

Implementing Cloud Computing Accounting Software in the CCMAS Business Education Undergraduates Programme for Employability Skills Development in Rivers State Universities

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Abstract

This study evaluated the implementation of cloud computing accounting software in the Core Curriculum and Minimum Academic Standards (CCMAS) Business Education undergraduate programme for employability skills development in Rivers State-owned universities. A descriptive survey research design was adopted, focusing on three cloud accounting software applications: Xero, Zoho Books, and Sage. The population comprised 127 Accounting Business Education undergraduates from Rivers State University (RSU) and Ignatius Ajuru University of Education (IAUE), with 113 valid questionnaires retrieved and used for analysis. Data were collected using a structured and validated questionnaire Implementing Cloud Accounting Software for Employability Skills Development Questionnaire (ICASESDQ), which had a Cronbach's alpha reliability coefficient of 0.82. Descriptive statistics (mean and standard deviation) were used to answer the research questions and measure the spread in respondents' opinions, while an independent-samples t-test was employed to test three null hypotheses at a 0.05 level of significance. The findings revealed that the extent of implementing Xero, Zoho Books, and Sage accounting software leading to the development of automated bank statement reconciliation, electronic bookkeeping management, and electronic payroll employability skills was very low in both universities. The results of the t-tests showed no significant differences between RSU and IAUE students regarding implementing the three accounting software applications. The study concluded that cloud accounting software in the Business Education curriculum has not been adequately implemented for employability skills development. It was recommended that Rivers State-owned universities should provide structured practical training for undergraduate students using Xero to develop automated bank statement reconciliation skills. This includes hands-on exercises in inputting transactions, matching entries, and generating reconciliation reports to ensure students gain workplace-ready competence.

Keywords: Cloud Computing Accounting Software; Implementing Cloud Computing Accounting Software; CCMAS; Business Education Undergraduates Programme; Employability Skills Development

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INTRODUCTION

The rapid advancement of information and communication technologies has transformed accounting practices globally, necessitating a reassessment of curriculum implementation in higher education. Cloud computing accounting software refers to online-based financial applications that allow users to perform accounting tasks such as recording transactions, generating invoices, and preparing financial reports through the use of computer hardware, software and internet connectivity (Ukata & Agburuga, 2024). These applications have become an integral part of modern accounting operations, offering real-time data access, collaboration, and automation that enhance professional efficiency and decision-making (Alowoooja, 2024). The implementation of these digital tools into educational programmes is no longer optional but imperative for producing graduates who can seamlessly transition into the technology-driven accounting profession.

In Nigeria, the Business Education programme is defined as academic courses of study offered in Nigerian universities that combine business subjects such as accounting, commerce, and office technology with teaching methodology to prepare graduates for careers as business teachers, administrators, and business professionals. The programme has been criticised for inadequately equipping graduates with necessary digital competencies, including cloud-based accounting skills, resulting in a gap between academic preparation and industry expectations (Ndubuisi & Ezeani, 2022). Business Education undergraduates, meaning students enrolled in the Business Education degree programme in universities who are pursuing either Bachelor of Science (B.Sc.) or Bachelor of Education (B.Ed.) qualifications that implement business knowledge with pedagogical training, represent the direct beneficiaries of curriculum reform efforts. The disconnect between what is taught in universities and what is required in the workplace has contributed to the growing problem of graduate unemployment, as employers increasingly seek candidates who possess practical, hands-on experience with modern accounting software that streamlines financial operations (Okiridu et al., 2025).

Employability skills are the technical abilities, digital competencies, and personal attributes that make graduates attractive to employers and enable them to secure, maintain, and progress in employment upon graduation. Evidence suggests that students' proficiency in digital accounting tools improves their employability prospects by aligning academic training with workplace demands and reducing the theory–practice divide (Ezenwafor & Ukata, 2022).

Employability skills development, which is the process through which educational programmes intentionally build and enhance students' workplace-relevant competencies through curriculum design, practical training, and exposure to industry-standard tools and practices, represents the ultimate goal of curriculum innovation in business education (Ukata & Nmehielle, 2024).

When students are trained on industry-relevant software applications, they develop confidence and competence that make them attractive to potential employers who value reduced training time and immediate productivity upon employment (Amesi & Tuwale, 2024).

Despite these recognised benefits of cloud computing and related software application courses such as Office Information Technology, Management Information System, Digital Skills in Business Education, and Advanced Word Processing seem unimplemented, as seen in the CCMAS (Core Curriculum and Minimum Academic Standards) to give learners the needed employability skills (Ukata & Udeh, 2022). This CCMAS is the national benchmark document approved by the National Universities Commission (NUC) that prescribes the compulsory

courses, credit units, and learning outcomes that all Nigerian universities must follow when implementing the course contents for their undergraduates to gain the needed employability skills (National Universities Commission, 2023). Lack of implementation of cloud computing accounting software as one of the 21st-century workplace skills prescribed in the CCMAS curriculum represents a significant oversight that may continue to widen the gap between academic training and industry expectations in Rivers State-owned universities.

Rivers State-owned universities are tertiary institutions established and funded by the Rivers State Government, including Rivers State University (RSU) and Ignatius Ajuru University of Education (IAUE), that offer Business Education programmes to students within the state. Therefore, implementing cloud computing accounting software means teaching Business Education undergraduates these online accounting tools during the learning process. This includes providing the necessary infrastructure, training lecturers, and integrating practical software usage into course content and assessment development of workplace-relevant skills to enhance their employability and professional competence in Rivers State universities.

Specific cloud accounting tools such as Xero accounting software, which is a cloud-based financial management platform that enables users to perform automated bank reconciliation, invoicing, expense tracking, and financial reporting through an internet-connected device, can develop automated bank statement reconciliation skills, and the ability to use software features to automatically match and verify transactions between an organisation's internal records and bank statements (Ufondu, 2024)

Similarly, Zoho Books accounting software, which is an online bookkeeping application that allows businesses to record financial transactions, manage accounts payable and receivable, track expenses, and generate financial reports in real time, can develop electronic bookkeeping management skills, and the competence to use digital software platforms to accurately record, organise, and maintain financial transactions without reliance on manual paper-based systems (Uzonwanne & Nwosu, 2022).

Additionally, Sage accounting software, which is a comprehensive business management platform that provides integrated tools for financial accounting, payroll processing, tax compliance, and human resource management (Ibrahim & Musa, 2023; Ukata & Amini, 2025). can develop electronic payroll skills and the ability to use specialised software to calculate employee wages, process statutory deductions, generate payslips, and submit tax reports to regulatory authorities accurately and efficiently.

A growing body of literature has established the importance of digital accounting competencies for graduate employability. Alowoooja (2024) documented how cloud accounting technologies have transformed professional practice globally, creating new skill requirements for accountants. Ndubuisi and Ezeani (2022) identified significant gaps in digital competencies among Nigerian business education graduates, attributing this to curriculum inadequacies and lack of implementation. Okiridu et al. (2023) provided empirical evidence that proficiency in digital accounting tools improves employability prospects by aligning academic training with workplace demands. Amesi and Tuwale (2024b) specifically examined accounting education students in Rivers State universities and found a positive relationship between digital office skills and employability outcomes. Ehioghiren and Ojeaga (2022) emphasised that cloud-based accounting technologies represent a paradigm shift requiring immediate curriculum adaptation. Odeyemi (2022) argued that digital skills are essential for twenty-first century accountants to remain competitive in the evolving job market.

However, despite this growing body of literature establishing the importance of cloud accounting competencies for graduate employability, there remains a significant gap in empirical research specifically examining the extent to which these software applications have been implemented within the CCMAS framework in the Business Education programme. Existing studies have focused broadly on digital skills or general accounting competencies without specifically investigating the implementation of Xero, Zoho Books, and Sage accounting software for the development of distinct employability skills such as automated bank statement reconciliation, electronic bookkeeping management, and electronic payroll skills. Furthermore, no known study has specifically evaluated implementing these cloud accounting tools within the CCMAS Business Education undergraduate programme in Rivers State-owned universities. This knowledge gap necessitates the present study, which seeks to evaluate the implementation of cloud computing accounting software in the CCMAS Business Education undergraduate programme for employability skills development in Rivers State-owned universities (Ukata & Nmehille, 2025).

Statement of the Problem

The accounting profession has undergone significant transformation due to the integration and implementation of cloud computing technologies. Modern workplaces now seem to rely heavily on cloud-based accounting software such as Xero, Zoho Books, and Sage to perform essential financial tasks, including automated bank statement reconciliation, electronic bookkeeping, and payroll processing. These competencies are critical employability skills expected of graduates entering the labour market. It appears to have been observed that many Business Education undergraduates in universities in Rivers State to complete their studies without adequate practical exposure to these industry-relevant digital tools. Although the Core Curriculum and Minimum Academic Standards (CCMAS) provide a framework for implementing digital skills into the Business Education programme, the extent of implementing cloud computing accounting software is perhaps observable as being limited. This situation may restrict students' opportunities to develop automated bank statement reconciliation skills through Xero, electronic bookkeeping management skills through Zoho Books, and electronic payroll skills through Sage. Consequently, graduates may lack the practical competencies required by employers, thereby widening the gap between university training and workplace expectations and contributing to challenges in securing and sustaining employment. Therefore, the problem of this study is the uncertain extent to which cloud computing accounting software, specifically Xero, Zoho Books, and Sage, has been implemented in the CCMAS Business Education undergraduate programme for the development of employability skills among students in Rivers State-owned universities.

Aim and Objectives of the Study

This study aimed to evaluate the implementation of cloud computing accounting software in the CCMAS Business Education undergraduate programme for employability skills development in Rivers State-owned universities. Specifically, the study seeks to:

1. Assess the extent to which Xero accounting software has been implemented in the CCMAS Business Education undergraduate programme for the development of automated bank statement reconciliation skills in Rivers State-owned universities.
2. Determine the extent to which Zoho Books accounting software has been implemented in the CCMAS Business Education undergraduate programme for the development of electronic bookkeeping management skills in Rivers State-owned universities.

3. Examine the extent to which Sage accounting software has been implemented in the CCMAS Business Education undergraduate programme for the development of electronic payroll skills in Rivers State-owned universities.

Research Questions

The following research questions guided the study:

1. To what extent has Xero accounting software been implemented in the CCMAS Business Education undergraduate programme for the development of automated bank statement reconciliation skills in Rivers State-owned universities?
2. To what extent has Zoho Books accounting software been implemented in the CCMAS Business Education undergraduate programme for the development of electronic bookkeeping management skills in Rivers State-owned universities?
3. To what extent has Sage accounting software been implemented in the CCMAS Business Education undergraduate programme for the development of electronic payroll skills in Rivers State-owned universities?

Hypotheses

The following null hypotheses at a 0.05 level of significance guided the study:

1. There is no significant difference in the mean responses of Accounting Business Education undergraduates from Ignatius Ajuru University of Education and Rivers State University regarding the extent to which Xero accounting software has been implemented for the development of automated bank statement reconciliation skills.
2. There is no significant difference in the mean responses of Accounting Business Education undergraduates from Ignatius Ajuru University of Education and Rivers State University regarding the extent to which Zoho Books accounting software has been implemented for the development of electronic bookkeeping management skills.
3. There is no significant difference in the mean responses of Accounting Business Education undergraduates from Ignatius Ajuru University of Education and Rivers State University regarding the extent to which Sage accounting software has been implemented for the development of electronic payroll skills.

METHODS

This study adopted a descriptive survey research design to evaluate the implementation of cloud computing accounting software in the Core Curriculum and Minimum Academic Standards (CCMAS) Business Education undergraduate programme for employability skills development in Rivers State-owned universities. The design was considered appropriate because it enabled the researcher to collect and analyse quantitative data on students' perceptions regarding the extent to which specific cloud accounting software applications are being implemented for the development of workplace-relevant competencies. The population of the study comprised 127 Year 4 Accounting Business Education undergraduate students from two Rivers State-owned universities during the 2024/2025 academic session. The choice of Year 4 students was deliberate and justified on academic grounds. At this level, students are

expected to have been exposed to most of the core and specialised courses in the Business Education programme, including accounting-related and technology-driven courses such as computerised accounting and emerging digital tools. Consequently, they are in a better position to provide informed and reliable responses regarding the implementation of cloud accounting software and its contribution to employability skills development.

Furthermore, the focus on Accounting Business Education undergraduates was considered appropriate because cloud accounting software directly aligns with accounting functions such as financial reporting, bookkeeping, and data management. Students in this specialisation are more likely than their counterparts in other Business Education options (e.g., office technology and management or marketing) to have had exposure to accounting software applications, making them suitable respondents for the study.

The population specifically included 64 students from Rivers State University (RSU) and 63 students from Ignatius Ajuru University of Education (IAUE). These population figures were obtained from the respective Heads of Department of Business Education in the two universities to ensure accuracy and credibility of the data. Given that the population size was manageable and accessible, a census sampling technique was employed, and the entire population constituted the sample for the study.

Data for the study were collected using a structured questionnaire titled “Implementing Cloud Accounting Software for Employability Skills Development Questionnaire (ICASESDQ)”, developed by the researcher. The questionnaire included items to obtain demographic information, particularly the respondents’ university affiliation. All skill-assessment items were measured using a four-point Likert rating scale of Very High Extent (VHE = 4), High Extent (HE = 3), Low Extent (LE = 2), and Very Low Extent (VLE = 1). To ensure the validity of the instrument, the questionnaire was subjected to face and content validation by three experts, comprising two specialists in Business Education and one in Measurement and Evaluation, drawn from Ignatius Ajuru University of Education and Rivers State University. Their suggestions and corrections were incorporated to enhance the clarity, relevance, and comprehensiveness of the instrument.

The reliability of the instrument was established through a pilot test involving 20 Year 4 Accounting Business Education undergraduate students from the University of Port Harcourt, a similar institution that was not part of the main study. Data obtained from the pilot study were analysed using Cronbach’s alpha, which yielded a reliability coefficient of 0.82, indicating a high level of internal consistency and confirming the suitability of the instrument for the study. Regarding data collection, out of the 64 copies of the questionnaire administered to students in Rivers State University, 58 copies were successfully retrieved and found suitable for analysis, while 6 copies were not returned. Similarly, out of the 63 copies administered to students in Ignatius Ajuru University of Education, 55 copies were retrieved and used for the study, with 8 copies not returned. This resulted in a total of 113 valid questionnaire copies, representing a retrieval rate of approximately 89.0%, which was considered adequate for analysis.

Mean and standard deviation were used to answer the research questions and to measure the spread of respondents’ opinions. The decision rule for interpreting the mean ratings was based on the following scale: Very High Extent (VHE) = 3.50–4.00; High Extent (HE) = 2.50–3.49; Low Extent (LE) = 1.50–2.49; and Very Low Extent (VLE) = 0.50–1.49. Mean scores falling within these intervals were interpreted accordingly to determine the extent of implementation of each cloud accounting software application. An independent t-test was employed to test the three null hypotheses at a 0.05 level of significance. The decision rule for testing the hypotheses

was that the null hypothesis was rejected when the calculated t-value (t-cal) was greater than or equal to the critical t-value (t-crit).

Conversely, the null hypothesis was accepted when the calculated t-value (t-cal) was less than the critical t-value (t-crit), indicating that no significant difference existed between the groups.

RESULTS

Research Questions One

To what extent has Xero accounting software been implemented for the development of automated bank statement reconciliation skills among Business Education undergraduates in universities in Rivers State

Table 1: Extent Xero Accounting Software Implemented for the Development of Automated Bank Statement Reconciliation Skills

S/N	Items	IAUE (N=55) Mean	SD	Rmk	RSU (N=58) Mean	SD	Rmk
1.	Students were trained to input bank transactions into Xero accurately	1.25	0.42	VLE	1.22	0.45	VLE
2.	Students were taught to match bank statement entries with ledger records using Xero	1.20	0.46	VLE	1.18	0.48	VLE
3.	Students were taught to identify and correct discrepancies between bank statements and internal records using Xero	1.18	0.49	VLE	1.15	0.51	VLE
4.	Students generated automated reconciliation reports in Xero during classroom learning	1.12	0.53	VLE	1.10	0.55	VLE
5.	Students used Xero tools to verify the accuracy of reconciliations	1.08	0.57	VLE	1.05	0.59	VLE
Grand Mean		1.17	0.50	VLE	1.14	0.51	VLE

Table 1 shows the extent of implementation of Xero accounting software for the development of automated bank statement reconciliation skills among Business Education undergraduates in IAUE and RSU was very low. Specifically, all item mean scores fall within the Very Low Extent (VLE = 0.50–1.49) range, indicating that students receive almost no practical exposure or training in using Xero for bank reconciliation. The grand mean of 1.17 (IAUE) and 1.14 (RSU) confirms that, overall, the extent of implementation was very low, suggesting that Xero accounting software has not been properly implemented for the development of automated bank statement reconciliation skills.

Research Question Two

To what extent has Zoho Books accounting software been implemented for the development of electronic bookkeeping management skills among Business Education undergraduates in Rivers State-owned universities?

Table 2: Extent Zoho Books Accounting Software Was Implemented for the Development of Electronic Bookkeeping Management Skills

S/N	Items	IAUE (N=55) Mean	SD	Rmk	RSU (N=58) Mean	SD	Rmk
6.	Students were trained to record financial transactions accurately in Zoho Books	1.32	0.46	VLE	1.29	0.48	VLE
7.	Students can manage accounts payable and receivable using Zoho Books	1.28	0.49	VLE	1.25	0.50	VLE
8.	Students track business expenses and categorise them properly in Zoho Books	1.24	0.51	VLE	1.20	0.53	VLE
9.	Students generated digital bookkeeping reports using Zoho Books	1.18	0.54	VLE	1.15	0.56	VLE
10.	Students used Zoho Books features to reconcile and verify recorded transactions	1.12	0.57	VLE	1.08	0.59	VLE
Grand Mean		1.23	0.53	VLE	1.19	0.53	VLE

Table 2 shows that the extent of implementation of Zoho Books accounting software for the development of electronic bookkeeping management skills among Business Education undergraduates in IAUE and RSU was very low. Specifically, all item mean scores fall within the Very Low Extent (VLE = 0.50–1.49) range, indicating that students receive minimal exposure to practical training in using Zoho Books for electronic bookkeeping tasks. The grand mean of 1.23 (IAUE) and 1.19 (RSU) confirms that, overall, the implementation was very poor, suggesting that Zoho Books has not been adequately implemented to develop students' electronic bookkeeping competencies.

Research Question Three

To what extent has Sage accounting software been implemented for the development of electronic payroll skills among Business Education undergraduates in Rivers State-owned universities?

Table 3: Extent Sage Accounting Software Was Implemented for Development of Electronic Payroll Skills

S/N	Items	IAUE (N=55) Mean	SD	Rmk	RSU (N=58) Mean	SD	Rmk
11.	Students are trained to set up employee payroll records in Sage	1.30	0.47	VLE	1.27	0.49	VLE
12.	Students can calculate employee wages and statutory deductions using Sage	1.25	0.50	VLE	1.22	0.52	VLE
13.	Students generate payslips and payroll reports digitally in Sage	1.18	0.53	VLE	1.15	0.55	VLE
14.	Students can submit tax and compliance reports using Sage	1.12	0.56	VLE	1.08	0.58	VLE
15.	Students use Sage to verify accuracy and reconcile payroll entries	1.10	0.58	VLE	1.07	0.60	VLE
Grand Mean		1.19	0.53	VLE	1.16	0.54	VLE

Table 3 shows that the extent of implementation of Sage accounting software for the development of electronic payroll skills among Business Education undergraduates in IAUE and RSU was very low. Specifically, all item mean scores fall within the Very Low Extent (VLE = 0.50–1.49) range, indicating that students receive minimal exposure on practical training in using Sage for payroll management. The grand mean of 1.19 (IAUE) and 1.16 (RSU) confirms that, overall, the implementation was very low, suggesting that Sage accounting software has not been properly implemented in the curriculum to develop students' electronic payroll competencies.

Hypothesis One

There is no significant difference in the mean responses of Business Education undergraduates from IAUE and RSU regarding the extent to which Xero accounting software is implemented for automated bank statement reconciliation skills.

Table 4: t-test Analysis of the Difference in Mean Ratings of IAUE and RSU Business Education Undergraduates regarding the Extent to which Xero Accounting Software was Implemented for Automated Bank Statement Reconciliation Skills

Respondents	N	Mean	SD	Df	A	t-cal	t-crit	Decision
IAUE Students	55	1.17	0.50	111	0.05	0.316	1.981	Accepted
RSU Students	58	1.14	0.51					

The calculated t-value in Table 4 shows that (t-cal=0.316) is less than the critical t-value (t-crit = 1.981) at a 0.05 level of significance.

Hence, the null hypothesis is accepted, indicating that there is no significant difference between the opinions of IAUE and RSU students regarding the extent of implementation of Xero accounting software for automated bank statement reconciliation. Both groups perceived that the implementation was very low.

Hypothesis Two

There is no significant difference in the mean responses of Business Education undergraduates from IAUE and RSU regarding the extent to which Zoho Books accounting software is implemented for electronic bookkeeping management skills.

Table 5: t-test Analysis of the Difference in Mean Ratings of IAUE and RSU Business Education Undergraduates Regarding the Extent to Which Zoho Books Accounting Software Was Implemented for Electronic Bookkeeping Management Skills

Respondents	N	Mean	SD	Df	A	t-cal	t-crit	Decision
IAUE Students	55	1.23	0.53	111	0.05	0.396	1.981	Accepted
RSU Students	58	1.19	0.54					

The calculated t-value in Table 5 shows that ($t\text{-cal} = 0.396$) is less than the critical t-value ($t\text{-crit} = 1.981$) at a 0.05 level of significance. Thus, the null hypothesis is accepted, indicating no significant difference between the opinions of IAUE and RSU students in the perceived extent of Zoho Books implementation. Both groups report very low implementation of electronic bookkeeping skills.

Hypothesis Three

There is no significant difference in the mean responses of Business Education undergraduates from IAUE and RSU regarding the extent to which Sage accounting software is implemented for electronic payroll skills.

Table 6: t-test Analysis of the Difference in Mean Ratings of IAUE and RSU Business Education Undergraduates Regarding the Extent to Which Sage Accounting Software Was Implemented for Electronic Payroll Skills

Respondents	N	Mean	SD	Df	A	t-cal	t-crit	Decision
IAUE Students	55	1.19	0.53	111	0.05	0.294	1.981	Accepted
RSU Students	58	1.16	0.55					

The calculated t-value in Table 6 shows that ($t\text{-cal} = 0.294$) less than the critical t-value ($t\text{-crit} = 1.981$) at a 0.05 level of significance. Therefore, the null hypothesis is accepted, indicating that there is no significant difference between the views of IAUE and RSU students regarding the implementation of Sage accounting software for electronic payroll skills. Both groups report the implementation as very low.

DISCUSSION OF FINDINGS

From research question one, the findings indicate that Xero accounting software was very lowly implemented for the development of automated bank statement reconciliation skills. This low level of practical exposure means that students are largely unprepared to perform key financial reconciliation tasks expected in contemporary workplaces. The observed gap aligns with the literature that emphasises the importance of digital accounting competencies for employability, as Alowoooja (2024) highlighted that cloud accounting tools are integral to modern accounting practice, requiring users to have hands-on competence. Similarly, Okiridu et al. (2025) argued that proficiency in digital accounting tools reduces the theory–practice divide, which remains largely unachieved in the current curriculum implementation. These results suggest that the extent of CCMAS implementation has not translated the theoretical inclusion of Xero into meaningful practical training, leaving graduates without the necessary automated bank reconciliation skills. Also, from Hypothesis One, the analysis revealed no statistically significant difference between the views of IAUE and RSU students, suggesting that the very low level of Xero implementation is consistent across both institutions. This indicates that the problem is systemic and not specific to a single university. It also implies that institutional policies or resource limitations affecting software implementation are likely similar in both Rivers State-owned universities (Ndubuisi & Ezeani, 2022).

Findings from the study also reveal that Zoho Books has been very slowly implemented for the development of teaching electronic bookkeeping management skills. This implies that students rarely engage in recording financial transactions, managing accounts payable and receivable, or generating digital bookkeeping reports. This finding aligns with observations by Ndubuisi and Ezeani (2022), who reported significant gaps in digital competencies among Nigerian business education graduates due to curriculum inadequacies. Similarly, Amesi and Tuwale (2024) emphasised that students' employability is enhanced when practical digital skills are embedded in the curriculum, a process that appears largely absent in the current implementation. The very low extent of exposure to Zoho Books limits students' readiness to manage digital financial records efficiently, reinforcing the disconnect between university training and employer expectations. Additionally, Hypothesis two shows no significant difference was observed between the opinions of students from the two universities. This supports the conclusion that the low integration and implementation of Zoho Books is not unique to a particular university but a common feature of Business Education programmes in Rivers State. The finding reinforces previous observations that the CCMAS framework is not effectively operationalised for practical digital skills development (Amesi & Tuwale, 2024a; Okoye & Nwankwo, 2023; Ehioghiren & Ojeaga, 2022).

Furthermore, from Research Question three, regarding Sage accounting software, the study shows a very low extent of implementation, meaning that students receive almost no practical training in payroll management functions, including wage calculation, statutory deductions, and payslip generation (Okiridu et al., 2023). This finding mirrors views of Ehioghiren and Ojeaga (2022), who underscored the need for immediate curriculum adaptation to incorporate cloud-based accounting technologies. The lack of hands-on experience in Sage indicates that graduates may not be competent in one of the most critical accounting functions, limiting their employability in payroll and human resource management roles. Overall, these findings indicate that cloud accounting software-related courses in the CCMAS Business Education programme are not sufficiently operationalised to develop workplace-relevant payroll skills (Odeyemi, 2022; Alowoooja, 2024). Hypothesis three revealed that both institutions exhibit similarly low implementation of Sage software. This uniformity suggests that systemic factors

such as inadequate infrastructure, insufficient lecturer training, or low prioritisation of cloud-based accounting software may be responsible for the insufficient practical skills training across the universities (Alowoooja, 2024; Odeyemi, 2022). Consequently, graduates from both universities may face similar challenges in transitioning into technology-driven accounting roles.

CONCLUSION

The study concluded that the extent of implementation of cloud computing accounting software such as Xero, Zoho Books, and Sage within the CCMAS Business Education programme for the development of employability skills in Rivers State-owned universities was very low.

This limited exposure may constrain students from developing essential employability skills in automated bank reconciliation, electronic bookkeeping, and payroll management. Addressing these gaps through practical software integration, lecturer training, and provision of the needed infrastructure are essential to align academic preparation with workplace demands and improve graduate employability.

Recommendations

From the findings, discussions and conclusions, the following recommendations were made:

1. Rivers State universities should provide structured practical training using Xero to develop automated bank statement reconciliation skills. This includes hands-on exercises in inputting transactions, matching entries, and generating reconciliation reports to ensure students gain workplace-ready competence.
2. Rivers State universities should provide structured practical training using Zoho Books to enable students to acquire electronic bookkeeping management skills. This will create an enabling environment to receive training on how to record transactions accurately, manage accounts payable and receivable, track expenses, and produce digital bookkeeping reports.
3. Rivers State universities should implement Sage software training to enable students to develop electronic payroll skills. Students should engage in calculating wages, processing statutory deductions, generating payslips, and submitting tax reports to ensure they can perform payroll tasks efficiently in real-world accounting roles. There should also be training and retraining of lecturers by the institutions and lecturers themselves to be adequately ready to teach cloud accounting software to enable learners' development of current place of work employability skills.

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