Extent of Implementation of Accounting Automation Techniques on Job Performance of Accounting Officers in Tertiary Institutions in Anambra State

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ABSTRACT

This study x-rayed the extent of implementation of accounting automation techniques on job performance of accounting officers in tertiary institutions in Anambra State. Two research questions guided the study and four null hypotheses were tested at .05 level of significance. Related literature pertinent to the study were reviewed which exposed the need for the study. Survey research design was adopted using a population of 593 accounting officers in all the six public tertiary institutions (two universities, two polytechnics and two colleges of education) in Anambra State. A sample size of 239 accounting officers was used for the study. The sample size was derived using the Taro Yamani formula. Thereafter, stratified random sampling technique was used to determine the sample from each institution. A structured questionnaire developed by the researcher was used for data collection. Cronbach Alpha method was used to establish the reliability of the instrument. Reliability coefficient values of 0.84 and 0.80 were obtained for the two clusters with an overall reliability coefficient value of 0.82. Data collected were analyzed using mean and standard deviation to answer the research questions and ANOVA to test the null hypotheses at 0.05 level of significance. Statistical Package for Social Sciences (SPSS) was used to analyze data collected. The results showed that data entry and transaction processing automation are implemented at a high extent by accounting officers on their job performance in tertiary institutions in Anambra State. Types of institution and years of experience do not significantly influence the mean ratings of the respondents on the extent of their implementation of data entry automation and transaction processing automation on job performance in tertiary institutions in Anambra State. Based on the findings, it was recommended among others that tertiary educational institutions and professional bodies should prioritize the implementation of data entry automation and transaction automation techniques to improve the efficiency, accuracy and transparency of accounting processes. Institutions should also invest in training and capacity-building programmes to ensure that accounting staff have the necessary skills to effectively use automated accounting systems.

Keywords: Accounting automation techniques, accounting officers and tertiary institutions.

INTRODUCTION

Accounting automation has become increasingly prevalent in tertiary institutions, as these organizations strive to enhance the efficiency and accuracy of their financial management processes. Account officers, who are responsible for maintaining financial records, processing transactions, and ensuring compliance with accounting standards, have been significantly impacted by the implementation of various accounting automation techniques. The adoption of accounting automation in tertiary institutions has the potential to improve the job performance of account officers in several ways. Automated systems can streamline data entry, reduce the risk of human error, and provide real-time access to financial information, enabling account officers to make more informed decisions and respond to changing financial conditions more effectively. Accountants are more productive in a high speed work environment which leads to job performance.

Job performance is the general attitude that people have about their jobs. Campbell et al (2015) stated that performance is what the organization hires one to do, and do well, and only actions which can be scaled and measured are considered to constitute performance. It is also the set of behaviours that are relevant to the goals of the organization or organizational unit in which a person works. This is because it highly influences the overall firm's performance and also functions as the key variable in work and organizational psychology. Job performance is the aggregated financial or non- financial added value by the employees in contribution to the fulfillment both directly and indirectly to the targeted organizational goals (Dajani, 2015). Accounting officer's engagement in tertiary institutions has a positive influence on institutional performance. Performance in a job is strictly a behavior and a separate entity from the outcomes of a particular job which relate to success and productivity. Having performance complements, such as automation, can also improve the productivity of accountants, because technologies can make their office work mobile. Accountants' job performance could be measured through annual report of their activities in preparing financial statements at the end of a period. Accountants often spend hours every month updating their books. By using accounting automation software, tedious tasks are reduced and sometimes even eliminated. In addition, learning to use various software programs often leads to personal growth (Sengupta, 2023). Accounting automation increases the likelihood that financial data is accurate, and as well increases productivity and job satisfaction. By automating financial record-keeping, accounting automation reduces the risk of human error which manual data entry is always vulnerable to. By automating routine tasks, an institution can reduce the manual labour required and free up time for analyzing data as well as revenue generating-activities.

Automation in the accounting industry has allowed organizations to streamline financial management and make more informed decisions. Accounting automation refers to the use of technology to automate accounting tasks, such as data entry, reconciliation, and reporting. Accounting automation uses software to automate repetitive tasks and paperwork, reducing the burden of such tasks and paperwork (Sengupta (2023). The recording, tracking, and managing of accounting information are automatic and digitized, and the ledger updates and calculations are automatically done. It also eliminates the traditional method of huge ledgers and maintains all accounting information online. This has the potential to significantly improve the efficiency and accuracy of accounting work, and it can also free up accountants to focus on more strategic tasks such as financial analysis, budgeting and reporting. This can lead to improved decision-making, better resource allocation, and enhanced financial oversight within the institution. Accounting professionals should thus acknowledge that the finance functions are changing and make sure that they adapt and react positively to the changes. New technologies have automated complex and repetitive tasks. Thus, administrative tasks, which involve human intervention, do not require human interpretation (Deloitte 2021).

Automation tends to increase the demand for skilled personnel for running advanced systems. A technological advancement is a powerful tool in stimulating the economy through job creation and employability, particularly in the accounting profession. Automation improves efficiency and enables more time for other significant duties. However, it has created new competencies by opening new application fields such as predictive analysis in gathering and processing of complex data reports that save time and improves customer experience (Bhargava et al., 2021). Automation brings greater opportunities for the profession as it helps reduce transactional and routine tasks such as data entry, bookkeeping, and compliance work and allows accounting and finance professionals to focus more on value added services. Fernandez and Aman (2018) stated that there is a need to prepare accountants for flexibility so that they will be relevant to the dynamic work environment.

Also, automation in accounting might provide the accounting officers with tools that create higher efficiency and effectiveness in the working processes. The implementation of accounting automation could lead to advantages such as time saving, cost reduction and increased productivity. Andreassen (2020) opined that the implementation of automation might bring a positive attitude among accountants. Gustafsson and Jerkinger (2021) stated that an enhanced and a more efficient working process that is less time consuming can result in a satisfaction of doing their work. Thus, the automation of accounting tasks will result in a better data quality, data relevance and data consistency. Furthermore, automation would have a positive impact on employees because they could focus on more engaging tasks.

However, the extent to which accounting automation techniques have been implemented and their impact on the job performance of accounting officers may vary across different tertiary institutions. Factors such as the institution's size, financial resources, technological infrastructure, and the specific needs and challenges of the accounting department can all influence the degree of automation and its impact on the accounting officers' performance (Andreassen, 2020). The level of implementation of accounting automation techniques in tertiary institutions in Anambra state tends to be low. Finance and accounting are crucial parts of any tertiary institution's daily activity. Managing finances in an educational institution is a complicated task and time-consuming labour for the accounting staff. Making sure that all transactions are being processed correctly along with their recording is something that helps the administrators of tertiary institutions to have a real time view of the financial status of the institution. As one's institution grows, its accounting needs become more complex and harder to handle.

Tertiary institutions are institutions of higher learning where knowledge is imparted to its seekers and researches are undertaken in various fields of human endeavour. They are the post-secondary level of the national education system, which include universities, polytechnics, colleges of technology, colleges of education, advanced teacher training colleges, correspondence colleges and such institutions as may be allied to them (Federal Government of Nigeria (FGN), 2014). These institutions may be publicly or privately owned and are meant to contribute to national development by developing physical and intellectual skills which will enable individuals to become self-reliant and useful members of the society. Tertiary institutions are established to meet the nation's need for socio-economic development through knowledge sharing, research and development. It is important to appreciate the fact that, for tertiary educational institutions to achieve their objectives effectively there is need to establish an effective accounting system to furnish the management with necessary analyses, appraisals, and recommendations for decision making (Modibbo, 2015).

All education institutions, whether it is schools, colleges, coaching centres, or distance learning centres deal with large volumes of financial transactions. A specialized tool is often needed to tackle the rising complexities in this modern technology era. The financial reporting activities of tertiary institutions which are prepared by account officers include: collection, keeping and disbursement of various funds, preparation of budget, putting in place adequate internal control system, records of financial transactions (that is record of assets and liabilities), complying strictly with government financial policies and regulations in the day-to-day financial administrations of the institution and preparation of financial statements (Osadugba, 2018). An account officer manages the account of an institution, and this involves monitoring the performance of the account and advising the institution on investments to undertake. Accounts officers in tertiary institutions include Bursars and Directors, Senior Accountants and Auditors, Accounts and Store officers and Cashiers and Clerks (Nwaigburu & Mark, 2014).

In tertiary institutions, account officers make sure that the financial records are kept for smooth running of the institution and accountability purposes. Some of the records include student record, curricular record, evaluation records and financial records which relate to income and expenditure and include receipt for purchase, vouchers, retirement, contracts, donations and budgets. All these are recorded in the appropriate financial record for smooth running of an institution. Doing all of these manually are time intensive process that leave very little room for Chief financial officers and financial managers to analyze all the data and come up with useful insights. Accurate recording and storing of financial data is the crux of accounting. Most times, financial transaction problems may be viewed from three perspectives: bank problems, school management problems, and the student's problem (Gustafsson & Jerkinger, 2021). Human error occurs such that the actual amount paid is not what is recorded on the receipt issued by the bank as evidence of a transaction. There are also cases where students overpay or underpay and the bank is not aware of this due to the disconnection with the school. This is where automation comes into play. The financial activities of tertiary institutions have increased and most tertiary institutions have to resort to the adoption of accounting automation techniques.

Advanced technology has entirely changed the way accountants worked a few decades back. Finance and accounting professionals must possess excellent analytical and interpersonal skills and a profound understanding of organisational technology. Finance professionals bear lots of responsibility since they manage the money of institutions' most valuable assets (Doyle 2021 & Shinde 2020.) As the technology is getting advanced and some of the works of an accountant are automated, such as bookkeeping, account

officers must be prepared for several changes in the coming years. While these changes may be disruptive, they also open the door for many opportunities. Accounting automation software can help one to boost the productivity of one's institution by providing the tools that can perform various tasks with ease and accuracy, allowing one to integrate systems, generate reports and analyze data to make more informed decisions (Brisbane, 2023). As more and more tasks like managing payroll and invoice management get automated, institutions can shave expenses and time off from manual processes and further reduce the number of steps needed to complete accounting tasks. Accounting automation techniques to be considered in this study include data entry automation and transaction processing automation.

Data entry automation involves using software to automatically enter data into accounting records (Prithiv, 2022). This can be done by importing data from other systems, such as student information systems (SIS) or human resources (HR) systems, or by using optical character recognition (OCR) to scan and digitize paper documents. Data entry automation is revolutionizing how manual labor in data management works, making it more efficient and easier. Through utilizing data software programs along with other technologies, these automated solutions can capture information from many sources and convert them into a format that machines understand while reducing the tedious tasks required of people (Gonzalez, 2023). This then unlocks new insights gained through the collected data which will allow one to make better decisions going forward. Data entry refers to the process by which data is entered into a computer system or database. Automating data entry tasks is a great way to improve the efficiency and accuracy of any business. To achieve this, tools such as form builder software like Google Forms, Microsoft Forms or advanced AI-driven platforms like Coupler.io and FlyMSG.io can be employed which assists in extracting information from survey forms and invoices quickly without manual input. Utilizing these programs provides businesses with more time that they could spend on completing their core duties while also reducing error rates due to human labour.

Education data entry automation as an aspect of data entry automation empowers educational institutions to automate repetitive administrative processes, allowing educators and staff to focus on what matters most: delivering quality education and supporting student growth (Redwood, 2023). Using automation technology and intelligent systems, secondary and higher educational schools can optimize administrative workflows, reduce manual processes, and change how they operate. Education data entry automation refers to implementing automated systems and technologies in higher education institutions to streamline and optimize various administrative processes. It uses software, tools, and intelligent systems to automate repetitive tasks, improve efficiency, and enhance student experience. In education, data entry automation simplifies and accelerates processes such as enrollment management, student records management, like student applications, document management, human resources, communication and other administrative tasks. Embracing automation can significantly enhance data analysis processes and enable organizations to unlock the full potential of their data assets. Through data entry automation, tertiary institutions can access cutting-edge technologies and software to expedite their processes. By doing this, time is saved and productivity improved as employees are free from mundane tasks, giving them the opportunity to dedicate themselves to more strategic endeavors (Gonzalez, 2023). Consequently, by employing such solutions one's organization will be transformed for the better with increased efficiency, fewer mistakes made in data entry procedures ,and optimized operations overall. Transaction processing automation serves as one those cutting edge technologies that aids in the fulfillment of the aforementioned objectives.

Another form of accounting automation is transaction processing. Transaction processing automation is the system of breaking down transactions using a simpler and more unified method (Naini, 2022). A transaction processing system is software that keeps track of transaction by processing the data in an online recording system. Dhoot (2023) defined transaction processing system as an information system that collects, stores, modifies and retrieves day to day transactions of the organization. This involves using software to automatically process financial transactions. This can include tasks such as creating invoices, recording payments, and generating reports such as income and expenditure account and balance sheet. Transaction processing automation allows multitasking at a wider level with an unmatched ability to process thousands of transactions at the same time without any delay or break-down. Naini (2022) asserted that transaction processing system enhances data integrity due to its ability to maintain the same method for all transactions processed. It protects data and easily defends any error and hardware/software issues.

Transaction processing systems (TPS) are information systems used in carrying out the routine activities in an institution. The transaction processing systems allow people to conduct business with an organization in a computer-mediated environment (Bello, 2022). For tertiary institutions, it allows existing and prospective students to interact with the university in a computer-mediated environment. The transaction processing system in tertiary institutions is used for various activities such as admission processing course registration, hostel booking, fee payment and submission of various applications which were previously carried out manually. A typical TPS operate on a few basic steps for each transaction. These steps include entering or capturing of data, validating the data, processing, storing or preservation, generating output, and querying the databases. Transaction processing are used to automate routine and repetitive tasks, shifting from human mediated to computer-mediated services with the hope of boosting the speed and ease of service delivery. (Trianita et al. 2020).

However, the relevance and needfulness of these automation techniques on the job performance of account officers can never be over-emphasized. Their implementation in these institutions may equally vary. The influencing factor in the implementation of accounting automation techniques in tertiary institutions could be type of institution and years of experience. These variables are likely to affect accounting officers' mean ratings on the implementation of accounting automation techniques. Type of institution in this study means all conventional federal universities, polytechnics and colleges of education. Odimmega (2019) reported that there was a significant difference in the views of accounting officers in the universities, polytechnics and colleges of education on the adoption of international public sector accounting standards in tertiary institutions. This implies that the attitudes of governing council members of these institutions circumvent the ability of the institutions to follow the guideline and policies in implementing the accounting system to put in operation while preparing its financial statement. In view of this, it is appropriate for any type of educational institution to have an effective control system of accounting by instituting internal audit for good monitoring and checking against financial reporting. Type of institution may determine the extent the implementation of accounting automation by accounting officers enhances financial reporting in tertiary institutions.

Another influencing factor could be years of experience. Years of experience in this study refers to level of experience acquired over months or years of actual practice and which, presumably, has resulted in superior understanding, performance or mastery. Sandra in Mgbe (2019) stated that experience is the process or fact of personally observing, encountering, or undergoing something. Experience refers to the knowledge and skills that one gains through doing something for a period of time. The knowledge, experience and expertise of accounting officers may determine the extent the implementation of accounting automation enhances financial reporting in tertiary institutions. According to Boger in Ile and Mbanugo (2022), Nigerian tertiary institutions do not attract grants from international agencies because of lack of internal transparency and accountability. Boger further stated that experienced accounting professionals can carefully adopt generally accepted principles in preparation of financial statements in order to ensure transparency and accountability of accounting information.

The impact of accounting automation on job performance is likely to vary depending on the specific tasks that are automated, the skills and experience of the accountants involved, and the overall organizational culture. However, there is no doubt that automation is having a significant impact on the accounting profession, and this is likely to continue in the years to come. Considering the above views, it seems that the implementation of accounting automation techniques in tertiary educational institutions plays a significant role in improving the capacity of institutions to provide the institutional bodies, citizens, media and other stakeholders with understandable, relevant, reliable, and comparable financial statements, hence, the need to ascertain the extent of implementation of accounting automation in tertiary institutions in Anambra State.

STATEMENT OF THE PROBLEM

Tertiary institutions accounting practices have been poorly managed. The accounting practices seem to lack transparency, proper accounting and auditing records and as a result there seems to be much room for embezzlement probably because there is no accurate record or effective machinery in use that dictates accounting and financial fraud in the tertiary institutions. This is due to a number of factors such as lack of awareness of the benefits of accounting automation, lack of funding for the implementation, technical expertise

in accounting automation and as a result, the job performance of account officers in tertiary institutions is at stake. Furthermore, problems of the manual financial transactions become a time-consuming task, inefficient information flow, lack of visibility and control. Miscalculations and incorrect entries in accounting are huge problems which can end up costing an institution a lot of time and money to identify and rectify the issue. There are also problems arising from long wait times due to network issues or so many customers and difficulty in retrieving lost receipts. The school management at the bursary office records the receipt from the bank submitted by the students and issues another receipt to confirm the payment. Chances are their wrong documentation problems that have to do with poor documentation due to human errors and poor processes in school financial management. Long wait times at the bursary could also be caused by understaffing.

On the other hand, students do have problem of loss or misplacement of bank receipts or school receipts and the student stands the chance of being driven out of the exam hall if the problem is not rectified with the bursary office before the examination. There could also be embarrassment from the bursary department, such as wasting time, a mistake made in the receipt. The need of automated accounting is due to the current account distribution which is not entirely easy. A common time consuming process within accounting firms is manual accounting and also the gathering of data necessary for the account distribution, which needs to be collected from several different processes and divisions. Such time constraints results to giving financial statements to the decision makers too late, and the data has become outdated. All these are factors that drive the use of automated accounting techniques. Automated accounting if implemented could satisfy these demands such as eliminating cash transactions of students, bridging the disconnect between bank and the institution, providing accuracy and security for all school transactions which may enhance an easy accounting and management of school financial database. There is need to find out whether tertiary institutions implements the technique. Therefore, this study was aimed at determining the extent of implementation of accounting automation techniques by account officers in tertiary institutions in Anambra State.

Purpose of the Study

The main purpose of the study was to examine the extent of implementation of accounting automation techniques on job performance of accounting officers in tertiary institutions in Anambra State. Specifically the study sought to:

1. determine the extent of implementation of data entry automation on job performance of accounting officers in tertiary institutions in Anambra State.
2. identify the extent of implementation of transaction processing automation on job performance of accounting officers in tertiary institutions in Anambra State.

Research Questions

The following research questions guided the study:

1. What is the extent of implementation of data entry automation on job performance of accounting officers in tertiary institutions in Anambra State?
2. What is the extent of implementation of transaction processing automation on job performance of accounting officers in tertiary institutions in Anambra State?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

1. Accounting officers in universities, polytechnics and colleges of education do not differ significantly on the extent of implementation of data entry automation on their job performance in tertiary institutions in Anambra State.
2. There is no significant difference in the mean ratings of accounting officers on the extent of implementation of data entry automation on their job performance in tertiary institutions in Anambra State based on years of experience.

3. Accounting officers in universities, polytechnics and colleges of education do not differ significantly on the extent of implementation of transaction processing automation on their job performance in tertiary institutions in Anambra State.
4. There is no significant difference in the mean ratings of accounting officers on the extent of implementation of transaction processing automation on their job performance in tertiary institutions in Anambra State based on years of experience.

METHOD

Survey research design was adopted in this study. The study was conducted in tertiary institutions in Anambra State. Anambra is a State in South Eastern Nigeria. The population of this study consisted of 593 accounting officers in all the six public tertiary institutions (two universities, two polytechnics and two colleges of education) in Anambra State. A sample size of 239 account officers was used for the study. The sample size was derived using the Taro Yamani formula. Thereafter, stratified random sampling technique was used for sample size determination. Data for this study were collected using a structured questionnaire titled "Extent of Implementation of Accounting Automation Techniques in Tertiary Institutions (EIAATTI)". The respondents were requested to rate the items on a 4-point rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) with values 4, 3, 2 and 1 respectively. Three experts in business education validated the instrument. Cronbach Alpha method was used to test reliability of the instrument which yielded coefficient values of 0.84 and 0.80 for the two clusters. Out of the 239 copies of the questionnaire distributed, 217 (representing 90.38 %) were duly completed, retrieved and used for data analysis. Data were analyzed using mean, standard deviation and ANOVA. The application of SPSS version 23 was used for data analysis. For the hypotheses, p-value was used for decision making. Where the calculated p-value was less than the stipulated level of significance 0.05 ($p < 0.05$), it implies that there was a significant difference between respondents' mean scores and the null hypothesis is rejected. On the other hand, if the p-value is greater than or equal to the alpha level of 0.05 ($p \geq 0.05$), it means that there was no significant difference in the respondents mean scores and is not rejected.

RESULTS

Research Question 1

What is the extent of implementation of data entry automation on job performance of accounting officers in tertiary institutions in Anambra State?

Table 1 Mean ratings of Accounting Officers on their extent of implementation of data entry automation on job performance in tertiary institutions in Anambra State N = 217

S/No	Data entry automation	Mean	SD	Decision
1.	Preprocesses images to maximize accuracy	3.36	0.48	High Extent
2.	Importing scanned documents to the data entry automation	3.54	0.50	Very High Extent
3.	Importing images to the data entry automation	3.38	0.49	High Extent
4.	Importing PDFs to the data entry automation	3.43	0.50	High Extent
5.	Using software in automating students records	3.50	0.50	Very High Extent
6.	Using software in automating document management	3.49	0.50	High Extent
7.	Understands the structure of the document to identify fields.	3.55	0.50	Very High Extent

8. Automating payroll processes to improve financial data	3.38	0.49	High Extent
9. Integrate different data sources for a central unified view	3.44	0.50	High Extent
10. Converts data set into a format suitable for analysis	3.50	0.50	Very High Extent
11. Loads data into database management system to scale up analysis	3.32	0.47	High Extent
12. Accesses cutting-edge technologies	3.38	0.49	High Extent
Cluster Mean	**3.44**		**High Extent**

As displayed in Table 1, the cluster mean of 3.44 shows that data entry automation are implemented to a high extent by account officers on their job performance in tertiary institutions in Anambra State. The item-by-item analysis shows that items 2, 5, 7 and 10 with mean scores ranging from 3.50 to 3.55 are data entry automation implemented to a very high extent on job performance of account officers, while items 1, 3, 4, 6, 8, 9, 11 and 12 with the mean scores ranging from 3. 32 to 3.49 are data entry automation implemented to a high extent on job performance of account officers. The standard deviations are within the same range, showing homogeneity in responses.

Research Questions 2

What is the extent of implementation of transaction processing automation on job performance of accounting officers in tertiary institutions in Anambra State?

Table 2 Mean ratings of Accounting Officers on their extent of implementation of transaction processing automation on job performance in tertiary institutions in Anambra State N = 217

S/No	Transaction processing automation	Mean	SD	Decision
13.	Processing course registration	3.48	0.50	High Extent
14.	Automating repetitive tasks	3.36	0.48	High Extent
15.	Processing transactions in a batch	3.48	0.50	High Extent
16.	Ensures a quick verification of the transaction	3.31	0.46	High Extent
17.	Generates timely results from transactions	3.47	0.50	High Extent
18.	Ensures controlled processing at a time	3.36	0.48	High Extent
19.	Generates monthly payrolls	3.38	0.49	High Extent
20.	Processing bank's reports at the end of the day	3.37	0.48	High Extent
Cluster Mean		**3.40**		**High Extent**

Table 2 shows that the mean score of all the 8 items on transaction processing automation range between 3.36 and 3.48 which indicate that each of them is implemented to a high extent. The cluster means score of 3.40 shows that all the transaction processing automation are implemented to a high extent by accounting officers on their job performance in tertiary institutions in Anambra State. The standard deviations show that there is homogeneity amongst responses indicating a greater consensus of opinion.

Test of Hypotheses

Hypothesis 1

Accounting officers in universities, polytechnics and colleges of education do not differ significantly on the extent of implementation of data entry automation on their job performance in tertiary institutions in Anambra State.

Table 3 Summary of ANOVA on data entry automation implemented by accounting officers on job performance in tertiary institutions in Anambra State

Source of Variance	Sum of Squares	df	Mean Square	F	P-value	Decision
Between Groups	2.876	2	1.438	0.558	0.573	Not Sig
Within Groups	907.811	214	2.579			
Total	**910.687**	216				

Table 3 shows that at 214 degree of freedom, type of institution do not significantly influenced the mean ratings of the respondents on the extent of their implementation of data entry automation on job performance in tertiary institutions in Anambra State. F-ratio is .558 and P-value (.573) which is greater than the stipulated 0.05 level of significance (P-value > alpha level). Therefore, the null hypothesis is not rejected.

Hypothesis 2

There is no significant difference in the mean ratings of accounting officers on the extent of implementation of data entry automation on their job performance in tertiary institutions in Anambra State based on years of experience.

Table 4 Summary of ANOVA on data entry automation implemented by accounting officers on job performance in tertiary institutions in Anambra State

Source of Variance	Sum of Squares	df	Mean Square	F	P-value	Decision
Between Groups	5.223	2	2.611	1.015	0.363	Not Sig
Within Groups	905.465	214	2.572			
Total	**910.687**	216				

Table 4 shows that at 214 degree of freedom, experience do not significantly influenced the mean ratings of the respondents on the extent of their implementation of data entry automation on job performance in tertiary institutions in Anambra State. F-ratio is 1.015 and P-value (.363) which is greater than the stipulated 0.05 level of significance (P-value > alpha level). Therefore, the null hypothesis is not rejected.

Hypothesis 3

Accounting officers in universities, polytechnics and colleges of education do not differ significantly on the extent of implementation of transaction processing automation on their job performance in tertiary institutions in Anambra State.

Table 5 Summary of ANOVA on transaction processing automation implemented by accounting officers on job performance in tertiary institutions in Anambra State

Source of Variance	Sum of Squares	df	Mean Square	F	P-value	Decision
Between Groups	1.169	2	0.585	0.464	0.629	Not Sig
Within Groups	443.986	214	1.261			
Total	**445.155**	216				

Table 5 shows that at 214 degree of freedom, type of institution do not significantly influenced the mean ratings of the respondents on the extent of their implementation of transaction processing automation on job performance in tertiary institutions in Anambra State. F-ratio is .464 and P-value (.629) which is greater than the stipulated 0.05 level of significance (P-value > alpha level). Therefore, the null hypothesis is not rejected.

Hypothesis 4

There is no significant difference in the mean ratings of account officers on the extent of implementation of transaction processing automation on their job performance in tertiary institutions in Anambra State based on years of experience.

Table 6 Summary of ANOVA on transaction processing automation implemented by accounting officers on job performance in tertiary institutions in Anambra State

Source of Variance	Sum of Squares	df	Mean Square	F	P-value	Decision
Between Groups	0.63	2	0.315	0.249	0.779	Not Sig
Within Groups	444.525	214	1.263			
Total	**445.155**	216				

Table 6 shows that at 214 degree of freedom, experience do not significantly influenced the mean ratings of the respondents on the extent of their implementation of transaction processing automation on job performance in tertiary institutions in Anambra State. F-ratio is .249 and P-value (.779) which is greater than the stipulated 0.05 level of significance (P-value > alpha level). Therefore, the null hypothesis is not rejected.

DISCUSSION

Results of the study indicated that data entry automation techniques are implemented at a high extent by account officers on their job performance in tertiary institutions in Anambra State. This implies that account officers implemented data entry automation in automating students' records, document management, automating payroll processes to improve financial data and accesses cutting-edge technologies. This could lead to delivering quality education, supporting student growth and performance of the institution. in view of this, Gundumalla (2021) stated that automation can improve efficiency and data accuracy by reducing time consumption. The studies of Alsoulmi (2020) and Odoh, et al. (2018) found that the application of artificial intelligence positively influences the performance of accounting functions. Education data entry automation as an aspect of data entry automation empowers educational institutions to automate repetitive administrative processes, allowing educators and staff to focus on what matters most in delivering quality education. Findings also revealed that types of institution and experience do not significantly influence the mean ratings of the account officers on the extent of their implementation of data entry automation on job performance in tertiary

institutions in Anambra State. It follows therefore, that the null hypothesis of no significant difference was accepted. This indicates that account officers hold the same view as to the implementation of data entry automation in their various institutions. This agrees with the findings of Ugwude, et al (2021) and Gundumalla (2021) that showed there was no significant difference.

Results of the study revealed that transaction processing automation are implemented at a high extent by account officers on their job performance in tertiary institutions in Anambra State. This is in consonance with the findings of Oludipe and Babafemi (2019) who found that the majority of the respondents agreed that the level of automation of academic library in Nigerian Institutions was high. In support of this, Bello (2022) reported that transaction processing system in tertiary institutions is used for various activities such as admission processing, course registration, hostel booking, fee payment and submission of various applications which were previously carried out manually. Gnatiuk, Shkromyda, and Shkromyda (2023) stated that the automation of routine operations liberates accounting staff from repetitive tasks, enabling them to focus on more strategic activities. This shift towards automation contributes significantly to the cost efficiency of accounting processes by reducing manual labor and minimizing errors.

Furthermore, Trianita et al (2020) found that the use of computer-based transaction processing systems had resulted in shopping receipts to reduce the level of error in calculating shopping values. Transaction processing are used to automate routine and repetitive tasks, shifting from human mediated to computer-mediated services with the hope of boosting the speed and ease of service delivery. Findings also indicated that type of institution and experience does not significantly influence the mean ratings of the respondents on the extent of their implementation of transaction processing automation on job performance in tertiary institutions in Anambra State. The implication is that the null hypothesis was not rejected. This disagrees with the findings of Muslim and Hassan (2022) who stated that years of experience all have a statistically significant impact.

CONCLUSION

It is clear from the study that accounting automation techniques (data entry automation and transaction processing automation) have been implemented by accounting officers in tertiary institutions in Anambra State. The implementation of data entry and transaction automation techniques can significantly improve the efficiency and accuracy of accounting processes in tertiary institutions in Anambra state. The findings of the study also provided valuable insights into the benefits and challenges of automation in accounting and highlight the need for institutions to prioritise the implementation of these techniques. By automating financial record-keeping in tertiary institutions, accounting automation reduces the risk of human error which manual data entry is always vulnerable to.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. Tertiary educational institutions and professional bodies should prioritize the implementation of data entry automation and transaction automation techniques to improve the efficiency, accuracy and transparency of accounting processes.
2. Institutions should also invest in training and capacity-building programmes to ensure that accounting staff have the necessary skills to effectively use automated accounting systems.
3. Educational institutions and professional bodies should collaborate to develop and offer comprehensive AI education and training programmes tailoured to accounting professionals.
4. Government and regulatory bodies can engage with policymakers to ensure that regulations and policies are conducive to AI integration while safeguarding data privacy and security.
5. The regulators of accounting education in academic institutions and professional bodies should increase the volume of relevant information and communication technology (ICT) skills that accountants must possess.

REFERENCES

1. Alsoulmi, N. (2020). Factors affecting the re-entry experiences of returning Saudi international students after studying abroad. The Educational journal of the College of Education in Sohag, 69, 1049-1093.
2. Andreassen, R. (2020). Digital technology and changing roles: a management accountant' dream or nightmare? Journal of Management Control, 31, 209-238.
3. Bello, M. D. (2022). Management information system and operational performance of tertiary institutions in Nigeria. Lead City University
4. Bhargava, A., Bester, M. & Bolton, L. (2021). Employees' perceptions of the implementation of robotics, artificial intelligence and automation on job satisfaction, job security and employability. Journal of Technology in Behavioural Science, 6(1), 106-113.
5. Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (2015). A theory of performance: In N. Schmitt & W. C. Borman (Eds.), Personnel selection in organizations (35 – 70). San Francisco: Jossey-Bass
6. Dajani, M. A. Z. (2015). The impact of employee engagement on job performance and organizational commitment in the Egyptian banking sector. Journal of Business and Management Sciences, 3(5), 138-147
7. Deloitte 2021a. Expected skills needs for the future of work. URL: https://www2.deloitte.com/be/en/pages/public-sector/articles/upskilling-the-workforce-in-european-union-for-the-future-of-work.html. Accessed: 10 November 2021.
8. Deloitte 2021b. Tomorrow's accountant. URL: https://www2.deloitte.com/mt/en/pages/audit/articles/mt-tomorrows-accountant.html. Accessed: 10 November 2021.
9. Dhoot, R. (2023). Transaction processing system: Components attributes.
10. Doyle, A. 2021. Important financial skills that employers value. URL: https://www.thebalancecareers.com/finance-skills-list-2062397. Accessed: 9 November 2021.
11. Federal Republic of Nigeria (FRN, 2013). National policy on education. Lagos: NERDC Press.
12. Gonzalez, L. R. (2018). The impact of cloud computing and accounting software on the accounting profession. Academy of Accounting and Financial Studies Journal, 22(2), 1-8.
13. González-Calatayud, V.; Prendes-Espinosa, P. & Roig-Vila, R. (2021). Artificial intelligence for student assessment: A Systematic Review. Appl. Sci. 2021, 11, 5467.
14. Gundumalla, K. K. (2021). Impact of automation on accounting employment in India. Master's thesis submitted to International Business Administration.
15. Gustafsson, J. & Jerkinger, P. (2021). Automation in accounting. Master's Thesis in Business Administration. Jonkoping University
16. Ile, C. M., & Mbanugo, C. I. (2022). Extent of application of inventory management practices by stores officers in public tertiary institutions in South East, Nigeria. African Journal of Educational Management, Teaching and Entrepreneurship Studies, 4(210-225) http://sjifactor.com/passport.php?id=21362
17. Mgbe, B. N. (2019). Managers rating of contribution of employees' participation in decision making on performance of small and medium scale enterprises in Anambra State. A Master's Thesis submitted to the Department of Technology and Vocational Education, Nnamdi Azikiwe University, Awka
18. Modibbo, S. A. (2015). Impact of internal audit unit on the effectiveness of internal control system of tertiary educational institutions in Adamawa State Nigeria. International Journal of Humanities Social Sciences and Education, 2(5), 140-156.
19. Naini, A. (2023). Pros and cons of transaction processing system. FinTech Funnel Contributors.
20. Nwaigburu, K. O., & Mark, B. U. (2014). The use of accounting information in decision making for sustainable development in Nigeria: A study of selected tertiary institutions in Imo State. International Journal of Scientific Research in Education, 7(2), 167-175.
21. Odimmega, C. G. (2019). Adoption of international public sector accounting standards in financial reporting by account officers in tertiary institutions in South-East Nigeria. Dissertation submitted to the Department of Technology and Vocational Education, Faculty of Education Nnamdi Azikiwe University Awka.

22. Osadugba, O. P. (2018). Mandate of the bursary. The Federal University of Technology Akure. Computer Resource Centre.
23. Prithiv, S. (2023). How data entry automation can optimize workflows. Nanonets
24. Redwood Software (2023). Education workflow automation: What it is and why you need it for your institution. https://www.redwood.com/article/education-workflow-automation/
25. Sengupta, U. (2023). Top 11 key benefits of accounting automation.
26. Shinde, S. 2020. Three ways AI is transforming business finance management. URL: https://www.forbes.com/sites/theyec/2020/12/01/three-ways-ai-is-transforming-business-finance-management/?sh=8d0e20c400ad. Accessed: 9 November 2021.
27. Trianita, Y. M., Dharma, S. Mulatsih, L. S. & Fitri, R. (2020). Optimization of the use of transaction processing systems in Minimarkets" in 3rd International Research Conference on Economics and Business, KnE Social Sciences, pages 66–80. DOI 10.18502/kss.v4i7.6843
28. Ugwude, A. C., Agu, A. N., & Ekweogu, L. B. (2020). University administrators' use of management information systems feedback mechanisms for decision making in Southeast Nigerian Universities. Unizik Journal of Educational Research and Policy Studies, 4, 178- 191.