The impact of information technology on the development of audit process :Review of accepted theories of IT by the auditors

Prof. Dr. Sadun Alheety & **Ahmad Marei**

Faculty of Finance and Administrative Science Al Madinah International University

Phd Student Mediu

Email: sadun.alheety@mediu.edu.my ahmadmarei27@gmail.com

Abstract

For professional accountants and particularly auditors involved in information systems (IS) audits, Information technology (IT) is important. Reliance of businesses on computerized information systems is increasing. As such, auditors are now obliged to equip themselves with the knowledge and skills of IT. The current study uses the Unified Theory of Acceptance and Use of Technology (UTAUT) to enable the exploration of the impact of information technology on a development of the audit process from the perspective of auditors through the study on the relationship between IT and the acceptance and auditors. This study's results are grounded on a literature on the performance expectancy which describes the advantage and rewards elements are paramount and play a main part in the intent to utilize and employ CAATs auditors. This suggests that auditor understands a greater grade of performance expectancy to the adoption of CAATs. According to the effort expectancy, the effect demonstrated a paramount positive relevance with the utilization grade of CAATs. This signifies that higher effort expectancy means higher auditor's employment level of CAATs.

Introduction

The employment of enterprise resource planning (ERP) or electronic data interchange (EDI) into firms has transmuted the preservation method of transactional data. According Rezaee et al. (2001), the information technology transmutes the way firms react with their customers and withal the reporting technique and the dispersion of the financial reports. The implicative insinuation of Information technology employment in firms was qualified by Messier et al. (2004). The authors concluded that in computerized process, financial misstatements appear more prevailing. Ever since the computerized systems' adoption, the recurrence of electronically consummated audits has incremented while eliminating the trail of old-fashioned paper from the place of work (Devaraj & Kohli, 2003; Braun & Davis 2003). With the rise in electronic evidence, auditors are obliged to use incipient techniques in their audit practices. Auditors want to test the internal controls of the clients and the reliability of their systems for precision alongside the valuation of risk by utilizing generalized audit software (GAS).

As shown by the past authors, the usage of IT is suitable at all audit process stages. The systems of audit support as well as decision providing assistance to the Big four and one other big audit firm employed were examined by Dowling and Leech, (2007). In this study, systems of audit support were described by the authors as a technology that firms utilize in conducting audits. Among the examples of audit support system mentioned in this study include standards and regulations of accounting and auditing, electronic working papers and decision aids. The study indicated the possible adoption of audit support systems in the audit process in every stage.

The subject of computer-based audit support systems has been scrutinized by several scholars. The study by Bierstaker et al. (2001) for instance, looked into the effect of technology on audit

planning within five major audit firms. According to the authors, technology is useful in offering client-specific internal controls which will provide the auditor assistance in ascertaining the weakness in the systems employed by the clients. Aside from that, the authors mentioned the usefulness of technology in analyzing the business processes of the clients in order to ascertain and evaluate the degree of controls apart from recommending the necessary tests to be conducted. Also, with technology, adherence to audit standards and other audit-related regulations can be assured. The adoption of technology during auditing was described by the author via interview with the IT experts selected from four of the five biggest accounting firms in USA. The study conducted by Bierstaker, Burnaby and Thibodeaus (2001) and Bell et al. (2002) was descriptive in nature. The focal point of the authors was on one audit application from a single audit firm. As such, both studies cannot be generalized to the external auditor' effective technology usage.

Precedent works (e.g., Devaraj & Kohli, 2003; Dowling & Leech, 2007; Braun & Davis, 2003) reported that the incremented utilization of Information Technology by impacts of clients on the audit process by way of emboldening firms to utilize implements that are sophisticated and computer-predicated while compelling auditors that are untrained in computerized systems to have their cognizance and skills enhanced (Abu Musa, 2004). Moreover, the implementation of Information technology leads to productivity increase (for instance, Banker et al. (2002), Shumate and Brooks, (2001) Banker et al. (2002), Vera Muñoz et al. (2006) and Hsihui et al. (2011)) and competence within audit firms (for instance, Williams and Dirsmith (1988)). Within the extract, the precedent work betokens that the impact that is imparted by Information Technology on the process of audit appears to be paramount in more ways than one. In construct,

it should be acknowledged that the past scholarly works have fixated on the colossal audit firms in the advanced nations.

The aim of. this research paper is to examine the impact of information technology (IT) on the process of development of the auditing by some studies. As such, the study seeks:

- To inspect the impact of information technology on development of audit process

Research Hypothesis

There is a significant relationship between IT and the acceptance of auditors

Concepts of the study

Information Technology (IT): IT is the study, implementation, design, support, and management of computer information systems which converts, stores, protects, processes, transmits and secures information using electronic computers and software (Aurora Sanchez Ortiz, 2003; Aliasghari et al., 2016).

Computer Assisted.Audit Techniques (CAATs): CAATs entail "any use of technology to assist in the completion of an audit." These techniques are indicated from rudimentary spread sheet and the software for statistical analyses utilized in the task of audit in progress and specified databases and business perspicacity audit software implementation for instance Generalized Audit Software (GAS) (Shamsuddin, Amanuddin, et al., 2015).

Information Systems Auditing: "The process which collects and evaluates evidence to determine whether information systems and related resources, adequately safeguards assets, maintain data and system integrity, provides relevant and reliable information, achieves organizational goals effectively, consumes resources efficiently and have in effect internal

controls that provide reasonable assurance that business, operational and control objectives are met" (Ahmi, 2012).

Technology Acceptance Models

The literature on Information Technology and Information Systems (IT/IS) adoption literature presents numerous theoretical models for predicting the adoption attitude. Such models embrace Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1980), Technology Acceptance Model (TAM) (Davis, 1989), Diffusion of Innovation (DOI) (Benbasat & Moore, 1991), theory of Planned Behavior (TPB) (Todd & Taylor, 1995; Ajzen, 1991), Social Cognitive Theory (Higgins & Compeau, 1995) as well as the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). Each of the models focuses on a specific group of factors supported with some overlap discovered between them (Mansour, 2016; Williams et al., 2009; Dillon & Morris, 1996).

Nevertheless, one model appears to cognate to technology approval and this study has opted for the UTAUT formulated by Venkatesh et al. (2003). UTAUT is perceived to be appropriate for this study because it combines the components of a number of well-known models of information systems theories for IT/IS utilization prediction. Moreover, in order to test their model robustness, Venkatesh, Davis, Morris and Davis (2003) had it tested in various contexts. Based on the outcomes, they concluded that their model was true, vigorously reinforced and explicate up to 74% of the difference with respect to the intention to utilize technology; their model appeared to be superior than the previous models (Venkatesh et al, 2003).

Venkatesh et al. (2003) indicated that based on the Unified Theory of Acceptance as well as Use of Technology adoption, the adoption and usage of Information technology is impacted by performance expectancy and effort expectancy.

Performance Expectancy

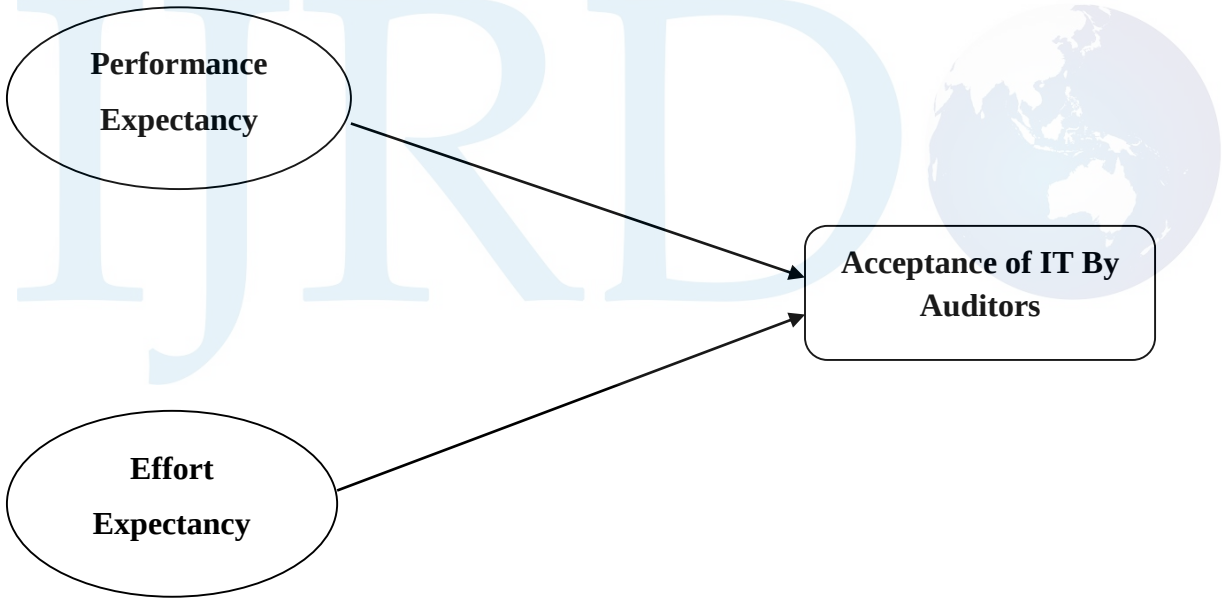
The notion of performance expectancy is about the scope of which a person approves that utilizing the implement can avail in obtaining job performance gains (Venkatesh et al, 2003). Banker et al. (2002) demonstrated that utilizing CAATs in immensely colossal audit firms decrease audit time necessary for working paper elaboration. Additionally, the authors reported that the process of decision making of audit professionals was prompted by electronic submission of information about accounting (Banker et al., 2002). Further, auditors who approve that the use of Computer Assisted Audit Techniques might reinforce their audit productivity and must be the quality of the audit work of the positive intents in adopting the technology (Jaksic, 2009; Saygili, 2010). Moreover, the auditors' credence that utilizing Computer Assisted Audit Techniques will amend the efficiency of immediate audit tests of controls as well as fixed testing appear to be more inclined to employ CAATs (Bedard et al., 2003; Loraas & Wolfe, 2006; Mansour, 2016).

Effort Expectancy

The concept of effort expectancy indicates "the degree of ease associated with the use of the tool" (Venkatesh et al, 2003). Advocators of UTAUT are of the view that perceived easiness of avail is predictable to impart positive impact by way of effort expectancy of the behavioral intention to adopt or employ an implement (Venkatesh et al., 2003). According to Aidi and Kent (2013), within the audit opinion, is is possible that the involution and arduous utilization of

CAATs could negatively affect the adoption of incipient audit technology by auditors. According to Payne and Curtis (2010), UTAUT proposes that it is highly likely that auditors with strong IT training would employ CAATs when they are facile to utilize them, and consequently, their usage does not necessitate arduous cognition process. Explaining the understanding of ease of use appeared to be significantly paramount among practiced auditors, thence hypothetically advise the utilization of the aforesaid structure in the modeling of auditor's acceptance of technology (Bedard et al., 2003).

Model



Conclusion

The performance expectancy describes the advantage and rewards elements that are paramount and plays a main part in the auditor's intention pertaining to the usage and adoption of CAATs. This initiates that the connection between performance expectancy and intent to utilize CAATs, is vigorously fortified. This suggests that auditor understands a greater grade of performance expectancy to CAATs' adoption as well as utilization. As such, the intention to utilize CAATs within the practice of auditing is likely to increase. These results have various implicative insinuations. Audit company may be developing and vividly encouraging training programs as a way to boost auditors' erudition and dexterity. This would simplify the learning and operating of CAATs. As a result, the performance expectancy of auditors would be upgraded which in turn will increase the usage of CAATs.

According to the effort expectancy, the highlighted effect demonstrated a paramount positive relevance with the utilization grade of CAATs. This signifies that greater effort expectancy translates to auditors' greater level of usage of CAATs. The result betokened that the auditors could amend their communication better with CAATs considering the fact that CAATs are equipped with all the compulsory functions and ability.

These conclusions indicate the possibility of these two main drivers in increasing the influence of IT on the development of audit process.

Reference

Abu-Musa, A. A. (2004). Auditing e-business: new challenges for external auditors. *Journal of American Academy of Business*, *4*(1), 28-41.

Ahmi, A. (2012). *Adoption of generalised audit software (GAS) by external auditors in the UK* (Doctoral dissertation, Brunel University, School of Information Systems, Computing and Mathematics).

Ahmi, A., & Kent, S. (2012). The utilisation of generalized audit software (GAS) by external auditors. *Managerial Auditing Journal*, *28*(2), 88-113.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour.

Aliasghari, A., & Bazaee, Q. (2016). Assessing the Maturity Level of Alignment of Business, IT, and Applications in Companies with Enterprise Architecture (Case Study: MCI Co.). *Journal of Current Research in Science*, (1), 519.

Banker, R. D., Chang, H., & Kao, Y. C. (2002). Impact of information technology on public accounting firm productivity. *Journal of Information Systems*, *16*(2), 209-222.

Bedard, J. C., Jackson, C., Ettredge, M. L., & Johnstone, K. M. (2003). The effect of training on auditors' acceptance of an electronic work system. *International Journal of Accounting Information Systems*, *4*(4), 227-250.

Bell, T. B., Bedard, J. C., Johnstone, K. M., & Smith, E. F. (2002). KRiskSM: A computerized decision aid for client acceptance and continuance risk assessments. *Auditing: A Journal of Practice & Theory*, *21*(2), 97-113.

Bierstaker, J. L., Burnaby, P., & Thibodeau, J. (2001). The impact of information technology on the audit process: an assessment of the state of the art and implications for the future. *Managerial Auditing Journal*, *16*(3), 159-164.

Braun, R. L., & Davis, H. E. (2003). Computer-assisted audit tools and techniques: Analysis and perspectives. *Managerial Auditing Journal*, *18*(9), 725-731.

Chang, H., Chen, J., Duh, R. R., & Li, S. H. (2011). Productivity growth in the public accounting industry: The roles of information technology and human capital. *Auditing: A Journal of Practice & Theory*, *30*(1), 21-48.

Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS quarterly*, 189-211.

Curtis, M. B., & Payne, E. A. (2008). An examination of contextual factors and individual characteristics affecting technology implementation decisions in auditing. *International Journal of Accounting Information Systems*, *9*(2), 104-121.

Devaraj, S., & Kohli, R. (2003). Performance impacts of information technology: Is actual usage the missing link?. *Management science*, *49*(3), 273-289.

Dillon, A., & Morris, M. G. (1996). User acceptance of new information technology: theories and models. *Annual review of information science and technology*.

Dowling, C., & Leech, S. (2007). Audit support systems and decision aids: Current practice and opportunities for future research. *International Journal of Accounting Information Systems*, *8*(2), 92-116.

Jakšić, D. (2009). Implementation of Computer Assisted Audit Techniques in Application Controls Testing. *Management Information Systems*, *4*(1), 009-012.

Loraas, T., & Wolfe, C. J. (2006). Why wait? Modeling factors that influence the decision of when to learn a new use of technology. *Journal of Information Systems*, *20*(2), 1-23.

Mansour, E. M. (2016). Factors Affecting the Adoption of Computer Assisted Audit Techniques in Audit Process: Findings from Jordan. *Business and Economic Research*, *6*(1), 248-271.

Messier, W. F., Eilifsen, A., & Austen, L. A. (2004). Auditor detected misstatements and the effect of information technology. *International Journal of Auditing*, *8*(3), 223-235.

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, *2*(3), 192-222.

Rezaee, Z., & Hoffman, C. (2001). XBRL: Standardized electronic financial reporting. *Internal Auditor*, *58*(4), 46-46.

Sanchez Ortiz, A. (2003). Testing a model of the relationships among organizational performance, IT-business alignment and IT governance.

SAYGILI, A. T. (2010). Taking Advantage of Computer Assisted Audit Tools and Techniques during Testing Phase in Financial Audits: An Empirical Study in a Food Processing Company in Turkey. *Global Journal of Management and Business Research*, *10*(2).

Shamsuddin, A., Logenthiran, A., Rajasharen, L., Dhinesh, A., Maran, L., Ameer, M. F. M., ... & Muthu, L. M. FACTORS INFLUENCING USAGE LEVEL OF COMPUTER ASSISTED AUDIT TECHNIQUES (CAATs) BY INTERNAL AUDITORS IN MALAYSIA.

Shumate, J. R., & Brooks, R. C. (2001). The effect of technology on auditing in government: A discussion of the paperless audit. *The Journal of Government Financial Management*, *50*(2), 50.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly*, *36*(1), 157-178

Vera-Mun~ oz, S. C., Ho, J. L., & Chow, C. W. (2006). Enhancing knowledge sharing in public accounting firms. *Accounting Horizons*, *20*(2), 133-155.

Williams, D. D., & Dirsmith, M. W. (1988). The effects of audit technology on auditor efficiency: Auditing and the timeliness of client earnings announcements. *Accounting, Organizations and Society*, *13*(5), 487-508.

Williams, M. D., Dwivedi, Y. K., Lal, B., & Schwarz, A. (2009). Contemporary trends and issues in IT adoption and diffusion research. *Journal of Information Technology*, *24*(1), 1-10.