An application control consists of (Bodnar & Hoopwod, 2010):

- Input controls, are designed to prevent or detect errors in the input stage of data processing. Typical input control include: Authorization, exception input, passwords, batch serial number, control registers, amount control total, document control total, line control total, hash total, sequence cheking, completeness cheking, check digit, expiration etc.
- Process controls, are designed to provide assurances that processing has occurred according to intended specifications and that no transactions have been lost or incorrectly inserted into the processing stream. Typical processing control include: Mechanization, default option, run-to-run totals, celaring account, summary processsing, automated error correction.
- Output controls, are designed to check that input and processing resulted in valid output and that outputs are distributed properly. Typical ouput control include: Reconciliation, aging, suspense file, suspense account, periodic audit, discrepancy reports, upstream resubmission

## **3. Theoretical Framework**

### **3.1. Internal Control and Accounting Information Systems Success**

Accounting information system success is influenced by the effectiveness of internal controlling system. An effective internal control can assure the appropriateness of data entry works, processing techniques, storage methods, and the accuracy of information produced (O Brien & Marakas, 2010). Internal controlling system is designed to monitor and keep the quality and security of information system activities in implementing input, process, and output activities (O Brien & Marakas, 2010). The development of an internal control in a computer-based accounting information system will help management protects corporate assets from suffering losses and embezzlement and keeps company financial data accuracy (Jones & Rama, 2003). Neither accounting information nor record keeping system will not success processing all transactions without an internal control system (Millchamp & Taylor, 2008).

The results of prior study showed that an internal control has significant influence on the effectiveness of an accounting information system. A study by Iceman & Hilson (2012) concluded that, on average, accounting errors in weak internal control systems were reported more than in strong internal control systems. Guan (2006) offered an essential concept on the implementation of an internal control in an accounting information system to

protect integrally or to minimize the probability of occurrence of errors or frauds originated in accounting information systems.

### 3.2. Internal Control and Quality of Accounting Information

The goal of an internal control in an organization is to assure that all transactions are recorded in accurate numbers, in appropriate accounts, and in proper accounting periods so as to enable the presentation of financial statements in accordance with relevant accounting and legal standards (Millchamp & Taylor 2008). Companies are required to develop an internal control intended to provide a reasonable assurance that their financial statements have been presented fairly (Arens et al, 2008). A financial statement will probably not comply accounting standards (GAAP) if internal control over financial statements were inadequate (Arens, 2008).

The effects of an internal control on the quality of accounting information are also substantiated by the results of some prior study. The result of Ronald & Houmes (2012) studied indicated that the students of two universities involved in their study increasingly understood that internal control has a significant effect on the reliability of a financial statement. A weak internal control results in weak revenue recognition, segregation of duties, and period end reports and inappropriate accounts reconciliation (Ge & McVay, 2005). The results of study by Doyle, Ge W & Mc Vay (2007) showed that the weakness of internal control has an effect on the low quality of accruals add more the evidences of the existence of an effect internal control on the quality of an accounting information.

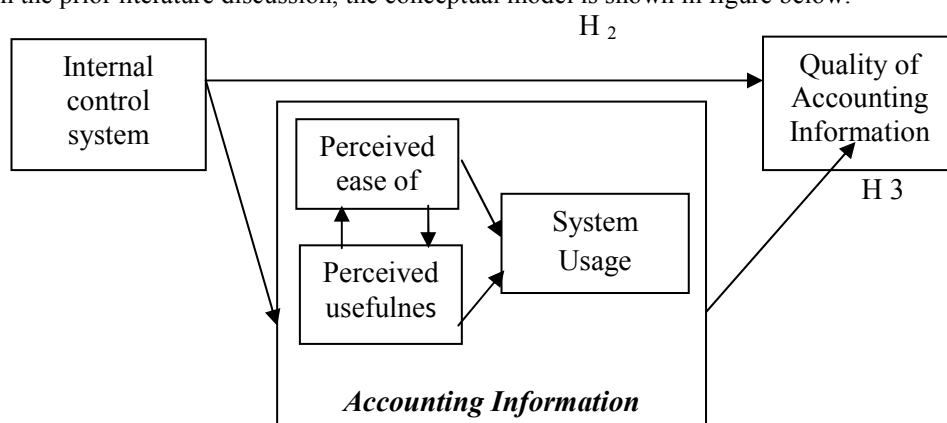
### 3.3. Accounting Information System Success and Quality of Accounting Information

An accounting information system may help managers by providing information needed for them to implement managerial functions (O'Brien, 1996). The purpose of an accounting information system is to produce financial statements designated for both external and internal users (Scot, 1986). Meanwhile, Hall (2010) suggested that, fundamentally, the purposes of an accounting information system are to: (a) present information on the organizational resources used, (b) present information related to management decision making, and (c) present information in order to help operational personnel successfully implement their duties in efficient and effective ways. Then, the main purpose of companies in building an accounting information system is to process accounting data so as to transform it into accounting information that is needed by many user to reduce risks in decision making (Azhar Susanto, 2008).

The effectiveness of an accounting information system is related to the activities of data collection, inputting, processing, and storage as well as to accounting information reporting management and control for organizations to obtain accounting information of high quality (Pairat, 2012). Accounting information system success may enhance the accuracy of financial statements (Salehi et al, 2000). Moreover, the effectiveness of an accounting information system may affect the increase of financial statement quality and accelerate corporate transaction processes (Sajadi et al, 2008).

## 4. Study Models and Hypothesis

Based on the prior literature discussion, the conceptual model is shown in figure below:



**Figure: Theoretical Framework Model**

To test this model, the following hypothesis were proposed as follows:

- H.1: Internal control system affects the quality of an accounting information system
- H.2: Internal control system affects the quality of accounting information
- H.3: The quality of accounting information system affects the quality of accounting information

## 5. Methodology

The research objects are the internal control system, the quality of accounting information system, and the

quality of accounting information. The population in this study is consists of 85 ministries and public institutions of Republic of Indonesia. The observation unit consists of those personnel that are involved in implementing accounting activities, namely: input data processing personnel, financial statement providers, and the heads of accounting departments. The sample is picked up randomly by a random sample technique. This study uses primary data collected by spreading questionnaire by mail (mail survey) to each of the respondents. The data collected is then tested for its validity and reliability so that the data is valid to be processed. Then, the data is analyzed descriptively in order to describe the characteristics of each research variable. The data will be analyzed is by using path analysis with consideration of the pattern of relationships between variables that are correlative, causality and recursive. Each hypothesis to be tested by a statistical  $t$  test:  $H_0$  is rejected if  $t_{count} > t_{critical}$ ,  $\alpha = 0.05$  level.

## 6. Conclusions

The model developed in this study may explain the influence of the internal control system on the quality of accounting information systems and the quality of accounting information. The model will enable we examine and predict whether the components of internal control systems have been adequately applied in accounting information systems. The results of this study later, is specifically will show the components or dimensions of any system of internal control which is the main cause of weak internal control systems of ministries and state agencies of the Republic of Indonesia. Thus, based on the findings of this study, the author will propose some suggestions for improving the effectiveness of internal control system so that the quality of accounting information systems for the better. Accordingly, the financial statements of the ministries and state agencies of the Republic Indonesia can be provided in accordance with high quality standards.

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