A Review of Automated Financial Accounting Systems and Audit Quality: Evidence from Selected Nigerian Firms

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Abstract		Original Research Articles

This study examines the impact of automated financial accounting systems on audit processes in selected Nigerian firms, focusing on the relationship between automated data capturing systems and audit planning, as well as audit evidence gathering. The findings reveal a weak positive relationship between automated data capturing systems and both audit planning and audit evidence gathering. The study recommends that audit firms enhance their staff competency through training and retraining, while management should be enlightened on the risks associated with automated accounting systems and how to mitigate them during audit processes.

Keywords: Automated Accounting System, Audit Processes, Automated Data Capturing, Audit Evidence, Audit Planning, Financial Reporting, Audit Quality.

INTRODUCTION

The adoption of automated financial accounting systems has transformed the accounting profession, enabling firms to improve financial reporting accuracy and audit efficiency (Brazel & Dang, 2008). Recent studies have explored the impact of automated accounting systems on audit quality, highlighting the benefits of automation in reducing errors and improving financial reporting accuracy (Hunton, 2002; Sutton, 2000). The evolution of accounting from manual record-keeping to automated financial accounting systems has transformed the profession, enabling organizations to generate accurate and timely financial information for decision-making (Sutton, 2000). The introduction of computers and innovations in Information and Communication Technology (ICT) has changed the manner accounting and auditing functions are performed, posing challenges to the accounting profession (Hunton, 2002). Auditing in an electronic environment is highly challenging due to the lack of source documents, audit trails, and inadequate knowledge of computerized accounting processes (Brazel & Dang, 2008). Auditors must be professionally and technically competent to perform an acceptable audit in this environment. The study assesses the impact of automated accounting systems on audit processes in selected Nigerian firms, focusing on the relationship between automated data capturing systems and audit planning, as well as audit evidence gathering. Automated accounting systems have improved financial reporting accuracy and audit efficiency, enabling organizations to generate accurate and timely financial information (Katz, 2012). However, the adoption of automated accounting systems also poses challenges to auditors,

who must be able to navigate electronic records and ensure the integrity of financial data.

Hypotheses Development

This study formulates two hypotheses to investigate the relationship between automated financial accounting systems and audit quality in selected Nigerian firms:

- **HO$_1$:** There is no significant relationship between automated data capturing systems and audit planning.
- **HO$_2$:** There is no significant relationship between automated data capturing systems and gathering audit evidence.

Methodology

The study focuses on two sectors: manufacturing and telecommunication, with two companies selected in each industry due to the sophisticated nature of their accounting systems. The study also extends to audit firms to gather professional views on the subject matter, selecting auditors who serve as auditors for these companies. This approach enables a comprehensive understanding of the impact of automated financial accounting systems on audit quality.

Significance of the Study

The outcome of this study benefits various groups, including:

- **Accounting Professionals/Auditors:** By providing insights into the impact of automated financial accounting systems on audit quality, auditors can enhance their professional competence and adapt to the changing technological landscape (Hunton, 2002).
- **Management of Organizations:** The study's findings can inform management decisions on the adoption and implementation of automated financial accounting systems, ultimately improving financial reporting accuracy and audit efficiency (Brazel & Dang, 2008).
- **The Academia:** The study contributes to the existing body of knowledge on automated financial accounting systems and audit quality, providing a foundation for future research and academic inquiry (Sutton, 2000).

Expected Outcomes

The study's findings are expected to provide insights into the relationship between automated financial accounting systems and audit quality, shedding light on the benefits and challenges of adopting automated accounting systems in Nigerian firms. By exploring the impact of automated accounting systems on audit planning and evidence gathering, the study aims to inform best practices and improve audit quality in the Nigerian context.

LITERATUREREVIEW

The integration of Information Technology (IT) in financial accounting has revolutionized the way businesses operate and report their financial information. Automated Financial Accounting Systems (AFAS) have improved financial reporting accuracy, efficiency, and transparency, enabling organizations to make informed decisions (Hunton, 2002; Brazel & Dang, 2008). However, the impact of AFAS on audit quality is a topic of ongoing debate among researchers and practitioners. AFAS have improved financial reporting accuracy and efficiency by automating financial transactions, reducing errors, and enhancing financial statement preparation (Sutton, 2000). The use of AFAS also enables organizations to generate financial reports in real-time, facilitating timely decision-making (Katz, 2012). However, the adoption of AFAS also poses challenges, including the need for specialized skills and knowledge to operate and maintain these systems. The impact of AFAS on audit quality is a complex issue, with both positive and negative effects. On the one hand, AFAS can improve audit efficiency and effectiveness by providing auditors with access to accurate and reliable financial data (Brazel & Dang, 2008). On the other hand, AFAS can also increase the risk of audit errors due to the complexity of these systems and the potential for technical glitches, especially when handle by non professional (Hunton, 2002). Auditors must therefore be competent and objective in their assessment of AFAS and their impact on financial

reporting. Audit quality is critical in ensuring that financial statements are accurate and reliable, providing stakeholders with confidence in the financial reporting process. Audit quality is influenced by various factors, including auditor competence, independence, and objectivity (Sutton, 2000). The use of AFAS requires auditors to have specialized skills and knowledge to navigate these systems and ensure the integrity of financial data. AFAS have transformed financial accounting and auditing practices, improving financial reporting accuracy and efficiency. However, the impact of AFAS on audit quality is complex, and auditors must be competent and objective in their assessment of these systems. Further research is needed to explore the impact of AFAS on audit quality in different contexts and to identify best practices for auditors working with AFAS.

Accounting is the process of communicating financial information about a business entity to users, providing stakeholders with a snapshot of the organization's financial position and performance (Barry & Elliot, 2004). The application of accounting principles to business entities has been a cornerstone of financial reporting, with accounting being referred to as the "language of business" due to its role in reporting financial information to various stakeholders. The advent of Information Technology (IT) has transformed accounting practices, enabling the automation of financial accounting processes and improving financial reporting accuracy and efficiency (Hunton, 2002). Automated accounting systems involve the use of electronic means to perform accounting functions, including payroll, income and expenses, budgeting, tax returns, and preparation of financial statements. A good accounting program should conform to Generally Accepted Accounting Principles (GAAP), ensuring that financial reporting is accurate and reliable. Auditing has been defined as the evaluation of a person, organization, system, process, enterprise, project, or product, with the goal of expressing an opinion on the validity and reliability of financial information (Kramer, Douglas, & Vicky, 2009). Auditing involves a systematic examination of financial statements and records to ensure that they accurately reflect the financial position and

performance of an organization. In the digital age, auditing has become increasingly complex, with auditors needing to navigate electronic records and ensure the integrity of financial data (Brazel & Dang, 2008).

Audit quality is critical in ensuring that financial statements are accurate and reliable, providing stakeholders with confidence in the financial reporting process. Audit quality is influenced by various factors, including auditor competence, independence, and objectivity (Sutton, 2000). The use of statistical sampling in audits can provide reasonable assurance that financial statements are free from material error, but auditors must also consider the risks associated with automated accounting systems and electronic records. Automated financial accounting systems have transformed accounting practices, improving financial reporting accuracy and efficiency. Auditing in the digital age requires auditors to be competent and objective, navigating electronic records and ensuring the integrity of financial data. The importance of audit quality cannot be overstated, with auditors playing a critical role in ensuring that financial statements are accurate and reliable.

Automated Processes of an Audit

The audit process is a complex and multifaceted process that involves several phases, each with its own unique characteristics and requirements. Lanz and Patrisso (2004) have broken down the audit process into several phases, including accepting a new client or confirming the continuance of a current client, planning an audit, gathering audit evidence, completing the audit, and reporting. These phases are sequential, interactive, and interrelated in nature, with each phase building on the previous one to ensure a comprehensive and effective audit.

Audit Phases and Automated Financial Accounting Systems

The use of Automated Financial Accounting Systems (AFAS) has transformed the audit process, enabling auditors to perform their duties more efficiently and effectively. AFAS can facilitate the audit process by providing accurate and reliable

financial data, automating audit procedures, and enhancing audit evidence gathering (Brazel & Dang, 2008). However, the use of AFAS also requires auditors to have specialized skills and knowledge to navigate these systems and ensure the integrity of financial data.

The Impact of AFAS on Audit Phases

The impact of AFAS on audit phases is significant, with AFAS influencing each phase of the audit process. For example, AFAS can facilitate the planning phase by providing auditors with access to accurate and reliable financial data, enabling them to identify potential risks and areas of focus (Hunton, 2002). AFAS can also enhance the gathering of audit evidence by providing auditors with electronic records and documentation, reducing the need for physical documentation and improving audit efficiency.

The Importance of Auditor Competence

Auditor competence is critical in ensuring that AFAS are used effectively and efficiently in the audit process. Auditors must have specialized skills and knowledge to navigate AFAS and ensure the integrity of financial data (Sutton, 2000). The use of AFAS requires auditors to be competent in the use of technology, including audit software and electronic working papers. AFAS have transformed the audit process, enabling auditors to perform their duties more efficiently and effectively. The use of AFAS requires auditors to have specialized skills and knowledge to navigate these systems and ensure the integrity of financial data. Further research is needed to explore the impact of AFAS on audit quality and to identify best practices for auditors working with AFAS.

New Client Acceptance or Existing Client Continuance Assessment

The decision to accept a new client or retain an existing one is a critical phase in the audit process, requiring careful consideration of various factors. Professional standards, as emphasized by Philippsohn, Thomas, and Philippsohn (2003), necessitate that audit firms establish policies and procedures to guide this decision-making process. The primary objective of these policies is to minimize the risk of association with clients who may compromise the auditor's independence, integrity, or competence.

Factors to Consider in Client Acceptance or Continuance

When deciding to accept a new client or continue with an existing one, auditors must consider several key factors. These include the client's integrity, the auditor's independence, and the auditor's competence to perform the audit (Wright, Liu, & Freedman, 2008). Failure to consider these factors can lead to non-compliance with ethical requirements, increased risk of material misstatements, and potential lawsuits (Mohay, Anderson, Collier, DeVel, & McKemmish, 2003).

Gathering Knowledge during the Acceptance/Continuance Process

During the acceptance or continuance process, auditors typically gather knowledge about the prospective client through various means, including conferring with the predecessor auditor or knowledgeable third parties, and conducting background checks on top management (Mohay et al., 2003). While this knowledge may not be as in-depth as that gathered during the audit planning phase, it should be sufficient to inform the decision to accept or retain the client (Philippsohn et al., 2003).

The Impact of Automated Financial Accounting Systems on Client Acceptance and Continuance

The increasing adoption of Automated Financial Accounting Systems (AFAS) has transformed the audit landscape, presenting both opportunities and challenges for auditors. AFAS can provide auditors with access to accurate and reliable financial data, facilitating the client acceptance and continuance process (Brazel & Dang, 2008). However, AFAS also require auditors to possess specialized skills and knowledge to navigate these systems and ensure the integrity of financial data. However, the client acceptance and continuance phase is a critical

component of the audit process, requiring careful consideration of various factors. Auditors must be vigilant in their assessment of potential clients, considering factors such as integrity, independence, and competence. The increasing adoption of AFAS presents both opportunities and challenges for auditors, requiring them to possess specialized skills and knowledge to navigate these systems effectively.

Automated Audit Planning

The increasing adoption of Automated Financial Accounting Systems (AFAS) has transformed the audit landscape, presenting both opportunities and challenges for auditors. One critical component of the audit process that has been significantly impacted by AFAS is audit planning. Automated audit planning involves the use of technology to facilitate the planning phase of the audit, enabling auditors to identify potential risks, assess materiality, and develop an effective audit strategy (Brazel & Dang, 2008).

The Importance of Automated Audit Planning

Automated audit planning is essential in ensuring that audits are conducted efficiently and effectively. By leveraging technology, auditors can streamline the planning process, reduce errors, and improve audit quality (Hunton, 2002). Automated audit planning also enables auditors to focus on high-risk areas, such as complex transactions or accounts with a high risk of material misstatement.

The Impact of AFAS on Audit Planning

AFAS have significantly impacted the audit planning process, providing auditors with access to accurate and reliable financial data (Katz, 2012). AFAS can facilitate the identification of potential risks and materiality assessment, enabling auditors to develop an effective audit strategy. However, AFAS also require auditors to possess specialized skills and knowledge to navigate these systems and ensure the integrity of financial data.

Audit Planning in the Nigerian Context

In the Nigerian context, audit planning is critical in ensuring that audits are conducted in accordance with international auditing standards. Auditors must be aware of the unique challenges and risks associated with auditing in Nigeria, including the risk of material misstatement due to inadequate internal controls or complex transactions (Adeyemi & Fagbemi, 2010). Automated audit planning can help auditors to identify and assess these risks, developing an effective audit strategy to mitigate them. Automated audit planning is a critical component of audit quality in the era of AFAS. By leveraging technology, auditors can streamline the planning process, reduce errors, and improve audit quality. However, auditors must also possess specialized skills and knowledge to navigate AFAS and ensure the integrity of financial data. Further research is needed to explore the impact of AFAS on audit planning and to identify best practices for auditors working with AFAS.

Automated Audit Evidence

Automated audit evidence is a critical component of audit quality in the era of AFAS. It is essential in ensuring that audits are conducted efficiently and effectively. By leveraging technology, auditors can streamline the evidence collection process, reduce errors, ensure the integrity of financial data and improve audit quality (Hunton, 2002). Automated audit evidence also enables auditors to focus on high-risk areas, such as complex transactions or accounts with a high risk of material misstatement.

Types of Automated Audit Evidence

There are several types of automated audit evidence, including:

1. **Electronic Confirmations:** Auditors can use technology to confirm account balances and transactions with third parties, such as banks and customers.
2. **Automated Data Analytics:** Auditors can use data analytics tools to analyze large datasets and identify potential risks and anomalies.
3. **Digital Documentation:** Auditors can use digital documentation to collect and store evidence, such as invoices and receipts.
4. **System-Generated Reports:** Auditors can use system-generated reports to collect evidence, such

as account reconciliations and transaction listings.

The Impact of AFAS on Audit Evidence

AFAS have significantly impacted the audit evidence collection process, providing auditors with access to accurate and reliable financial data (Katz, 2012). AFAS can facilitate the collection of audit evidence by providing auditors with real-time access to financial data and transactions. However, AFAS also require auditors to possess specialized skills and knowledge to navigate these systems and ensure the integrity of financial data.

Audit Evidence in the Nigerian Context

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Gathering Automated Audit Evidence

The increasing adoption of Automated Financial Accounting Systems (AFAS) has transformed the audit landscape, presenting both opportunities and challenges for auditors. One critical component of the audit process that has been significantly impacted by AFAS is the gathering of audit evidence. Automated audit evidence gathering involves the use of technology to collect, analyze, and evaluate audit evidence, enabling auditors to make informed decisions about the financial statements (Brazel & Dang, 2008).

Methods of Gathering Automated Audit Evidence

There are several methods of gathering automated audit evidence, including:

1. **Data extraction and analysis:** Auditors can use specialized software to extract and analyze large datasets, identifying potential risks and anomalies.

2. **Automated transaction Testing*:** Auditors can use technology to test transactions and account balances, reducing the need for manual testing.
3. **System audits:** Auditors can use technology to evaluate the effectiveness of internal controls and identify potential security risks.
4. **Digital Documentation:** Auditors can use digital documentation to collect and store evidence, such as invoices and receipts.

Benefits of Automated Audit Evidence Gathering

The benefits of automated audit evidence gathering include:

1. **Increased Efficiency:** Automated audit evidence gathering can reduce the time and effort required to collect and analyze evidence.
2. **Improved Accuracy:** Automated audit evidence gathering can reduce the risk of errors and improve the accuracy of audit findings.
3. **Enhanced Reliability:** Automated audit evidence gathering can provide a more reliable and consistent approach to evidence collection and analysis.

Challenges of Automated Audit Evidence Gathering

Despite the benefits of automated audit evidence gathering, there are also several challenges that auditors must consider, including:

1. **Technical Complexity:** Automated audit evidence gathering requires specialized skills and knowledge, including proficiency in audit software and technology.
2. **Data Security:** Auditors must ensure that automated audit evidence gathering processes are secure and protect sensitive data.
3. **Audit Trail:** Auditors must ensure that automated audit evidence gathering processes provide a clear audit trail, enabling the verification of evidence and findings.

THEORETICAL FRAMEWORK

The study is grounded in the Technology Acceptance Model (TAM), which posits that perceived usefulness and perceived ease of use influence the

adoption and utilization of technology (Davis, 1989). In the context of automated financial accounting systems, TAM provides a framework for understanding the factors that influence the adoption and effectiveness of these systems in audit processes.

METHODOLOGY

This study investigates the relationship between Automated Financial Accounting Systems (AFAS) and audit quality in selected Nigerian firms. The population for the study comprises the entire staff of four selected companies: MTN, Globacom, Cadbury, and Unilever, representing the telecommunication and manufacturing sectors, respectively. Additionally, the study includes the entire staff of four prominent audit firms: PricewaterhouseCoopers (PwC), Klynveld Peat Marwick Goerdeler (KPMG), Deloitte, and Akintola Williams, which are the auditors of the selected companies.

Sampling Method

The study employs a purposive sampling method to select the economic sectors and companies. Specifically, the telecommunication and manufacturing sectors were chosen due to their significant contribution to the Nigerian economy and their adoption of AFAS. Within these sectors, MTN and Globacom were selected from the telecommunication sector, while Cadbury and Unilever were chosen from the manufacturing sector. The four audit firms were selected purposively, given their expertise and experience in auditing the selected companies. However, the respondents (staff) of these companies and audit firms were selected using a random sampling method to ensure representation and minimize bias.

Data Collection

The study uses primary data, which were collected through questionnaire administration. A total of 160 questionnaires were administered, with 20 questionnaires distributed to each of the selected companies and audit firms. The questionnaire was designed to gather information on the respondents' perceptions of AFAS and audit quality.

Data Analysis

The study uses the Product Moment Correlation Coefficient (PMCC) to test the hypotheses. The PMCC is a statistical technique that measures the strength and direction of the relationship between two variables (Mark, Philip, & Adrian, 2003). The PMCC formula, as given by Adefila (2008), is used to calculate the correlation coefficient. This statistical technique is suitable for this study, as it enables the researcher to determine the significance and strength of the relationship between AFAS and audit quality.

The PMCC is given by Adefila (2008) as:

Where: $r_{xy} = \dfrac{n\sum xy - \sum x \sum y}{\sqrt{(n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$

r=correlation coefficient
x=independent variable (automated data capturing system)
y=dependent variable (audit planning and gathering of audit evidence) r_{xy}= correlation coefficient of x and y.

For this study, automated data capturing system is the independent variable (x) while audit planning and gathering of audit evidence are dependent variables (y). Note: The level of significance is 0.05.

RESULTS

Testing the first hypothesis (H_{O1}) which stated that, there is no significant relationship between automated data capturing system and audit planning", the result obtained by substituting the variables in the Product Moment Correlation Coefficient formula was as follows:

$$rxy = \frac{5(4716) - (138 * 138)}{\sqrt{(5 * 5852 - (138)^2)(5 * 8481 - (138)^2)}}$$

$$r = 0.1$$

With r =0.1, it implies that a weak positive relationship exists between the two variables (automated data capturing system and audit planning). As a result, the null hypothesis cannot be

rejected.

For the second hypothesis (H$_{O2}$) which stated that "there is no significant relationship between automated data capturing system and gathering of audit evidence, by substituting the variables in the formula the result showed thus:

$$rxy = \frac{5(5982) - (138 * 138)}{\sqrt{(5 * 5852 - (138)^2)(5 * 7602 - (138)^2)}}$$

r =0.2

RESULTS AND DISCUSSION

The results of the study reveal a weak positive relationship between the automated data capturing system and audit evidence, as indicated by the correlation coefficient (r = 0.2). Although this relationship is not strong, it suggests that the use of automated data capturing systems can positively impact the quality of audit evidence. Consequently, the null hypothesis cannot be rejected, implying that there is no significant relationship between automated data capturing systems and audit evidence. The study's findings also indicate that the impact of automated financial accounting systems on audit processes has been positive. The majority of respondents, regardless of their economic sector, educational background, or working experience, agree that automated accounting systems have positively impacted audit processes. This finding is consistent with previous studies, such as Pathak (2006), which posits a positive relationship between auditing and electronic systems of accounting and commerce.

Empirical Evidence

The study's findings are also supported by Bansal and Sharma (2001), who argue that the absence of vouchers or verifying documents in electronic form does not pose significant challenges to auditors. They suggest that various techniques are available to help auditors verify e-transactions and detect any manipulations. Similarly, Al-Bashtawi and Al-Husban (2009) identify obstacles that limit audit procedures necessary for auditing computerized accounting information systems. Their study highlights the importance of auditors' technical knowledge and skills in navigating automated financial accounting systems. The study's findings suggest that automated financial accounting systems have a positive impact on audit processes. The use of automated data capturing systems can improve the quality of audit evidence, and auditors' technical knowledge and skills are essential in navigating these systems. The study's results are consistent with previous research, highlighting the importance of automated financial accounting systems in enhancing audit quality.

CONCLUSION

This study provides valuable insights into the impact of Automated Financial Accounting Systems (AFAS) on audit processes in Nigerian firms. The findings suggest that audit processes in an e-environment are challenging due to the nature of accounting systems adopted, which often maintain financial documents in electronic form. This requires auditors to thoroughly scrutinize e-records to perform an acceptable audit exercise and form a reliable and independent opinion.

Key Findings

The study's results indicate that the impact of automating financial accounting systems on audit processes has not been negative. Despite the challenges posed by e-documents, auditors still have access to necessary documents, auditors can verify financial records, and detect fraud and irregularities. The study also highlights the importance of auditors' technical knowledge and skills in navigating AFAS. The study's findings suggest that AFAS offer several benefits, including reduced paperwork, increased efficiency, and improved accuracy. AFAS enable auditors to verify e-transactions and detect manipulations, and provide a wide range of techniques, including Computer-Assisted Audit Techniques (CAATs), to validate e-records. These benefits are consistent with previous research, such as Leigh (1980), who notes that technology has transformed accounting, making it more efficient and accurate.

Implications for Practice

The study's findings have implications for practice, particularly for auditors and firms adopting AFAS. Auditors must possess the necessary technical knowledge and skills to navigate AFAS and ensure the integrity of financial data. Firms must also ensure that their AFAS are designed to provide adequate audit trails and facilitate the audit process.

Future Research Directions

Future research can build on this study's findings by exploring the impact of AFAS on audit quality in different contexts. Additionally, studies can still embark on investigating the effectiveness of different audit techniques and tools in detecting fraud and irregularities in e-environments.

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