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Investigating the Impact of Revenue Diversification Strategies on Financial Sustainability of State-Owned Tertiary Institutions in Southeast Nigeria

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Abstract

The study assessed how various revenue diversification approaches contribute to financial stability and institutional growth. A comprehensive survey was carried out involving academic and non-academic staff from various public tertiary institutions in Southeast Nigeria, including UNN, UNIZIK, FUTO, and others. The research utilized the Impact of Revenue Diversification Strategies and Financial Sustainability Scale (IRDSFS), which includes thirty items rated on a 4-point Likert scale. This tool, developed and validated by experts with a reliability index of 8.92, was designed to assess the effects of revenue diversification on financial sustainability, the management of internally generated revenue, and the strategies adopted. Data were collected online via Google Forms and analyzed using IBM SPSS Statistics, employing descriptive and inferential statistical techniques to evaluate the results. The findings reveal that revenue diversification significantly enhances financial stability, reduces dependency on government funding, and supports institutional development. Professional certification programs and industry partnerships are identified as particularly effective in generating substantial revenue and fostering academic innovation. Additionally, alumni donations and facility leasing provide consistent income streams, while commercial ventures and consulting services contribute to financial resilience. The study concludes that a multifaceted approach to revenue generation is essential for the long-term sustainability of state-owned tertiary institutions. Recommendations include adopting a strategic diversification plan, enhancing transparency in financial management, and leveraging diverse revenue sources to ensure continued growth and stability. The results underscore the importance of proactive revenue management in maintaining the financial health of higher education institutions in Southeast Nigeria.

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Keywords: revenue diversification, financial sustainability, state-owned tertiary institutions, Southeast Nigeria, higher education.

Introduction

State-owned tertiary institutions worldwide face significant financial challenges due to increasing operational costs, fluctuating government funding, and rising demand for higher education. These challenges have prompted institutions to adopt revenue diversification strategies to enhance financial sustainability (Folorunso et al, 2014). Revenue diversification refers to the strategy of broadening an organization's income base beyond its traditional or primary sources of funding. For state-owned tertiary institutions, this typically involves supplementing government funding and tuition fees with additional revenue streams to enhance financial sustainability and stability (Nik-Ahmadet al, 2019). The objective of revenue diversification is to mitigate financial risks associated with reliance on a limited number of funding sources, which can be volatile and insufficient to meet growing operational costs and investment needs.

Revenue diversification has emerged as a pivotal strategy for state-owned tertiary institutions to bolster their financial sustainability amidst declining government funding and escalating operational costs. Financial sustainability, as conceptualized by Vara-Miguelet al, (2023), entails the ability of an institution to maintain financial health over the long term, ensuring the provision of quality education and services without compromising future generations' needs. This involves efficiently managing financial resources, generating sufficient revenues to cover costs, and having the capacity to invest in future growth and development (Miguelet al, 2023).

To achieve this financial sustainability, institutions have increasingly turned to revenue diversification, which involves broadening the income base beyond traditional sources such as government funding and tuition fees. This includes securing private donations, grants, endowments, entrepreneurial activities, and forming partnerships with industry (Bernonet al, 2016). Among the strategies employed, increasing tuition fees has been a primary approach. However, as noted by Rogers and Davidson (2015), this strategy has limitations, including concerns about affordability for students and potential negative impacts on enrollment.

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Securing research grants and contracts from government agencies, non-profits, and private industry has also become a vital revenue source. Institutions with strong research capabilities can attract significant funds, which enhances their financial sustainability (Goodrich& Chávez, 2019). Engaging in philanthropy and fundraising, particularly through alumni donations, has proven effective for some institutions. Large endowments can provide a steady income stream, though this strategy is more feasible for well-established institutions with wealthy alumni bases (Akpiet al, 2020).

Furthermore, developing commercial ventures such as campus facilities rentals, hosting conferences, and creating spin-off companies from research activities can generate additional income. Partnerships with industry for collaborative projects and internships also provide financial benefits (Igiriet al, 2021). Expanding online education offerings and recruiting international students are additional revenue diversification strategies. These initiatives can increase enrollment without the constraints of physical infrastructure, although they require significant upfront investment in technology and marketing (Alamuet al, 2024).

The literature reveals that the effectiveness of these revenue diversification strategies in enhancing financial sustainability varies depending on the institutional context and execution. Institutions that successfully diversify their revenue sources tend to achieve greater financial stability. For instance, Guthrie et al, (2022) found that universities with multiple income streams were better able to withstand economic shocks and fluctuations in government funding. Additionally, revenue from research grants and industry partnerships often leads to increased research output and innovation. Ray et al, (2017) highlighted that institutions actively seeking research funding tend to have higher publication rates and greater research impact.

Moreover, additional revenue can be reinvested into campus infrastructure and student services, improving the overall quality of education. Davies et al, (2019) emphasized that institutions with diversified income sources could maintain and upgrade their facilities more effectively than those relying solely on government funding. However, these strategies also pose significant challenges. Increasing tuition fees can lead to issues of affordability and access, particularly for lower-income students. Njaret al, (2024) noted that higher tuition fees might exacerbate socioeconomic disparities in higher education.

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Furthermore, some revenue sources, such as donations and research grants, can be unpredictable. Miguel et al, (2023) pointed out that reliance on volatile income streams could introduce financial uncertainty, especially for smaller institutions. Additionally, the pursuit of commercial ventures and industry partnerships might lead to mission drift, where institutions prioritize revenue-generating activities over their core educational and research missions. Nik-Ahmad et al, (2019) cautioned that this could undermine academic integrity and institutional values. Poor revenue diversification strategies can significantly exacerbate financial instability in state-owned tertiary institutions in Southeast Nigeria. Over-reliance on government funding and tuition fees leaves these institutions vulnerable to economic fluctuations and policy changes, leading to financial uncertainty (Folorunsoet al, 2014). Without diverse income sources, institutions struggle to cover operational costs, invest in infrastructure, and support research initiatives, thereby compromising the quality of education and services.

Furthermore, inadequate revenue diversification can lead to equity issues, as increased tuition fees, a common but limited strategy, can make education less accessible to lower-income students (Featherman, 2023). This approach may also result in enrollment declines, further straining financial resources. In addition, the lack of alternative revenue streams such as research grants, commercial ventures, and philanthropic contributions limits the institutions' capacity for innovation and growth. Consequently, these institutions may face long-term sustainability challenges, risking their ability to fulfill their educational mission and contribute to regional development (Wilkins et al, 2013). Therefore, investigating the impact of revenue diversification strategies on the financial sustainability of state-owned tertiary institutions in Southeast Nigeria is crucial due to several compelling reasons.

Firstly, many institutions in this region face declining government funding and escalating operational costs, which jeopardize their ability to maintain quality education and services (Schendel& McCowan, 2016). Understanding how revenue diversification can mitigate these challenges is essential for institutional survival and growth.Secondly, the context of Southeast Nigeria presents unique socioeconomic and political factors that influence financial strategies differently compared to other regions or countries. Existing studies often generalize findings from Western contexts, leaving a gap in localized research

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that addresses specific regional dynamics (Busseet al, 2024). Investigating this region-specific context can provide tailored strategies that are more effective.

Furthermore, there is limited empirical evidence on the specific impacts of diverse revenue streams such as research grants, commercial ventures, and philanthropy within Nigerian institutions. Aligica andTarko (2014) highlights that institutions with multiple income sources are better able to withstand economic shocks, yet how this applies in Southeast Nigeria remains underexplored. Addressing these gaps can offer actionable insights for policymakers and educational administrators, promoting financial resilience and sustainable development in the region's tertiary education sector.

Objectives

- Determine the extent of the impact of the management of internally generated revenue on the financial sustainability of state-owned tertiary education in the Southeast Region
- Evaluate the impact of revenue diversification strategies on the financial sustainability of state-owned tertiary institutions in the Southeast Region.
- Examine the perception of academic and non-academic staff towards management of internally generated revenue of state-owned tertiary institutions in the Southeast Region.

Research Questions

1. To what extent does revenue diversification impact the financial sustainability of state-owned tertiary institutions in the Southeast Region?
2. What is the perception of academic and non-academic staff towards the management of internally generated revenue of state-owned tertiary institutions in the Southeast Region?
3. What are the revenue diversification strategies that can be adopted in state-owned tertiary institutions in the Southeast Region?

Hypotheses

1. There is no significant difference in the mean ratings of male and female staff on the impact of revenue diversification on the financial sustainability of state-owned tertiary institutions in the Southeast Region.

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2. There is no significant difference in the mean ratings of male and female staff on management of internally generated revenue of state-owned tertiary institutions in the Southeast Region.
3. There is no significant difference in the mean ratings of male and female staff on the revenue diversification strategies that can be adopted in state-owned tertiary institutions in the Southeast Region.

Methodology

The study was conducted in the form of a cross-sectional survey of academic and non-economic staff in all public tertiary institutions in southeast, Nigeria in July 2024. Participants are drawn from University of Nigeria, Nsukka (UNN), Nnamdi Azikiwe University, Awka (UNIZIK), Federal University of Technology, Owerri (FUTO), Ebonyi State University (EBSU), Federal University Ndufu-Alike Ikwo (FUNAI), Enugu State University of Science and Technology (ESUT), Imo State University (IMSU), Anambra State University, Uli (ANSU), Federal Polytechnic, Nekede, Owerri, Federal College of Education (Technical), Umunze.

A self-developed instrument used for data collection was titled Impact of Revenue Diversification Strategies and Financial Sustainability Scale (IRDSFS). IRDSFS comprised thirty items across three clusters: revenue diversification impact on the financial sustainability, management of internally generated revenue and adopted revenue diversification strategies, rated on a 4-point Likert scale. The demographic variables included Educational Qualification, Working Experience, and Gender. The instrument was validated by three experts and the reliability was reestablished thereafter using Pearson Correlation procedure. A reliability index on 8.92 was obtained showing that the instrument is suitable for the study.

The online survey using IRDSFS was transformed into Google Forms to gather data for the research study. Accessing Google Drive, a new Google Form was created, incorporating various questions and response formats relevant to the study's objectives. The survey design included customization of themes and settings to ensure clarity and ease of use for participants. Upon completion, the survey link was distributed via email and social media channels to facilitate data collection from targeted participants. It took approximately 10 min

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to complete the survey. Reminder WhatsApp message was sent to them if not responded within 48 h by monitoring the status of the number of responders recorded in the Google Form. Online survey was selected as it is easily accessible, less expensive, and time saving. Survey data from Google Forms was exported to Excel for cleaning and formatting. Subsequently, the cleaned data was imported into SPSS for statistical analysis, ensuring accurate interpretation and findings.

The analysis of survey data collected via Google Forms was conducted using IBM SPSS Statistics. Descriptive statistics were calculated to summarize data characteristics, including measures like mean, standard deviation, variance, skewness, and kurtosis. These metrics provided insights into the distribution and variability of responses. To assess the differences in means between two groups (male and female staff) and ensure the validity of our findings, the study employed an independent samples t-test alongside Levene's Test for Equality of Variances. The t-test compared the means to determine if the observed differences were statistically significant. Prior to this, Levene's Test was used to check for homogeneity of variances, ensuring the assumption of equal variances was met. This combination of tests provided a robust analysis, ensuring the reliability of the hypothesis testing and the validity of our results. The findings from these analyses helped to interpret relationships and draw conclusions regarding the variables under investigation, contributing to the overall understanding of the study's objectives.

Results

Table 1: Distribution of Educational Qualification among Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's degree	25	28.1	28.1	28.1
	Master's degree	47	52.8	52.8	80.9
	Doctoral degree	17	19.1	19.1	100.0
	Total	89	100.0	100.0	

This table 1 presents the educational qualifications of survey participants. The majority held Master's degrees (52.8%), followed by Bachelor's degrees (28.1%), and Doctoral degrees (19.1%). These findings indicate a well-educated sample, with Master's

degree holders comprising the largest group. This distribution highlights the educational diversity within the participant pool, crucial for understanding the perspectives and insights gathered in the study.

Table 2: Distribution of Working Experience among Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6-10 years	33	37.1	37.1	37.1
	16+ years	56	62.9	62.9	100.0
	Total	89	100.0	100.0	

This table 2 illustrates the distribution of participants based on their working experience. The majority of respondents reported having 16 or more years of experience (62.9%), while 37.1% reported having between 6 to 10 years of experience. These findings indicate a predominantly experienced participant group, likely contributing insights shaped by extensive professional backgrounds. The concentration of participants with longer tenures suggests a wealth of practical knowledge and perspectives relevant to the study's focus on experienced professionals in their respective fields.

Table 3: Distribution of Gender among Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	34	38.2	38.2	38.2
	Female	55	61.8	61.8	100.0
	Total	89	100.0	100.0	

This table 3 presents the gender distribution of survey participants. Females constituted the majority, comprising 61.8% of the sample, while males accounted for 38.2%. These findings highlight a diverse gender representation within the study, reflecting a significant participation from both genders. The higher percentage of female respondents indicates their substantial presence in the surveyed population, influencing the study's perspectives and outcomes.

Research Question 1: To what extent does revenue diversification impact the financial sustainability of state-owned tertiary institutions in the Southeast Region?

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Table 4: revenue diversification impacts the financial sustainability of state-owned tertiary institutions in the Southeast Region

	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Revenue diversification significantly impacts financial sustainability in state-owned institutions.	3.52	.503	.253	-.069	.255	-2.042	.506
Diverse revenue streams enhance stability and reduce dependence on government funding.	3.54	.501	.251	-.161	.255	-2.020	.506
Financial sustainability improves when institutions adopt varied revenue-generating strategies.	3.43	.497	.247	.300	.255	-1.954	.506
State-owned institutions benefit from revenue diversification in economic downturns.	3.48	.503	.253	.069	.255	-2.042	.506

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Revenue diversification allows for better resource allocation and financial planning.	3.51	.567	.321	-.598	.255	-.653	.506
Institutions with diverse revenues can invest more in academic excellence.	3.52	.503	.253	-.069	.255	-2.042	.506
Financial sustainability ensures long-term growth and development of educational institutions.	3.64	.483	.233	-.595	.255	-1.684	.506
Revenue diversification can mitigate financial risks in state-owned institutions.	3.54	.501	.251	-.161	.255	-2.020	.506
Sustainable revenue sources support the infrastructure of state-owned tertiary institutions.	3.54	.501	.251	-.161	.255	-2.020	.506
Revenue diversification strategy fosters innovation in financial management practices.	3.67	.471	.222	-.756	.255	-1.462	.506
Valid N (listwise)							

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The descriptive statistics in Table 4 highlight perceptions regarding revenue diversification and its impact on financial sustainability in state-owned tertiary institutions. The mean scores, ranging from 3.43 to 3.67 on a scale of 1 to 5, indicate generally positive views among participants. Standard deviations (ranging from 0.471 to 0.567) suggest moderate variability in responses across different statements. Negative skewness values (-0.069 to -0.756) indicate a slight leftward skew in the distribution of responses, implying more favorable perceptions overall. Kurtosis values (-1.954 to -2.042) suggest a moderate to high peakedness and tail distribution in the data.Overall, respondents believe that revenue diversification enhances financial sustainability by reducing dependence on government funding, improving resource allocation, and fostering innovation in financial management.

Research Question 2: What is the perception of academic and non-academic staff towards the management of internally generated revenue of state-owned tertiary institutions in the Southeast Region?

Table 5: Perception of academic and non-academic staff towards the management of internally generated revenue of state-owned tertiary institutions in the Southeast Region

	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Management of internally generated revenue is crucial for financial stability.	3.66	.475	.226	-.701	.255	-1.544	.506
Southeast Region institutions face challenges in managing internally generated funds.	3.44	.904	.817	-.992	.255	-1.040	.506

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Effective revenue management enhances the quality of educational services provided.	3.72	.452	.204	-.992	.255	-1.040	.506
Transparency in revenue management is essential for institutional trust and accountability.	3.72	.452	.204	-.992	.255	-1.040	.506
Internal revenue and revenue management are often used for infrastructural development and maintenance.	3.53	.502	.252	-.114	.255	-2.033	.506
Institutions adopt strategic planning for sustainable revenue generation and management.	3.37	.486	.236	.544	.255	-1.743	.506
Efficient management requires skilled personnel and robust financial systems.	3.63	.486	.236	-.544	.255	-1.743	.506
Mismanagement of funds lead to financial instability and inefficiencies.	3.52	.770	.593	-1.965	.255	4.000	.506

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Regular audits are done to maintain accountability in revenue management.	3.76	.427	.182	-1.265	.255	-.409	.506
Strategic investment of internal revenue supports institutional growth and innovation.	3.76	.427	.182	-1.265	.255	-.409	.506
Valid N (listwise)							

Table 5 provides descriptive statistics concerning the perceptions of academic and non-academic staff regarding the management of internally generated revenue in state-owned tertiary institutions across the Southeast Region. The mean scores range from 3.37 to 3.76 on a scale of 1 to 5, indicating generally positive viewpoints among respondents. Standard deviations vary from 0.427 to 0.904, suggesting varied levels of agreement and uncertainty across different statements.Negative skewness values (-1.965 to -0.114) indicate a tendency towards more positive perceptions overall, despite some variability in responses. Kurtosis values (-2.033 to 4.000) reflect moderate to high peakedness and tail distribution in the data, indicating diverse perspectives on revenue management practices.

Research Question 3: What are the revenue diversification strategies that can be adopted in state-owned tertiary institutions in the Southeast Region?

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Table 6: Revenue diversification strategies that adopted in state-owned tertiary institutions in the Southeast Region

	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Offering professional certification programs can generate additional institutional income.	3.42	.671	.450	-1.416	.255	3.405	.506
Partnering with industries for research funding boosts financial resources.	3.54	.501	.251	-.161	.255	-2.020	.506
Developing alumni donation programs can significantly increase financial support.	3.51	.567	.321	-.598	.255	-.653	.506

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Hosting conferences and workshops can generate substantial event revenue.	3.58	.496	.246	-.348	.255	-1.923	.506
Leasing campus facilities can provide consistent rental income for institutions.	3.53	.502	.252	-.114	.255	-2.033	.506
Establishing commercial ventures, like bookstores, enhances revenue streams.	3.87	.343	.118	-2.175	.255	2.794	.506
Offering consulting services can leverage faculty expertise for revenue.	3.82	.386	.149	-1.697	.255	.898	.506
Creating endowment funds ensures long-term financial sustainability and growth.	3.85	.355	.126	-2.039	.255	2.206	.506

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Collaborating with international institutions attracts foreign students and funding.	3.65	.479	.230	-.648	.255	-1.617	.506
Developing online merchandise stores can generate supplementary income.	3.66	.475	.226	-.701	.255	-1.544	.506
Valid N (listwise)							

Table 6 presents a snapshot of how state-owned tertiary institutions in the Southeast Region have embraced revenue diversification strategies. The mean ratings, ranging from 3.42 to 3.87 on a scale of 1 to 5, reveal a generally favorable outlook among respondents towards these initiatives.The data highlights significant variation in opinions, reflected in standard deviations ranging from 0.343 to 0.671, suggesting differing degrees of consensus on the effectiveness of each strategy. Negative skewness values (-2.175 to -0.114) indicate a slight bias towards positive perceptions overall, despite nuanced views across different approaches. Meanwhile, kurtosis values (-2.033 to 3.405) indicate varying degrees of peakedness and tail distribution in the responses.

Hypothesis 1: There is no significant difference in the mean ratings of male and female staff on the impact of revenue diversification on the financial sustainability of state-owned tertiary institutions in the Southeast Region.

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Table 7: Group Statistics by Gender for Hypothesis 1

				Bootstrap[a]			
						95% Confidence Interval	
	Gender		Statistic	Bias	Std. Error	Lower	Upper
	Male	N	34				
		Mean	39.4118	.0015	.2424	38.8966	39.8570
		Std. Deviation	1.43796	-.04847	.27120	.75628	1.81944
		Std. Error Mean	.24661				
	Female	N	55				
		Mean	32.8909	-.0082	.5075	31.9455	33.8925
		Std. Deviation	3.76963	-.05482	.25824	3.11379	4.12330
		Std. Error Mean	.50830				

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

This table 7 displays group statistics comparing male and female participants. For males (N=34), the mean score is 39.4118 with a standard deviation of 1.43796. Females (N=55) have a mean score of 32.8909 and a standard deviation of 3.76963. Bootstrap analysis with 1000 samples indicates minimal bias, with narrow 95% confidence intervals (38.8966 to 39.8570 for males and 31.9455 to 33.8925 for females). These findings suggest significant differences in the means between genders, supported by robust statistical measures, illustrating the distinct distributions within the studied variables.

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Table 8: Independent Samples Test on difference in the mean ratings of male and female staff on the impact of revenue diversification on the financial sustainability of state-owned tertiary institutions in the Southeast Region.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	32.63	.000	9.645	87	.000	6.5208	.67610	5.17704	7.86467
Equal variances not assumed			11.542	75.563	.000	6.5208	.56496	5.39553	7.64618

The analysis in Table 8 compared mean ratings of male and female staff on the impact of revenue diversification on financial sustainability in state-owned tertiary institutions in the Southeast Region. Significant findings emerged from Levene's test, indicating unequal variances between groups ($F(1, 87) = 32.636$, $p < .001$). The subsequent t-test for equality of means also showed a significant difference ($t(75.563) = 11.542$, $p < .001$), with male staff assigning significantly higher ratings than female staff (mean difference = 6.52086, 95% CI [5.39553, 7.64618]). Therefore, the hypothesis of equal mean ratings between male and female staff on the impact of revenue diversification is rejected, suggesting a substantial difference in perceptions.

Hypothesis 2: There is no significant difference in the mean ratings of male and female staff on management of internally generated revenue of state-owned tertiary institutions in the Southeast Region.

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Table 9: Group Statistics by Gender for Hypothesis 2

				Bootstrap[a]			
						95% Confidence Interval	
	Gender		Statistic	Bias	Std. Error	Lower	Upper
	Male	N	34				
		Mean	38.6765	.0253	.5670	37.4286	39.7097
		Std. Deviation	3.23542	-.14200	.63954	1.61645	4.12514
		Std. Error Mean	.55487				
	Female	N	55				
		Mean	34.5273	-.0050	.4645	33.6115	35.4812
		Std. Deviation	3.49526	-.03569	.12689	3.20232	3.69351
		Std. Error Mean	.47130				

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

This table 9 presents group statistics comparing male and female participants under hypothesis 2. For males (N=34), the mean score is 38.6765 with a standard deviation of 3.23542. Females (N=55) have a mean score of 34.5273 and a standard deviation of 3.49526. Bootstrap analysis based on 1000 samples shows minimal bias, with 95% confidence intervals ranging from 37.4286 to 39.7097 for males and 33.6115 to 35.4812 for females. The standard error of the mean is .55487 for males and .47130 for females. These statistics indicate noticeable differences in means between genders, supported by robust measures, highlighting distinct distributions across the variables analyzed in hypothesis 2.

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Table 10: Independent Samples Test on difference in the mean ratings of male and female staff on management of internally generated revenue of state-owned tertiary institutions in the Southeast Region.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	7.531	.007	5.59	87	.000	4.14920	.74153	2.67532	5.62307
Equal variances not assumed			5.69	74.1	.000	4.14920	.72801	2.69866	5.59973

In analyzing the mean ratings of male and female staff on the management of internally generated revenue in state-owned tertiary institutions in the Southeast Region as showninin Table 10, significant results were obtained. According to Levene's test, there is evidence of unequal variances between the groups ($F(1, 87) = 7.531$, $p = .007$). The t-test for equality of means further showed a significant difference ($t(74.193) = 5.699$, $p < .001$), indicating that male staff rated the management significantly higher than female staff did (mean difference = 4.14920, 95% CI [2.69866, 5.59973]). Therefore, the hypothesis of equal mean ratings between male and female staff on revenue management is rejected, suggesting a significant difference in perceptions.

Hypothesis 3: There is no significant difference in the mean ratings of male and female staff on the revenue diversification strategies that can be adopted in state-owned tertiary institutions in the Southeast Region.

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Table 11: Group Statistics by Gender for Hypothesis 3

				Bootstrap[a]			
						95% Confidence Interval	
	Gender		Statistic	Bias	Std. Error	Lower	Upper
	Male	N	34				
		Mean	39.5588	-.0033	.1848	39.1563	39.9031
		Std. Deviation	1.07847	-.03374	.21080	.53904	1.37029
		Std. Error Mean	.18496				
	Female	N	55				
		Mean	34.4909	-.0154	.4117	33.6366	35.2980
		Std. Deviation	3.00538	-.02591	.25510	2.44481	3.43517
		Std. Error Mean	.40525				

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

This table 11presents group statistics for hypothesis 3 comparing male and female participants. For males (N=34), the mean score is 39.5588 with a standard deviation of 1.07847. Females (N=55) have a mean score of 34.4909 and a standard deviation of 3.00538. Bootstrap analysis with 1000 samples indicates minimal bias, with 95% confidence intervals ranging from 39.1563 to 39.9031 for males and 33.6366 to 35.2980 for females. The standard error of the mean is .18496 for males and .40525 for females. These statistics suggest significant differences in means between genders under hypothesis 3, with males generally scoring higher than females on the measured variables, supported by robust statistical measures.

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Table 12: Independent Samples Test on difference in the mean ratings of male and female staff on the revenue diversification strategies that can be adopted in state-owned tertiary institutions in the Southeast Region.

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	17.911	.000	9.446	87	.000	5.06791	.53649	4.00159	6.13424
Equal variances not assumed			11.37	73.61	.000	5.06791	.44546	4.18024	5.95559

In a study comparing male and female staff ratings on revenue diversification strategies for state-owned tertiary institutions in the Southeast Region as captured in in Table 12, statistical analyses were conducted. Levene's test indicated a significant difference in variances between groups ($F(1, 87) = 17.911$, $p < .001$), suggesting unequal variances. The t-test for equality of means showed a significant difference in ratings ($t(73.613) = 11.377$, $p < .001$), with males rating the strategies significantly higher (mean difference = 5.06791, 95% CI [4.18024, 5.95559]). Therefore, the hypothesis of equal mean ratings between male and female staff on revenue diversification strategies is rejected in favor of the alternative hypothesis that there is a significant difference.

Discussion

Research Question 1 covered the extent to which revenue diversification impact the financial sustainability of state-owned tertiary institutions in the Southeast Region. It was discovered that revenue diversification plays a crucial role in the financial sustainability of state-owned tertiary institutions in the Southeast Region. Institutions that adopt varied revenue-generating strategies, such as partnerships, grants, and fee-based services, demonstrate enhanced financial stability and reduced reliance on government funding. In contrast, those heavily dependent on government subsidies often face budgetary constraints during economic downturns, impacting their operational stability and growth prospects (Githaiga, 2022).Financial sustainability is notably improved when institutions diversify their

revenue streams, allowing for better resource allocation and strategic financial planning. This finding agrees with a study by Al-Filaliet al, (2024), which highlighted that institutions with a diverse revenue base could invest more effectively in academic excellence and infrastructure, thus promoting long-term development.Furthermore, revenue diversification enables institutions to mitigate financial risks, fostering innovation in financial management practices and enhancing their capacity to withstand economic fluctuations (Nik-Ahmadet al, 2019). Therefore, a well-implemented revenue diversification strategy is essential for sustaining and advancing the educational mission of state-owned institutions.

Research Question 2 covered the the perception of academic and non-academic staff towards the management of internally generated revenue of state-owned tertiary institutions in the Southeast Region. The result showed that the perception of academic and non-academic staff towards the management of internally generated revenue (IGR) in state-owned tertiary institutions in the Southeast Region significantly impacts institutional performance. Effective management of IGR is crucial for financial stability and enhances the quality of educational services provided. Institutions in the Southeast face notable challenges in managing these funds, often leading to financial instability and inefficiencies. Transparency in revenue management is vital for maintaining institutional trust and accountability among staff. A related study by Njaret al, (2024) found that effective revenue management practices, including strategic planning and regular audits, are essential for ensuring accountability and supporting infrastructural development and maintenance. These practices are perceived positively by staff, as they contribute to better resource allocation and institutional growth (Davieset al, 2019).Efficient management of IGR requires skilled personnel and robust financial systems, which can foster innovation and sustainable revenue generation (Alamuet al, 2024). Mismanagement, on the other hand, undermines trust and operational efficiency, highlighting the need for strategic investment and regular financial oversight to support institutional development (Shehu, 2018).

Research Question 3 was on the the revenue diversification strategies that can be adopted in state-owned tertiary institutions in the Southeast Region. The result showed that the revenue diversification is a key strategy for state-owned tertiary institutions in the Southeast Region to boost financial stability. One effective approach is offering professional certification programs, which can provide additional income and enhance institutional

prestige. Conversely, partnering with industries for research funding can substantially increase financial resources and foster innovative research (Igiriet al, 2021). Another promising strategy is developing robust alumni donation programs. This has been shown to significantly bolster financial support by leveraging the loyalty and success of former students (Akpiet al, 2020). In contrast, hosting conferences and workshops generates substantial event revenue, drawing on institutional expertise and facilities (Rogers&Davidson, 2015).Leasing campus facilities is another viable option, providing consistent rental income. Similarly, establishing commercial ventures such as bookstores can diversify revenue streams effectively. Offering consulting services taps into faculty expertise for additional revenue, while creating endowment funds secures long-term financial growth and stability (Duboff&Giulioni, 2017).Collaborating with international institutions attracts foreign students and funding, which further diversifies income sources. Additionally, developing online merchandise stores can create supplementary income and enhance the institution's visibility (Bernonet al, 2016). These diverse strategies collectively support financial resilience and institutional development.

Conclusions

In conclusion, this study underscores the crucial role of revenue diversification strategies in bolstering the financial sustainability of state-owned tertiary institutions in Southeast Nigeria. Implementing varied revenue-generating approaches—such as offering professional certification programs, forging industry partnerships, developing alumni donation programs, and hosting conferences—significantly enhances financial stability and reduces reliance on government funding.The research demonstrates that institutions that effectively manage and execute these strategies enjoy numerous benefits, including increased financial resources, improved infrastructure, and enhanced academic offerings. In contrast, institutions relying on a single revenue stream often face financial instability and operational inefficiencies. Thus, a diversified revenue approach not only provides immediate financial relief but also supports long-term growth and institutional resilience.Furthermore, the study highlights the importance of transparency in financial management, strategic planning, and regular audits for optimizing the impact of revenue diversification. Embracing these practices helps build trust, ensure accountability, and promote sustainable development.Overall, the findings advocate for a proactive and strategic approach to revenue diversification, essential

for the ongoing advancement and stability of state-owned tertiary institutions in Southeast Nigeria.

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