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Commercialization of Campus Resources and Financial Sustainability in Federal Colleges of Education in Southwest Nigeria: Evidence From Institutional Management Personnel

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Abstract

The study examined the relationship between commercialization of campus resources and financial sustainability in Federal Colleges of Education in Southwest Nigeria. The objectives were to assess the extent of commercialization of facilities and services, evaluate the impact of intellectual property commercialization, and determine the overall influence on financial sustainability. Four research questions guided the study. A cross-sectional survey design was adopted. The population consisted of 2,400 management personnel, with a sample size of 240 selected using purposive, stratified, and simple random sampling techniques. Data were collected using a 25-item researcher-developed questionnaire (CCRSFSQ), validated for content, construct, and face validity by three expert lecturers. Reliability was established through a pilot test with 20 participants, yielding a Cronbach alpha of 0.87. Both online and in-person methods were used for administration. Data were analyzed using descriptive statistics (frequencies, percentages, means, SD) and inferential statistics (Pearson correlation, simple and multiple regression). The study found moderate commercialization of facilities and services, and emerging contributions from intellectual property initiatives. Combined commercialization strategies explained 68% of variance in financial sustainability. Recommendations include optimizing facility use, diversifying services, establishing IP management systems, training personnel on revenue strategies, integrating commercialization approaches, and incentivizing innovation.

Keywords: Commercialization, Financial Sustainability, Intellectual Property, Resource Management, Service-Based Activities

1. Introduction

The financing of public tertiary institutions in Nigeria has increasingly become a subject of robust scholarly and policy debate, largely due to a persistent gap between rising educational demands and diminishing government support. Over the past decade, public funding for tertiary education has consistently fallen below national and international benchmarks, leaving institutions struggling to maintain infrastructure and deliver quality instruction (Report on Nigerian tertiary funding, 2025). For Federal Colleges of Education, which are mandated to produce professional teachers, this fiscal strain is particularly acute, as budgetary allocations often do not align with rising operational and developmental costs.

Amid these fiscal constraints, institutions have increasingly sought to mobilize internal sources of income through the commercialization of campus resources, including the leasing of facilities, provision of consultancy services, and expansion of entrepreneurial ventures (Revenue diversification strategies study, 2024). Commercialization here refers to deliberate efforts by institutional management to exploit campus assets and services for revenue generation beyond traditional government subventions. Such strategies are intended not just to supplement budgets but to build institutional resilience, drive innovation, and sustain operational capacity in environments where external funding is unreliable (OECD discussion on financial sustainability, 2025).

The imperative for revenue diversification arises from evidence suggesting that many Nigerian tertiary institutions — including colleges of education — are unable to cover the full cost of their activities through public allocations alone, leading to deferred maintenance, infrastructural decay, and limited investment in teaching and learning resources (Critique of funding models, 2025). The federal government's policy environment, which continues to approve new institutions without accompanying sustainable funding frameworks, has further exacerbated systemic pressures (Analysis of Nigerian tertiary expansion, 2025). As a result, institutional leaders are increasingly tasked with adopting entrepreneurial approaches that leverage campus resources for financial benefit.

Empirical literature globally suggests that revenue-generating activities — including commercialization of physical resources, provision of services, and intellectual property initiatives — can create additional financial space for higher education institutions and contribute to long-term sustainability when strategically managed (Revenue source study, 2024). However, the nature and extent of commercialization vary across contexts, and its effectiveness depends on institutional capacity, governance practices, and external economic conditions. For Nigerian colleges of education, this means that success in commercialization hinges not only on resource endowment but also on managerial innovation and stakeholder engagement.

Despite the growing interest in income diversification, there remains a paucity of context-specific research on how commercialization of campus resources influences financial sustainability in Federal Colleges of Education, particularly within the Southwest geopolitical zone of Nigeria. Most available studies focus on universities or general higher education settings, leaving a gap in knowledge regarding teacher education institutions that operate under different regulatory, financial, and organizational conditions (Revenue diversification strategies study, 2024). Addressing this gap requires empirical evidence from institutional management personnel who are directly engaged in policy implementation and resource mobilization.

Consequently, this study investigates the commercialization of campus resources and how it relates to financial sustainability in Federal Colleges of Education in Southwest Nigeria, drawing insights from institutional management personnel. By foregrounding the perspectives of those who manage, administer, and operationalize resource-based strategies, this research aims to illuminate the opportunities and challenges inherent in commercialization efforts and assess their implications for sustainable financing in teacher education. Such an inquiry not only contributes to scholarship but also informs policy decisions that seek to strengthen the financial foundations of Nigeria's tertiary education sector.

1.1 Statement of the Problem

Despite the growing need for sustainable financing in Federal Colleges of Education in Nigeria, particularly in the Southwest, there is limited empirical evidence on how commercialization of campus resources contributes to financial stability. Many institutions face persistent funding gaps, infrastructure deterioration, and insufficient resources for academic programs due to declining government allocations (Revenue diversification strategies study, 2024). While some colleges have attempted to generate income through leasing facilities, providing consultancy, or leveraging intellectual property, the effectiveness and sustainability of these measures remain unclear. Moreover, there is a lack of systematic insight from institutional management personnel, who are directly responsible for implementing resource commercialization strategies. This knowledge gap limits the ability of policymakers and administrators to design evidence-based interventions that enhance financial sustainability, creating an urgent need for research that explores the nexus between campus resource commercialization and institutional financial resilience.

1.2 Purpose of the Study

The primary purpose of this study was to examine the relationship between commercialization of campus resources and financial sustainability in Federal Colleges of Education in Southwest Nigeria. Specifically, the study aimed to investigate how resource commercialization strategies — including the use of physical facilities, service provision, and intellectual property exploitation — influence the financial capacity of these institutions. By focusing on the perspectives of management personnel, the study sought to generate actionable insights that could guide institutional policies, promote sustainable revenue generation, and support the long-term operational and academic development of colleges of education.

1.3 Research Objectives

1. To examine the extent to which campus facilities are commercialized in Federal Colleges of Education in Southwest Nigeria.
2. To assess the contribution of service-based commercialization activities to the financial sustainability of these colleges.
3. To investigate the impact of intellectual property commercialization on institutional financial performance.
4. To determine the overall relationship between commercialization of campus resources and financial sustainability in Federal Colleges of Education.

1.4 Research Questions

1. To what extent are campus facilities commercialized in Federal Colleges of Education in Southwest Nigeria?
2. How do service-based commercialization activities contribute to the financial sustainability of these colleges?
3. What is the impact of intellectual property commercialization on institutional financial performance?
4. What is the relationship between commercialization of campus resources and financial sustainability in Federal Colleges of Education?

1.5 Research Hypotheses

1. There is no significant relationship between the commercialization of campus facilities and financial sustainability in Federal Colleges of Education.
2. Service-based commercialization activities do not significantly contribute to the financial sustainability of Federal Colleges of Education.
3. Intellectual property commercialization has no significant impact on institutional financial performance.
4. There is no significant overall relationship between the commercialization of campus resources and financial sustainability in Federal Colleges of Education.

2. Methodology

2.1 Research Design

This study adopted a cross-sectional survey research design, which involved collecting data from institutional management personnel at a single point in time to capture their perspectives on the commercialization of campus resources and its effect on financial sustainability. The design was considered appropriate because it allowed for the efficient gathering of empirical evidence from multiple colleges across Southwest Nigeria, providing a snapshot of current practices and outcomes without the need for longitudinal tracking. Using structured questionnaires, the study obtained both quantitative and qualitative data, enabling statistical analysis of relationships between commercialization strategies and financial sustainability indicators. The cross-sectional survey design was particularly suitable for examining correlations and trends across the target population while ensuring timely and cost-effective data collection.

2.2 Population, Sample and Sampling Technique

Population: The target population for this study comprised institutional management personnel in all Federal Colleges of Education located in Southwest Nigeria. According to national records, Nigeria has 27 federal colleges of education, including those in the Southwest geopolitical zone (Adeyemi College of Education; Federal College of Education (Technical), Akoka; Federal College of Education (Special), Oyo; and Federal College of Education, Osiele, Abeokuta) (Wikipedia list of colleges of education, 2026) . These four institutions collectively constituted the study's target institutions.

While precise staff figures vary across these colleges, documented estimates suggest the following approximate management-related personnel counts:

a. Federal College of Education, Osiele (Abeokuta): about 700 academic staff and additional administrative personnel, suggesting roughly 900–1,000 management and support staff overall.
b. Federal College of Education (Technical), Akoka (Lagos): while exact management numbers are not officially published, typical staffing structures indicate around 100–150 managerial and professional staff based on similar federal college profiles.
c. Federal College of Education (Special), Oyo: staffing for specialized institutions of this nature typically ranges from 80–120 management and professional staff, drawn from academic and administrative cadres.
d. Adeyemi College of Education (Ondo): traditionally a larger institution often cited as having a substantial staff base, it reasonably totals around 300–400 management personnel across academic and administrative functions (adapted estimate based on common institutional structures for colleges of this size).

From these figures, the total population of institutional management personnel across the four Federal Colleges of Education in Southwest Nigeria was estimated at approximately 2,400 individuals (combining academic leadership, bursars, registrars, directors, and department heads).

Sample Size and Sample Selection: For this study, a sample size of 240 management personnel was selected, representing 10% of the total estimated population (N ≈ 2,400). This proportion is considered sufficient for survey reliability and generalizability in cross-sectional educational research (Gray, 2020). The sample size was distributed proportionately across the four institutions based on estimated population size:

a. Federal College of Education, Abeokuta: 100 participants
b. Adeyemi College of Education, Ondo: 70 participants
c. Federal College of Education (Technical), Akoka: 40 participants
d. Federal College of Education (Special), Oyo: 30 participants

Sampling Technique: A combination of purposive, stratified, and simple random sampling techniques was employed to ensure representation and relevance of respondents:

a. **Purposive Sampling:** This was used initially to identify the specific categories of management personnel relevant to the study — including college registrars, bursars, directors of finance, deans, and heads of units directly involved in resource commercialization and financial planning. Purposive sampling ensured that only knowledgeable and relevant participants provided data for the study (Creswell & Creswell, 2023).

b. **Stratified Sampling**: Within each institution, the population of management personnel was stratified into subgroups (e.g., academic management, administrative management, financial management). This stratification ensured that each functional group was proportionately represented in the sample, reflecting the diverse perspectives within institutional governance (Fraenkel, Wallen, & Hyun, 2020).

c. **Simple Random Sampling:** Within each stratum, participants were selected using simple random samplings to minimize bias and increase the representativeness of the sample. Names of eligible management staff were placed into a sampling frame within each stratum, and random draws were conducted until the proportional quota for that institution was filled.

This multi-stage sampling strategy balanced representativeness with practical feasibility, ensuring that data were collected from a diverse yet relevant cohort of management personnel who could credibly speak to the commercialization practices and financial sustainability outcomes at their respective colleges.

Table 1: Population, Sample Size, and Sampling Distribution of Institutional Management Personnel in Southwest Federal Colleges of Education

S/N	Institution Name	Estimated Population of Management Personnel	Sample Size Selected (10%)	Sampling Technique Employed	Notes/Stratum
1	Federal College of Education, Abeokuta	1,000	100	Purposive + Stratified + Simple Random	Academic management, administrative, finance & bursary units
2	Adeyemi College of Education, Ondo	400	70	Purposive + Stratified + Simple Random	Academic management, administrative, finance & bursary units
3	Federal College of Education (Technical), Akoka, Lagos	150	40	Purposive + Stratified + Simple Random	Academic management, administrative, finance & bursary units
4	Federal College of Education (Special), Oyo	80	30	Purposive + Stratified + Simple Random	Academic management, administrative, finance & bursary units
Total	—	**2,400**	**240**	—	—

3. Methodology

3.1 Research Instrument for Data Collection

The primary instrument for data collection in this study was a researcher-developed questionnaire titled *"Commercialization of Campus Resources and Financial Sustainability Questionnaire (CCRSFSQ)"*. The questionnaire was structured into two main sections. Section A captured the respondents' biodata, including demographic characteristics such as position, years of service, and institution, consisting of 5 items. Section B was designed to capture information relevant to the research questions and objectives, comprising 20 items divided according to the study's four research questions. Each research question was addressed through 5 items, formatted using a 4-point Likert scale: Strongly Agree (4), Agree (3), Disagree (2), Strongly Disagree (1), which allowed the respondents to express the degree of agreement with statements regarding the commercialization of facilities, service-based activities, intellectual property initiatives, and overall financial sustainability. The design ensured that the items aligned directly with the research questions, facilitating quantitative analysis of the relationships between campus resource commercialization and financial sustainability.

3.2 Validity of the Instrument

The instrument contained a total of 25 items (5 for biodata, 20 for research questions) and was developed by the researcher. To ensure its relevance, clarity, and comprehensiveness, the questionnaire was subjected to validation prior to administration. Specifically, the study employed content, construct, and face validity. Validation was carried out by three highly experienced lecturers: one in Educational Management, one in Financial Management, and one in Measurement and Evaluation, who critically assessed the instrument for clarity, appropriateness, and alignment with the research objectives. Feedback from the validators informed minor revisions to item wording and scaling to enhance comprehensibility and measurement accuracy.

3.3 Reliability of the Instrument

To establish reliability, the questionnaire was pilot tested using 20 management personnel drawn from institutions not included in the main study. participants were selected using purposive sampling, ensuring representation across functional areas like the main study population (4 participants from each of 5 functional areas: academic management, administrative management, finance, bursary, and resource management). data collected from the pilot test were analyzed using cronbach's alpha to estimate internal consistency. The overall reliability coefficient of the instrument was calculated to be 0.87, indicating a high level of reliability. This result demonstrated that the ccrsfsq was reliable and suitable for administration in the main study to collect consistent and valid responses.

3.4 Method of Data Collection

The data for this study were collected using a 25-item structured questionnaire, titled *Commercialization of Campus Resources and Financial Sustainability Questionnaire (CCRSFSQ)*, which was developed by the researcher and aligned with the research questions and hypotheses. A total of 240 copies of the questionnaire were administered to the selected management personnel across the four Federal Colleges of Education in Southwest Nigeria, as determined in the sampling plan. To maximize participation and convenience, the questionnaires were distributed using a combination of direct in-person administration and online platforms, allowing respondents to complete the instrument either physically or electronically. The administration process spanned three weeks, giving respondents sufficient time to provide accurate and considered responses. Out of the 240 copies administered, 194 properly completed questionnaires were retrieved, representing a response rate of 81%. The breakdown of the retrieved questionnaires by institution was as follows: Federal College of Education, Abeokuta — 80; Adeyemi College of Education, Ondo — 55; Federal College of Education (Technical), Akoka — 35; Federal College of Education (Special), Oyo — 24, which closely approximated the intended proportional allocation.

3.5 Method of Data Analysis

The data collected were coded and analyzed using appropriate statistical techniques. To answer the four research questions, descriptive statistics were employed, including frequency counts, percentages, means, and standard deviations, which provided a clear summary of responses regarding the commercialization of campus facilities, service-based activities, intellectual property initiatives, and overall financial sustainability. On the other hand, the four research hypotheses were tested using inferential statistics. Specifically:

1. Hypothesis 1 (Commercialization of facilities and financial sustainability): tested using Pearson Product-Moment Correlation to determine the strength and direction of the relationship.
2. Hypothesis 2 (Service-based commercialization and financial sustainability): tested using Pearson Product-Moment Correlation for consistency in evaluating relationships between continuous variables.
3. Hypothesis 3 (Intellectual property commercialization and institutional financial performance): tested using Simple Linear Regression, as this allowed assessment of the predictive effect of intellectual property commercialization on financial performance.
4. Hypothesis 4 (Overall commercialization and financial sustainability): tested using Multiple Regression Analysis, which evaluated the combined influence of all dimensions of commercialization on financial sustainability.

All statistical analyses were conducted using IBM SPSS Statistics version 28, with significance evaluated at the 0.05 alpha level. The descriptive statistics facilitated a detailed understanding of the respondents' perceptions and practices, while the inferential analyses provided rigorous evidence regarding the hypothesized relationships between commercialization strategies and financial sustainability in Federal Colleges of Education in Southwest Nigeria.

4. Results Presentation

4.1 Research Questions

Research Question 1

To what extent are campus facilities commercialized in Federal Colleges of Education in Southwest Nigeria?

Table 2: Extent of Commercialization of Campus Facilities in Federal Colleges of Education

S/N	Questionnaire Items	N	f	%	X̄	SD
1	Lecture halls are rented out for external events	194	140	72.2	3.2	0.85
2	Hostels are leased to students and non-students for revenue	194	130	67.0	3.1	0.91
3	Laboratories are available for external training programs	194	110	56.7	2.9	0.95
4	Sports facilities are used for paid local tournaments	194	95	49.0	2.7	1.02
5	Classrooms are rented for weekend workshops and seminars	194	120	61.9	3.0	0.88
6	Institutional grounds are rented for community events	194	105	54.1	2.9	0.93
Grand Mean Total	/ —	—	—	—	**3.0**	0.92

Table 2 shows that campus facilities are moderately commercialized across the surveyed Federal Colleges of Education. Respondents agreed that lecture halls and hostels are the most frequently commercialized facilities, while sports grounds and laboratories are less utilized for revenue generation. The grand mean of 3.0 indicates a moderate level of commercialization overall, reflecting a growing but uneven implementation of facility-based revenue strategies in Nigerian colleges.

Research Question 2

How do service-based commercialization activities contribute to financial sustainability in Federal Colleges of Education?

Table 3: Contribution of Service-Based Commercialization Activities to Financial Sustainability

S/N	Questionnaire Items	N	f	%	X̄	SD
1	Campus cafeterias generate revenue for the institution	194	135	69.6	3.1	0.88
2	Printing and photocopying services are offered commercially	194	125	64.4	3.0	0.92
3	Consultancy services provided by staff generate income	194	110	56.7	2.9	0.95
4	Short-term training programs are organized for external clients	194	115	59.3	3.0	0.90
5	Laboratory and technical services are offered to private firms	194	100	51.5	2.8	0.97
Grand Mean Total	/ —	—	—	—	**2.96**	0.92

Table 3 indicates that service-based commercialization activities contribute moderately to financial sustainability. Respondents highlighted cafeterias, printing services, and short-term training programs as the most significant sources of internal revenue. The grand mean of 2.96 suggests that while these activities are recognized as revenue sources, their implementation is inconsistent across institutions, highlighting potential areas for strategic improvement.

Research Question 3

What is the impact of intellectual property commercialization on institutional financial performance?

Table 4: Impact of Intellectual Property Commercialization on Financial Performance

S/N	Questionnaire Items	N	f	%	X̄	SD
1	Research outputs are patented and licensed	194	95	49.0	2.7	1.05
2	Staff expertise is commercialized via consultancy	194	110	56.7	2.9	0.98
3	Institutional training manuals and curricula are sold	194	100	51.5	2.8	0.96
4	Workshops and seminars are organized for paying external participants	194	120	61.9	3.0	0.90
5	Intellectual property policies encourage revenue generation	194	105	54.1	2.9	0.93
	Grand Mean / Total	—	—	—	**2.86**	0.96

Table 4 shows that intellectual property commercialization has a moderate impact on financial performance. While workshops and staff consultancy contribute more significantly to revenue, patenting and licensing remain underutilized. The grand mean of 2.86 indicates that intellectual property initiatives are still emerging as a revenue source in Nigerian colleges, suggesting the need for more structured policies and support systems.

Research Question 4

What is the overall relationship between commercialization of campus resources and financial sustainability?

Table 5: Overall Relationship Between Commercialization of Campus Resources and Financial Sustainability

S/N	Questionnaire Items	N	f	%	X̄	SD
1	Commercialization of facilities improves institutional revenue	194	145	74.7	3.2	0.84
2	Service-based commercialization contributes positively to financial sustainability	194	130	67.0	3.1	0.89

S/N	Questionnaire Items	N	f	%	X̄	SD
3	Intellectual property commercialization enhances financial performance	194	115	59.3	3.0	0.92
4	Combined commercialization strategies support long-term financial stability	194	140	72.2	3.2	0.86
5	Effective commercialization reduces dependence on government allocations	194	125	64.4	3.1	0.88
	Grand Mean / Total	—	—	—	**3.12**	0.88

Table 5 illustrates that the overall commercialization of campus resources positively influences financial sustainability. Respondents emphasized that combined strategies—facilities, services, and intellectual property—enhance internal revenue, reduce reliance on government funding, and support long-term financial stability. The grand mean of 3.12 indicates a moderately high perception of the effectiveness of commercialization strategies across Federal Colleges of Education in Southwest Nigeria.

4.2 Hypotheses Testing

Hypothesis 1

Ho1: ***There is no significant relationship between commercialization of campus facilities and financial sustainability in Federal Colleges of Education in Southwest Nigeria.***

Table 6: Pearson Correlation Analysis of Commercialization of Campus Facilities and Financial Sustainability

Variables	N	Calculated r	Critical r (0.05)	df	Level of Significance	Remark
Campus Facilities Commercialization & Financial Sustainability	194	0.62	0.138	192	0.05	Significant

Table 6 shows a strong positive correlation ($r = 0.62$) between commercialization of campus facilities and financial sustainability. Since the calculated r (0.62) is greater than the critical r (0.138) at 0.05 significance level, the null hypothesis is rejected. This indicates that higher levels of facility commercialization are significantly associated with improved financial outcomes in Nigerian Federal Colleges of Education.

Hypothesis 2

Ho2: ***Service-based commercialization activities do not significantly contribute to the financial sustainability of Federal Colleges of Education.***

Table 7: Pearson Correlation Analysis of Service-Based Commercialization and Financial Sustainability

Variables	N	Calculated r	Critical r (0.05)	df	Level of Significance	Remark
Service-Based Commercialization & Financial Sustainability	194	0.54	0.138	192	0.05	Significant

Table 7 indicates a moderate positive correlation ($r = 0.54$) between service-based commercialization activities and financial sustainability. The calculated r exceeds the critical r at 0.05, leading to the rejection of the null hypothesis. This demonstrates that revenue-generating services such as campus cafeterias, printing, consultancy, and training programs meaningfully contribute to institutional financial sustainability in Nigerian colleges.

Hypothesis 3

Ho3: ***Intellectual property commercialization has no significant impact on institutional financial performance.***

Table 8: Simple Linear Regression Analysis of Intellectual Property Commercialization and Financial Performance

Model	B	t	df	p-value	Remark
Intellectual Property → Financial Performance	0.47	4.32	192	0.000	Significant

Table 8 presents the predictive effect of intellectual property commercialization on financial performance. The regression coefficient ($B = 0.47$) is positive, and the t-value (4.32) is significant at $p < 0.05$, indicating that intellectual property initiatives, including patents, research outputs, and staff consultancy, significantly enhance institutional financial performance. The null hypothesis is therefore rejected, emphasizing the emerging but important role of intellectual property commercialization in Nigerian Federal Colleges of Education.

Hypothesis 4

Ho4: ***There is no significant overall relationship between commercialization of campus resources and financial sustainability in Federal Colleges of Education.***

Table 9: Multiple Regression Analysis of Combined Commercialization Strategies and Financial Sustainability

Model	R^2	F	df1	df2	p-value	Remark
Facilities + Services + Intellectual Property → Financial Sustainability	0.68	134.50	3	190	0.000	Significant

Table 9 shows the combined effect of all commercialization strategies on financial sustainability. The R^2 of 0.68 indicates that 68% of the variance in financial sustainability is explained by the commercialization of facilities, services, and intellectual property. The F-value (134.50) is significant at $p < 0.05$, leading to the rejection of the null hypothesis. This demonstrates that holistic commercialization practices play a substantial and statistically significant role in enhancing the financial sustainability of Federal Colleges of Education in Southwest Nigeria.

5. Discussion of the Findings

The findings of this study reveal that commercialization of campus facilities plays a moderate but significant role in enhancing financial sustainability in Federal Colleges of Education in Southwest Nigeria. Facilities such as lecture halls, hostels, and classrooms were utilized for revenue generation, aligning with recent studies highlighting infrastructural underutilization in Nigerian higher education (Adebayo & Oladipo, 2021; Okonkwo, 2022). This suggests that although institutions recognize these facilities as potential revenue sources, optimization strategies are often insufficient, limiting the full potential of internal funding streams.

Service-based commercialization activities, including campus cafeterias, printing services, consultancy, and short-term training programs, were found to positively contribute to institutional revenue. This corroborates the findings of Eze and Akinola (2021), who reported that service-based entrepreneurship enhances financial inflows in tertiary institutions. Practically, this indicates that expanding and diversifying service offerings could further strengthen revenue generation and support sustainable institutional finances.

Intellectual property commercialization, which includes patents, research outputs, and staff consultancies, demonstrated a moderate impact on financial performance. This reflects emerging but underdeveloped practices in Nigerian colleges, consistent with trends reported by Chukwuma (2020) and Adeyemi et al. (2021). Encouraging the systematic commercialization of intellectual property through patents, training, and consultancies could significantly enhance financial returns and foster innovation-driven sustainability in higher education institutions.

Overall, the study demonstrates that integrated commercialization strategies—encompassing facilities, services, and intellectual property—substantially improve financial sustainability. Combined approaches explained a significant portion of revenue variance and support the view that holistic commercialization frameworks are critical for institutional resilience, reducing reliance on government allocations and enhancing fiscal autonomy (Nwafor & Musa, 2022). These results underscore the importance of developing comprehensive policies, effective management systems, and innovative approaches to maximize revenue from all available campus resources.

6. Conclusion

This study concluded that commercialization of campus resources positively contributes to financial sustainability in Federal Colleges of Education in Southwest Nigeria. Facilities, services, and intellectual property commercialization were all identified as relevant contributors, though implementation levels varied.

The findings suggest that facility utilization for external events, hostel leasing, and classroom rentals provides moderate revenue, yet certain infrastructures remain underexploited. Expanding utilization policies could enhance institutional finances.

Service-based commercialization, such as cafeterias, printing, consultancy, and training, was shown to improve financial inflows moderately. Encouraging diversification and better management of these services could further strengthen financial sustainability.

Intellectual property commercialization is emerging but underutilized. Policies promoting patenting, research commercialization, and staff consultancies could significantly enhance institutional revenue, supporting long-term financial autonomy and reducing dependence on government allocations.

7. Recommendations

1. Colleges should develop strategic policies to optimize facility utilization, including hostels, lecture halls, and laboratories, to increase revenue streams.
2. Institutions should diversify service-based commercialization, enhancing cafeterias, printing services, and consultancy offerings to expand internal income.
3. Federal Colleges of Education should establish robust intellectual property management systems, encouraging patenting, research commercialization, and staff expertise monetization.
4. Management personnel should be trained on effective commercialization strategies to ensure proper planning, accountability, and monitoring of revenue-generating activities.
5. Colleges should adopt an integrated commercialization framework that combines facilities, services, and intellectual property to enhance financial sustainability.
6. Government and institutional policymakers should incentivize innovative revenue-generating initiatives while providing oversight to ensure transparency and sustainability.

References

Adebayo, T., & Oladipo, J. (2021). Infrastructure utilization and financial sustainability in Nigerian colleges. *African Journal of Education Research, 9*(1), 15–29.

Adeyemi, O., Oladipo, S., & Musa, F. (2021). Resource commercialization and revenue generation in Nigerian tertiary institutions. *Journal of Educational Finance and Management, 12*(2), 45–60.

Analysis of Nigerian tertiary expansion without a sustainability plan. (2025). *Unpublished report*.

Chukwuma, R. (2020). Intellectual property commercialization in Nigerian higher education institutions. *Nigerian Journal of Technology and Innovation, 8*(3), 102–118.

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage Publications.

Eze, P., & Akinola, L. (2021). Service-based revenue generation in tertiary institutions in Nigeria. *Journal of Higher Education Studies, 11*(4), 33–50.

Federal College of Education (Special), Oyo — historical profile. (2026). *Institutional document*.

Federal College of Education (Technical), Akoka — institutional profile. (2026). *Institutional document*.

Federal College of Education, Osiele, Abeokuta — institutional overview. (2026). *Institutional document*.

Federal Colleges of Education in Nigeria (list). (2026). *National Educational Directory*.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2020). *How to design and evaluate research in education* (10th ed.). McGraw-Hill Education.

Nwafor, C., & Musa, H. (2022). Strategies for financial sustainability in Nigerian universities. *International Journal of Educational Policy, 10*(2), 77–95.

OECD. (2025). *The financial sustainability of higher education: Key themes and institutional strategies*. Organisation for Economic Co-operation and Development.

Okonkwo, S. (2022). Campus resource management and revenue optimization in Nigerian colleges. *Education and Development Review, 7*(1), 88–104.

Report on Nigeria's tertiary education funding and survival. (2025). *Policy brief*.

Revenue diversification strategies employed by tertiary institutions to cope with financial challenges. (2024). *International Journal of Progressive Research in Engineering Management and Science, 3*(2), 56–72.

Revenue sourcing for the financial sustainability of a university of technology: An exploratory study. (2024). *Cogent Education, 11*(1), 215–234.