COMPUTERISED ACCOUNTING INFORMATION SYSTEM: INNOVATION AND FINANCIAL REPORTING QUALITY ON SUSTAINABILITY OF ANTI-GRAFT AGENCY IN EMERGING ECONOMY, NIGERIA

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ABSTRACT

Effective and efficient reportage is one of the main objectives of Anti-graft agencies in Nigeria. To achieve the benefits of an emerging economy, innovation and sustainability through a computerized accounting information system and financial reporting quality have become a panacea. The study examined how computerized accounting information systems can aid quality of financial reporting in anti-graft agency. Longitudinal panel research design was adopted to describe the nature of the relationship between the study variables. The population of the study consisted of all the data collected from the financial records of the Independent Corrupt Practices Commission as at December 31, 2022. The study used secondary data gathered from financial statements published by the anti-graft agency. The data for this research consisted of annual observations ranging for a period of ten (10) years (2012 to 2021). The secondary data was analysed using descriptive statistics and panel regression with the aid of E-view version 10 package. The results revealed that IPPIS has significant impact on the quality of financial reports of Anti-graft agency in Nigeria given the pre and post introduction eras. However, the GIFMIS has no significant impact on quality of financial reports as there is no difference in the results of the pre and post introduction periods. It was concluded that Computerised Accounting Information System has positive and significant effect on the quality of financial reports of Anti-Corruption Agency in Nigeria. The study recommended that Anti-Graft Agencies should buy in accounting packages to strengthen their financial report generation. It further opined that the anti-graft agencies should deploy and improve on existing accounting packages to strengthen the quality of their financial report.

Keywords: *Anti-graft Agencies, Computerized Accounting, Innovation, Sustainability, Reportage, Information System, Quality Financial Reporting*

1. INTRODUCTION

The public sector financial reporting has a strong contribution to the accountability, transparency, and good governance of public finance as the most influential and interesting phenomenon for the public (International Federation of Accountants, 2022). The main reason why the quality of financial information is needed in governmental accounting is to assist the performance monitoring, to entrust governments with the management of assets and liabilities that have been accumulated over decades, and to have confidence in politicians to be willing to take an interest in voting (Anuruddha & Mahanamahewa, 2021). The General purpose of financial reporting in the government sector is fulfilling the peoples' information requirements regarding government financial position and performance in a given period (International Accounting Standards Board, 2010). Peoples' expectations are not limited to government financial position, today, citizens are expecting more than traditional information-wise programme cost, unit cost, value for money, and some more important operational and performance-related financial information. Financial reporting is key to performance analysis of any kind of organization including public sector organizations. Economic policymakers, regulatory bodies, and investors are always keen on the financial reporting of an entity (Bernardita, 2023). Public sector financial reporting has a macro effect on the economy. It is expecting to maintain timeliness, reliability, completeness, in the financial reporting to cater

for prudent, effective, and efficient financial decisions by various interested parties. Today, there is a widespread concern over financial information (Anuruddha & Mahanamahewa, 2021).

The anti-graft agencies as entities of government are expected to live above board in their financial reporting to justify their status as anti-corruption arm of government. They are to display transparency and high quality in financial reporting. According to Ewa et al (2017) the Nigerian state has witnessed exponential increase in corruption from the Second Republic as that was the excuse given by the military to overthrow the Second Republic Government. However, the military administration did not eliminate the cancer of corruption rather the administration inflamed it. The country's image internationally since then has been on a downward spiral lane where Transparency International in 2018 ranked Nigeria as 148th most corrupt country in their Corruption Perception Index (CPI) and by 2022, it is rated 150th. This perception has a negative effect on Nigerians travelling abroad as well as cost of doing business internationally. Good governance is not all about making "correct" decisions, but about the best possible process of reporting qualitative financial information. The anti-graft agencies were therefore created to address the issue of corruption. To function effectively, they must not only live above board but must be seen to be exemplary in their financial dealings and reporting.

As defined by Hurt (2014), an Accounting Information System (AIS) is "a set of interrelated activities, documents, and technologies designed to collect data, process it, and report information to a diverse group of internal and external decision-makers in organizations." Considering this definition, an accounting system without technological enhancement would certainly be incomplete, inadequate, and inefficient in the light of today's business environment. However, the use of manual accounting systems has been the dominant practice amongst public sector organizations around the world, particularly those in the developing and under-developed nations (Mujat et al., 2013), and this has always resulted in the preparation and presentation of deficient financial reports, a problem that computerized accounting systems (CAS) are expected to solve. Following the increased awareness of the role information technology (IT) plays in processing transactions public sector organizations have begun to invest in computerized procedures and processes, mainly the accounting function (Christauskas & Miseviciene, 2012; Itang, 2017). Useful accounting information depends on using information technology to process and produce financial statements, which implies that computerized accounting systems can influence business organizations' financial reporting quality (Sacer & Oluic (2013)).

There is no study known to this researcher that examines the relationship between computerized accounting systems and financial reporting quality in Nigerian public sector with particular emphasis on the anti-graft agencies. A study focusing on the functional components of AIS by Fardinal (2013), which explored the impact of AIS on accounting information quality in the Ministry of State Agencies of Indonesia, only considered the internal control component of AIS. The scarcity of research work on the impact of computerized accounting systems on the quality of financial reporting information has created a gap in the literature and calls for more studies in this crucial accounting and finance area. To fill the gap and to advance the body of knowledge in computerized accounting and financial reporting this author therefore examines the relationship between computerized accounting systems (CAS) and financial reporting quality (FRQ) of anti-graft agencies with particular emphasis on the Independent Corrupt Practices and Other Related Offences Commission (ICPC). In the context of this study, computerized accounting systems are conceptualized as the application of computer-based technologies by an entity in the process of collecting, recording, organizing, processing, and analyzing accounting data, and interpreting and communicating accounting information to its

stakeholders for informed decision making. Accounting information system should be effective and efficient enough which can give correct and consistent information on time (Patel, 2015). Accounting information system is concerned with the provision of accounting information is concerned through the optimum use of resources.

A good accounting information system provides data as and when it requires to the internal and external people related with the organization. The information is accurate and complete because AIS use various accounting software for recording business transactions. Computerized accounting systems are also decomposed into four key components or structural characteristics as indicated in Itang (2020a), namely internal control, automated data processing, automated reporting, and enhancing technologies. The computerized accounting is operationalized by the introduction of financial innovations viz; integrated personnel and payroll information system (IPPIS) and the government integrated financial management and information system (GIFMIS). On the other hand, financial reports are companies' formal record of their financial activities and financial reporting quality, refers to the extent to which financial reporting information meets its fair presentation and decision-usefulness objectives. The researcher operationalized financial reporting quality using the some of the qualitative characteristics of decision-useful financial information presented in the International Accounting Standards Board (IASB) conceptual framework for financial reporting, namely timeliness and relevance, (IASB, 2010, 2018).

Although sustainable innovation is still perceived as being aligned with the idea of the triple bottom line, new sustainability research goes much more in-depth and indicates that revolutionary solutions to sustainability will be adopted if we target tackling the urgent economic, social and environmental problems we are now facing.

To guide the study objective, two hypotheses were formulated as stated below:

H_{O1}: IPPIS introduction has no Significant Impact on the timeliness of financial Reports in ICPC

H_{O2}: GIFMIS introduction has no Significant Impact on the timeliness of financial Reports in ICPC

2. LITERATURE REVIEW

Conceptual Framework

The review of literature for this study focused on computerised accounting information system and quality financial reporting of anti-graft agencies in Nigeria. Specifically, it covers the concept of accounting information systems, computerised accounting systems, IPPIS, Integrated Personnel and Payroll Information System, GIFMIS, financial reporting quality and timeliness of financial report. Relevant empirical literature on computerised accounting information system and quality financial reporting are also reviewed and the study discussed the theoretical framework as well.

Computerized Accounting Information Systems

An accounting information system is a set of interconnected subsystems that operate together to convert financial data into the financial information that management uses for financial decision-making (Sari Azhar et al. 2019). The Accounting Information System is a collection of systems that convert financial and other data into information, including human resources and services. In their study, Kharuddin et al. (2010), state that accounting system that were previously performed manually can now be performed with the help of computers. Thus, improvements in the Information Technology have facilitated the use of accounting procedures. They state that the increasing growth of Information Technology in the world has

made the preparation and publishing of financial statements easier and less stressful. Information Technology has subsisted for a long time, fundamentally as long as people have lived. According to Haigh (2011), Information Technology has existed because there were always ways of communicating through technology available at that point in time. According to researchers Sajady et al. (2008); Urquia, et al. (2011), implementation, investment, and improvement of accounting information system are related to the increase in economic and financial results of a firm. Also, that accounting information system leads to improved decision making by managers, more efficient internal control systems, improves the quality of financial reports and improves performance measures and facilitates financial transaction processes. To respond to developments in Information Technology in financial reporting, providers of accounting information must possess a broader set of knowledge, skills and abilities than prior generations, (Fowzin & Narsin 2011). Accounting Information Systems are divided into six elements viz: the individuals who use the system, the processes and instructions for collecting, processing, and maintaining data, the data and business operations of the company, the applications used for data storage, the infrastructure for information systems, namely computers, peripherals, and network communications devices and Mechanisms for administrative monitoring and protection to shield AIS data. (Steinbart et al. (2012).

An accounting system is defined as "a set of interrelated activities, documents, and technologies designed to collect data, process it, and report information to a diverse group of internal and external decision-makers in organizations" (Hurt, 2013). Computerised accounting systems are methods and schemes employed to record, organize, summarize, analyse business transactions, and interpret or communicate financial information to stakeholders using computers and related technologies (Marivic, 2009). As a working definition, a computerised accounting system is an integration of computer-based schemes, applications, and infrastructure employed by an entity in collecting, recording, organising, storing, and analysing financial transactions and to interpret and communicate financial information to stakeholder for informed decision making. Since technological innovation and advancement are generally aimed at enhancing human performance, computerised accounting systems are, therefore, designed and equipped with automated functionalities to enable organisations to overcome the challenges and drawbacks of manual accounting systems. As indicated by Ismail and King (2007), computerised accounting systems enhance information flow, employee performance, and financial information accuracy in organisations. Computerised accounting systems are characterised by process integration, accessibility, reliability, and flexibility (Anggraeni, 2016). Process integration implies that different processes performed independently in a manual system are carried out in an integrated automated manner, such that activities including data capturing, transactions posting, and ledger accounts balancing are performed almost simultaneously without human intervention. Accessibility implies that system users can easily access and retrieve data and information stored in the system. In contrast, flexibility and reliability suggest that the system makes the accounting function and reporting process very dynamic and its output more reliable. Accounting information systems have also been assessed in terms of their qualitative characteristics, such as speed, accuracy, timeliness, information scope, and ease of use (for example: Choe, 1998; and Meiryani et al. 2019). These identified characteristics and advantages of computerised accounting systems, such as speed, integration, accuracy, flexibility, reliability, and automation, are enabled by the consolidated functions and synergy of the various components of the system (Agung, 2015; and Itang, 2021). In general terms, an accounting information system consists of five major components or elements, namely; inputs, processes, outputs, storage, and internal controls (Hurt, 2013). However, Itang (2020) identified five structural components of computerized accounting systems, namely internal controls, automated data-processing, relational database, automated processing, and enhancing technologies. Itang (2021) provided empirical evidence that each of these

components contributes positively and significantly to the overall performance of computerized accounting systems, and hence posited that all five components are necessary in the design and modelling.

Integrated Personnel Payroll Information System (IPPIS)

IPPIS is the acronym for Integrated Personnel Payroll Information System. It is an inherent component of the Government Integrated Financial Management Information System (GIFMIS). It is a World Bank project initiated to help develop financial systems which have the capacity of providing support for an entrepreneurial venture. It provides the government the ability of managing services and payroll in the framework of public sector output and limitations of government revenue, precedence, and financial plan (MRL, 2016). It enhances effective and efficient storing of staff data and management of monthly salary to promote confidence in workers' payroll costs and budgeting. It is a World Bank-assisted project conceived with the intention that its implementation will be similar to international best practices of improving management reporting using information and communication technology. IPPIS is a government centralized payroll for all the staff of Ministries, Departments, and Agencies (MDA) of the federal government, which is in charge of preparation and payment of all MDAs' salaries. It captures all staff, registers them, and allots unique identification numbers to each registered government employee before paying them. It was introduced by the government to checkmate ghost worker syndrome, as well as checkmate frivolous spending as MDAs were having custody of money so that government can have absolute control and will know its personnel cost at every point in time. It became operational in April 2007 and the office of the Accountant General of the Federation (OAGF) was vested with its administration in October 2008.

IPPIS is not 100% effective as it has so many challenges/loopholes and associated problems encountered by MDAs using it. Examples of such problems are salary variations without basis/reasons for such discrepancy with the solution being difficult to obtain. Paying arrears when salary is missed becomes a problem and affecting promotion takes time, overpayment, underpayment, and so on. As noted by Mauldin & Ruchala (2016), obvious challenges marred the effectiveness of IPPIS implementation till date. Some of these challenges were either as a result of the nation under development in terms of technological infrastructure and expertise or simply the unwillingness of the authority to fully carry out the implementation. Some of the challenges enumerated by Mauldin & Ruchala (2016) are: Lack of sufficient skills transfer to government personnel which prolong consultants stay on the project, poor state of supporting infrastructure such as low internet penetration, technological barrier, problem associated with transfer of pay point due to the posting of employees from IPPIS MDA to non IPPIS MDA, resistance from stake holders which have prolonged implementation and such like. In addition, this paper posits that government lack of will and commitment to the accelerated implementation of this project is a major challenge. Consequently, it has not met the expected benefits and the purposes for which it was initiated which includes financial accountability, transparency, and curbing corruption in the government payroll system, among others.

Government Integrated Financial Management Information System (GIFMIS)

The Government Integrated Financial Management Information System (GIFMIS) is an IT based solution for financial management and accounting that is being implemented by the Federal Government of Nigeria to improve Public Expenditure Management processes, enhance greater accountability and transparency across Ministries, Departments and Agencies (MDAs). In Nigeria, the Federal Government since April 2nd, 2012 introduced GIFMIS to tackle the budget management and accounting across MDAs and to address key sources of economic inefficiency (GIFMIS, 2014). This is to strengthen economic management and to

deal with weak governance and corruption. The budget function has been consolidated in a strengthened budget office and greater transparency has been introduced to Public Expenditure Management (PEM) through regular publication of allocations of federation revenues to all tiers of governments, and through widespread dissemination of information on budget allocations and execution (GIFMIS, 2014; Jessica & Heidi, 2012). GIFMIS is concerned with institutional building and improving economic governance which improves the capacity to address issues of poverty, gender and social development (World Bank, 2014 & OAGF, 2014). Central Bank of Nigeria (CBN) (2013) stated that the Federal Government of Nigeria (FGN) GIFMIS initiative has proven that the integration of licensed e-payment solutions with in-house accounting, payroll, pension, Enterprise Resources Planning (ERP) can significantly eliminate manual payment processes and accelerate adoption of end-to-end e-payment.

GIFMIS is designed to make use of modern information and communication technologies to help the Government of Nigeria to plan and use its financial resources more efficiently and effectively. GIFMIS role is to connect, accumulate, process and then provide information to all parties in the budget system on a continuous basis. It is therefore imperative that the system should be able to provide the required information timely and accurately, because if it does not it will not be used and cease to fulfil its central function as a system (Diamond & Khemani 2005; Hendriks, 2012). Integration oftentimes applies only to the core financial management functions that GIFMIS supports, but in an ideal world, it would also cover other information systems with which the core systems communicate, such as human resources, payroll, and revenue (tax and customs) as the minimum IFMIS interface with in the systems (USAID, 2008 & Dorotinsky, 2003).GIFMIS have impacted positively on Nigeria's economic development, the budgeting and budgetary system, payroll management system, cash management reforms, expenditure ceiling for MDA's in Nigeria (Ogbonna 2015). As a database driven application, GIFMIS will enable all transactions to be tracked in detail in an on-line real-time basis.

Financial Reporting Quality

The final goal of every accounting system is to provide financial information to both internal and external stakeholders. However, such information would be useless or misleading if they lack the desired quality. The quality of financial reporting information, therefore, anchors on the extent to which the information in the financial statements and explanatory notes is fairly presented. The concept of financial reporting quality as gained greater attention in recent times following the emergence of accounting scandals such as the cases of Enron, Worlcom, Parmalat, Sunbean, and Macroni, which gave rise to the global financial crises and loss of investors' confidence (Agrawal & Chadha, 2005). The quality of financial reporting information is defined using several models, such as the accrual model, which is based on the level of discretionary accruals employed by management in the measurement of earnings; the value relevance model, which measures the relevance and reliability of financial information based on the relationship between stock returns and earnings figures; the financial report elements model, which focuses on the quality of specific items in the financial reports; and the qualitative characteristics model, which considers the qualitative characteristics of useful financial information as the measure of financial reporting quality(Al-Dmour et al. 2017; Mbobo & Ekpo, 2016; Seyed, 2014). Among these models, the qualitative characteristics model has been indicated to be the most recent approach to measuring financial reporting quality (Mbobo & Ekpo, 2016), and the most employed framework in the qualitative characteristic model has been the International Accounting Standards Board (IASB) conceptual framework, which provides six qualitative characteristics of useful financial information, namely relevance, faithful representation, comparability, verifiability, timeliness, and understandability (IASB, 2010, 2018).

Timeliness of Financial Reporting

The timeliness of the release of corporate reports is one of the characteristics of a good financial reporting system. This is based on the fact that with the passage of time, accounting information becomes less relevant for decision making. Based on this, most regulatory authorities such as the Nigerian Securities and Exchange Commission (SEC), Nigeria Exchange Group (NGX) and Organisation of Economic Cooperation for Development (OECD), emphasised the need for the timely release of corporate financial reports. Nigeria is not an exception, considering the fact that the Security and Exchange Commission has required a maximum of 90 days (after the company financial year end) from listed companies to release their corporate reports. Despite this regulation, listed companies in Nigeria still experience time lags in the release of their financial reports. McGee (2007), defined it as the period between the company's yearend and the date that the financial report was released for public view. Karim *et al.,* (2006), remarked that the timeliness of financial reports includes audit delay, which is the number of days between the balance sheet date and the date the external auditor's report was signed; financial statement issue delay, which is the number of days between the balance sheet date and the date of declaring the notice of the annual general meeting (AGM); and the AGM delay, which is the number of days between the date of the financial year end and the AGM.

Fagbemi and Uadiale (2011), observed that the timeliness of financial reports of listed companies can be explained by their relationship with foreign affiliates. This implies that corporate relationship with foreign affiliates in the form of subsidiaries and associates, can affect the quality and timeliness of financial reports. Fagbemi and Uadiale further noted that the business complexity and leverage were not able to significantly influence the timeliness of financial report. Iyoha (2012), studied the timeliness of financial report of 61 listed companies in Nigeria, for the period 1999-2008 and found that only the age of the company can significantly affect the timeliness of financial reports. The implication of this finding is that older companies tend to take longer time to release their financial reports. Owusu-Ansah (2000), earlier made similar conclusion for 47 listed non-financial Zimbabwean companies.

Innovation and sustainability

Innovation and sustainability are twin words associated with the reform and application of initiatives that transform the current operation to be more efficient and more productive. Innovation refers to a quick solution through implementation, application, or transfer of innovative technologies with the overall aim of catching up with competitors quickly without a significant investment. Innovation is associated with an initial investment, willingness, and also patience from business leaders to take more risks. This view is supported by Adner (2006), who stated that leaders of emerging economies and managers needed to put innovation as their top priority and shift their thinking toward a development based on innovation and creativity. Innovation is the advancement of product, service, and process, which leads to sustainability, through the use of technology to generate enhancements either directly or indirectly. Innovation can result in great benefits for the adopting economies due to the potential to develop unique foundation technologies and organization systems for longer-term development (Prahalad and Ramaswamy 2004; Kang 2016). Sustainability can be seen as the asset of continuity; that is to say, what is sustainable will survive in the future. Sustainable innovation does not try to enhance a single aspect of a social, environmental, or economic situation; instead a suitable approach must be sought, and concessions can be appropriate among a variety of dimensions to benefit society and the environment, as well as delivering positive economic consequences.

Empirical Review

Marshall and Farai (2016) assessed the usage of computerised accounting information system in processing accounting transactions and preparing financial statements. Descriptive research and qualitative approach were employed. Through the use of interviews and questionnaires the role of computerised accounting information systems was determined. The study revealed that the establishment of computerised accounting information systems reduced errors, saved time and minimised operational costs. This brought about expected results of better presentation of financial reports. The study recommended full implementation of the use of computerised accounting information systems in all departments of the development fund organisations in order to meet customers' and shareholder's needs by the implementation of new systems that enabled organisations to produce improved financial reports.

Isa (2017) reviewed the impact of computerised accounting information system on management performance in public sector in Nigeria. The study adopted an exploratory research method. Data were obtained from secondary sources. The impacts of computerized accounting information system (CAIS) on the executives' officers of government's ministries, departments or agencies were considered in terms of accounting framework and operating procedure in the public sectors in Nigeria. The study pinpoints some of the problems associated with the implementation of CAIS such as high costs of implementations of hardware and software, costs of maintaining the system and it require special skills. Others are reduction of employee, inadequate security and having quality of backup and print accessories. The study further revealed the prospects of implementing CAIS such as to lower operating costs, improve efficiency, increased functionality, better external reporting, improved accuracy and faster processing of data in the system. The study concluded that the impacts of computerised accounting information system on the executives' officers of government's ministries, departments or agencies considered only accounting framework and operating procedure in the public sectors in Nigeria. The study recommended that executives' officers of government's ministries, departments or agencies should be more aware of CAIS due to its ability to understand and examine circumstances around the client and their eligibility to be granted credit.

Itang (2017) in a study of the impact of computer-based accounting systems on the effectiveness of internal controls in Nigerian SMEs, employed the survey methodology using self-completed questionnaires administered to a sample of two hundred forty-eight firms. The result of the study indicated that Nigerian SMEs are increasingly adopting computerized accounting systems. The study also showed that Sage 50 (formerly Peachtree) is the most used accounting software, followed by QuickBooks and Tally ERP. The study also indicated other accounting software employed by SMEs to include Busy Accounting, Sage Pastel, MetroPCS, First Class, Invex, MS Dynamics, MS Excel, MS Navision, and Software. Hence, the researcher recommended that there is a need to encourage SMEs to adopt computerised accounting systems to improve their financial reporting quality.

Rajesh and Hariom (2018) reviewed the impact of using computerised accounting systems (CAS) in financial reporting among SME in India. The study is based on a survey carried out among small and medium sized entrepreneurships to determine the extent to which development and implementation of computerised accounting systems had taken place. The data were collected using questionnaires. The study adopted the descriptive and exploratory research design. Also, the data were analysed using descriptive and correlation. The finding revealed a strong significant positive relationship between the variables ($r=0.741$, $p>0.000$) which implies that computerised accounting system and financial reporting among SMEs in India. Finally, the paper recommended that Governments, through their institutions like District

Industries Centres should engage services of qualified CAs / accountants cluster wise to visit SMEs on a monthly basis, guide and help them to adopt CAS and use it completely and effectively on a regular basis.

Masanja (2019) investigated the impact of computerized accounting system on the financial performance for selected private companies in Arusha, Tanzania. The study adopted the descriptive and exploratory research design. The sample comprised of sixty-one employees in the accounting and financial department from ten randomly selected private companies located in the Arusha region. The study is based on primary data; obtained from questionnaires. The data were analysed using descriptive and Pearson correlation coefficients. The results showed that cost and management support were significant factors affecting the adoption of CAS. The correlation results showed a significant positive relationship between these two factors (cost and management support) and financial performance. The study therefore suggested that there is a need to encourage private companies in Arusha, Tanzania to adopt computerised accounting systems to improve their financial reporting quality.

Simon et al. (2020) examined the impact of computerised accounting systems on the quality of financial reports in the banking sector of Ghana. The study population comprised of all banks listed on the Ghana Stock Exchange. The quantitative research approach was adopted for the study and data processed using Statistical Package for Social Sciences (SPSS) programming version 21. Also, Descriptive statistics and Cross tabulation was used to determine the relationships between variables. Findings from the study discovered that taking all other autonomous factors at zero, a unit increment in automated computerised accounting system will bring about 0.50 increment in the quality of financial reports of banks. The implication of this study is that, for banks to have quality financial reports efforts must be made to invest in computerised accountings systems so as to improve the speed, practicality, accuracy and relevance of the financial reports of their operations. The study therefore recommended that in order to ensure that the bank have quality understandable reports; they should invest in computerised accounting system since it is seen to affect the financial reports to a great extent.

Adel and Al-Zaytoonah (2020) analysed the influence of computerised accounting information systems (CAIS) on building a healthy environment for credit risk management through the mediating role of IT infrastructure. Quantitative approach was used and questionnaire distributed on seventy-six financial managers within banks, credit companies, and financial services in Jordan. Descriptive statistics, multiple and simple regression and other statistical tests of AMOS were used. Results of study indicated that IT infrastructure mediates the relationship between CAIS and CRM, and the fact that CAIS can help in creating a healthy environment for CRM through paving the way for (appropriate credit risk environment) and (Credit administration, measurement and monitoring process) based on its characteristics of CAIS, the relationship was highlighted through the variance relationship which was scored through by variables through analysis. Study recommended that financial institution should be more aware of CAIS due to its ability to understand and examine circumstances around the client and their eligibility to be granted credit. Also, increasing awareness of banks and financial institutions to the importance of IT infrastructure and its role in the overall organizational approach in managing and dealing with credit related risks and failures.

Williams and Isaac (2021) investigated the impact of computerisation on financial reporting practices of the six registered international non-governmental organizations in Ghana. The study used a correlational research design and applied bivariate analysis in SPSS version 23 on self-constructed questionnaires with Cronbach Alpha of 0.78 for computerisation and 0.82 for financial reporting practices. The results of the study showed that there is a highly significant positive relationship between computerisation and financial reporting practices ($r = .851$, $p =$

0.032). The study confirmed that most of the international non-governmental organizations in Ghana consistently receiving funding due to the proper computerisation systems they have, which have aided their financial reporting practices that funders require. The study recommended that local non-governmental organizations computerise their accounting and financial reporting processes.

Yunusa-Acho (2021) examined the impact of computerised accounting system on the performance in banking sector in Nigeria. The research adopts descriptive research survey design and respondents were reached using a 10 items structured questionnaire. The population of the study is 1892 who are employees of the banks. The study adopts Godden sample size statistical formula which generated a sample size of 319. However, out of the total of 319 questionnaires distributed only 184 were duly completed and returned giving a retrieval rate of 58%. The data were analysed using a five point's likert scale and the analytical tool is the linear regression analysis. The finding revealed that computerised accounting system has enhanced performance of banking sector in Nigeria. Thus, recommended that computerised accounting system should be sustained in the banking sector while periodic training of their personnel be carried out to enable them strive competitively

Akamanwam (2022) examined the Influence of Computerized Accounting Systems on Financial Reporting Quality in Small and Medium Enterprises. Data were collected using a web-based self-completed questionnaire from a sample of three hundred and seventy firms randomly selected from SMEs in the South-South region of Nigeria, of which two hundred and twenty-three completed questionnaires (60.3%) were found useful for the study. Data was analysed using descriptive statistics and structural equation modelling. The study findings indicated that CAS usage has a significant positive influence on financial reporting quality in terms of relevance, faithful representation, comparability, verifiability, and understandability. CAS is also indicated to be a good predictor of financial reporting quality. The findings of the study also showed that the most impacted dimension of financial reporting quality by CAS is understandability, while the least impacted is verifiability. Consequently, the researcher concluded that computerized accounting systems significantly enhance the quality of financial reporting information. Hence, the researcher suggested that there is a need to encourage SMEs to adopt computerised accounting systems to improve their financial reporting quality.

Ali and Ainon (2022) examined the factors influencing the implementation of computerised accounting systems (CAS) in small and medium-size firms in Somalia. Primary data were collected using a quantitative research method and an online survey and regression analysis was carried out using SPSS version 25. Finding of the study revealed that management commitment, human capital efficiency, business user competency, and cost capabilities play a significant role in implementing CAS in SMEs of Bakara Market also revealed that computerized accounting systems increase the accuracy of financial statements and speed up their generation. The study recommended that Somalia government should be more aware of CAIS and examine circumstances around the client and their eligibility to be granted credit.

Chude et al. (2022) examined the effect of a computerized accounting system (CAS) on the organisational performance of oil and gas firms in Port-Harcourt, Nigeria. The study is based on primary data obtained from a structured questionnaire administered to respondents. The population comprised of hundred staff of five randomly selected Oil and Gas firms in Port Harcourt, Rivers State with a capital base of above five hundred million. The unit of focus was personnel in the Accounting/Finance and the IT/ICT Department of the respective companies. The reliability of the instrument was measured using Cronbach's alpha. The data were analysed using descriptive and inferential statistics. The results showed a positive significant effect of accounting software usage on accountability, productivity, and cost control in oil and gas firms.

The study recommended the use of electronic mediums and other alternative channels (such as cloud computing frameworks) for storing financial information to ensure the safeguarding of such information and prevent data loss. The deployment of CAS in functional departments to boost the efficiency of service delivery in addition to linkage to the overall organisational ICT framework can enable the speedy generation of internal and external financial reports.

Theoretical Framework

This section dealt with the theories that are important to the subject of this study. The theories included Innovation Diffusion Theory, Resource-Based Review (RBV) Theory and the Systems Theory

Innovation Diffusion Theory

According to Shy (1997) diffusion theory posits five characteristics of innovations that affect their diffusion: relative advantage (the extent to which a technology offers improvements over currently available tools), compatibility (its consistency with social practices and norms among its users), complexity (its ease of use or learning), trialability (the opportunity to try an innovation before committing to use it), and observability (the extent to which the technology's outputs and its gains are clear to see). Diffusion studies have demonstrated that innovations affording advantages, compatibility with existing practices and beliefs, low complexity, potential trialability, and observability, will be more extensively and rapidly diffused than an innovation with the cluster of opposite characteristics (Shy, 1997).

The Resource-Based View (RBV) Theory

Many studies have used RBV to explain the relationship between IT and firm performance (Barney, 1991; Bharadwaj, 2000; Kim, Shin, Kim, & Lee, 2011; Powell & DentMicallef, 1997). The RBV is divided into three levels; capability, competence and skills. (Cragg, Caldeira, & Ward, 2011). Capability refers to how firms manage their resources; competence, refers to how well those resources are managed, and skills are associated with ranges of skills such as technical, managerial and general management skills.

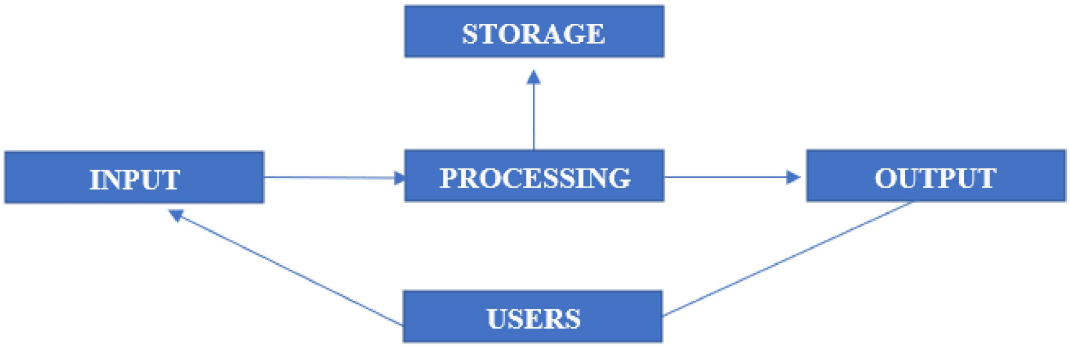
Systems Theory

Ludwig von Bertalanffy (1901–1972) is widely known as the father of general system theory (GST). Some scholars are aware of his contributions to the concepts of open systems and steady state (flux equilibrium), and in some areas of research his growth equations are still being referred to today. The Systems was developed to explain historical development as a dynamic process. Bertalanffy argued that everything is interconnected. Therefore, the study of interconnectedness was a means of understanding the world. The systems theory method of analysis involves, first the deconstruction of what is to be explained that is the phenomenon under consideration, secondly, the formulation of explanation that account for the behaviour of properties of the component separately and finally the synthesis of these explanations into an aggregate understanding of the whole.

Systems theory is relevant to this study because the methods proposed is to model complex entities created by multiple interaction of components by abstracting from certain details of structure and component and concentrating on the dynamics that define the characteristics functions, properties and relationships that are internal or external to the system, Computerized Accounting Information System is a computer based system, which combines accounting principles concepts as well as the concept of information system to record, process, analyse and produce financial information to its users to make economic decisions Gelinas et al, (2005). The illustrative figure below relates the Computer Accounting Information systems (CAIS) to

System Theory since it involves multiple components which interact to generate usable and quality results.

Figure 2.1 A Computerized Accounting System Model



Sourced: Gelinas et al (2005)

3. METHODOLOGY

Before the adoption and usage of GIFMIS (like every other government MDA), Anti-graft agencies in Nigeria suffered lack of accurate, timely and appropriate Budget and Accounting Information. The inherent accounting information were characterised by: manual and partially automated systems, weak capacity in implementation and inspection, inadequate systems for collection and tracking of revenue, backlog of unreconciled bank accounts, lack of a uniform chart of accounts that complied with global best practice, lack of standardization and harmonization in the reporting systems, endemic budget overruns, ad-hoc and uncoordinated it acquisitions; non-compliance with international public sector accounting standards, delay in remittance of transcript and delay in preparation of financial statements among other challenges. Hence the need for a computerized integrated financial management information system like GIFMIS.

Longitudinal panel research design was adopted in this study as it provides the support needed for collection of information on the existing nature of the phenomenon under study so as to provide and describe the nature of the relationship between the study variables.

The population of the study consists of the data collected from the financial records of the Independent Corrupt Practices and other Related Offences Commission (ICPC) and the Economic Financial Crime Commission (EFCC) as at 31st December 2022. The secondary data adopted in this study were gathered from financial records/statements published by the anti-graft agencies. The data for this research consisted of annual observations ranging from 2012 to 2021 a period of ten (10) years. Longitudinal panel research data estimation methodology is implemented as the data provides cross sectional data over a period of time. The secondary data which were collected for the dependent and independent variables was analysed using descriptive statistics and panel regression using statistical package e-view version 10.

The descriptive statistics detects whether there are errors in the data set by determining mean, maximum and minimum values for each of the variable measures. Pearson correlation analysis tests the association among the variables, while panel regression examines the effect of the independent variables on the dependent variable. Panel regression analysis for fixed effect model and random effect model were conducted.

Model specification

This research adopted the approach of Arumona (2018) to determine performance indicators. The model takes the form:

$$SFR = \beta_0 + \beta_1 RFC + \beta_2 TPR + \epsilon_{it}$$

Where: SFR = Speed of Financial Reports; RFC = Reported Fraud and corruption cases; TPR = Third party Remittance Delays; α_0 = Constant or Intercept; β_1- β_2 = Regression Coefficients; ε_{it} = Error Term.

Table 1: Definition of Variables

S/N	PROXY	TYPE	MEASUREMENT
	Variable of Interest		
1.	Speed of financial Report (SFR)	Dependent	Measured by taking the number of days from year end to when it is presented to the board.
2.	IPPIS	Independent	Measured by reported cases of payroll fraud
3.	GIFMIS	Independent	Measured by number of days delay in remittance of deductions to receiving authority.

Source: Author's compilation (2022)

4. RESULTS AND CONCLUSION

Descriptive Statistics

The descriptive statistics detects whether there are errors in the data set by determining mean, maximum and minimum values for each of the variable measures.

Table 2: Descriptive Statistics

	SFR	RFC	TPR
Mean	98.00000	549.3000	8.700000
Median	75.00000	191.5000	7.000000
Maximum	220.0000	2220.000	14.00000
Minimum	30.00000	87.00000	3.000000
Std. Dev.	63.79829	708.3756	3.860052
Skewness	0.780772	1.527395	0.472357
Kurtosis	2.312177	4.056907	1.931209
Jarque-Bera	1.213133	4.353664	0.847832
Probability	0.545220	0.113400	0.654479
Sum	980.0000	5493.000	87.00000
Sum Sq. Dev.	36632.00	4516164.	134.1000
Observations	10	10	10

Source: E-view 10 Output 2023

Table 2 presents the descriptive statistics on the relationship between computerised accounting information system and financial reporting quality during the period of 2012 to 2021. The table shows that the speed of financial report (SFR) has a mean of 98 days with a standard deviation of 64 days as well as a minimum value of 30 days and maximum values of 220 days respectively. For the IPPIS which is measured by the reported payroll fraud cases (RPC), a mean of value of 549 with standard deviation of 708 cases and a minimum and maximum value of 87 and 2,220 cases respectively. This implies that the introduction of IPPIS resulted in wide disparity in reported fraudulent cases during the study period. Similarly, the table shows that the GIFMIS proxy by delay in remittances (TPR) during the period has an average value of 8.7 days with standard deviation of 3.9 days and the minimum and maximum values of 3 and 14 days respectively.

Correlation Analysis

Table 3 presents correlation values between dependent and independent variables and the correlation among the independent variables themselves. These values are generated from Pearson Correlation output. It investigates if independent variables correlate with the dependent variable or if each of the independent variables correlates with the other. Correlation values of above 0.5 between dependent and independent variables means high linear correlation. This is expected in among the two variables. However, high correlation above 0.5 among the dependent variables shows the possibility of existence of multicollinearity.

Table 3: Covariance Analysis

Covariance Analysis: Ordinary				
Sample: 2012 2021				
Included observations: 10				
		SFR	RFC	TPR
SFR	Correlation	1.000000		
	t-Statistic	-----		
	Probability	-----		
RFC	Correlation	-0.625001	1.000000	
	t-Statistic	-2.264561	-----	
	Probability	0.0533	-----	
TPR	Correlation	0.899664	-0.646426	1.000000
	t-Statistic	5.828531	-2.396365	-----
	Probability	0.0004	0.0434	-----

E-View 10 output 2023

Table 3 shows the correlation between the dependent variable, Timeliness of report (SFR) and the independent variables of IPPIS, represented by reported fraud cases (RFC) and GIFMIS represented by TPR on one hand, and among the independent variables themselves on the other hand. According to Gujarati (2004), a correlation coefficient between two independent variables of 0.80 is considered excessive, and thus certain measures are required to correct that anomaly in the data. From the table, it can be seen that all the correlation coefficients among the independent variables are below 0.80. This point to the absence of possible multicollinearity among the independent variables and the correlation between the dependent variables shows that they all positively correlated among the dependent and within the independent variables shows a mix result of both positive and negative relationship. The results indicate that there exists correlation between generally, it can be seen that all the correlation coefficients among or within the independent variables are very weak.

4.3 Multicollinearity Test

To ensure the validity of the measurements, multicollinearity tests were performed, using the Variance Inflation Factor (VIF) as the validity test. Multicollinearity occurs when one or more independent variants have a stronger influence on others and this condition is a violation of the linear regression model. Multicollinearity tests are performed to test whether there is a strong correlation between independent variables that may lead to misleading results. **Decision rule**: Medium VIF less than 10 indicates the absence of multi-collinearity, while VIF intermediate over 10 is a sign of multi-collinearity

Table 4: Variance Inflation Factors (VIF) Analysis

Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1584.131	16.15636	NA
RFC	0.000373	2.865518	1.717821
TPR	12.56020	11.41371	1.717821

The variance inflation factor result above shows the absence of multicollinearity between independent variables, as all independent variables (RFC and TPR) have less than 10 VIF centres.

Unit Root Test (Time series properties of the Variables)

To avoid the estimated results being spurious, the stationarity condition of the variables to be used for analysis need to be examined. For the purpose of this study, the augmented Dickey fuller unit root test is conducted. The null hypothesis is that the series contains a unit root, and the alternative is that the series is stationary. The augmented Dickey fuller test assumes a common autoregressive parameter for all panels; it restricts the coefficient around the lagged dependent variable to become constant across all units with the panel.

Table 5: Summary of ADF Unit Root Test for the series of SFR, RFC, and TPR

VARIABLES	Lags	T-statistic	5% Critical Value	P-Value	Remarks
SFR	0	-5.479414	-3.259808	0.0027*	Stationary
RFC	0	1.981788	-3.320969	0.9986	Not Stationary
	1	-4.579402	-2.403313	0.0434*	Stationary
TPR	0	-0.919462	-3.259808	0.7311	Not Stationary
	1	-2.843208	-3.320969	0.0944	Not Stationary
	2	3.555457	-3.403313	0.0417	Stationary

As shown in the summary table of the ADF Unit root test results above, the SFR is stationary at level while RFC and TPR are not, which informed taking their first difference. The RFC became stationary at order one while TPF was stationary at the second difference.

Test of Research Hypotheses

The hypotheses are restated as follows;

H_{01}: IPPIS introduction has no Significant Impact on the timeliness of financial Reports in ICPC

H_{02}: GIFMIS introduction has no Significant Impact on the timeliness of financial Reports in ICPC

The study was be tested at 5% level of significance. The decision rule is thus; if probability value is less than 0.05 (5% level of significance) we reject H_0 and accept H_1 and otherwise.

Table 6: Pre-RESULTS

Dependent Variable: SFR

Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	112.8515	100.8738	1.118740	0.3796
RFC	-0.496532	0.467409	-1.062309	0.3994
TPR	8.697644	5.009135	1.736356	0.2246
R-squared	0.803830	Mean dependent var		148.0000
Adjusted R-squared	0.607660	S.D. dependent var		52.63079
S.E. of regression	32.96639	Akaike info criterion		10.11256
Sum squared resid	2173.565	Schwarz criterion		9.878226
Log likelihood	-22.28141	Hannan-Quinn criter.		9.483625
F-statistic	4.097616	Durbin-Watson stat		1.736861
Prob(F-statistic)	0.016170			

From the pre- IPPIS and GIFMIS results above, the RFC and TPR probability values of 0.3796 and 0.3994 are more than the 0.05 level of significance. The study has no reason therefore to reject the null hypotheses and reject the alternative hypotheses which states that IPPIS and GIFMIS have significant effect on the timeliness of financial report production.

Table 7: Post-RESULTS

Dependent Variable: SFR
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	48.55274	23.88220	2.033009	0.1791
RFC	0.110454	0.006394	9.634867	0.0437
TPR	1.551810	2.943643	0.527173	0.6507
R-squared	0.886019	Mean dependent var		48.00000
Adjusted R-squared	0.772038	S.D. dependent var		11.74734
S.E. of regression	5.608807	Akaike info criterion		6.570262
Sum squared resid	62.91743	Schwarz criterion		6.335925
Log likelihood	-13.42566	Hannan-Quinn criter.		5.941324
F-statistic	7.773403	Durbin-Watson stat		2.371061
Prob(F-statistic)	0.011981			

From the post- IPPIS and GIFMIS results above, the RFC and TPR probability values of 0.0437 and 0.6507. While the RFC value is less than the 0.05 level of significance, the TPR is greater than the acceptable level of significance. We therefore reject the null hypothesis which states that IPPIS has no significant impact on the timeliness of financial report production and accept the alternative hypothesis.

However, we have no reason to the null hypothesis which states that GIFMIS has no significant impact on the timeliness of financial report production and reject the alternative hypotheses which states that GIFMIS has significant effect on the timeliness of financial report production. The study therefore concluded that the introduction of GIFMIS has no significant impact on the quality of financial reports as proxy by timeliness of report production.

4.2 Discussion of Findings

The purpose of this study was to examine the impact of computerised Accounting Information System on the Quality of financial reporting of Anti-graft Agencies. The pre and post era of the explanatory variables took into consideration the reported fraud/conviction Cases (by EFCC), the speed or delay in reporting of financial information; the speed or delay in budget preparation and delay or speed in third parties remittances via IPPIS (by ICPC). The post results of the Computerized Accounting Information System in the Anti-graft Agencies revealed that there is a great improvement in the time lag in reporting fraud; budget preparation and processing; and speed in preparation and submission of quality financial statements as a result introduction of GIFMIS. Whereas, there was delay in processing and remitting third parties deductions via IPPIS platform.

From the descriptive and empirical analyses, the following are the findings: On the basis of individuals' variables, the IPPIS has significant effect on the quality of financial reports of Anti-graft agencies in Nigeria given the pre and post introduction eras.

However, the GIFMIS has no significant impact on quality of financial reports as there is no difference in the results of the pre and post introduction periods. The overall result shows that, computerised accounting information system has significant effect on quality of financial statement production. This result is in tandem with the works of Akamanwam (2022), which examined the Influence of Computerized Accounting Systems on Financial Reporting Quality in Small and Medium Enterprises and Akesinro and Adetoso (2016), whose study examined the effects of computerised accounting systems on bank performance in Nigerian banking sector. Both studies held that computerised accounting system has a positive effect on Small and Medium Enterprises and bank's profitability respectively. It is however not in complete agreement with the works of Itang, (2017) which recommended different accounting packages instead of just mere computerisation of packages.

4.3 CONCLUSION AND RECOMMENDATIONS

Based on the result of data analysis and discussion of findings above, it was clear that computerized accounting information system in terms of its speed, timeliness, accuracy and quality of reports generated, affects the quality of financial reports of the Anti-graft agencies. The study concluded that Computerised Accounting Information System has positive and significant effect on the quality of financial reports of Anti-Corruption Agencies in Nigeria. While GIFMIS has no significant effect on timeliness of financial report as depicted by speed of report production, IPPIS has significant and positive effect. Overall, therefore, it is concluded that Computerised Accounting Information System has positive and significant effect on the quality of financial reports of Anti-Corruption Agencies in Nigeria. The study therefore recommends that in order to ensure that anti-graft agencies have quality understandable reports:

i. They should invest more in accounting computerized accounting information system to strengthen their financial report generation in IPPIS modules.

ii. They should deploy and improve on existing accounting packages to strengthen the timeliness and quality of their financial report using GIFMIS.

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