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Data Accuracy in Automated Financial Accounting Systems and Audit Risk Assessment of Selected Nigerian Firms

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Abstract **Review Article**

This research investigates the effect of Automated Financial Accounting Systems (AFAS) on audit quality, focusing specifically on the role of data accuracy and reliability in audit risk assessment among selected Nigerian firms. A correlational research design was employed, and primary data were collected through structured questionnaires administered to firms operating in the telecommunications and manufacturing sectors, as well as their external auditors. The Pearson Product Moment Correlation Coefficient (PPMCC) was applied for data analysis. Findings reveal a weak positive correlation (r = 0.10) between the integrity of data produced by AFAS and the effectiveness of audit risk assessment, indicating that the relationship is statistically insignificant. Consequently, the null hypothesis was not rejected. The study concludes that automation alone does not impair audit quality; rather, its influence is largely determined by the competence of auditors and the effectiveness of internal system controls. It is therefore recommended that auditors undergo continuous professional development in advanced accounting technologies and that organizations strengthen internal controls embedded in automated systems to improve data reliability and audit effectiveness.

Keywords: Automated Financial Accounting Systems, Data Accuracy, Audit Quality, Audit Risk Assessment.

1.0 INTRODUCTION

Advancements in technology have significantly reshaped operational activities across various sectors, including accounting and auditing. In financial reporting, automation refers to the deployment of computerized tools and accounting software to carry out accounting operations that were traditionally handled manually. These systems enhance processing speed, minimize clerical errors, and improve the prompt availability of financial information. Contemporary accounting platforms are capable of generating real-time financial reports, thereby facilitating timely and informed managerial decision-making in rapidly changing business environments.

The growing incorporation of technologies such as artificial intelligence, machine learning, and blockchain into accounting information systems has transformed conventional audit approaches. Although these innovations improve efficiency and

expand analytical capacity, they simultaneously raise concerns regarding data accuracy, system security, and the credibility of electronically generated information. Since audit planning and execution are highly dependent on accounting data, any weakness in data accuracy may adversely influence auditors' risk assessments and professional judgments.

Previous studies on automated accounting systems in Nigeria have primarily focused on adoption levels, system characteristics, and organizational factors influencing automation. Existing evidence suggests that automation enhances reporting speed and improves access to financial information, particularly within banking and manufacturing industries. However, relatively little attention has been devoted to examining how specific features of automated systems—especially data accuracy and integrity—affect audit risk assessment and overall audit quality. This study seeks to bridge this gap by empirically evaluating the relationship between data accuracy in AFAS and audit risk assessment among selected Nigerian firms.

The study addresses the following research question: *To what extent does data accuracy in automated financial accounting systems influence audit risk assessment in selected Nigerian firms?*

Hypothesis

H_{01}: Data accuracy in automated financial accounting systems has no significant relationship with audit risk assessment in selected Nigerian firms.

Significance of the Study

The outcomes of this study are expected to provide useful insights to multiple stakeholders. Auditors and accounting practitioners will benefit from a deeper understanding of how automated systems influence audit risk evaluation, thereby enhancing their technical proficiency. Corporate management may leverage the findings to improve system implementation and strengthen internal control structures. In addition, scholars and researchers will find the study valuable as a reference for further empirical research in accounting information systems and auditing.

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Automated Financial Accounting Systems

Automated Financial Accounting Systems are computerized applications designed to perform accounting activities such as transaction recording, data processing, payroll management, invoicing, and financial reporting with minimal manual input. These systems utilize advanced technologies to handle large volumes of data efficiently and accurately. Empirical studies indicate that automation enhances operational efficiency, reduces human errors, and improves the timeliness of financial information (Romney & Steinbart, 2021; Bostan & Dragomirescu, 2024).

As automation becomes increasingly widespread, the role of accounting professionals has evolved from routine bookkeeping to more analytical and advisory responsibilities. Sledgianowski, Gomaa, and Tan (2017) assert that automation enables accountants to devote greater attention to judgment-oriented and strategic tasks rather than repetitive processing activities. Widely used accounting software such as QuickBooks, Sage, Xero, and Zoho Books provide functionalities including real-time processing, compliance validation, and analytical reporting tools (Accounting Insights, 2023).

Despite these advantages, automation also introduces challenges related to data security, system dependability, and skill deficiencies among accounting personnel. Anwar (2025) notes that while automation reshapes job roles within the profession, it does not eliminate them; instead, it necessitates continuous upskilling and professional adaptation.

2.1.2 Data Accuracy and Integrity

Data accuracy and integrity refer to the degree to which accounting information remains complete, precise, consistent, and safeguarded against unauthorized modification throughout its lifecycle. High-quality data are essential for effective decision-making, regulatory compliance, and credible financial reporting (Laudon & Laudon, 2022). Organizations implement control mechanisms such as validation checks, access restrictions, encryption,

and data backup procedures to maintain data accuracy and prevent manipulation or loss.

Compromised or inaccurate data can mislead users, distort financial analyses, and undermine stakeholder confidence. Tim Mucci (2025) emphasizes that data integrity is strategically important, as data errors or breaches may result in reputational harm and regulatory penalties. In automated accounting environments, weak data controls have been associated with heightened operational and audit risks (Issa, Sun, & Vasarhelyi, 2016).

2.1.3 Audit Quality

Audit quality is commonly defined as the probability that an auditor will detect material misstatements in financial statements and appropriately report such findings. DeAngelo (1981) describes audit quality as a function of auditor competence and independence, while the IAASB (2013) links it to the sufficiency and appropriateness of audit evidence obtained.

Empirical research indicates that high-quality audits enhance the credibility of financial reports, reduce earnings manipulation, and strengthen investor confidence (Cenciarelli et al., 2018; Mustapha et al., 2019). More recent studies suggest that automated systems and audit analytics improve audit efficiency and enable more extensive testing, thereby reinforcing audit quality (Castillo-Merino et al., 2020; Stöckle, 2023).

2.1.4 Audit Risk Assessment

Audit risk refers to the likelihood that an auditor may issue an inappropriate opinion on financial statements that contain material misstatements (PCAOB, 2010). Audit risk assessment constitutes a fundamental aspect of audit planning and requires auditors to develop a comprehensive understanding of the entity, its operational environment, and its internal control framework (Arens, Elder, & Beasley, 2022).

Automated accounting systems provide auditors with advanced analytical tools capable of processing large datasets, identifying irregular patterns, and detecting anomalies. According to Alles, Kogan, and Vasarhelyi (2008), continuous auditing technologies enhance auditors' capacity to assess risks on an ongoing basis. However, deficiencies in system controls or compromised data integrity may increase audit risk by concealing errors or fraudulent activities (Issa et al., 2016). Consequently, the reliability of data generated by AFAS is critical to effective audit risk assessment.

2.2 Theoretical Framework

This study is anchored on the Information Systems Success Model proposed by DeLone and McLean. The model evaluates system success using dimensions such as system quality, information quality, service quality, system usage, user satisfaction, and net benefits. Within this framework, information quality—particularly data accuracy and reliability—is central to the effectiveness of automated accounting systems.

When applied to auditing, the model suggests that accurate and reliable information generated by AFAS enhances auditors' ability to assess risks and conduct effective audits. Conversely, deficiencies in information quality may impair audit judgments and outcomes. The DeLone and McLean model therefore provides a sound theoretical basis for examining the link between data accuracy in AFAS and audit risk assessment.

3.0 METHODOLOGY

A correlational research design was adopted for the study. The population consisted of employees of selected telecommunications firms (MTN and Globacom), manufacturing companies (Cadbury and Unilever), and their external auditors drawn from four major audit firms. Both purposive and random sampling techniques were utilized.

Primary data were obtained through structured questionnaires, with a total of 160 copies distributed across the selected organizations. The hypothesis was tested using the Pearson Product Moment Correlation Coefficient at a 5% level of significance.

According to Adefila (2008), the PPMCC is expressed as:

r = correlation coefficient
x = independent variable (Data Integrity of AFAS)

y = dependent variable (Audit Risk Assessment)
n = number of paired observations

In this study, data integrity of AFAS represents the independent variable, while audit risk assessment constitutes the dependent variable. The level of significance was set at 0.05.

4.0 RESULTS AND DISCUSSION

4.1 Results

The hypothesis tested states:
H_{01}: There is no significant relationship between data integrity of automated financial accounting systems and audit risk assessment of selected Nigerian firms.

Decision Rule:
Reject H_0 if $p < 0.05$; otherwise, fail to reject H_0.

The correlation analysis produced the following result:

$r = 0.10$

The correlation coefficient indicates a weak positive relationship between data integrity of AFAS and audit risk assessment. Given that the relationship is not statistically significant, the null hypothesis is not rejected.

4.2 Discussion

The findings reveal a weak positive association between data integrity in automated financial accounting systems and audit risk assessment (r = 0.10). Although the relationship lacks statistical significance, the result suggests that improved data integrity may contribute marginally to enhanced audit risk evaluation. Consequently, the null hypothesis is upheld, indicating no significant relationship between the variables.

The study further reveals that automated accounting systems generally exert a positive influence on audit quality. Most respondents—irrespective of sector, educational level, or work experience—acknowledged that automation has improved audit efficiency and effectiveness. These findings align with Pathak (2006), who reports a positive association between auditing and electronic accounting systems. Similarly, Bansal and Sharma (2001) argue that the absence of physical vouchers in electronic environments does not significantly hinder audit work, as auditors can apply various techniques to verify electronic transactions and detect manipulation.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study offers empirical evidence on the influence of Automated Financial Accounting Systems on audit quality in Nigerian firms. The findings indicate that auditing in an electronic environment presents unique challenges, particularly due to the reliance on electronic documentation. Auditors must therefore subject electronic records to rigorous scrutiny to conduct effective audits and issue reliable opinions.

5.2 Conclusion

The study concludes that the adoption of automated financial accounting systems has not adversely affected audit quality. Although electronic documentation introduces certain complexities, auditors still retain access to essential records that enable transaction verification and fraud detection. The effectiveness of audits in automated environments largely depends on auditors' technical competence and their ability to navigate, evaluate, and verify electronic accounting systems. Enhancing these competencies is crucial for sustaining audit quality in an increasingly digital accounting landscape.

5.3 Recommendations

Based on the findings, the study recommends regular training programs for auditors to enhance their proficiency in using AFAS and computer-assisted audit techniques (CAATs). Audit firms should ensure that automated systems incorporate robust audit trails, strong security controls, and user-friendly support features to facilitate reliable audit processes. Additionally, professional bodies and regulators should establish clear guidelines and capacity-building initiatives to help auditors adapt to emerging technologies while safeguarding data accuracy. These measures will enhance audit

efficiency, minimize errors, and preserve public confidence in audit reports.

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