Challenges of Implementing Digital Technology in Internal Audit Function

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Abstract:

The present study aims to identify the challenges faced by the internal audit function with the rise of digital technology. To accomplish this, we defined internal auditing, outlined its scope, and examined the latest internal audit standards issued in 2024. We also provided a definition of digital technology and its key branches. Additionally, we explored potential developments in the internal audit profession and anticipated challenges stemming from digital technology adoption. Our findings highlight that digital technology significantly reduces auditors' time investment and enhances performance quality. We also proposed recommendations, such as encouraging companies to integrate digital technology within their internal audit processes.

Key words: Internal Audit, Internal Audit Standards, Digital Technology,

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Introduction:

The world is experiencing a fast-paced digital transformation impacting every economic and social sector. This shift is driving companies and institutions to face new challenges, compelling them to adopt modern technologies and innovate their business practices. One significant area impacted by this digital transformation is the internal audit function.

As one of the most vital roles within organizations, the internal audit function evaluates and analyzes systems and procedures to ensure effectiveness and mitigate risks. With the growing reliance on technology, internal auditors are now expected to adapt by acquiring expertise not only in traditional auditing skills but also in IT systems, data analysis, and emerging digital tools.

Digital technology plays a pivotal role by enhancing efficiency, accessibility, and connectivity, accelerating processes, and providing immediate information access. It enables individuals and businesses to stay agile in a rapidly evolving environment. However, despite these advantages, digital transformation brings challenges, including data privacy concerns, cybersecurity risks, and the widening digital divide.

The problematic of the study:

Based on what has been said, we formulate the study problem as follows:

What are the challenges facing the internal audit function in light of digital technology?

The objective of the study:

The aim of this study is:

- Understanding internal auditing and its scope.
- Knowing digital technology and its branches.
- Predicting the future of the auditing profession.
- Knowing the challenges facing the future of internal auditing.

The importance of the study:

The significance of this study lies in the critical role of internal auditing. This topic holds considerable relevance for researchers in auditing, particularly practitioners keen on staying updated with technological advancements. Consequently, this study aims to offer a forward-looking perspective on the internal auditing profession in light of digital technology adoption.

Research Methodology:

A descriptive-analytical approach was used, drawing from a literature review that includes studies, research papers, articles, and official websites. Additionally, the study incorporates the latest findings from organizations such as The Institute of Internal Auditors (IIA).

The structure of the study:

To cover the problem and to achieve the target aims, we divided the study into 03 chapters as follows:

Challenges of Implementing Digital Technology in Internal Audit Function

I. Internal audit
II. Digital technology
III. The future of internal auditing function and the challenges it may face in light of using digital technology

I. Internal audit:

This chapter aims to define internal auditing, outline its scope, and present the latest version of internal audit standards.

1. Understanding internal audit:

The Institute of Internal Auditors (IIA) defines internal auditing as "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It aids the organization in achieving its objectives by employing a systematic, disciplined approach to assess and enhance the effectiveness of risk management, control, and governance processes." (The Definition of Internal Auditing).

In this framework (Kidaouene & Gourine, 2018) argue that internal audit can be defined as a mechanism or tool within a company that enhances the competence and effectiveness of operations while contributing to the creation of additional value. Based on these definitions, internal audit is characterized as an independent function that involves a critical and ongoing assessment of an organization's operations. Its primary purpose is to recommend improvements that strengthen risk management, control, and governance processes.

Internal audits can be conducted by internal auditors or other qualified professionals. In some smaller companies that do not have dedicated internal auditors, self-audits may be performed to ensure adequate internal controls are in place.

An internal auditor must possess several qualities and skills to ensure that he performs his duties efficiently and effectively. First, he must demonstrate integrity in all his dealings, which enhances confidence in his work. In addition, he must have the professional competence and care necessary to complete his tasks in a manner that ensures quality and accuracy. The auditor must also be objective and independent, free from any influences that may affect his decisions or judgments. He must also be aligned with the organization's strategy, objectives, and risks, ensuring that his work is consistent with the overall direction of the organization. It is also important that the internal auditor is in an appropriate position, provided with sufficient resources that enable him to perform his duties effectively. He must always strive for continuous improvement, while demonstrating high quality in everything he does. Effective communication is an essential aspect of his success, whether with management or other stakeholders. In addition, the auditor must provide assurance based on risk analysis, and be analytical, dynamic, and future-focused, with the aim of anticipating potential challenges. Finally, it should play a role in facilitating organizational improvement, which contributes to enhancing the overall efficiency of the organization. (Core Principles for the Profession of Internal Auditing)

2. Scope of internal audit:

The scope can be more extensive, encompassing operational efficiency, adherence to internal policies, and practices related to risk management. Additionally, internal auditors may conduct audits in specific areas upon management's request. (Abdumannonovna, 2024)

- **Financial Audit:** Typically defined as an independent evaluation of historical accounting data to assess whether the information is adequate, compliant, and reliable, ultimately safeguarding the company's assets and providing an opinion on the effectiveness of its internal control system.

- **Compliance Audit:** Examines the extent to which the audited organization adheres to rules, laws, regulations, guidelines, established standards, or agreed-upon terms. Compliance audits can encompass a wide range of topics.

- **Environmental Audit:** Evaluates an organization's environmental performance against its defined and documented environmental policies and objectives. However, initial ecological assessments may be less thorough in practice due to a lack of relevant documentation at this stage.

- **Operational Audit:** Assesses specific activities within a company and their contributions to its overall development, providing assurance regarding the company's key performance indicators.

- **Performance Audit:** Focuses on evaluating the economy, efficiency, and effectiveness of organizations, programs, activities, and functions, as well as their compliance with laws and regulations. Performance auditing has evolved from traditional accounting and auditing practices.

3. Internal audit standards:

In January 2024, the Institute of Internal Auditors (IIA) introduced the new Global Internal Audit Standards, set to replace the 2017 standards in January 2025, with early adoption encouraged. These standards establish an international professional framework for internal auditing, featuring 15 guiding principles organized across five key domains: purpose, ethics and professionalism, governance, management, and performance. (global internal audit standards, 2024).

Fig n°(0 1) : domains of Internal Audit Standards

Source: (global internal audit standards, 2024)

Domains 2 through 5 contain the following elements:

1. **Principles**: Broad descriptions that group related requirements and considerations within each standard.
2. **Standards**, which contain three elements:
    - **Requirements**: These outline mandatory practices for internal auditing, using the term "must" to indicate necessity.
    - **Considerations for Implementation**: These are recommended, flexible practices for applying the requirements, using terms like "should" and "may" to suggest desirable approaches.
    - **Examples of Evidence of Conformance**: Each standard concludes with examples of evidence that can demonstrate compliance. While these examples are not mandatory, they provide helpful guidance for audit functions as they prepare for quality assessments, which require demonstrable evidence.

Domain 1: Purpose of Internal Auditing.

This domain provides a simple and concise overview of internal auditing and its benefits. It also includes a list of requirements for improving these benefits (global internal audit standards, 2024).

Domain 2: Ethics and Professionalism.

This domain includes five key principles, each addressing a fundamental aspect of internal audit standards. The first principle, Integrity, focuses on ethical conduct and includes three standards: honesty and professional courage, ethical expectations within the organization, and adherence to legal and ethical behavior. The second principle, Objectivity, emphasizes maintaining impartiality and consists of three standards covering individual objectivity, the safeguarding of objectivity, and the disclosure of any imbalances. Competence, the third principle, focuses on professional expertise and includes two standards: competence and continuous professional development. The fourth principle, Professional Care, highlights the importance of diligence and quality, with standards on compliance with internal audit standards, skilled care, and the prudent application of doubt. Finally, Confidentiality addresses the responsible handling of information, with two standards on the appropriate use and protection of sensitive information (global internal audit standards, 2024).

Domain 3: Governing the Internal Audit Function.

This domain focuses on the relationships between the chief auditor, the board, and senior management in governing the internal audit function. It comprises three key principles. The first principle emphasizes the management of the internal audit function by the Board of Directors, including three standards that address the audit mandate, the internal audit charter, and the support provided by senior board members. The second principle centers on independence and includes two standards: one on organizational autonomy and another on the chief auditor's qualifications. The third principle covers Board of Directors' supervision of the internal audit process, encompassing four standards that outline communication with the board, allocation of resources, maintenance of quality, and execution of external quality evaluations (global internal audit standards, 2024).

Domain 4: Managing the Internal Audit Function.

This domain focuses on the chief auditor’s role in strategic planning and the enhancement of the internal audit function’s quality through resource management and effective communication with stakeholders. It includes four principles. The first principle, Planning, comprises five standards: governance, risk management, and control processes; internal audit strategy; methodologies; audit plans; and coordination and accreditation. The second principle, Resource Management, addresses financial, human, and technological resources through three standards. The third principle, Effective Communication, includes five standards on stakeholder communication, effective communication practices, reporting results, handling errors, and risk acceptance. Lastly, the fourth principle, Quality Promotion, focuses on internal quality assessments, performance measurement, and supervision, with three standards supporting these areas (global internal audit standards, 2024).

Domain 5: Performing Internal Audit Services.

This domain addresses the key processes of planning engagements, conducting fieldwork, formulating and reporting findings, developing recommendations or action plans, and following up on corrective actions taken by management. It comprises three main principles. The first principle, Engagement Planning, includes six standards covering communication, assessment of engagement risks, scope of engagement and evaluation criteria, engagement resources, and the work program. The second principle, Conducting Engagement Work, also has six standards: gathering information

for analysis and evaluation, conducting analyses, evaluating results, forming recommendations, drawing conclusions, and maintaining engagement documentation. The third principle, Communicating Engagement Results and Monitoring Actions, includes two standards: final communication of engagement results and verification of the implementation of recommendations and action plans (global internal audit standards, 2024).

II. Digital Technology:

In this chapter we will try to define digital technology and its main branches.

1. Definition of the digital technology:

Today's digital technologies permeate every aspect of business, transforming the speed of organizational operations, enhancing flexibility in decision-making, shaping strategic positioning, and driving economic efficiency. The integration of digitization into the audit process has notably reduced the time needed to generate audit reports.(Vuković, Tica, & Jakšić, 2023).

Moreover, digital technologies serve as valuable tools for auditors, allowing them to carry out their audit responsibilities with increased efficiency, particularly in a big data environment (Allbabidi, 2021).

2. Branches of the digital technology:

Digital technology encompasses a diverse array of techniques, with six main branches that warrant attention:

Expert Systems: These systems leverage technology to emulate human decision-making intelligence, effectively replicating the expertise of human specialists. Unlike traditional programming, expert systems utilize logical symbols to address problems. They are employed across various sectors, including healthcare, finance, and more, demonstrating their versatility and capability in complex decision-making scenarios. (Boughazela & Ouled Bahammou, 2024).

- **Robotics:** is a crucial branch of digital technology that concentrates on the design and development of robots. This field involves the creation, construction, and operation of robots through the integration of scientific and engineering principles. The primary objective of robotics is to assist individuals in performing complex and large-scale tasks, such as managing computer systems, processing information, and manufacturing vehicles. For example, NASA employs robots to handle heavy objects and maneuver in environments that may be hazardous or difficult for humans to navigate.(Boughazela & Ouled Bahammou, 2024).
- **Machine learning:** is a vital area of digital technology that empowers machines and computer systems to process, analyze, and interpret data to address real-life challenges. This capability allows computer systems to learn and make decisions automatically based on the ample data they receive, enabling them to improve their performance over time. Essentially, machine learning is a method that enables computer systems to learn from experience without being explicitly programmed, enhancing their ability to adapt to new information and scenarios. (Boubaya, 2022).
- **Neural Network:** The field of neural networks draws on principles from neurology, a branch of biology focused on the nervous system and the human brain. Neural networks are

designed to mimic the functioning of the human mind, which consists of countless interconnected neural cells. By simulating these neural connections, neural networks interpret data similarly to how the brain processes information, enabling them to recognize patterns, make decisions, and learn from experiences. (Boughazela & Ouled Bahammou, 2024).

- **Fuzzy Logic:** is a field that focuses on a method for modifying and representing uncertain data by evaluating the validity of hypotheses. It offers a degree of logical flexibility when confronting uncertain situations. In real-world scenarios, we often encounter conditions where the truth of a statement cannot be definitively determined. Fuzzy Logic provides the necessary flexibility for reasoning that accommodates uncertainty and skepticism, allowing for more nuanced decision-making in complex situations. (Boughazela & Ouled Bahammou, 2024).
- **Natural Language Processing:** Natural Language Processing (NLP) is a field of technology designed to enable effective communication between humans and computers using natural language. Just as it can be challenging to communicate with someone who doesn't understand your language, computers also struggle to grasp human language, as they only understand binary code. NLP has been developed to bridge this gap, allowing computers to interpret, understand, and respond to human language in a way that is meaningful and intuitive, thereby enhancing interactions between people and machines. (Boubaya, 2022).

III. The future of internal auditing function and the challenges it may face in light of using digital technology:

Having defined internal auditing and digital technology in the previous chapters, we will now explore the future of internal auditing and the potential challenges it may encounter in the integration of digital technology. This examination will consider how advancements in technology may reshape the internal audit landscape, as well as the obstacles that auditors might face as they adapt to these changes.

1. The future of the internal audit function:

Using digital technology has a significant impact on the future of internal auditing across several dimensions (Bouguerri & Dahia, 2023):

• **Auditing Tools** : Digital transformation and technology enable internal auditors to leverage a variety of tools for identifying and assessing risks while ensuring compliance with relevant standards and regulations.

• **Data Analysis** : Digital technology facilitates immediate identification of discrepancies and potential risks through comprehensive data analysis. These advancements also result in significant time savings, enhancing the quality and accuracy of assessments.

• **Audit Process** : Digital technology has the potential to evolve and streamline the audit process, fostering collaboration and communication, particularly within the audit team. This improved synergy allows auditors to promptly identify and resolve issues while providing timely recommendations.

• **Development of Auditors' Skills** : To remain effective in the face of modern technologies and tools, internal auditors must not only rely on their traditional skills but also develop additional competencies. Key abilities include:

- Proficiency in data analysis.
- Cybersecurity expertise.
- A deep understanding of information systems to maintain relevance in the evolving landscape.

2. The challenges facing the future of internal auditing:

With the use of digital technology, the future of the internal audit profession faces many challenges (Bouguerri & Dahia, 2023):

- **Challenges related to the internal auditing function:** Technology and digitization have made auditors face more risks during the auditing process that may affect the results. These risks include:
  - Data security and safety.
  - The gaps associated with new technologies.
  - The difficulty of predicting artificial intelligence behaviors.
- **Challenges related to the cost of digital transformation: The transition to digital** technology within the auditing profession involves substantial expenses related to the adoption of modern technologies and the training of employees. As advancements in this field continue to evolve, these costs are likely to rise, presenting a financial challenge for organizations as they seek to stay current and effective in their auditing practices.
- **Challenges related to cybersecurity:** To facilitate a secure transition to digital auditing, it is crucial to ensure robust cybersecurity measures that protect sensitive data and systems from cyber threats. As a result, assessing the effectiveness of these security measures has become a vital responsibility for auditors, who must evaluate and verify that appropriate safeguards are in place to mitigate potential risks.

Conclusion:

The internal audit function is regarded as a critical component within companies and institutions, significantly influenced by various developments, including advancements in technology. As a result, internal auditors must stay abreast of these changes and continuously enhance their qualifications to effectively adapt to the evolving landscape.

Results:

Through this study, we have achieved the following results:

- Digital technology consists of a wide range of techniques;
- Digital technology allows internal auditors to use various tools that enable them to identify and assess risks;
- Digital technology allows for the immediate identification of discrepancies and potential risks through in-depth analysis of various data;
- Digital technology allows time-saving and contributes to improving the quality and accuracy of assessments;
- Digital technology can facilitate collaboration and communication, especially among the audit team.

Suggestions:

Based on the findings, we propose the following suggestions:

- Internal auditors should prioritize data security and integrity when utilizing digital technology.
- Internal auditors should engage in training courses to enhance their proficiency in using digital technology.
- Adequate protection measures must be implemented for devices used in the auditing process.
- Organizations should adopt digital technology in their auditing processes, as it contributes to improved audit quality.

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