

The impact of Computer Assisted Auditing Techniques (CAATs) on development of audit process: an assessment of Performance Expectancy of by the auditors

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Abstract: Majority of current businesses are shifting towards adopting computerized accounting information systems. This trend tends to have effects on the performance of IT audit, financial reports audit and tracing e-source documents. The adoption of CAATs as audit technologies enables auditors to carry out effective and efficient IT audit work performance and to mitigate audit time. The objective of this study is to examine the performance expectancy that influence the computer assisted auditing techniques (CAATs)

Keywords: Computer Assisted Audit Techniques (CAATs).

1. INTRODUCTION

Computer Assisted Auditing Techniques (CAATs) is the paradigm within auditing as a discipline. Information systems auditing is still at its infancy compared to traditional auditing in small and medium size practices (Thnaibat, 2003). However, IS auditors are currently providing audit assurance to organizations (Wang & Yang, 2005). In most cases these auditors are deployed to ensure that internal controls implemented within information systems are adequate and effective. Additionally one can conclude that rapid changes in technology introduced new procedures on how audit need to be conducted. As a result, traditional audit functions are being challenged by the use of information systems (Wang & Yang, 2005). Furthermore, the ever changing technology makes it difficult for auditors to execute their audit functions using traditional audit methods.

As more of the evidence they use becomes electronic and paperless, auditors must change their audit techniques (Mancuso, 1997). The focus of the audit should shift from manual detection to technology-based prevention (Bierstaker et al., 2001). There are well established tools developed which can assist auditors in achieving audit objectives. For example, Computer Assisted Auditing Techniques (CAATs) have been developed to assist auditors in performing audits on computerized accountancy data, Generalized Audit Software (GAS) is used by auditors to analyse and audit either live or extracted data from a wide range of applications (Debreceeny et al. 2005). GAS also includes several tools that enable the extraction of data from a client's system and analysis of that data, statistical analysis and audit expert systems (Debreceeny et al., 2005). And computer assisted audit tools (CAATs) systems provide several potentials. CAATs used the computer as an audit tool for enhancing the effectiveness and efficiency of audit procedures (Isabel Pedrosa & Costa, 2012).

The purpose of this paper is impact of CAATs on development of audit process through performance expectancy of by the auditors. The paper first provides a summary of the information Traditional Manual Auditing Vs. CAATs usage of technology, International Standards on CAATs, Implications for the CAATs process, Computer Auditing Activity and Performance and Performance expectancy by auditors . observations on how CAATs has impacted on development of audit process an assessment of Performance Expectancy of by the auditors.

The paper concludes development of audit process of CAATs through an assessment of performance expectancy by the auditors on how development in audit will improve the efficiency and effectiveness audits.

2. LITERATURE REVIEW

Overview of computer audit tools and techniques (CAATs)

CAATs can be generally defined to represent any use of technology to assist in the completion of an audit (Braun & Davis, 2003; Singleton & Flesher 2003). Yet, a more recent definition is to limit the use of the term to “various tools, technologies, and software that help auditors to conduct control and confirmation tests, analysis and verification of financial statement data, and continuous monitoring and auditing” (Lin & Wang, 2011: 777).

The use of computer audit tools and techniques (CAATs) has existed over a decade ago since the use of IT in business became overly prominent. The debate over auditors use of these tools have also develop considerable interest in the literature both in developed and evolving economies including the U.S (Doganata & Curbera, 2009), Portugal (Gasper Alves, 2010), U.K (Patel et al., 2008), Bahrain (Hamdan & Abzakh, 2010), Jordan (Hayale & Abu Khadra, 2006) and Turkey (Saygili, 2010). The reason for this trend is strongly associated with the strong inclination of IT to business. Auditors continue to play considerable roles in ensuring that internal controls in IT driven financial transactions processing is sufficient to deliver qualitative assurance upon which they are expected to express their opinion over such internal control procedures. Without doubts there are more dependencies on IT systems in business in recent times than ever before. Companies continue to engage technology in providing sophisticated, value added and customer friendly products and services. This application of IT to system processes continue to creates opportunities for increased control as well as enhanced business productivity. However this development in IT exposes business process internal control and audit to significant new risks and concerns which may include but not limited to unauthorized access, software control failure and process termination to mention but a few. This weakness is highly likely to be more pronounced in computerized systems than manual. Auditors are now aware that they no longer have to deal with conventional method of establishing reliance on internal controls and subsequently limiting or expanding substantive controls. Advanced use of IT has rapidly changed the ways these professionals evaluate internal control risk. International Audit standards (Sarbanes-Oxley) suggested that computer related audit procedures may be significantly influenced by control risks. Thus when auditors examine complex systems, it may be ineffective and inadequate to rely on conventional substantive testing alone. The provisions of most countries audit guidelines now call for extensive use of computer related audit procedures when auditors obtain knowledge of internal controls during the audit process.

There are a number of studies that focus specifically on computer-based audit support systems. For example, Bierstaker et al. (2001) documented the impact of technology on audit planning in five large audit firms and asserted that technology can be used to provide client-specific internal controls that assist the auditor identify the flaws in the client’s systems. They also found that technology is useful for analysing the client’s business processes, to determine and assess the level of controls and to recommend tests that need to be performed. Furthermore, technology guarantees compliance with audit standards and other audit-related regulations. Bierstaker et al. (2001) described the use of technology on the audit process by interviewing IT professionals from four of the five largest US accounting firms. Bierstaker, Burnaby and Thibodeau’s (2001) studies were descriptive in nature and focused on a singular audit application from one audit firm hence the two studies are not generalizable to the external auditors actual use of technology.

Previous studies (for example, Braun and Davis 2003; Devaraj and Kohli 2003; Dowling and Leech 2007) found that the increased use of IT by clients effects on the audit process by encouraging firms to use sophisticated computer-based tools and motivates auditors who are not trained in computerized systems to enhance their skills and knowledge (Abu-Musa, 2004). Furthermore, IT adoption increases productivity (see, for example, Shumate and Brooks (2001) Banker et al. (2002) and Vera-Muñoz et al. (2006) and efficiency in audit firms (for example, Williams and Dirsmith (1988)). In summation, the previous research indicates that the impact of IT on the audit process has been significant in many ways. This contributes to the development of the audit process.

Traditional Manual Auditing Vs. CAATs

In terms of traditional manual auditing methods, auditors will build conclusions based on the sample gathered from the accounting documents. The auditors will use the sampling techniques and conduct substantive testing as guided on the specified audit programmes and accepted auditing standard. Without the concern of the numbers of population or transaction for a particular audit period which probably can be reached more than thousands of transactions, only a few

numbers of samples has been tested by the auditor. There is nothing wrong with these procedures, but with the current advance of technology, this practice can be questionable. With CAATs, auditors can perform many tests on 100% of the subject being audited. Instead of relying on the sample, any significant irregularities can be detected using certain procedures and tests within CAATs. Manual auditing might be convenient for certain types of auditing, especially when it deals with small client with small transaction within audit period. However, it might be irrelevant to extend this to some complicated audit procedure. Chang et al. (2011) mentioned that the need for a useful computer auditing system becomes critical because manual audits cannot immediately recognize significant discrepancies unlike in computers. Showing that the use of CAATs working on the development of the audit process, unlike traditional manual auditing.

International Standards on CAATs

According to (Janvrin et al, 2008) “recent audit standards encourage auditors to adopt CAATs to improve audit efficiency and effectiveness” and the statements about it are available in (AICPA, 2001; AICPA, 2006; AICPA, 2008). Some of the tasks are suggested as relevant for CAATs usage concerning financial auditor performance on audit procedures. “CAATs may be used to improve audit efficiency by recalculating information provided by audit clients” and “allowing auditors to directly inspect evidence stored in electronic form” (AICPA, 2006). Fraud detection is now defined as one of the major financial auditor’s responsibilities according to international standards (SAS 99 and Sarbanes-Oxley Act, in 2002, and Public Company Accounting Oversight Board, PCAOB, Audit Standards). Additionally, in February 2009, International Auditing and Assurance Standards Board, IAASB, an independent Board in cooperation with International Federation of Accountants, IFAC, has concluded Clarity Project (which was started in 2004) when the Public Interest Oversight Board, PIOB, confirmed that due process had been followed. Auditors worldwide now have access to 36 clarified International Standards on Auditing, ISAs, and a Clarified International Standard on Quality Control, ISQC, (IAASB, 2003). These clarified ISAs come into effect for audits of financial statements for the period that began after December 15, 2009 (IAASB, 2003).

Implications for the CAATs process

Auditors must keep pace electronically with their clients. clients need for aid in installing and upgrading their enterprise-wide computing platforms. Respondents indicate that on average it takes two to three years for a company to completely transfer their old software to enterprise-wide computing platforms. In these situations, auditors should work with their clients to ensure that all controls and performance measures needed to evaluate each business process are in place. Bierstaker, et al. (2001)

As auditing software is integrated into the audit process, auditors will have more time to address the complex issues that their clients face in the global marketplace. Client management will need to develop strategies that incorporate the company’s objectives and goals into performance measures that can quickly highlight when a process is not performing up to standards. Auditors can use CAATs in developing measurable objectives and performance indicators that enterprise-wide computing systems can help to electronically monitor.

The focus of the audit will shift from manual detection to technology-based prevention. Although some fraud may never be prevented, the enterprise computing platform software has built-in reports and analysis that help to identify areas of concern when unusual relationships exist. The ability to include internal checks into advanced systems should aid management and auditors in preventing errors and irregularities. In addition, with the ability to test 100 percent of transactions, auditors may be able to discover errors and irregularities more frequently. Due to advances in technology, auditors will provide a larger range of services to their clients. Free from the mundane parts of the audit, auditors will be able to utilize their time in helping clients develop good business plans, assess business risks and measure performance as part of the financial statement audit.

Computer Auditing Activity and Performance

CAATs assist auditors by automatically obtaining complete data and executing analyses. Auditors can repeat audit work by executing automatic audits, thereby reducing audit time and costs.

The primary function of computer auditing is to assist with the performance of audits. The goal of auditing is to ensure the effectiveness of control, which are designed to facilitate sound company management. It is to reasonably guarantee the achievement of the following three goals: (1) Operational effectiveness and efficiency, which refers to achieving company profit objective, and asset security; (2) reliability in financial reporting to ensure external financial statements; and (3) regulatory compliance, which refers to all operations of a company meeting regulatory requirements without violating any

laws. Auditing develops audit policies based on these three goals and set audit objectives for the execution of audit after assessing risks. Internal auditors should also develop a scope and projects for their computer auditing activities based on the developed audit policies. If the planned computer auditing activities can be completed according to schedule and the expected quality attained, the computer auditing team has successfully maintained the quality and efficiency of their auditing work. Relevant performance can be measured using indicators or metrics of team project performance, such as efficiency, completeness, compliance or accommodation with work progress, outcome quality, interaction, and communication (Henderson & Lee, (1992), Masli, Peters., Richardson, & Sanchez (2010) and Lu, Xiang, Wang & Wang (2011).

Therefore, the implementation of computer auditing can increase enterprise efficiency and benefits. Previous studies have also found that complete computer auditing establishment can conserve auditors' manpower resources, reduce audit costs, reduce the time spent executing audit tasks, increase audit quality, and enable enterprises to improve operating efficiency Vasarhelyi, Alles, Kuenkaikaew, & Littley. (2012). Vasarhelyi et al. (2012) conducted interviews with companies and found that they were all required to adhere to the Sarbanes-Oxley Act and had established specific departments to monitor and confirm their compliance. Computer auditing can assist in implementing Sarbanes-Oxley Act requirements, as well as facilitating monitoring activities and reducing monitoring time. Therefore, improvements to computer auditing activities may enhance enterprise efficiency and benefits

Performance expectancy

Auditing standards and guidelines suggest that the usage of technology tools could help enhance the efficiency and effectiveness of auditor's work (e.g. see IIA standard 1220.A2). In addition, other literature on CAATs has shown that auditors adopt CAATs to be able to perform various functions, such as: to test program controls (PogrobandIsenberg, 1999; Javnrintal., 2009), to gain a comprehensive understanding of their IT controls (Neuron, 2003); to facilitate risk assessment during specific audit planning processes (Paukowits, 2000); and to improve the efficiency of audit testing (Hudson,1998).As such, CAATs are argued to be an important tool for auditors in the performance of their audit work. This perception therefore could be argued to be consistent, in principle, with perceived usefulness as included in the performance expectancy construct in UTAUT, which refers to the extent to which an individual believes that their use of the technology will enhance their job performance (Davis,1989).

Performance expectancy refers to the extents to which an individual believes that using the tool can aid in attain gains in job performance (Venkatesh, Morris, Davis, & Davis, 2003). According to (Jaksic, 2009) and (Saygili, 2010) auditors who believe that adoption of CAATs might enhance their audit productivity and the quality of audit work, should have positive intentions to adopt the technology. Banker, Hsihui, and Yi-Ching (2002) found that using CAATs in big audit firms reduces audit time needed for working paper preparation. They also found that the audit professionals' decision-making process was enhanced by electronic presentation of accounting information (Banker, Hsihui, & Yi-Ching, 2002). Furthermore, auditors' belief that using CAATs will improve the efficiency of conducting audit tests of controls and substantive testing, are likely to have high intentions to adopt CAATs according to Bedard, Jackson, Ettredge, and Johnstone (2003) and Loraas and Wolfe (2006). Withstanding these benefits, the researcher believes that auditors' perceptions of the usefulness and productivity they expect to gain from using CAATs in their auditing domain, will positively influence the intention to adopt and use them.

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Literature outlined that using computer aided audit techniques can reveal efficiency and productivity on an information systems audit as compared to the traditional audit approach (Jaksic, 2009; Saygili, 2010). Furthermore, literature indicated that, the utilisation of Computer Aided Audit Techniques by information system auditors can increase audit coverage by including 100% transaction testing as compared to samples testing (Singleton, 2006). As a result, information systems auditors might reflect positive intentions towards usage and adoption of CAATs within their audit engagements if they believe that the adoption of CAATs might enhance their audit output and job performance.

3. CONCLUSION

Computer Assisted Auditing Techniques will impact on development of audit process. according International Standards on CAATs may be used to improve audit efficiency by recalculating information provided by audit clients” and “allowing auditors to directly inspect evidence stored in electronic form. From computer generated audit programs to audit software capable of testing the entire population of the client’s data, Auditors who make use of new technology will be rewarded with tremendous gains in audit efficiency and effectiveness.

The performance expectancy shows usefulness and rewards factors are significant and play a major role in to use CAATs auditors to development of the audit process. which establishes the link between performance expectancy to use CAATs, is strongly supported . This implies that auditor perceive a higher level of performance expectancy from CAATs usage and hence, to use CAATs in auditing is expected to be high. These findings have different implications. First, audit firms may developing and actively promoting training programs to increase auditors' knowledge and skills to make it easy to learn and to operate CAATs and by doing so improve auditors' performance expectancy and consequently increase CAATs usage and development of the audit process. These results suggest that this key driver may increase the possibility The impact of information technology on development of audit process.

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