

Institutional Variables as Antecedents of Academic Staff Teaching, Research Productivity and Community Service in Universities

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Abstract

This study was conducted to investigate the degree to which institutional variables such as: institutional location, ownership and leadership influence the job performance of academic staff across three dimensions: teaching, research productivity and community service. This ex-post facto study by design, tested three hypotheses. A total of 449 academic, randomly drawn from three (one private and two public) universities in Cross River State, Nigeria, participated in the study. Three sets of questionnaires were used for data collection after due validity and reliability tests. They included the “Institutional Variables Questionnaire (IVQ)”, the “Research Productivity and Community Service Questionnaire (RPCSQ)”, and the “Staff Instructional Delivery Questionnaire (SIDQ).” Collected data were analysed using the independent sample t-test, one-way analysis of variance (ANOVA) and simple linear analysis. Findings indicated that institutional location significantly impacts university academic staff across multiple dimensions—teaching, research, and community service—with urban institutions consistently demonstrating higher scores than their rural counterparts. There was a significant influence of institutional ownership on research productivity unlike teaching and community service. Federal institutions exhibited higher research productivity than both state and private universities. Institutional leadership significantly influenced research productivity and community service engagement, but not in the dimension of teaching among the academic staff. This study underscores the need for a holistic approach to enhancing academic staff performance. It emphasizes the importance of strategic resource allocation, collaborative endeavours, and strong leadership to create an environment where teaching, research, and community service thrive.

Keywords: Academic staff, institutional leadership, school location, institutional ownership, job performance.

1. Introduction

The academic staff of tertiary institutions are central in driving the core mandate of universities and higher education towards goal attainment. Under normal circumstances, academic staff should discharge their duties effectively and with a high compliance rate with stated rules and expected behaviour patterns. In doing this, university academic staff should be able to contribute to students' personal and career development by modifying their attributes (across the three domains of learning) and preparing them for a useful living. Academic staff should also be able to participate in research-driven endeavours by identifying problems and engaging in studies to address such concerns. The outputs of such research exercises were expected to be published in top-ranking journals to boost the prestige of both members of the research team and the institution where they work. Furthermore, academic staff were expected to engage in activities other than teaching and research, which is necessary to support students, colleagues, managers and the school environment.

Sadly, observations and experiences tend to contrast these expectations and staff inputs in the service delivery process in universities in Cross River State. Reports from past studies (Abiodun-Oyebanji, 2019; Agba & Ocheni, 2017; Dinibutun et al., 2020; Mbon et al., 2019) often give the impression that many academics, especially in public universities in Cross River State, are not dedicated to performing their primary and secondary duties. This is because most of them seldom report to duties as expected and are often inconsistent with work and service discharge. In contrast, others neglect the teaching of students until during examinations.

Generally, due to the ineffectiveness of academic staff, studies have shown that many students are dissatisfied with the quality of academic staff service delivery (Ekpoh, 2018; Okpa, 2019). Such dissatisfaction among students (who are the inputs that should be refined for economic development) may affect their learning beyond mere examination failure to poor quality of products supplied to society. This may consequently defeat the objectives of universities as ivory towers and citadels of higher education, as well as those of the Nigerian education policy generally. Most intriguing is that despite the unending efforts made by the management of universities to supervise, monitor and evaluate teachers (which should charge them to render selfless services), most academic staff, in the context of universities in Cross River State, still appear to be adamant.

Equally, research, one of the primary duties of academics, is often overlooked, with many scholars publishing only when their promotion is around. All these inconsistencies and poor attitudes towards teaching and research appear to affect students' performance in school, their out-of-school performance, the quality of research produced by scholars and institutional prestige. Different studies have been conducted previously to address the problem of academic staff poor service delivery; several independent variables have been linked and recommendations made, yet the problem persists. In the quest to contribute to a

long-standing list of studies, the present research is informed by the limited studies focusing on institutional variables as presumed causes of academic staff poor service delivery in universities.

Most staff have complained that the poor funding of education in Nigeria, which resulted in the poor provision of required facilities, is one of the reasons why they are dissatisfied with their jobs. Others have pointed accusing fingers at the poor and inconsistent remuneration packages offered to them as insufficient for family maintenance, let alone research endeavours (which is financially demanding). Some have also attributed their poor research engagement to the lack of grant opportunities as a reason for their low compliance.

However, while these reasons are almost glaring, there are some developments in grant provision and funding that the researcher expected to see corresponding improvements in staff service delivery. For instance, the TETFund provides huge annual grants to researchers for conducting small- and large-scale research. Nevertheless, the number of applications and success rate of academics in universities in Cross River State seems to be comparably low. Based on this backdrop, the researcher perceived the problem to be away from the reasons provided by academics. This has made the researcher wonder whether there are variations in academic staff service delivery based on certain institutional variables. At this juncture, it is pertinent to raise the question: To what extent do institutional variables influence academic staff service delivery in universities in Cross River State, Nigeria? Hence, this study sought to investigate the influence of institutional variables such as the location, ownership and leadership of institutions on the service delivery of academic staff.

1.1 Institutional location and academic staff service delivery

School location refers to where a school is geographically situated or sited, categorised into a rural, urban location or sub-urban area (Arop et al., 2018). It relates to where the school is situated to other physical places (rural or urban). A school can be built on a hill, in a marsh, sloppy, rural or urban location, and so on (Arop & Owan, 2018). Ntibi and Edoho (2017) opined that rural life in Nigeria is homogeneous, uniform and less complex than in metropolitan areas, with cultural variety, which is sometimes accused of affecting scholastic success in the students. This is because the distribution of social services, including water-borne pipes, power and health facilities, is more advantageous for metropolitan centres and less preferred in rural regions. This also applies to the allocation of schools and instructors. Thus, personnel in Nigerian urban schools consequently appear to have greater options for education than their peers in rural schools (Oyerinde, 2020). While some studies have shown a positive influence, others have shown the negative influence of institutional location on academic staff service delivery.

For example, Owan et al. (2019) found that teachers' job effectiveness in urban schools was higher than in rural secondary schools. Therefore, It was concluded that their location impacted secondary school teachers' job performance. This finding served as a

justification for Darma (2017), who reported a significant difference in academic achievement between rural and urban students in the area of study. Arop et al. (2018) categorised school setting into conducive and non-conducive settings, and their study revealed that there exists a considerable difference in teacher job performance between secondary schools in conducive and non-conducive settings, with the former having a major advantage. Likewise, Fasasi (2017) submitted that there were significant main effects of school location and parental educational status on students' attitude to science with weak effect. The study, however, reported that learners in rural schools performed better than those in urban schools, and those from lowly educated parents had better performance than highly educated parents. Admittedly, even though there seems to be a slight similarity between the cited studies and the current one concerning the fact that they assessed the relationship between school environment/location and performance, there appeared to be a significant disparity between the cited studies and this current study due to the type of institution used which might make the findings not applicable to the current study. While the cited studies focused on students' academic achievement and the job effectiveness of secondary school teachers, the present study focuses on lecturers in universities.

From the preceding, Oyerinde (2020) revealed that, among other factors, the work environment was a major factor contributing to the low institutional effectiveness of polytechnic libraries in South-Western Nigeria. The study can be likened to the current study because it considered the intersection between environmental factors and institutional effectiveness, which is also an aim of the current study. However, there exist differences in the target population and location. Conversely, McKeever (2018) found no significant interaction between the effects of employees' primary work location and employee type on the employees' affective, continuance or normative commitment to the organisation. The work location in the study links the cited and the present study. The prospect of employee organisational commitment is similar to the staff service delivery, inferring that these studies are related. Apart from these, there is a deviation between the two studies because job commitment differs from service delivery. The job commitment of workers involves the willingness of staff to remain loyal to an organisation based on several reasons (Güney et al., 2012; Owan et al., 2020), while service delivery refers to the extent to which academic staff are discharging their core, statutory and non-statutory mandate. As established in the literature above, various studies have been conducted on the relationship between location and performance. However, seemingly little has been done regarding the context of service delivery of tertiary institutions' academic staff concerning the institution's location. Hence, for this reason, the first hypothesis of this study was developed.

Hypothesis 1: Institutional location has no significant influence on university academic staff teaching, research productivity and community service.

1.2 Institutional ownership and academic staff service delivery

Institutional ownership refers to the entity that established and manages a university. A university in Nigeria could be owned and managed by the Federal Government, State governments, organisations, a group of individuals or an individual (National Universities Commission, 2021). The variation in the ownership may create differences in the institutional policies, provisions and management that make work life easier for staff in some schools over others. This may affect how employees develop affective bonds with the institution for quality service delivery.

Ekpoto and Bassey (2018) indicated that institutional ownership significantly influenced the research skills application of postgraduate students. This finding seemed relevant to the present study since it revealed the influence of institutional ownership and skills application, which could be considered a variable of academic service delivery. However, the study failed to reveal the differences between the federal and state universities studied. Abiodun-Oyebanji (2019) indicated a significant difference between academic staff empowerment and service delivery in federal and state universities. This aligned with Obadara (2012), who found a significant difference in resource availability, utilisation, and governance between public and private universities in Nigeria. However, no significant difference in students' academic performance in public and private universities was observed. In contrast, Mazhar and Akhtar (2016) reported that there was no significant difference in the knowledge management practices of public and private universities regarding process, culture, technology and measurement. Whereas, regarding leadership, a significant difference in knowledge management practices between public and private sector universities in favour of private universities was identified.

However, Hoque et al. (2013) revealed that private higher institutions performed significantly better in all service delivery areas except academic teaching compared to their public counterparts. Similarly, Amjad and Macleod (2014) found that private school students in Pakistan outperform their government colleagues. This was in unison with Owan et al. (2019), who demonstrated that school ownership substantially impacted the job performance of secondary school teachers. The study revealed that, though teacher effectiveness was low in both private and public schools, instructors at private schools were more effective than their counterparts in public secondary schools. Likewise, Mazumder (2014) determined the quality of education in public and private universities in Bangladesh using student satisfaction as a measure of quality. The study disclosed that students in public universities in Bangladesh had the lowest level of satisfaction, and the private universities of Bangladesh had the highest satisfaction. This study was related to the present study because of the area of focus: universities. However, it differed because the present study is concerned with the service delivery of academic staff and not students' satisfaction with the quality of education received. The intersection between institutional ownership and staff performance is a critical yet interesting issue of debate. The reason is that there is an ongoing contention between

public and private institutions concerning the quality of service delivery, availability of resources and value for cost. For this reason, the second hypothesis was developed.

Hypothesis 2: Institutional ownership does not significantly influence university academic staff teaching, research productivity and community service.

1.3 Institutional leadership and academic staff service delivery

Institutional leadership refers to the leadership styles that Vice Chancellors of different institutions adopt in running universities. Different individuals are believed to possess different personal attributes and adopt varied approaches. Bello (2021) averred that leadership is arguably one of Earth's most observed yet least understood phenomena. Leadership is very important to an organisation because it is the basis for the direction and development of an organisation. A consensus was found among university academic staff members in the study of Naser and Al Shobaki (2017) regarding the importance of leadership excellence as one of the elements of organisational excellence. Leadership is centred on the ability to influence a group or individual to achieve a specific target, while a leader is an individual who can influence others (Adobor, 2014). Hence it has to be intentional and strategic. According to Rigii et al. (2019), strategic leadership is important as it enables leaders to empower teams by envisioning, anticipating, and strategically creating changes. Their study showed that strategic leadership had a significant influence on service delivery. This was in unison with Nyamwega (2018), who adduced that the strategic leadership development programme effectively transformed managers into efficient leaders and that beneficiaries were satisfied with the approach engaged. Likewise, Rono and Bomet (2019) indicated that leadership strategy significantly influences the implementation of strategic plans.

Over time, researchers have proposed many different leadership styles, as no particular leadership style can be considered universal. According to Bello (2021), the different leadership styles/strategies to be adopted are based on the prevailing situation the leader finds him or herself. As such, a certain leadership style is needed to ensure the delivery system runs smoothly and meets the target of the people as a whole. However, no matter the leadership style, a good and effective leader must inspire, motivate and direct activities to help achieve group or organisational goals (Adobor, 2014).

Bello (2021) disclosed that a positive relationship exists between leadership styles/strategies and service delivery to citizens in Nigeria. Leadership style negatively influenced academic staff retention in Kenyan public universities (Ng'ethe et al., 2012; Ng'Ethe, 2013). Likewise, Arop et al. (2019) revealed a significant correlation between leadership quality and the job performance of secondary school teachers. Moreover, Arop et al. (2018) revealed that leadership style significantly influenced the job effectiveness of teachers in secondary schools. More specifically, teachers' job effectiveness was highest in schools where the

leadership style adopted was democratic, followed by schools with laissez-faire leadership, with autocratic leadership being the style with the least effectiveness. The cited study is related to the present research because of the examination of various leadership styles and their link to the job effectiveness of teachers. This is similar to school leadership and academic staff service delivery, with the difference being in the type of institution whose teachers' service delivery was examined. The present study seeks to understand the service delivery of universities' academic staff, while in the cited study, the job effectiveness of secondary school teachers was examined. Whereas, Adekanbi (2016) reported that leadership style had a moderate significance on employee retention and that the transactional leadership style best encourages employee retention in the Nigerian Banking sector. Asif et al. (2019) found a significant and positive relationship between participative leadership, administrative quality, medical quality, and patient satisfaction in public hospitals in Pakistan. According to Narad et al. (2020), the transactional leadership style contributed significantly to predicting teacher effectiveness, followed by the passive-avoidant style. Hafid et al. (2020) showed that leaders adopted a transformative leadership style rather than adaptive and participative for quality service delivery. This aligned with Madakison (2016), who showed that the relationship between transformational leadership and quality service is enriched through innovation behaviour in any organisation, as well as the relationship between transactional leadership and quality service is enriched through job standardisation.

Also, Zulfqar et al. (2016) examined the differences in leadership and decision-making practices in public and private universities in Pakistan. The study's findings suggested that the leadership and decision-making practices in Pakistani public and private universities are transformational and participative. Whereas, Akparobore and Omosokejimim (2020) revealed that the leadership style mostly adopted and practised by the staff members at the management level in academic libraries in the study area was the autocratic type of leadership. However, almost all the respondents in the study upheld the view that a democratic type of leadership, if practised by staff members at the management level in academic libraries, will allow for maximum job productivity and effectiveness among library staff members. In contrast, Yarow et al. (2019) reported that the democratic leadership style significantly moderates the relationship between the management of devolved health services and healthcare service delivery in Arid and Semi-Arid Lands in Kenya. Hence, the need for good leadership has been emphasised as an ingredient necessary for the progress and development of a nation (Nneoma et al., 2014). According to the researchers, the poor state of leadership in Nigeria is accounted for by the low running of the country. Relating this report to the present study means the leadership approaches employed by leaders might not influence academic service delivery. Based on this review, the third hypothesis of the study was developed.

Hypothesis 3: Institutional leadership does not significantly influence university academic staff teaching, research productivity and community service.

2. Methods

Research Design and Participants

The study adopted the ex-post facto research design with a population of 10,134 that comprised all the academic staff of the three public and private universities in Cross River State. However, a sample size of 449 academic staff was derived from the population using the cluster random sampling technique whereby the institutions were grouped into three clusters. The simple random sampling technique was utilised in each cluster to select 10% of the available departments. Doing this, eleven departments were selected from the University of Calabar, while three were selected from the University of Cross River State and Arthur Jarvis University, respectively. In selecting the actual departments of the study, three lists containing all the departments available in each of the three universities were drawn. Numbers were written on small pieces of paper corresponding to the total number of departments on each list and folded up. One folded paper was blindly drawn per time and was unfolded to identify the number on the paper. The school in the serial number corresponding to the number revealed after unfolding were ticked as having been selected. This was continued until all the required schools per cluster were selected. Sampling was done with replacement to give each department an equal probability of being selected. This implied that a paper was refolded and returned to the container after selection and documentation. After doing this, all the academic staff in the selected department were included in the study without further sampling.

Instrument and Measures

Three sets of questionnaires were used for data collection. They included the “Institutional Variables Questionnaire (IVQ)”, the “Research Productivity and Community Service Questionnaire (RPCSQ)”, and the “Staff Instructional Delivery Questionnaire (SIDQ).” The IVQ was designed to collect information regarding institutional variables such as school location, ownership and leadership. This questionnaire was filled out by the academic staff of universities and was structured into five sections (A, B and C). Section A was designed to obtain information about respondents’ demographics such as gender, age, marital status, educational qualification and rank. Section B of the instrument (IVQ) was designed for respondents to tick the location and ownership of their institutions based on the available response options. Section C was designed with 15 items assessing institutional leadership. All the items in section C of the questionnaire (IVQ) were placed on a four-point Likert scale, with response options ranging from Strongly Agree to Strongly Disagree.

The RPCSQ was designed to elicit information regarding staff research productivity and community service. The instrument was structured into two sections. Section A assessed staff research productivity using indicators such as the number of research grants won, total citation counts and h-index on Google Scholar, number of publications, etc. In total, there were 13 items and space was provided for respondents to fill in the number/quantity as

applicable to the items. Section B of the RPCSQ was used to assess the community service activities of academic staff. The section had 12 items on a five-point rating scale (from 0 = No participation to 4 = very high extent of participation).

The SIDQ was developed to assess the extent of academic staff instructional delivery. This instrument was completed by students who were expected to rate their teachers. Students were used to assess the instructional delivery of lecturers because they are the recipients of teachers' lessons. Therefore, it was assumed that they provided more honest responses. The instrument was designed with nine items devoted to measuring various aspects of staff teaching.

All the items were organised on a four-point Likert scale, with response options such as Strongly Agree, Agree, Disagree and Strongly Disagree.

Instruments Validity

Draft copies of the instruments were shown to three psychometric experts from the Department of Educational Foundations and three educational planning experts from the Department of Educational Management at the University of Calabar for assessment. The goal was to assess the instruments' face and content validities. The experts were to independently review the items, checking for adequacy, clarity and relevance in measuring targeted domains. After thoroughly examining the items, the experts gave distinct ideas that resulted in the final forms of the instruments, which were shown to the supervisor for further vetting and approval.

Reliability of the instrument

The degree of consistency with which an instrument measures whatever it is supposed to measure is its reliability. A trial test was conducted by employing 30 academic staff and fifty (50) students from the University of Calabar, Calabar, to determine the reliability of the instruments. These individuals were chosen for the trial test for two reasons. First, the institution is a part of the population, but the chosen people are not. Second, of all the universities in Cross River State, this one is the closest to the researchers. As a result, the respondents employed for the study's reliability test were part of the population. They were thought to share the same characteristics as the main subjects of the research. The instruments were given to each responder once, and the data were examined using the Cronbach Alpha reliability method of internal consistency. The dependability analysis gave coefficients ranging from .81 to .90. The Alpha coefficients obtained were good enough to make the instrument dependable in assessing the study's suggested variables.

Ethical Consideration

Participation in the study was voluntary, and measures were taken to ensure the study's validity and regulate the data collection process. The researchers requested authorisation to conduct the research from the Department of Educational Management at the University of Calabar in Calabar. Because the study included human participants, ethical approval was sought from the University of Calabar's Research Ethics Committee or the Directorate of Academic Planning in Calabar. After obtaining these permits, photocopies

were created and attached to a letter of intent. They were prepared and submitted to the heads of departments (HODs) in the selected institutions, notifying them about the research and the projected date of the exercise. The HODs were asked to convene all academic staff for a brief meeting during which copies of the instrument were distributed. Respondents were assured that their responses would be aggregated anonymously to maintain integrity and confidentiality. Following that, the researcher sought students at all levels to offer information about individual instructors' instructional delivery with the assistance of certain employees and qualified research assistants. Three students were utilised to assess each academic staff member, and both staff and students participated willingly. Following the end of the exercise, completed copies of the instruments were recovered, and the data obtained were processed and statistically analysed using the independent sample t-test and the one-way analysis of variance (ANOVA).

3. Results

The results of this study are presented in line with the hypothesis of the study. The results are organized according to the following sub-headings:

Institutional location and university academic staff service delivery

Table 1 presents the outcomes of an independent t-test analysis that was conducted to examine the influence of institutional location, specifically distinguishing between Urban and Rural settings, on various dimensions of university academic staff performance. The dimensions under scrutiny encompassed Teaching, Research, and Community Service. In the dimension of Teaching, it was observed that academic staff in Urban institutions exhibited an average teaching score of 24.21, with a standard deviation of 7.95. In contrast, their counterparts in Rural institutions displayed an average teaching score of 21.15, coupled with a standard deviation of 8.07. Notably, the mean difference (MD) in teaching scores between Urban and Rural institutions amounted to 3.06. With a computed t-value of 3.80 and an associated p-value of .000, the statistical analysis indicated a significant disparity in teaching productivity between these two categories. This statistical significance underscores the idea that institutional location significantly influences the teaching outcomes of university academic staff.

Turning attention to the Research productivity dimension, academic staff in Urban institutions exhibited an average research productivity score of 65.18, accompanied by a standard deviation of 20.81. On the other hand, their counterparts in Rural institutions had an average research productivity score of 28.64, with a standard deviation of 16.19. The mean difference (MD) in research productivity scores is 36.54 in favour of urban institutions. With a calculated t-value of 18.63 and an associated p-value of .000, the statistical significance of this disparity was evident. This discrepancy suggest that institutional location significantly influences research productivity, with urban institutions displaying markedly higher levels.

Within the dimension of community service, academic staff in urban institutions showcased an average community service delivery score of 31.16, with a standard deviation of 10.69, while their rural counterparts demonstrated an average score of 26.48, coupled with a standard deviation of 10.38. The mean difference (MD) in community service delivery scores between these two categories stood at 4.69. The calculated t-value of 4.39, combined with a low p-value of .000, underscores the statistical significance of this distinction. These results imply that institutional location has a significant influence on the community service engagement of university academic staff. Based on the results generally, the null hypothesis earlier proposed, was rejected, suggesting that institutional location has a significant influence on university academic staff teaching, research productivity and community service in Cross River State, Nigeria.

Table 1: Influence of institutional location on university academic staff performance in teaching, research, and community service

Dimensions	Location	N	M	SD	MD	t	p
Teaching	Urban	304	24.21	7.95	3.06	3.80	.000
	Rural	145	21.15	8.07			
Research productivity	Urban	304	65.18	20.81	36.54	18.63	.000
	Rural	145	28.64	16.19			
Community service	Urban	304	31.16	10.69	4.69	4.39	.000
	Rural	145	26.48	10.38			

MD = Mean difference; M = Mean; SD = Standard deviation; N = Number of observations

Institutional ownership and university academic staff service delivery

The second objective of this study was to explore the influence of institutional ownership on university academic staff service delivery across three dimensions: Teaching, Research, and Community Service. Respondents were classified into three groups based on their institutional ownership. In the context of Nigeria, universities can be owned by the Federal government, state government or private organisations/individuals, based on national regulations. A one-way analysis of variance was performed to determine the extent to which academic staff teaching, research productivity and community service engagements varied with their institutional ownership.

Table 2 shows in the dimension of teaching, that mean teaching scores were observed as follows: Federal (M = 23.04, SD = 7.34), State (M = 24.29, SD = 8.42), and Private (M = 22.82, SD = 9.07). The analysis of variance revealed a non-significant between groups effect with an F-value of 1.00 (p = 0.369). This outcome suggests that differences in teaching scores among the ownership types are not statistically significant. Consequently, the hypothesis positing that institutional ownership significantly influences teaching service delivery is not supported by these findings.

Turning to the Research dimension, mean research productivity scores were observed: Federal ($M = 64.29$, $SD = 22.74$), State ($M = 53.86$, $SD = 21.46$), and Private ($M = 34.96$, $SD = 23.05$). The examination of variance sources yielded a highly significant between groups effect with an F-value of 71.12 ($p < .001$). This outcome underscores substantial differences in research productivity scores across ownership types. As a result, the hypothesis that institutional ownership significantly affects research productivity finds support within these findings.

Within the Community Service dimension, mean community service delivery scores were noted as follows: Federal ($M = 29.49$, $SD = 10.88$), State ($M = 28.87$, $SD = 10.13$), and Private ($M = 30.44$, $SD = 11.14$). The analysis of variance sources indicated a non-significant Between Groups effect with an F-value of 0.62 ($p = .540$). This result indicates that community service delivery scores do not significantly differ based on institutional ownership. Consequently, the hypothesis positing that institutional ownership significantly affects community service delivery is not substantiated by these findings.

Table 2: Influence of institutional ownership on university academic staff teaching, research productivity and community service

Dimensions	Ownership	N	M	SD		
Teaching	Federal	224	23.04	7.34		
	State	90	24.29	8.42		
	Private	135	22.82	9.07		
	Total	449	23.22	8.11		
Research productivity	Federal	224	64.29	22.74		
	State	90	53.86	21.46		
	Private	135	34.96	23.05		
	Total	449	53.38	25.88		
Community service	Federal	224	29.49	10.88		
	State	90	28.87	10.13		
	Private	135	30.44	11.14		
	Total	449	29.65	10.81		
Dimension	Source	SS	df	MS	F	P
Teaching	Between Groups	131.42	2	65.71	1.00	.369
	Within Groups	29328.86	446	65.76		
	Total	29460.28	448			
Research	Between Groups	72532.47	2	36266.23	71.12	.000

productivity	Within Groups	227437.41	446	509.95		
	Total	299969.88	448			
Community Service	Between Groups	144.51	2	72.25	0.62	.540
	Within Groups	52155.60	446	116.94		
	Total	52300.10	448			

Since a significant influence of institutional ownership was confirmed in the dimension of research productivity through the ANOVA omnibus test, the Tukey post hoc test was performed to investigate pairwise differences between the ownership types. The Tukey post hoc test is particularly valuable for elucidating which specific groups significantly differ from each other following a significant omnibus test result. Table 3 shows that when comparing research productivity between Federal ($M = 64.29$) and State ($M = 53.86$) institutions, a mean difference (MD) of 10.44 emerged ($SE = 2.82$, $p < .01$). Likewise, when examining the differences between Federal ($M = 64.29$) and Private ($M = 34.96$) institutions, a substantial MD of 29.34 was observed ($SE = 2.46$, $p < .001$). Notably, a significant difference was evident between State ($M = 53.86$) and Private ($M = 34.96$) institutions, with an MD of 18.90 ($SE = 3.07$, $p < .001$).

Table 3: Results of Tukey's post hoc test of multiple pairwise comparisons

Dimension	(I) Ownership	(J) Ownership	MD	SE	p
Research	Federal	State	10.44*	2.82	.001
		Private	29.34*	2.46	.000
	State	Private	18.90*	3.07	.000

* The mean difference is significant at the 0.05 level.

Institutional leadership and academic staff service delivery in universities

The third objective centred on exploring the impact of leadership on the job performance of university academic staff across three distinct dimensions: teaching, research, and community service. A simple linear regression analysis was performed to each outcome dimension on the predictor variable (leadership).

In the teaching dimension, the regression coefficient for leadership ($B = -0.01$) is not statistically significant ($t = -0.73$, $p > 0.05$). The model's adjusted R-squared value ($Adj. R^2 = -0.001$) suggests that the model inadequately explains the variability in teaching scores. Furthermore, the constant term ($B = 23.72$) emerges as statistically significant ($t = 30.43$, $p < 0.001$). In conclusion, the result failed to support the hypothesis that leadership significantly affects teaching performance; thus, the null hypothesis is upheld.

In the Research dimension, Table 4 indicates a substantial and statistically significant effect of institutional leadership. The coefficient for institutional leadership ($B = 0.89$) demonstrates a significant positive influence on Research productivity ($t = 26.28$, $p < 0.001$). This outcome substantiates the hypothesis that a unit improvement in institutional leadership

scores correlate with a 0.89 unit increase in academic staff research productivity, assuming other variables are controlled. The model's adjusted R-squared value (Adj. R² = 0.606) highlights the model's capability to explain a significant proportion of the variance in Research outcomes. This suggests that 60.6% of the variance in academic staff research productivity can be attributed to institutional leadership. Thus, other variables can explain 39.4% of the unexplained proportion of the variance.

Table 4: Simple linear regression analysis of the impact of institutional leadership on university academic staff teaching, research productivity and community service delivery

Dimensions	Source	SS	df	MS	F	P	Adj. R ²
Teaching	Regression	34.81	1	34.81	0.53	.468	-.001
	Residual	29425.47	447	65.83			
	Total	29460.28	448				
	Constant: B = 23.72, SE = 0.78, t = 30.43, p < .001						
Leadership: B = -.01, SE = 0.02, β = -.03 t = -0.73, p > .05							
Research	Regression	182100.5	1	182100.5	690.59	.000	.606
	Residual	117869.4	447	263.69			
	Total	299969.9	448				
	Constant: B = 17.67, SE = 1.56, t = 11.33, p < .001						
Leadership: B = .89, SE = 0.03, β = .78, t = 26.28, p < .001							
Community service	Regression	182100.5	1	182100.50	690.59	.000	.008
	Residual	117869.4	447	263.69			
	Total	299969.9	448				
	Constant: B = 17.67, SE = 1.56, t = 11.33, p < .001						
Leadership: B = .89, SE = 0.03, β = .78, t = 26.28, p < .001							

For community service dimension, the regression analysis in Table 4 reveals a statistically significant and positive impact of institutional leadership. The coefficient for institutional leadership (B = 0.89) is significant (t = 26.28, p < 0.001), aligning with the hypothesis that higher leadership scores are associated with increased community service delivery. More specifically, it has been revealed that a unit improvement in institutional leadership is associated with a 0.89 units improvement in the community service delivery of university academic staff, other things being equal. The model's adjusted R-squared value (Adj. R² = 0.008) signifies a minor degree of variance explanation in community service outcomes. This suggests that 0.8% of the variance in academic staff community service delivery is attributable to institutional leadership. This means that other variables not included in the model can explain the remaining 99.2% of the variance in university academic staff community service delivery.

4. Discussion

The first finding of this study indicates that institutional location significantly impacts university academic staff across multiple dimensions—teaching, research, and community service—with Urban institutions consistently demonstrating higher scores than their rural counterparts. The finding of this study offers support to several previous studies which have documented a discrepancy in the job performance of urban and rural teachers, with the former outperforming the latter (Darma, 2017; Arop et al., 2018; Fasasi, 2017; Owan et al., 2019). However, the finding disagrees with the results of a study which found no significant effect of work location on employee job commitment (McKeever, 2018). This discrepancy can be attributed to a range of factors. First, urban universities, owing to their proximity to

industries, businesses, and research hubs, possess advantageous access to resources and funding. This advantage could directly impact their academic staff's ability to collaborate with experts, secure grants, and undertake cutting-edge research, consequently bolstering the quality of their teaching, research endeavours, and community engagement efforts. Secondly, networking opportunities are more abundant in urban settings, providing academic staff with greater exposure to conferences, seminars, and workshops (Haupt et al., 2020). This continuous professional development equips staff with the latest trends and research, which in turn enhances their teaching methodologies and the efficacy of their research outcomes. Urban institutions generally possess superior infrastructure and facilities, including state-of-the-art laboratories, advanced libraries, and cutting-edge technology resources (Arop et al., 2018; Arop & Owan, 2018; Odor et al., 2023; Owan & Asuquo, 2021). These resources enable innovative teaching techniques, advanced research methodologies, and ultimately lead to improved academic outcomes and more impactful community involvement.

This finding implies that policymakers and administrators should consider the disparity in resource allocation and devise strategies to promote equitable development among institutions. Offering professional development opportunities for academic staff in rural institutions ensures they remain connected with advancements in their fields. Fostering collaboration between urban and rural institutions can lead to mutual knowledge exchange and skill enhancement. Furthermore, recruiting and retaining academic staff in rural institutions may necessitate novel approaches. Competitive compensation packages, research incentives, and community involvement opportunities can attract and retain talent in less urban areas. Additionally, leveraging technology and virtual learning platforms can bridge geographical gaps, enabling rural institutions to engage with broader audiences, partake in collaborative research, and elevate the overall quality of education and research.

The second finding of this study revealed a significant influence of institutional ownership on research productivity unlike teaching and community service. It was specifically revealed that federal institutions exhibited notably higher research productivity

than both state and private universities, and state universities also demonstrated significantly higher research productivity than private universities. The result corresponds with the conclusions drawn in earlier studies. As an illustration, Ekpoto and Bassey (2018) found that institutional ownership had a notable impact on the utilization of research skills among postgraduate students. Similarly, Abiodun-Oyebanji (2019) noted a substantial distinction in academic staff empowerment and service provision between federal and state universities. The result provides contrasting evidence to the finding of a previous study revealing that private higher institutions performed significantly better in all service delivery areas except academic teaching compared to their public counterparts (Hoque et al. (2013). Likewise, Mazumder (2014) determined the quality of education in public and private universities in Bangladesh using student satisfaction as a measure of quality. The differences in the findings of these studies is attributed to methodological and contextual differences.

Nevertheless, the differences in research productivity across different types of institutions can be attributed to several factors inherent to each ownership category. Federal institutions often benefit from substantial government funding, research grants, and access to specialized research centers. This financial backing enables them to conduct advanced research and secure resources that positively impact their research productivity (Owan, Ameh, et al., 2023). State universities, while potentially receiving less funding than federal institutions, still tend to have access to state-level resources, funding, and research collaborations, which contribute to their relatively higher research productivity compared to Private universities. Private universities, on the other hand, might rely more heavily on tuition fees and private grants, which could limit their research capabilities and subsequent productivity. This aligns with the findings of Obadara (2012), whose research revealed a notable contrast in the presence of resources, their utilization, and governance between public and private universities in Nigeria. There are several implications of this finding. For federal institutions, their heightened research productivity enhances their reputation and their ability to contribute groundbreaking research to various fields. State universities, by virtue of their relatively higher research productivity compared to Private universities, can solidify their role as contributors to regional development and innovation. Private universities might need to explore strategies to bolster their research capabilities, potentially through strategic collaborations, enhanced grant-seeking efforts, and investments in research infrastructure.

The third finding indicate that Leadership significantly influences research productivity and community service engagement among the academic staff. However, Leadership does not demonstrate a significant effect on teaching performance. The pronounced influence of leadership on research productivity and community service underscores the pivotal role that effective leadership plays within academic institutions. This finding agrees with the results of some previous studies which have all shown that institutional leadership significantly predicts staff service delivery to varying degrees (e.g., Adekanbi 2016; Arop et al., 2018, 2019; Asif et al., 2019; Bello, 2021). The result is not surprising because a strong leadership can establish a clear strategic direction, allocate resources efficiently, and create an environment

that fosters collaboration in research initiatives and community engagement endeavors (Owan et al., 2020, 2022) . Proficient leaders tend to prioritize and motivate efforts in these domains, resulting in heightened productivity. The absence of a significant impact on teaching performance may be attributed to a range of factors. Teaching is a nuanced process influenced by individual teaching styles, student interactions, and course content (Esuong et al., 2022; Robert & Owan, 2019). The effect of leadership might be comparatively limited in this realm, as teaching methods and outcomes are more reliant on the unique expertise and approaches of individual faculty members. Additionally, teaching evaluations and outcomes can be influenced by external factors that leadership has limited control over (Arop et al., 2019; Owan, Abang, et al., 2023)

From an implication standpoint, the finding underscores the pivotal role of effective leadership in fostering research productivity and community engagement. Institutions should concentrate on nurturing leaders who grasp the importance of these facets and can create an environment conducive to collaboration, provision of essential resources, and acknowledgment of achievements in research and community involvement. While leadership's direct impact on teaching performance appears limited, it's crucial to ensure that leadership decisions do not inadvertently hinder effective teaching practices. Recognizing the intricacies of teaching and its reliance on the expertise of individual faculty members can guide leadership strategies that champion educational excellence.

5. Conclusion

This study has unveiled critical insights into the intricate dynamics that shape the performance of university academic staff across different dimensions. From the impact of institutional location to the influence of ownership and leadership, the findings shed light on the multifaceted factors that contribute to varying levels of achievement in teaching, research, and community service. The result that institutional location significantly affects academic staff underscores the importance of resources, networking, and collaborative environments. These factors can greatly influence the quality of education, research outcomes, and community engagement efforts. As institutions strive for excellence, the need for equitable distribution of resources and enhanced collaboration becomes apparent. The distinct patterns of research productivity among different ownership categories—Federal, State, and Private—reflect the varying financial support and access to resources that institutions receive. Recognizing these differences can guide efforts to level the playing field and encourage a more balanced research landscape, fostering innovation and advancements across the board. The role of leadership in influencing research productivity and community service engagement highlights the pivotal contribution of effective guidance and management within academic institutions. Leaders who understand the value of research and community engagement can create an environment conducive to fostering these aspects. However, the lack of a significant impact on teaching performance underscores the complexity of teaching dynamics, where individual approaches and external factors play significant roles. Overall, this study underscores the need for a holistic approach to enhancing academic staff

performance. It emphasizes the importance of strategic resource allocation, collaborative endeavours, and strong leadership to create an environment where teaching, research, and community service thrive. By addressing the nuances revealed by this study, universities can work towards comprehensive growth and contribute more effectively to education, research, and their surrounding communities.

Acknowledgment

We ascribe all gratitude to God almighty, through whose inspiration, guidance and grace this work was conceived, conducted and presented. We acknowledge and appreciate the organizing committee of the 7th International Conference on Research in Education, Held in Prague, Czech Republic for providing a medium through which this work was presented. We equally recognize and appreciate the cooperation of the institutions as well as the respondents used in this study, whose identities remain anonymous, and without which this study would have been futile. Finally to our readers, may you savor in the findings of this study in your quest for the furtherance of related literature.

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