



## **Analysis of Challenges and Difficulties in Implementing Information Systems Audit: A Narrative Literature Review**

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### **ABSTRACT**

Information Systems Audit has a main role in the value of any organization from developing countries such as integrity, reliability, security, and privacy. Many researchers are interested in the topic of information systems audit due to the large number of recent business failures. Some research focuses on the current cases from developing countries so this research will give a comprehensive overview of information systems audit. Research gap in the existing literature raised the following research question: What are the difficulties and challenges experienced by developing countries in terms of Information Systems Auditing? The narrative literature review for information systems research was undertaken in line with the theory approach to systematic review. This research analyzed a number of categories that aligned with the grand theories related to difficulties and challenges in the implementation of the Information Systems Audit. In conclusion, this literature review shows that the countries face various challenges and difficulties regarding Information Systems Audit which consists of legislation and policies, culture, education, and human resources.



## **INTRODUCTION**

Most private and public organizations today know the strategic value of information. They rely on information systems to process data generated within the organization or from outside sources. As a result, it is believed that organizations must safeguard their information to continue operating.

In some well-known fraud cases, such as the "Ponzi scheme" of Bernie Madoff or the fabricated financial statements of AIG, executive misconduct also led to falsifying financial records using information systems. As a result, it has become increasingly crucial in recent years to control and audit the information systems used in organizations strictly. Governments and sub-regulators are under much pressure from businesses to create laws and policies that are clear and current and prioritize information systems auditing (Lovaas & Wagner, 2012).

Examining old documents constitutes an organization's information systems (IS) audit. IS auditors must adhere to a precisely defined audit process, set audit standards, collect relevant data, and present findings in a neutral, independent manner. The report is also delivered to the organization's senior management. A mitigation plan is created and implemented to avoid any IS-related risks that could further endanger the organization's existence if management accepts the audit's conclusions (Cannon, 2011).

Additionally, from a practical and technical standpoint, information system auditing depends on information system control. Management must implement certain controls to ensure that information systems effectively and efficiently achieve the organization's business objectives (Soltani, 2007). Therefore, an information systems audit aims to assess and record the effectiveness of the information systems controls to safeguard the infrastructure, critical systems, applications, resources, and data of the target organization's current information systems.

In light of the expanding trends in globalization, outsourcing, and business (Walsham & Sahay, 2006). Avoiding a similar situation in developing nations is crucial to accurately identifying the barriers to the current IS audits. The future development of information security testing in developing nations can be improved in this way.

This study aims to answer research question (RQ) "What Are The Difficulties and Challenges in Implementing an Information Systems Audit?". This study aims to explore and comprehend the challenges and difficulties of information systems audit through a method of narrative literature review. This study can provide a deeper understanding of these concepts and their correlations.

## **BACKGROUND**

### **Concept of Auditing**

In order to ascertain and report the degree of conformity between the information and established standards, auditing involves gathering and analyzing evidence about information (Arens et al., 1997). Auditing is gathering and analyzing information evidence to ascertain and document the degree to which the information complies with predetermined standards. This opinion is consistent with the American Accounting Association's definition of "audit," which states that it is "a systematic process to obtain and objectively evaluate evidence regarding statements about actions and economic value transactions to ensure the level of conformity between the statement and the criteria and communicate the results to interested users." The audit is described as an official examination of estimates, books, or financial statements of a company or an individual in the Ninth New Collegiate Edition of Webster's Dictionary. This opinion is in line with the opinion of Romney et al. (2006): "Auditing is a function of witnessing which involves an objective examination of the company's financial statements prepared by management".

### **Information Systems Audit**

Information systems can be divided into information technology (IT) and information systems. IT testing is considered a relatively new discipline. Nevertheless, it is crucial to the life cycle of an organization because it helps to strengthen the organization's ability to control the information produced within it (Lovaas & Wagner, 2012; Carlin & Gallegos, 2007).

A systematic approach to documenting evidence to prevent, identify, and correct anomalies, errors, or illegal activities related to the systems implemented in the organization is known as IT auditing, a subset of IS auditing (Carlin & Gallegos, 2007). As a result, the primary goal of an information systems audit is to evaluate and provide feedback, make assertions, dispel any lingering questions, and offer suggestions for the best course of action for making the organization more secure (Lovaas & Wagner, 2012). IS auditing ensures that a company's computerization efforts adhere to all applicable laws (Hingarh & Ahmed, 2012).

Similar definitions for auditing information systems are used in IT industry standards. For instance, the widely used standard "Systems and Software Engineering - Software Life Cycle Processes" states that an audit in the context of "Systems and Software Engineering" refers to an unbiased evaluation of software products and processes carried out by an authorized person in order to determine compliance with the requirements (ISO/IEC 12207:2008, 2008). Consequently, the focus of an IS audit is on the parts of the information systems that the organization uses. According to Hingarh and Ahmed (2012), this includes supervisors, workers, and independent contractors to cover all facets of the definition of an information system.

The scope of handling the audit problems for an information system is inseparable from computer-based data processing applications that provide input and document output. There are five specific standards relating to this scope which is:

- a. Information system reliability and integrity. The financial and information system reliability and integrity must be examined during the inspection.
- b. Related to the wisdom, planning, laws, and regulations. This wisdom includes the use, assignment, evaluation, and promotion of personnel in information systems, long-term planning, and others.
- c. Protection of company assets. The examination must review equipment to safeguard assets and companies with records so they can be reconciled.
- d. Use of Economic and Efficient Sources. Economic sources are all departmental operations, managers, equipment, and personnel developed.
- e. Try to reach the objective of the operation program.

System control is a management function that aims to make the information system activities run according to the plan. The relation between information system audits and management business activities is to achieve the goal of realizing that no system is truly perfect and free from deviations, so no control is needed. Therefore, information system audits are oriented to 3 management environments, from the top, middle, and lowest levels. Data management involves financial and non-financial system procedures.

## **RESEARCH METHOD**

The purpose of this research is to look into the factors that relate to the challenges of putting information systems audit into practice. According to the existing research guidance literature, this research project uses the narrative literature review method. A narrative literature review is a method used to explore, analyze, and synthesize existing information within scholarly literature concerning a specific topic. The objective of this method is to identify the main knowledge gaps about within the topic challenges and difficulties of Information Systems Audit. The stages in a narrative literature review are as follows:

1. Defining the scope of the research topic Information Systems Audit.
2. Choosing the most relevant and high-quality source to include in the review.
3. Analysis and Synthesis from the selected literature and organizing it into a coherent narrative by identifying patterns and conclusions drawn from sources.
4. Systematically the review follows specific information and the conclusions drawn.

## **RESULT AND DISCUSSION**

Reviewing the body of research on this topic reveals numerous obstacles, problems, and challenges that developing nations encounter regarding IS Audit. According to Wolfswick et al. (2003), the difficulties are caused by regulations, policies, standards, organization, and auditing of the entire information system, culture, and education. More details on this are provided in this chapter's section.

### **Legislation and Policies**

The legislation addresses issues such as "Laws and legal framework" and "Regulations" that developing nations face regarding IS audit challenges, difficulties, and problems. Developing nations encounter

several difficulties and problems concerning the clarity of the law or how the government supports the implementation of laws about information security testing.

Although there is strong evidence that some laws already exist, Maria and Hariyani (2011) argue that these laws are insufficient to meet organizations' needs in developing nations. Additionally, organizations that wish to implement and use IS auditing are under tremendous pressure due to the complexity and burdensomeness of current legislation and excessive bureaucracy (Mahzan & Veerrankutty, 2011). As a result, developing nations must add new, simpler laws tailored to their particular realities or situations (Maria & Hariyani, 2011).

Some nations have started customizing the laws practised in Western nations to suit their needs to address inconsistent legislation and a lack of laws. However, this direction adds another ambiguity to the passed IS testing legislation because of variations in national legal frameworks (Nkwe, 2011).

Numerous articles highlight that the absence of IS Audit regulations is a serious issue that must be immediately addressed. The IS Audit requirements support organizations in reducing potential IT risks, according to existing literature (Nkwe, 2011). Adopting a suitable regulatory framework is crucial to close the gap between them. To prevent potential loopholes, this must be carried out following national legislation.

To aid IS inspections, add policies and guidelines. As a result, it is believed that "Legislation" and "Policies and Standards" have the same meaning. "IS Audit Policy" and "IS Audit Standards" are among the difficulties and problems of "Policies and Standards". It is important to note that the lack of IS Audit policies has significantly impacted how organizations in developing countries approach IS Audits in the context of IS Audit policies. The guidelines' significance was acknowledged because they support an appropriate regulatory environment. However, a company's ability to mitigate potential IT risks may suffer if it has no IS Audit policy (Nkwe, 2011).

Furthermore, in those nations where guidelines already exist, it is acknowledged in the literature that these guidelines must be continuously updated to consider new risks associated with an environment where information technology is perceived to be constantly changing (Nkwe, 2011). Additionally, it was noted that these IS audit guidelines were only partially followed in the nations that had them implemented (Nijaz et al., 2011). If the organization does not fully comprehend the goal of the IS audit policy, missing or poorly executed IS audits may result.

It is also mentioned that the IS Audit Standards demand a lot of work and effort from the nations involved in IS Audit in response to the difficulties and problems related to the IS Audit Policies. The failure of IS Audit standards to gain traction has been covered in several articles. Although international standards are widely accepted in developing nations, organizations tend to avoid adopting them in favour of using locally created practices or national standards (Nijaz et al., 2011). IS Audit professionals and policymakers have noticed this (Abuazza et al., 2015; Maria & Ariyani, 2014; Upadhyaya et al., 2012).

The adoption of IS Audit standards is anticipated to be better for businesses doing business with businesses in developed nations. In order to satisfy the requirements of their business partners, these companies must adopt international IS Audit standards (Abuazza et al., 2015; Nijaz et al., 2011).

### **Cultural**

The respondents identified two cultural challenges, problems, and difficulties categories: change perception and change awareness. Certain changes result from adopting new technologies, procedures, or regulations. There are many different aspects of how the idea of information security testing has changed in developing nations. Employee resistance to change when organizations deploy or implement IS audits directly impacts how employees view IS auditors and IS audits as a whole (Wahdan et al.,

2008). The local culture, how management interacts with staff, and the level of IS Audit support may all be factors (Razi & Madani, 2013).

An organization or authority can adopt the proper change communication methods in response to changes related to IS Audits. This might include education campaigns. By creating a plan to implement the change, employees and the organization as a whole can respond to change more acceptably. A challenge that involves workers, IT departments, management, and even authorities is implementing an IS audit in an organization. As a result, programs are required to increase employee awareness of IS Audits (Alkebsi et al., 2014).

In order to lessen their resistance to working with and communicating with IS Auditors, IT departments are also urged to be aware of the advantages of IS Audits (Upadhyaya et al., 2012). Developing nations have been noted not to recognize the value of IS Audit, so it is crucial to increase awareness of IS testing at the national agency or government level (Nkwe, 2011).

### **Education**

Academic concerns, IS Professional certification and training and IS technical knowledge and knowledge base are just a few of the challenges, difficulties, and problems associated with education. Although academic research on IS Audit is widely acknowledged as necessary, the material we reviewed suggests that academic research on IS Audit in developing nations falls far short of what is required. Local universities have not demonstrated enough enthusiasm for advancing and emphasizing IS Audit research. Without research in this area, organizations must adapt research from other countries to local conditions, which is a challenge. This takes time and may result in disagreements over terminology, frameworks, and technical and legal implications (Abuazza et al., 2015).

Additionally, it has been noted that creating a workforce with higher qualifications depends heavily on raising the standard of information systems education. Organizations in developing nations are seen as having a fundamental need for this to meet the rising demand for qualified IT personnel familiar with IS Audit requirements. Additionally, with more qualified IS graduates on the market, IS graduates interested in pursuing a career as an IS Auditor will have a better chance of filling job openings. This makes sense, given that an IS auditor performs better when he or she is knowledgeable about IT (Upadhyaya et al., 2012).

## **CONCLUSION**

According to the research concerning the goal, as mentioned earlier, five main categories can be used to classify the current challenges, difficulties, and issues. First, the legislation surrounding the IS Audit, to start with, lacks proper laws and a legal framework. Where there are laws, it can be challenging for organizations to comprehend them because they are seen as complicated and confusing. To aid in implementation, assistance from government organizations is also crucial. Furthermore, there are no regulations; if there are, they are unclear or contradictory.

Second, even though policies and standards related to IS Audit may exist in some nations, they are either not implemented or are only partially followed. Of course, the existing literature demonstrates occasionally glaring gaps in rules and regulations (likely because the company does not place much importance on them).

Misinterpretation of the IS Audit and a lack of human resources are the third set of difficulties and problems relating to human resources. IS auditors are regarded as police, inspectors, controllers, or inspectors. Because of this, they either received special consideration, had their access to reviewed information systems restricted, or, even worse, did not receive management approval. When IS auditors encounter sophisticated, complex information systems that use new technologies, issues arise. They must therefore be knowledgeable enough to operate such systems. Otherwise, the observed behaviour only constitutes a minimal IS Audit, which has a negative effect on the IS Audit's

effectiveness, performance, and efficiency.

The low skill level of IS graduates and the lacklustre professional training in IS Audit are factors that are challenging the adoption, implementation, and usage of the IS Audit, even though education is recognized as the catalyst for the healthy development of IS Audit in developing countries.

A knowledge base for IS Audit professionals to share information and ask for help with their IS Audit projects also appears to be in high demand. The articles under discussion also mentioned the urgency of creating national knowledge bases in regional languages and the necessity for governments to work with national professional institutions to facilitate technology transfer.

Finally, it has been found that employees, IT experts, and national authorities have low levels of awareness of IS Audits. Therefore, it is necessary to implement awareness campaigns to raise public awareness of IS audits and their role in preventing potential IT risks for businesses. Resistance to change on the part of the people or organizations using or implementing IS Audits is another cultural challenge and issue. However, given every developing nation's unique traits and circumstances, it can be challenging to cover such a wide range of subjects.

### LIMITATION

This research only uses concept narrative literature review so that the results are general and can not be adjusted for several countries with complex problems. Previous research also only analyzed the same thing for developing countries. Hopefully, further researchers will be able to develop research objects based on several specific countries.

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