PALGO JOURNAL OF EDUCATION RESEARCH
ISSN 2476-8332
DOI : https://doi.org/10.65756/pjer.2026.004
Volume 11 Issue 2, June 2026.Page 15-24
http://www.palgojournals.org/PJER/Index.htm
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INSTITUTIONAL ENTREPRENEURSHIP AND MANAGEMENT OF NIGERIAN HIGHER EDUCATION: EFFECTIVENESS OF BUSINESS VENTURES AND EDUCATIONAL SERVICE CENTRES IN CROSS RIVER STATE.

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Accepted ,June 17 , 2026

This study adopted a correlational design with census sampling technique to examine the predictive relationship between revenue-generating business ventures, centres for educational services, and management of higher education institutions in Cross River State, Nigeria. The entire population of 197 head of departments (HODs) from the four public tertiary institutions in the state constituted the sample. Data were collected using structured questionnaires tagged "Institutional Entrepreneurship and Management Effectiveness Questionnaire" (IEMEQ) were used for data collection and analyzed using simple linear regression. Results revealed that revenue from businesses significantly predicted management effectiveness, $F(1, 195) = 162.14$, $p < .001$, $R = .67$, $R^2 = .45$, $\beta = .67$, indicating that 45% of the variance in institutional management was explained by business ventures. Similarly, centres for educational services significantly predicted management of higher education institutions, $F(1, 195) = 246.22$, $p < .001$, $R = .75$, $R^2 = .56$, $\beta = .75$, accounting for 56% of the variance. The findings reveal that institutional entrepreneurship and service-oriented centres are strong predictors of effective management in resource-constrained universities. It was recommended that university management should professionalize and institutionalize business ventures with clear accountability structures to ensure sustainable revenue generation. Centres for educational services require adequate funding, skilled personnel, and alignment with strategic institutional goals to enhance service delivery. The National Universities Commission and state government should develop policies that encourage revenue diversification in public universities while safeguarding academic standards. Theoretically, the study extends institutional entrepreneurship theory by demonstrating that commercial and service units are core, not peripheral, to university management. Practically, strengthening these units can improve planning, resource allocation, and financial sustainability of higher education institutions in Cross River State and similar contexts.

Keywords: Institutional entrepreneurship, business ventures, educational service centres, higher education management, Cross River State, revenue diversification

Introduction

Funding of higher education institutions in Nigeria has become increasingly inadequate due to dwindling government subventions, rising student enrolment, and competing national priorities. Public universities and polytechnics in Cross River State, like their counterparts across the country, continue to face challenges of poor infrastructure, irregular power supply, inadequate laboratory equipment, and delayed staff remuneration. These challenges have raised concerns about the effectiveness of institutional management and the sustainability of academic programmes. In response, scholars and policymakers have advocated for institutional entrepreneurship, which emphasizes revenue diversification through business ventures and service-oriented centres as alternative funding strategies. Revenue-generating business ventures such as farms, bookshops, guest houses, and consultancy services, alongside centres for educational services like remedial programmes, sandwich courses, and professional training units, are expected to reduce dependence on government funding and improve management effectiveness.

Despite this advocacy, empirical evidence on the predictive power of these income-generating units on the management of higher education institutions in Cross River State remains scanty. Most existing studies have focused on federal universities in South-West and North-Central Nigeria, leaving the peculiar context of Cross River State underexplored. Heads of Department play a critical role in departmental planning, resource allocation, and academic administration, yet their perception of how business ventures and service centres influence management effectiveness has not been adequately documented. Against this background, this study examined the predictive relationship between revenue from businesses, centres for educational services, and management of higher education institutions in Cross River State. Specifically, the study addressed two research questions and tested two hypotheses at .05 level of significance.

Methodology

This study adopted a correlational survey research design. The design was deemed appropriate because it allows for

examination of the predictive relationship between revenue-generating business ventures, educational service centres, and management effectiveness without manipulation of variables. The design enables generalization of findings to the population of Heads of Department in public higher education institutions in Cross River State. The population of the study comprised 197 Heads of Department (HODs) from 4 public higher education institutions in Cross River State, Nigeria. The institutions included University of Calabar, University of Cross River State, Former College of Education Akampa and College of Education Obudu. Census sampling technique was used because the population was finite and manageable. Therefore, all 197 HODs constituted the respondents for the study. This ensured full representation and eliminated sampling error.

Data were collected using a structured questionnaire titled “Institutional Entrepreneurship and Management Effectiveness Questionnaire” (IEMEQ) designed by the researcher. The instrument was divided into 4 sections. Section A elicited demographic information of respondents. Section B measured revenue from business ventures using 8 items on a 5-point Likert scale ranging from Strongly Disagree = 1 to Strongly Agree = 5. Section C measured revenue from educational service centres using 8 items on the same 5-point scale. Section D measured management effectiveness of HODs using 12 items adapted from Akinyemi and Bassey on a 5-point Likert scale.

Face and content validity of the instrument were established by 3 experts in Educational Management from University of Calabar. Items adjudged ambiguous or irrelevant were modified based on expert suggestions. To determine reliability, a pilot test was conducted on 30 HODs from 1 public institution not included in the study area. Data from the pilot test were analyzed using Cronbach’s alpha coefficient. The reliability coefficients obtained were .82 for business ventures, .84 for educational service centres, and .86 for management effectiveness, with an overall Cronbach’s alpha of .84. These values indicated that the instrument was reliable for data collection.

Copies of the questionnaire were administered directly to the 197 HODs in their respective departments by the researcher with the assistance of 4 research assistants, 1 per institution. The purpose of the study was explained and respondents were assured of confidentiality. Completed questionnaires were retrieved immediately, achieving a 100% return rate.

Data collected were coded and analyzed using Statistical Package for Social Sciences SPSS version 26. Simple linear regression was used to test each research question at .05 level of significance. Regression was chosen because it determines the extent to which the independent variables predict the dependent variable. Decision rule: If p-value < .05, the relationship was considered statistically significant.

Ethical approval was obtained from the Research Ethics Committee of University of Calabar, before data collection. Informed consent was obtained from all 197 HODs. Respondents were informed that participation was voluntary and that they could withdraw at any time without penalty. Confidentiality and anonymity of responses were guaranteed as no personal identifiers were collected. Data were stored securely and used solely for academic purposes.

Literature review

1. Institutional entrepreneurship: effectiveness of business ventures and management of higher education.

Recent literature shows that financial constraints remain a major threat to management effectiveness in Nigerian public higher education institutions. Declining government subventions, rising enrolment, and post-COVID-19 budget cuts have forced institutions to adopt institutional entrepreneurship as a survival strategy. Adeyemi and Bolarinwa (2022) defined institutional entrepreneurship as proactive efforts by universities to commercialize academic resources and diversify revenue beyond government funding. This aligns with Clark’s entrepreneurial university model, but recent studies emphasize its urgency in the Nigerian context due to economic instability. Hence, Bennetot Pruvik and Estermann (2023) revealed that institutional entrepreneurship in European Higher education contributed significantly to programme, records, human and material resource management.

On business ventures, current empirical studies confirm their role in funding adequacy. For instance, Ubogu and Israel (2023) as well as Nwankwo and Oladipo (2023) found that farms, hotels, printing presses, and transport services in federal universities contribute significantly to infrastructure maintenance and staff welfare. Similarly, Chukwu and Ugwu (2024) reported that well-managed business ventures improve service delivery in Nigerian federal universities. However, both studies also noted persistent challenges: poor feasibility planning, bureaucratic control, and lack of professional management reduce the impact of ventures on institutional goals. Eze and Omebe (2021) added that state-owned universities in South-East Nigeria generate low IGR from businesses due to weak marketing strategies.

Accordingly, Okon (2016) carried out a study on business centres activities and sustainability to teacher’s education in Cross River State. Six research questions were asked and six hypotheses formulated to guide the study. The population of the study consisted of all the higher education institutions in Cross River State that produced teachers. The survey design was adopted and stratified sampling technique was utilized to select 1200 staff and students as the sample for the study. The questionnaire was used as the instrument for data collection and the data was analyzed using the independent t-test statistics. Findings revealed that there are business centres in higher education institutions in Cross River State and these businesses generate revenue for the institutions although they are injurious to teacher education.

Egwu and Nwajioha (2016) explored managing alternative sources of funding tertiary education for sustainable national development with particular reference to Ebonyi State University, Abakaliki. Three research questions and three hypotheses were used to guide the study. A descriptive survey research design was adopted for study. The population of the study was 4303 which comprised the entire academic and non-teaching staff in Ebonyi State University, Abakaliki. The researchers used simple random sampling technique to select 200 academic staff and 150 non-teaching staff, making a total of 350 respondents. The instrument for data collection was a structured 16-item questionnaire titled “Alternative Sources of Generating Fund Questionnaire” (ASGFQ). The instrument was subjected to face and content validity by three experts. The reliability of the instrument was assured using test re-test method, while a reliability coefficient of 0.72 was gotten using Pearson Product Moment Correlation. Data collected were analyzed using mean and standard deviation while null hypotheses were tested using z-test at 0.05 levels of significance. The alternative sources of generating funds

found by the study included revenues from businesses in the university, businesses owned by the university, remedial programmes, agro-based businesses, to mention a few. The findings of the study revealed among others that whole lots of alternative sources of funding tertiary educational institutions in Nigeria are made redundant and ineffective by management practices exhibited by those who are engaged in managing the business outfits. Hence it was recommended among others that the management of tertiary educational institutions in Nigeria should, as a matter of necessity, explore other hiding alternatives that could help to strengthen their economic base and to judiciously and effectively manage the funds so generated.

Similarly, Okpa, Etor and Edida (2016) explored alternative funding through academic entrepreneurship infrastructure and university sustainability in Cross River State, Nigeria. Three research questions guided the study. Descriptive survey research design was adopted for the study. A questionnaire titled: Academic Entrepreneurship Infrastructure and University Sustainability questionnaire (AEIUSQ) was developed, validated and used for data collection. The reliability was established using Spearman Brown Prophecy Formula with the reliability coefficient of 0.70. The population of the study was 102 academic heads of department. The data collected were analyzed using mean and standard deviation with a criterion mean of 2.50. The result revealed that revenues from businesses in the university, outsourcing and joint venture models, enrolment management and business plan support significantly influenced revenue generation and university sustainability. On the basis of the findings, it was recommended among others that the university managers should be encouraged to adopt contemporary alternative funding strategies to enhance income levels and sustainability of universities. From the foregoing if university and other tertiary education managers adopts contemporary alternative funding innovations such as revenues from businesses in the institution among others, their institution's income levels will be enhanced leading to the procurement of more facilities for effective management and sustainability of their institutions. Izuagba, Ike-Obioha and Ahukanna (2016) focused on critique of alternative sources of funding secondary education in Imo State, Nigeria. Four research questions guided the study. The study adopted descriptive survey research design. The population of the study consisted of the 306 secondary school administrators in Imo State school system while the stratified random sampling technique was adopted to select fifty-eight school administrators for the study. The instrument was a questionnaire structured by the researchers on a four-point scale. The instrument was validated by experts in educational management and evaluation while the reliability of the instrument was ascertained at 0.89 after a pilot study. Mean score and standard deviation were used to answer the research questions. Accordingly, mean above 2.5 were accepted while mean score below 2.5 were rejected. The findings of the study showed that: there is lack of ease of access of alternative sources of funding secondary schools; alternative sources of funding such as revenues from businesses in the schools, crafts, shops to mention a few, enhance efficient and effective school management; alternative sources encourage expansion of school facilities.

2. **Institutional entrepreneurship: Effectiveness of centre for educational services and management of higher education.**

Centre for educational services are educational services or programmes run by higher education institutions for revenue generation, usually in the form of part-time, remedial, long vacation, pre-degree, diploma and sandwich programmes. Others are; vocational and entrepreneurial training. According to Oyetakin and Yahaya (2017), these programmes are some of the major sources of revenue generated internally by higher education institutions. For educational service centres, recent evidence suggests stronger predictive power than commercial businesses. Bassey and Ekpenyong (2021) established that ICT centres, consultancy units, and entrepreneurship development centres in South-South colleges of education significantly increase internally generated revenue. Musa and Aliyu (2025) further showed that digital service centres in Nigerian polytechnics outperform traditional businesses in revenue generation because they directly leverage academic expertise and meet industry demand. These findings support Etzkowitz's knowledge commercialization theory and indicate that service centres enhance university-industry linkages and graduate employability.

In a study on analysis of internally generated revenue and infrastructural development of public universities, Oyetakin and Yahya (2017) revealed that part-time programme, among other sources of revenue, was one of the major revenues generated internally for infrastructural development in public universities in Ondo State. Similarly, Odeh, Tyokyaa, Aernyi and Ameh, (2018) observed that universities and other institutions of higher learning in Nigeria could increase their resource base by engaging in part-time teaching through the operation of open and distance learning programme. Such programme will attract a critical mass of people who were not privileged to have a regular higher education. The open distance learning programme can also be complemented with e-learning courses, the success of which will be greatly dependent on the provision of an effective and efficient information and communications technology base. According to Odeh, et al. (2018), University of Ibadan is taking the lead with the establishment of a distance learning centre, which is currently running both degree and sub-degree programmes in various fields of study, especially in the humanities, social sciences and mathematics. Odeh, et al. (2018) concluded that if the programmes are properly managed, they will certainly be veritable sources of income generation for the institutions. Agile (2018) in a study advocated for the establishment of schools of basic studies or remedial programmes in some higher institutions located in northern states that are educationally backward as it will not only equalize educational opportunity by enabling individuals from those educationally backward states to improve and secure admission to tertiary institutions but will also generate additional revenue for the institutions concerned.

Akuegwu, Uche and Udo (2018) studied on assessing innovative practices in funding entrepreneurship education in universities in Cross River State, Nigeria: implications for sustainable national development. Mixed methods research involving qualitative and quantitative techniques, were adopted for the study. One hundred and ten (110) programme managers were used as the population and sample. A constructed questionnaire was used as the instrument for data collection. Data collected were analyzed statistically using descriptive statistics and independent t-test statistical techniques. Findings revealed that part-time programme was the 9th (out of the 13 innovative funding practices identified) innovative practice that programme managers were most effective in using in funding entrepreneurship education in Cross River State.

In another study, Ekpoh and Okpa (2017) investigated on diversification of sources of funding university education for sustainability: challenges and strategies for improvement. The survey design was adopted for the study. Four universities constituted the population of the study and 480 respondents were purposively used as the sample. A structured questionnaire was used as the instrument for data collection. Data collected were analyzed using means and standard deviations. Results of the findings show high extent of diversification through part-time undergraduate degree programmes than the other 9 sources identified in the study. A plausible explanation for high extent of diversification of funding sources through part-time undergraduate degree programmes, according to Ekpoh and Okpa (2017), was that it generates enormous income for universities in the study area; and that this was because many potential university students who could not gain admission through the highly competitive Unified Tertiary Matriculation Examination (UTME) resort to part-time undergraduate programmes.

Aja-Okorie and Onele (2016) ex-rayed the alternative strategies for improving internally generated revenue (IGR) of State universities in Nigeria: Implications for Ebonyi State university (EBSU) Abakaliki. The study specifically focused on how the establishment of remedial programme, sandwich programme, vocational centre, sports clubs, and skills acquisition centres in the universities could improve the IGR generation in the Ebonyi State University, Abakaliki. Three questions and three hypotheses guided the study. The design of the study was descriptive survey design. The instrument for data collection was structured questionnaire titled “Strategies for Revenue Generation in Ebonyi State University” (SRGESU). The sample of the study comprised of 120 staff purposively selected for the study based on qualification and experienced. The data were analyzed with mean and standard deviation. The results of the study showed that the establishment of remedial programme, sandwich programme, and entrepreneurship training centres in the university can improve the university internally generated revenue base that the adoption and efficient utilization of e-payment of school fees and online registrations can help to increase the internal generated revenue of the university. Based on these findings, the study recommends among other things that university managers should establish remedial programme, sandwich programme and entrepreneurship training centres in Ebonyi State University to improve the sources of internally generated revenue. From the foregoing it can be said that the improvement of internally generated revenue sources through the identified strategies from the study may enhance the effective management of the university and other tertiary institutions.

Akeke, Ekpo and Osim (2016) focused on investigating alternative strategies for financing tertiary education for sustainable national development in Calabar Municipality of Cross River State, Nigeria. The main sources of financing tertiary education were highlighted. The alternative means or sources through which education can be financed for better management or administration and productivity were also discussed. Two research questions which included how finances generated from the institution’s entrepreneurial activities can influence sustainable national development were used to carry out the study. Two instruments titled “Alternative Strategies for Financing Tertiary Education Questionnaire” (ASFTEQ) and “Tertiary Education for Sustainable National Development Inventory” (TESNDI) were used to elicit information. Two public higher education institutions made up the population of this study and all the administrators were used for the study. Simple percentage and bar chart were used in analyzing the data. The findings indicated that most administrators do not have enough fund to manage their institutions, and do not really have alternative sources of financing their institutions. It is recommended among others that the administrators should not depend on government alone for financing but embark on activities such as vocational activities, pre-West African Examination Council (WAEC) and National Examination Council (NECO) paid extra-lessons, Joint Admission Matriculation Board (JAMB) paid lessons, entrepreneurial activities like fishery, and poultry to generate money to finance and manage their institutions. From the study above it can be concluded that more sources of fund generation by an institution will make available more resources for the effective management of the institution.

Asiyai and Okoro (2019) investigated management strategies for improving the functionality of tertiary education in Nigeria. One research question was asked and answered and three hypotheses were formulated and tested at 0.05 Alpha level. The sample of the study comprised 900 respondents selected through the simple random sampling technique from six tertiary institutions in Delta and Edo States of Nigeria. The questionnaire was the instrument for collection of data from the respondents. Descriptive statistics in the forms of mean and standard deviation were used to answer the only research question. The three hypotheses were tested using one-way analysis of variance. The results obtained showed that funding strategies such as from sandwich programmes, part-time programmes, vocational training, entrepreneurial centres, as well as management strategies such as monitoring and adoption of best practices in service delivery would help to improve the management and functionality of tertiary education in Delta and Edo States. Staffs of university, polytechnics, and colleges of education did not differ significantly in their mean perception scores for any of the identified management strategies for improving the functionality of tertiary education. The study recommended that managers of tertiary education in Delta and Edo States should give adequate priority to funding and management strategies that will enhance proper management and functionality of the institutions. Obviously from the foregoing study, improved sources of funding and management strategies, enhances proper and effective management and functionality of tertiary educational institutions.

In a study, Akomolafe and Aremu (2016) examined alternative sources of financing university education in Lagos State, Nigeria. Three research questions and three hypotheses guided the study. The study adopted descriptive survey research design. The population of the study was all the public universities in Lagos State. The sample of the study comprised two public universities in Lagos State. A self-designed questionnaire titled “Alternative sources of Financing University Inventory” (ASFUI) was used to gather information required from the budgetary section of the universities. The study revealed the following as alternative sources of financing university education in Lagos State: sandwich, remedial, part-time, long vacation, and diploma programmes; vocational and entrepreneurial centres; commercial ventures; endowment; to mention a few. Revealed in the study also was that the federal university was able to employ more alternative sources of financing than the State university. However, none of the universities fully employed the available alternative sources.

Summary of literature review

Existing literature shows that public higher education institutions globally are under financial pressure due to declining government subventions, rising enrolment, and high operational costs. Institutional entrepreneurship has emerged as a

strategic response, defined as the proactive and innovative efforts by universities to pursue new revenue sources and transform academic resources into economic value. Hence, many literatures established that entrepreneurial universities diversify funding through commercial ventures and knowledge-based services to reduce dependence on the state.

Business ventures are the most visible form of institutional entrepreneurship. Literature indicates that universities establish farms, hotels, bookshops, printing presses, and transport services to generate Internally Generated Revenue, IGR. Findings from studies in federal universities in Nigeria suggest that well-managed ventures contribute significantly to funding infrastructure, staff welfare, and research. However, other studies report that many institutional businesses fail due to poor planning, bureaucratic control, lack of expertise, and conflict with core academic missions. The predictive effect of business ventures on management effectiveness therefore remains inconsistent across contexts.

Educational service centres represent the second major strand of institutional entrepreneurship. These include ICT centres, consultancy units, entrepreneurship development centres, and skill acquisition centres that commercialize academic expertise. Empirical evidence shows that service centres improve university-industry linkage, enhance graduate employability, and provide sustainable revenue when properly funded and managed. In Nigeria, studies on polytechnics and colleges of education reveal that underutilization, obsolete equipment, and weak marketing strategies limit the contribution of service centres to institutional goals. Few studies have quantified their specific predictive power on management effectiveness.

Regarding management effectiveness, scholars agree that it involves the ability of institutional managers to achieve goals in funding, infrastructure, staff development, and quality service delivery. Literature links effective management to financial autonomy, strategic planning, and accountability. Studies within Cross River State are scarce, with most research focusing on federal institutions in other geopolitical zones. This creates a gap in context-specific evidence on how business ventures and educational service centres influence management outcomes in state-owned institutions. Overall, the review reveals a consensus that institutional entrepreneurship can enhance management effectiveness, but the extent depends on strategic management, institutional support, and environmental factors. The gap this study fills is the limited empirical data on the predictive contribution of business ventures and educational service centres to management effectiveness in public higher education institutions in Cross River State.

Statement of the problem

Despite the chronic underfunding of Nigerian public higher institutions, many universities, polytechnics, and colleges of education have turned to institutional entrepreneurship by establishing business ventures, business revenues and educational service centres to generate internally generated revenue and improve service delivery. In Cross River State, institutions like University of Calabar (Unical), Cross River State University (UNICROSS) and Colleges of Education have set up ventures such as bakeries, guest houses, printing presses,

Information and communication technology (ICT) centres, and consultancy units with the expectation that these will enhance financial autonomy and academic effectiveness.

However, evidence suggests a gap between intent and outcome. Many of these ventures operate below capacity, face poor management, lack strategic alignment with institutional goals, and contribute minimally to institutional funding or educational quality. Educational service centres meant to bridge theory-practice gaps often struggle with obsolete equipment, inadequate staffing, and low patronage. This raises questions about the effectiveness of institutional entrepreneurship as a strategy for managing higher education in the state.

Consequently, there is limited empirical data on how effectively business ventures and educational service centres in Cross River State institutions are performing, the factors affecting their performance, and their actual contribution to institutional management and educational service delivery. Without addressing this, policymakers and institutional managers lack evidence to reform or scale these ventures meaningfully. That gap creates the need for this study: to assess the effectiveness of business ventures and educational service centres as tools of institutional entrepreneurship in the management of Nigerian higher education, with specific focus on institutions in Cross River State.

Research questions

1. To what extent do revenues from businesses in the institution predict management of higher education institutions in Cross River State?
2. What is the extent to which centre for educational services predict management of higher education institutions in Cross River State?

Statement of hypotheses

1. Revenues from businesses in the institution do not significantly predict management of higher education institutions in Cross River State.
2. Centre for educational services do not significantly predict management of higher education institutions in Cross River State.

Results of findings

Hypothesis one**:** Revenues from businesses in the institutions do not significantly predict management of higher education institutions in Cross River State.

The two variables in this hypothesis were revenues from businesses in the institution and management of higher education institutions in Cross River State. Management of higher education institutions was measured in terms of material resource management, human resource management, programme management and records management. Both revenues from businesses in the institution and management of higher education institutions were measured continuously.

Simple Regression analysis was used to test this hypothesis. The result of the analysis was presented in Table 1.
Table 1 presents the summary of data and Simple Regression analysis of the prediction of revenues from businesses in the institution on management of higher education institutions in Cross River State. The result in Table 1 shows that the analysis of variance in the regression output produced an F-ratio of 162.14 ($p< 0.01$), which is statistically significant at 0.05 probability level with 1:195 degrees of freedom. This means that the data for revenues from businesses in the institution fit the model better than if revenues from businesses in the institution was not added to the model, which means that revenues from businesses in the institution contributed to the observed variance in management of higher education institutions in Cross River State. The result in Table 1 also shows a regression coefficient (R) of 0.67 and a coefficient of determination (R^2) of 0.45.

This implies that 45.0% of the variation in management of higher education institutions in Cross River State is accounted for, by the variation in revenues from businesses in the institution in higher education institutions in Cross River State. Thus 55.0% of the variance in management of higher education institutions in Cross River State is attributed to the effect of other variables not considered in this study.

Similarly, the result of the regression weights of the predictor variable (revenues from businesses in the institution) in Table 1 shows positive coefficients (B and Beta) of 0.41and 0.67 respectively. This means that revenues from businesses in the institution has a positive influence on management of higher education institutions in Cross River State, and that a unit increase in revenues from businesses in the institution in Cross River State would lead to a 0.67-unit improvement in management of higher education institutions in Cross River State. Accordingly, the result in Table 1 shows a t-value of 12.73 ($p< 0.001$). This implies that revenues from businesses in the institution contributed significantly to the variation in management of higher education institutions in Cross River State. With this result therefore, hypothesis one was rejected. This means that revenues from businesses in the institution significantly predict management of higher education institutions in Cross River State, Nigeria.

Table1:Summary of data and simple regression analysis of the prediction of revenue from businesses in the institution on management of higher education institutions in Cross River State, Nigeria

R	R-square	Adjusted R-square		Std. error of the estimate	
.67	.45	.45		2.68	
Model	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Regression	1160.56	1	1160.56	162.14	.001
Residual	1395.74	195	7.16		
Total	2556.31	196			
Variable	B	Std. Error	Beta	T	Sig.
Constant	44.04	3.14		14.03	.001
Revenue from businesses in the institution	.41	.03	.67	12.73	.001

a. Criterion: Management of higher education institutions.
b. Predictors: (constant), Revenue from businesses in the institution.

Hypothesis two: Centre for educational services do not significantly predict management of higher education institutions in Cross River State.
The two variables in this hypothesis were centre for educational services and management of higher education institutions in Cross River State. Management of higher education institutions was measured in terms of material resource management, human resource management, programme management and records management. Both centre for educational services and management of higher education institutions were measured continuously. Simple Regression analysis was used to test this hypothesis. The result of the analysis was presented in Table 2.
Table 2 presents the summary of data and Simple Regression analysis of the prediction of centre for educational services on management of higher education institutions in Cross River State. The result in Table 2 shows that the analysis of variance in the regression output produced an F-ratio of 246.22 ($p< 0.001$), which is statistically significant at 0.05 probability level with 1:195 degrees of freedom. This means that the data for centre for educational services fit the model better than if centre for educational services was not added to the model, which means that centre for educational services contributed to the observed variance in management of higher education institutions in Cross River State. The result in Table 2 also shows a regression coefficient (R) of 0.75 and a coefficient of determination (R^2) of 0.56. This implies that 56.0% of the variation in management of higher education institutions in Cross River State is accounted for, by the variation in centre for educational services established in higher education institutions in Cross River State. Thus 44.0% of the variance in management of higher education institutions in Cross River State is attributed to the effect of other variables not considered in this study.

Similarly, the result of the regression weights of the predictor variable (centre for educational services) in Table 2 shows positive coefficients (B and Beta) of 0.78 and 0.75 respectively. This means that centre for educational services has a positive influence on management of higher education institutions in Cross River State, and that a unit increase in centre for educational services in higher education institutions in Cross River State, would lead a 0.75-unit improvement in management of higher education institutions in Cross River State. Accordingly, the result in Table 2 shows a t-value of 11.57 ($p< 0.001$). This implies that centre for educational services contributed significantly to the variation in management of higher education institutions in Cross River State. With this result therefore, hypothesis 2 was rejected. This means that centre for educational services significantly predict management of higher education institutions in Cross River State, Nigeria.

Table 2:Summary of data and simple regression analysis of the prediction of centre for educational services on management of higher education institutions in Cross River State, Nigeria

R	R-Square	Adjusted R-Square		Std. Error of the Estimate	
.75	.56	.56		2.41	
Model	Sum of Squares	Df	Mean Square	F-ratio	Sig.
Regression	1426.42	1	1426.42	246.22	.001
Residual	1129.88	195	5.79		
Total	2556.31	196			
Variable	B	Std. Error	Beta	t	Sig.
Constant	36.06	3.12		11.56	.001
Centre for educational services	.78	.05	.75	15.69	.001

a. Criterion: Management of higher education institutions.
b. Predictors: (constant), Centre for educational services.

Discussion of research findings

1.Revenues from businesses in the institution and management of higher education institutions in Cross River State.

The analysis of the first hypothesis which stated that revenues from businesses in the institution do not significantly predict management of higher education institutions in Cross River State revealed that revenues from businesses in the institution significantly predicted management of higher education institutions in Cross River State. This implies that the level of revenues from businesses in the institution in Cross River State directly relates to the extent of management of higher education institutions in the State. This result suggests that management of higher education institutions in Cross River State varies directly with the level of revenues from businesses in the institution in the State. This result means that the more businesses are established in the institution the more revenues from the businesses are generated as funds for running the institution better. This result further suggests that reasonable revenues collected from businesses in the institution increases the establishment of more businesses and hence more funds generated for the effective management of the institutions. The reason for this result is that managers of higher education institutions may only be able to generate additional funds through revenues from businesses in their institutions if such institutions have enough businesses established. Thus as revenues from businesses increases more funds are generated by managers of higher education institutions which are utilized in the procurement of more resources for the better management of their institutions.

This result corresponds with those of Chukwu and Ugwu (2024), Ubogu and Isreal (2023) and Egwu and Nwajioha (2016) who noted that higher education institutions with many businesses established in the institutions generates much funds from the revenues collected from the business owners, and that the huge funds realized may be used to provide more resources for running the institutions better. In line with this result Nwankwo and Oladiyo (2023) as well as Okafor, Onyene, Ikedife and Okeleke (2016) found that higher education institutions with few business centres may only generate small funds which may not be sufficient to secure adequate resources needed for the effective running of the institutions. The foregoing expressions further buttress the significant positive direct relationship between revenues from businesses in the institution and management of higher education institutions in Cross River State with the standardized Beta of 0.67 realized in this hypothesis. This means that both revenues from businesses in the institution and management of higher education institutions in Cross River State changes in the same direction, such that the more businesses increases in the State, the greater the revenues that managers of higher education institutions may generate as funds for the better management of their institutions. This may also mean that a decrease in businesses operating in the institutions may lead to a decrease in revenues collected from these businesses and thus a decrease in funds generated from the revenues which may not be adequate for managing the institutions effectively.

The result of this analysis further revealed that revenues from businesses in the institution significantly predicted management of higher education institutions in Cross River State with a t-value of 12.73 ($p < 0.001$). The result also revealed an unstandardized Beta of .67. This suggests that there is a significant direct relationship existing between revenues from businesses in the institution and management of higher education institutions in Cross River State and that improvement in the level of the number of businesses established would lead to improvement in revenues from such businesses and thus improvement in funds from the revenues required to effectively manage the institutions. These foregoing empirical findings support the significant direct relationship between revenues from businesses from the institution and management of higher education institutions in Cross River State (Beta = 0.67) realized in this study.

However, this result may be attributed to the fact that managers of higher education institutions employ the services of hardworking and honest revenue collectors who must go out for the revenue at the appropriate time and also remit same to the authorities concerned. Sometimes lazy and dishonest elements may be employed to collect revenues that ended up either not going out to collect the revenues at all or may not remit those collected. Thus not enough funds are realized by managers of higher education institutions for the management of the institutions. This result may also be due to the fact that managers of higher education institutions manage properly the funds generated from revenues from the businesses in the institution. This is because funds so generated if not spent prudently may not be enough to manage the institutions well. Sometimes managers of higher education institutions may have huge funds generated but spent it wastefully or even divert it for personal use. This implies that management of higher education institutions in Cross River State may also relate to extent to which revenue collectors are hardworking and honest and the extent to which managers of higher education institutions manage the funds so raised prudently.

2. Centre for educational services and management of higher education institutions in Cross River State.

The analysis of the second hypothesis which stated that centre for educational services do not significantly predict management of higher education institutions in Cross River State, revealed that centre for educational services significantly predicted management of higher education institutions in Cross River State. This implies that the extent to which centres for educational services are established in higher education institutions in Cross River State determine the extent to which the institutions are well managed in the State. This result suggests that management of higher education institutions in Cross River State varies directly with the establishment of centres for educational services in the State. This result means that the more educational programmes are run under centre of educational services the more managers of higher education institutions will generate funds to procure more resources for the effective management of their institutions. This result further suggests that as managers of higher education institutions run more educational programmes such as remedial programme, diploma programmes, part-time programme, pre-degree programme, long vacation programme, and sandwich programme in their institutions, more funds are generated that will enable managers of higher education institutions to provide more resources required for running their institutions better. The reason for this is that important educational programmes attract more patronage and the more the programmes in an institution the more the patronage; hence more funds are generated by the institutions for the effective running of the institutions.

This result harmonizes with the findings of Musa and Aliyu (2025), Bassey and Ekpenyong (2021) and Oyetakin and Yahaya (2017) who found that higher education institutions that are effectively running a couple of important educational programmes are billed for high dividends. They recommended that such huge funds realized from the programmes should be invested in the infrastructural development of the institutions. In line with this result, Bennetot and Estermann (2023), Adeyemi and Bolrinwa (2022) as well as Agile (2018) advocated for the establishment of more educational programmes such as the remedial and basic study programmes in some higher education institutions especially in the northern States that are educationally backwards as they will not only equalize educational opportunity by enabling individuals from those educationally backward States to improve and secure admissions to tertiary institutions but will also very importantly generate huge additional funds for the better running of such institutions. The expressions above further buttress the positive and direct relationship between centre for educational programmes and management of higher education institutions in Cross River State with standardized Beta of 0.75 realized in this hypothesis. This means that both centre for educational services and management of higher education institutions in Cross River State changes in the same direction, such that the more the centres for educational services or programmes are established and run effectively the more the programmes are patronized and the more funds are generated from the programmes which can be utilized for managing the institutions better.

The result of this analysis further revealed that centre for educational services significantly predicted management of higher education institutions in Cross River State with a t-value of 11.57 ($p < 0.001$). The result also revealed an unstandardized Beta of .75. This implies that there is a significant direct relationship existing between centre for educational services and management of higher education institutions in Cross River State, and that improvement in educational services or programmes in the institutions would lead to an improvement in the management of higher education institutions in the State. For instance, if programmes are effectively skilled-acquisition based more persons would patronize the programmes and that would generate more funds for the effective management of the institutions. This result collaborates with the findings of Eze and Omebe (2021) who found that tertiary institutions that run programmes in popular, marketable and internationally recognized disciplines attract more students and therefore more funds are generated to better run the institutions. In line with this result, Aja-Okorie and Onele (2016) stated that managers of tertiary institutions who ensures that all programmes run by their institutions are skilled-based, will have more students applying for such programmes and this will raise their funds base, giving them the capacity to manage their institutions better. This result further agrees with Asiyai and Okoro (2019) who established that more additional funds are generated from well managed sandwich, part-time and long vacation programmes. These funds, they concluded, could be used to solve the problem of underfunding in tertiary institutions. These empirical findings buttress the significant direct relationship between centre for educational services and management of higher education institutions in Cross River State (Beta = 0.75) realized in this study.

However, this result may be occasioned by the fact that centres for educational services runs programmes that are relevant to local and international needs. This is because programmes that meets local and international needs are the most sought for as they produce graduates with physical and intellectual skills that gives them (the graduates) gainful employment. A number of higher education institutions in the State run programmes that do not meet local needs let alone international needs. Therefore, graduates from such institutions lack skills needed in the labour market. This result may also be attributed to the fact that centres for educational services run programmes that are accredited. This is because programmes that are not accredited are signs that such programmes are not recognized. Nobody in their right senses will want to patronize programmes they all know are not recognized. Patronage of such programmes will be low if at all there will be any. This implies that the extent of management of higher education institutions in Cross River State may also relate to the extent to which centres for educational services run programmes that are relevant to local and international needs as well as the extent to which these programmes are accredited.

Conclusion

Based on the findings of this study, it is concluded that institutional entrepreneurship through business ventures and educational service centres significantly predicts management effectiveness in public higher education institutions in Cross River State. Revenue from business ventures explained 45% of the variance in management effectiveness, $F(1, 195) = 162.14$, $p < 0.01$, $\beta = 0.67$, while educational service centres explained 56%, $F(1, 195) = 246.22$, $p < 0.001$, $\beta = 0.75$. The higher contribution of educational service centres indicates that commercializing academic expertise and facilities has a stronger effect on institutional management outcomes than purely commercial businesses. Therefore, when strategically planned and professionally managed, business ventures and service centres provide a sustainable means of improving

funding adequacy, infrastructure maintenance, and service delivery in Nigerian public higher institutions. The remaining 44% - 55% not accounted for in the study indicates that there are other important factors such as leadership quality, infrastructure maintenance, government policy etc. which lend hand to the effective management of higher education institutions in Cross River State.

Recommendations

In view of the conclusions, the following recommendations are made:

1.Adopt professional management for business ventures: Institutions should engage qualified managers, conduct feasibility studies, and ensure transparent accounting for all business operations. Revenue generated should be reinvested to expand and sustain the ventures.

2.Prioritize development of educational service centres: Since they have greater predictive power, institutions should upgrade ICT centres, consultancy units, and skill acquisition centres with modern facilities and train staff to deliver quality, market-driven services.

3.Grant financial autonomy for IGR utilization: Government and proprietors should reduce bureaucratic restrictions so institutions can retain and promptly reinvest revenue from ventures and service centres without delays.

4.Strengthen university-industry collaboration: Institutions should actively market their services and partner with industries, NGOs, and government agencies to increase patronage of educational service centres.

5.Train institutional managers on entrepreneurship: Regular workshops on strategic planning, financial management, and entrepreneurship should be organized for Heads of Departments and other managers to improve their capacity to run ventures effectively.

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