ROLE AND CONSTRAINT OF INTERNAL CONTROL TOWARD THE IMPLEMENTATION OF ACCOUNTING INFORMATION SYSTEM AUDIT BASED ON INFORMATION TECHNOLOGY

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Abstract
The changes in information technology (IT) nowadays has influenced in many aspects, include the accounting system. In manual accounting, employees need to perform the whole accounting cycle manually on a periodic basis, while in computerized accounting; employees can use computer and accounting software to perform the job. By using Accounting Information System (AIS) the tasks can perform better and any kinds of report can be made easily. The changing in accounting system can impact the audit process. Audit need to adjust the system, both in audit process and personnel who conduct the audit. The personnel should have a good understanding of clients' business process and knowledge about information technology, therefore audit will result in a good internal control. Internal control can detect whether organization's objective can be achieved effectively and efficiently. The implementation of internal control on audit based on IT meets some constraint namely lack of qualified staff, development cost, and the need of continuous monitoring of internal control especially for network breakdown, hacked system, virus threatened, and difficulty tracing the audit trails.

Keywords: *AIS based on Information Technology, Role and Constraint of Internal Control.*

I. INTRODUCTION

The developments of information technology not only affect several aspects such as health, education, public sector, but also the aspect of business process. The advanced of information technology also has significant effect on accounting process. Accounting process involves some activities such as identifying transaction, identifying account, recording transaction, preparing journal, preparing ledger to summarize all the transactions based on its account name, preparing adjusting entries, making adjusted trial balance, and preparing financial statements. From the first look, accounting activities seemed simple and easy as long as we follow all the cycle orderly. Different condition will make it a little bit complicated and dramatically changes when there are thousands or even millions of transactions happened and need to be processsed in the same time. A lot of transactions that must be processed in the accounting cycle make this process routine and even a little mistake or inaccuracy can ruin all the cycle from the very beginning, in order to find and correct the mistake. It will spend a lot of time to find out.

In manual accounting, employees need to perform the whole accounting cycle manually on a periodic basis, from summarizing the transactions, calculating trial balances, journalizing transactions, and prepare financial statement reports and other routines; of course it takes much time, resources and effort in large organizations. While in computerized accounting, the only thing that employees do is recording transactions and classifying each account into the computer. The other steps of accounting cycle automatically run by a request. If manual accounting requires qualified accountants to record all of business transactions, computerized requires accountants which can use specific software and thus they cost more. Computer software calculates faster but it does not know what you need until you can clearly explain what exactly you need; it is same like the terminology of "garbage in garbage out".

The development of accounting information system will certainly affect the audit practice. The changes of accounting process will affect the audit process because audit practice use financial report (accounting product) as its object. The audit process will adjust the rapid advanced in accounting information system. These both developments of accounting information system and audit process will emerge the opportunity for auditor to have an adequate knowledge about accounting information system and audit based on information technology, while the inadequate one, will be dismissed because they cannot give service needed by the clients. In addition, good computerized accounting system can cost a lot of money, depending on the complexity and the size of organization. Computerized accounting system can provides better internal control report system needed for any given period of time, such as daily, weekly and monthly while manual control can takes more time. Thus, there are some roles and constraints for internal control because of the implementation audit based on information technology.

This paper tries to assess both role and constraints of the internal control over the implementation of accounting information system audit based on information technology. What the advantages and roles gained by internal control because of the development of information technology and the constraints faced by auditor because of information technology implementation.

II. OBJECTIVES

There are several issues on role and constraint of internal control on audit based on information technology that have to be addressed and need to be answered. In essence, the paper objectives are summarized as follows:

1. To identify the internal control roles on the implementation of audit based on information technology, whether it is effective or not.
2. To identify the constraints faced by the auditor when conducting internal control activity toward the audit based on information technology.

III. DISCUSSION
III.1 The Transformation of Accounting Information System

Accounting is the system used by company to measure its financial performance by noting and classifying all the transactions starting from collecting transaction evidence, classifying the transaction based on its proper account

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(journalizing), summarizing the same account, adjusting the entries, making trial balance, and preparing the financial statements. This activity should adhere to certain accepted standard formats. Financial statements is a communication tool which consist of information to helps company evaluating its past performance, present condition, and future prospects. This manual accounting was a process requiring accountants to spend a lot of time mathematically checking numbers. Simple mistakes such as transposing numbers into the incorrect column or account name could create significant errors. Manual systems work best for smaller businesses and do not work well in companies with large numbers of financial transactions.

Through the rapid advanced of technology, the use of technology also affects the accounting activity. Computerized accounting systems allow accountants to process more information than before by creating easier review processes. Accountants can spend less time looking for errors and have more time analyzing information for decision purposes. Not only that, there are other several advantages of applying computerized accounting, namely high speed and mobility of reporting, reliability, increased accuracy, and easy to back up and to restore the records. Beside its advantages there are also the disadvantages, namely extremely high costs on developing the system or software, introducing and using the system, need of special trainings for personnel, and dependence on machines.

Characteristics that differentiate manual process and computerize process:

1. Transaction trails in computerize procedure do not documented as well as manual procedure. Manual systems leave the audit trails, so that it can be easy to trace back the transaction (Allinson, 2004).

2. Uniform processing of transaction for the same instruction, so that it can minimize error when operator conducts manual processing. Negative impact of this uniform processing of transaction is generating uniform and massive fault for the same transaction.

3. Segregation of function in manual procedure conduct well by different personnel but in computerized procedure, the system usually centered. Control procedure such as password used in computerized system in order to prevent the same personnel conducted the opposite procedure.

4. Computerize process decrease human involvement in handling the transaction, while manual process involves a lot of personnel.

5. Transactions authorization in computerize procedure do not conduct as well as manual do. In computerize procedure, a person can have an opportunity to make unapproved changes to any such program because of the ease of the authorization system.

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III.2 Audit Activity on Accounting Information System Based on Information Technology

According to American Accounting Association, audit is a systematic process of objectively obtained and evaluating evidence regarding assertions about economic actions and events to ascertain the degree of correspondence between those assertions and established criteria and communicating the results to interested users. It also attempts to ensure that the books of accounts are properly maintained by the concern as required by law. So, audit has been primarily associated with finance. History shows that audits of financial report have been performed to detect fraud. By the mid-20th century audit process has been carried out by machine. Auditors who were responsible for applying procedures to meet the general accepted auditing standard and code of ethical conduct, now needed to expand their knowledge about computer and information system.

Accounting Information System (AIS) based on information technology has a great influence in modern society especially for company. Company nowadays faced with a rapid changes situation and competitive environment. Therefore the role of information technology is really important for the business process and finally it can help the management to make a better decision making. The development of AIS itself will certainly affect the audit practice. The changes of accounting process will affect the audit process because audit practice use financial report (accounting product) as its object. The audit process will adjust the rapid advanced in accounting information system. Auditors used special software designed for those who perform computerized applications. Auditors should learn new skills in order to work in the computerized environment. New skills that should have by auditors nowadays namely, understanding computer concept and system design, skills to detect the risk that probably appear and decide what kind of effective internal control that can be used, and knowledge about how the computer can be used to audit the computer (Utomo, 2006).

American Institute of Certified Public Accountant published auditing standard in 1974 that order CPA evaluated computer during their audit activity. Statement on Auditing Standard (SAS) Number 3 replaced by SAS 48 about the effect of computer processing on the examination of financial statement. Based on this standard, auditor should consider the methods on how the clients processing their data, including the used of the computer. When using IT in doing their audit work, auditors should consider that their nature, timing, and audit procedure applied would be different compare with the manual method (Yang and Guan, 2004). The used of IT will not only adjust the audit procedures and timing but also the audit team. The first general auditing standard is as follow: "The examination is to be performed by a person or persons having adequate technical training and proficiency as an auditor." If a client uses EDP in its accounting system, whether the application is simple or complex, the auditor needs to understand the entire system sufficiently to enable him to identify and evaluate its essential accounting control features. Situations involving the more complex EDP applications ordinarily will require that the auditor apply specialized expertise in EDP in the performance of the necessary audit procedure.

III.3 Internal Control Role on Audit Based on Information Technology

According to Chartered Institute of Internal Auditors, control is any action taken by management, the board and other parties to manage risk and increase the likelihood that established objectives and goals will be achieved. Management plans, organizes, and directs the performance of sufficient actions to provide reasonable assurance that objectives and goals will be achieved. A broad concept, internal control involves everything that controls risks to an organization. According to COSO Integrated Framework, internal control consists of five interrelated components. The components are (Karagiorgos et al.,2011):

1. Control environment, which include the integrity, ethical values, competence of the entity's people, the way management assign authority and responsibility, and organized and develops its people; and the attention and direction provided by the broad of directors.
2. Risk assessment, risk assessment is the identification and analysis of relevant risks to achieve the objectives, forming a basis for determining on how the risks should be managed.
3. Control activities, control activities are policies and procedures that help ensure management directives are carried out. It covers some activities such as approvals, authorizations, verifications, reconciliations, reviews of operating performance, security of assets, and segregation of duties.
4. Information and communication, information system produce reports, containing operational, financial and compliance-related information that make it possible to run and control the business. Effective communication is signed by the ability of all personnel can receive a clear message from top management that control responsibilities must be taken seriously.
5. Monitoring, monitoring is a process that assesses the quality of the system's performance overtime

Good AIS must have a control on it. Internal control system applied in AIS has an aim to prevent unwanted conditions such as errors or fraud. Internal control also can be used to detect error that has been happened when the use of AIS so that corrective activity can be conduct. Since the implementation of information technology, computerized accounting provides better internal control report system for any given period of time while manual control takes more time.

There are some internal control roles on audit based on information technology namely:

1. By using software package in the new audit environment, auditors can improve audit efficiency by performing variety audit tasks that previously were completed manually. Technology will have dramatic impact on audit process. The use of technology will free auditor from the clerical audit task and make auditor to do higher level task such as assessing risk and understanding client's business. Software package nowadays, like ACL and IDEA can perform audit task that previously did manually, such as footing ledger, extracting data, generating confirmation, and identifying and reporting unusual transaction. Not only can complete the clerical job, audit software can also be used for detecting fraud.The development of audit

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software does help auditor to test entire population of client's data with paperless audit environment (Bierstaker, 2001)

2. The audit report can easily contain links to work paper document, worksheet, graphs or other information that will be automatically updated as data changes. Report files can be shared by audit team members and management by implementing simple controls over access such as read-only access to those not authorized to change the files (Moorthy et al., 2011).

3. Assure the integrity of AIS, it can be conducted by two kinds of control, namely general control and application control. General control is designed to assure that computer system functioned as indeed. It can be performed by designing security plan, segregation of duties, control over the physical assets, control on login access, internet control, data storage control, and recovery plan control. Application control together with general control complete each other function because application control cannot run well if the general control is weak. If the application control is weak, AIS output will contain error and will result in making wrong decision (Yasmita, 2012).

From items that have been mentions above, we can conclude that the role of internal control is to evaluating the adequacy effectiveness of an organization's internal control system. It can detect whether the established system provides reasonable assurance that organization's objectives will be effectively and efficiently conduct. It also assure whether the system is functioning as indeed. The interconnectedness of internal control in the implementation of audit based on information technology can be drawn as follow:
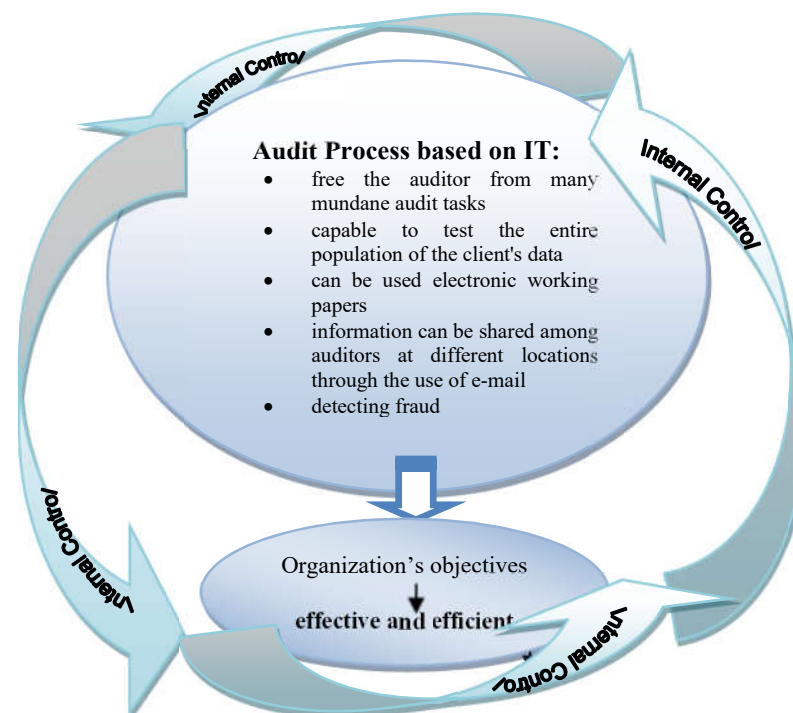
Figure above describes interconnectedness of internal control in the implementation of audit based on information technology. The use of information technology such as computer and its software may integrate internal control function. Accordingly, a computerized information system environment may affect (Abu-Musa, 2008):

a. The procedures followed by auditor in obtaining a sufficient understanding of accounting and internal control system.
b. The consideration of inherent risk and control risk through which the auditor arrives at the risk assessment.
c. The auditor's design and performance of tests of control and substantive procedures appropriate to meet the audit objectives.

Computer system provide increased management tool that can be used in reviewing and supervising company operation. Figure above describes that internal control applied can strengthen the audit function and giving the ease of audit work, which finally can achieve organization's goal.

III.4 Internal Control Constraint on Audit Based on Information Technology

Information technology based on computer used has an impact on auditors' job. Auditors have to learn new skill in order to work effectively and efficiently in computerized environment. Auditor should have an adequate understanding about computer concept, system design, and skills in identifying new risks and the best internal control to reduce the risks. This "new job" has made some constraint for the auditor, because they have to adjust themselves in the new environment where the manual system is rarely used. Audit environment expect auditors to possess skills not only conventional aspects of financial system but also in knowledge related to information technology.

The use of computer changes the processing, storage, and communication of financial information and may affect the accounting and internal control systems employed by organizations. Lack IT skilled auditors in Indonesia make such constraint in implementing latest technology. Formal education in Indonesia is not ready to produce ready to-deploy human resources, especially among recent graduates. Market nowadays needs graduates with combined knowledge of accounting, auditing, and IT. They are expected to specifically train in some knowledge, for example audit software and electronic data interchange. IT adoption found to be problematic in small sized firm. In small sized firms, they relied on less costly software, and even some just used Microsoft office product. A strong investment in latest IT arguably provides not only more efficient audits works but also higher audit quality. This IT investment should be support by IT staff to maintain and troubleshoot the IT and ensure that the existing IT infrastructure is functioning properly (Widuri et al., 2016). So, it is accepted, that the use of IT raised initial development cost and require adequate training in order to be used at full capacity (Tulvinschi and Socoliuc, 2012).

Another point of view of the constaraint described in the research conducted by (Fadzil and Jantan 2005) about internal auditing practices and internal control system in Malaysian public listed companies. The research hypotheses examined

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the compliance of internal auditing practice to the quality of internal control. This study also examined the influence of internal auditing practices and the quality of internal control system. It is shown that the monitoring aspect of the quality of internal control system positively influenced by the management of the internal audit department. However it is negatively influenced by professional proficiency. However their study suggest that professional proficiency such as adequate knowledge, professional membership, certification, training in electronic data processing (EDP) system lead to lower monitoring of the quality of internal control system. This is because when internal auditors have all above-mentioned criteria, it would imply that they are competent to do the work and therefore lower monitoring of quality internal control system is needed since the internal auditors have clear understanding of internal control system. Therefore, internal auditors need lower monitoring of the quality of internal control system since entire necessary audit operations has been well conduct.

Based on research that has been conducted, internal control will play fewer roles if the personnel have a good adequate knowledge. The problem is, when the management places much trust on qualified personnel. That person could manipulate the data or intentionally can do some errors since software ease of use may also result in the implementation of features that unintentionally weaken information security provisions (Moorthy et al., 2011). It is good to have qualified personnel, but it is better to have both qualified personnel and good implemented internal control.

In implication of IT, author has determined the benefits of IT in audit process. But, on the other hand, IT development such as computerization has increased risk of discontinuing organization activity, data loss, network breakdown, virus threatened and it can influence the business process. Not only that, paperless audit will become common where audit clients tend to shift toward paperless system and it will be depending on audit software for enhancing related auditing procedures (Moorthy et al., 2011).The paperless system will soon make the audit trails disappear. The continuous internal control monitoring will become important in the future as audit paper trails slowly disappear.

IV. CONCLUSIONS

As technology changes, auditors must keep pace with emerging technology changes. Computerized accounting systems allow accountants to process more information than before by creating easier review processes. Accountants can spend less time looking for errors and have more time analyzing information for decision purposes. Computerized accounting system also followed by audit on audit AIS based on information technology. The need of additional skills, such as IT skill by auditor is necessary. By implementing modern technology used in audit the work will become easier and it can increase effectiveness and efficiency. But, there are some constraints faced by auditor related to internal control activity, such as the need of continuous monitoring of internal control especially for network breakdown, hacked system, virus threatened, and difficulty tracing the audit trails since paperless era is now happening.

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